



The Longbrake Letter*
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I. Mixed Data Reports Raise the Question of Whether an Acceleration in Economic Activity in 2014 Will Occur to the Expected Extent

First Quarter real GDP growth was a barely visible 0.1 percent and appears likely to be revised down to -0.6 or -0.7 percent. Although there was a lot of noise in the report and severe winter weather in January and February bore some responsibility for lousy results, shortfalls in both residential and business investment were surprisingly large and bode poorly for growth reaching expected levels during the remainder of 2014.

But the disappointing first quarter GDP report was followed almost immediately by a seemingly very strong payroll employment report in which net new jobs rocketed 288,000 in April, well above even the most optimistic forecasts, and the unemployment rate fell from 6.7 percent to 6.3 percent.

Is the economy growing colder or hotter? To remind the reader, initial data reports are often a combination of hard data and estimates and are almost always revised, sometimes substantially. As you will see later in this month's letter, the first quarter real GDP report was not as bad as the headline number suggested, nor was the payroll report as good. Underlying details in both reports paint a very different picture from what one would suppose by only looking at the headline figure.

Collectively, recent data reports are consistent with gradual acceleration in economic growth, but at a slower pace than most forecasters expected at the beginning of the year, and continued healing of the severe consequences of the Great Recession. But, the pace of improvement remains painfully slow with little indication that the still very large output gap will close quickly. As is always the case, there are downside risks, but none appears to be sufficiently great to give cause for worry about a significant slowdown in the economy or onset of recession.

Nevertheless, although the U.S. economy appears to remain on a steady, yet gradually improving, growth track, serious long-run adverse trends remain firmly entrenched. Policymakers have done little to address these trends. Like the adverse effects of global warming, it will take a long time before the

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consequences are evident. As time passes these trends will steadily worsen and could ultimately limit U.S. economic growth and disrupt the stability of the American social fabric.

Steadily worsening income and wealth inequality is one of these trends. Thomas Piketty, a 42-year old French economist, recently toured the United States to talk about his book, “Capital in the Twenty-First Century.” Already Piketty’s book is being viewed as a major economic treatise by some, perhaps as important as Karl Marx’s “Das Kapital” and Adam Smith’s “Wealth of Nations.”¹ In its 696 pages, Piketty forecasts steady and inexorable increases in income and wealth inequality in industrialized countries, with insidious and deleterious impacts on democratic values of justice and fairness.

There is no dispute about the trends in income and wealth inequality — the data speak for themselves. However, there is considerable debate about the causes, the consequences, and the solutions. In this month’s letter I examine these issues before proceeding to my standard monthly update on economic developments in the U.S.

II. Income and Wealth Inequality

Income inequality in the U.S. has been worsening steadily for 40 years. But this trend is also occurring in other developed countries with mature capitalist economies. In conjunction with Emmanuel Saez, Thomas Piketty has been methodically accumulating income and wealth data from tax and other records covering the last 200 years from 20 countries. Over the last several years Piketty and Saez have published articles describing patterns in the data. Now Piketty has published a treatise, Capital in the Twenty-First Century, in which he describes patterns in the data and poses a theoretical framework to explain those patterns. He concludes that unless the progressive concentration of income and wealth is arrested and reversed social stability and democratic values of justice and fairness will increasingly be in jeopardy.

1. Piketty’s Theory

Piketty argues that there is a natural tendency in mature capitalist economies for income and wealth to become increasingly concentrated over time and for inequality to worsen steadily.

The process driving increasing inequality is direct and uncomplicated. The rate of growth in income from capital, both real and financial, is greater than the rate of growth in aggregate economic activity. Because wages tend to increase no faster than the rate of growth in aggregate economic activity and could grow more slowly if productivity improvements flow disproportionately to capital, the relationship between the two rates of growth inexorably leads to an ever increasing share of wealth and income controlled by the wealthy.

2. U.S. Wealth and Income Data Corroborate Piketty’s Theory

Chart 1 shows this relationship for U.S. real GDP and real household net worth, which are indexed at a value of 1 in 1947. The real rate of growth in GDP over the last 66 years has been 3.23 percent (see **Table 1**), but the real rate of growth in household net worth has been 3.73 percent. On a per capita basis real

¹Thomas Piketty. Capital in the Twenty-First Century. Harvard University Press, 2014.

GDP grew 2.01 percent and household net worth grew 2.50 percent. Over this time period total economic output has grown more than 8 fold while total household net worth has grown more than 11 fold.

CHART 1 – Real Household Net Worth and GDP Growth
(1947 = 1)

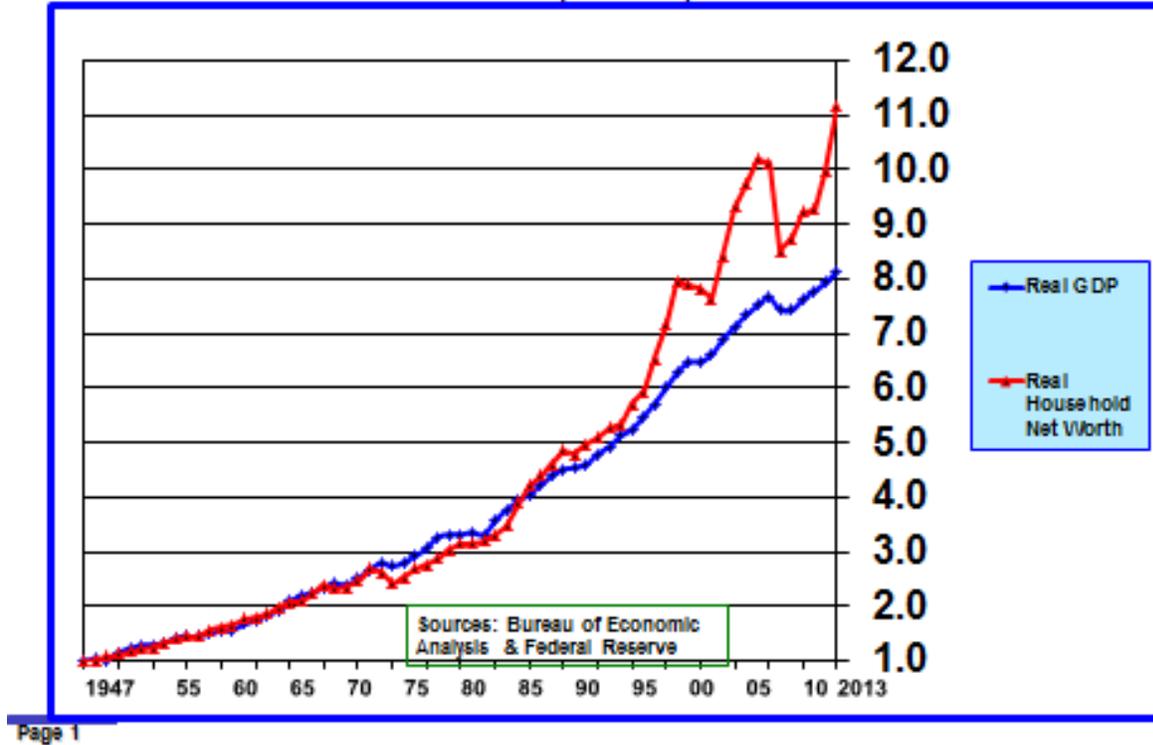


Table 1
Annual Rate of Increase in Real GDP, Real Household Net Worth, Productivity, and Real Income Per Household

	1947-1974	1974-2013	1947-2013
Real GDP	3.79	2.84	3.23
Real Household Net Worth	3.33	4.00	3.73
Real GDP Per Capita	2.29	1.81	2.01
Real Household Net Worth Per Capita	1.84	2.96	2.50
Productivity	2.55	1.96	2.20
Real Income Per Household — Top 5%		0.02*	
Real Income Per Household — Bottom 20%		1.05*	

*covers period 1974 to 2012

Note in **Chart 1** that the divergence in growth rates did not begin until the mid-1970s, which is about the same time when income inequality began to increase. It is also when productivity slowed dramatically and increases in real wages began to grow more slowly than productivity.

Table 1 growth rates in real GDP and household net worth into two periods — 1947 to 1974 and 1974 to 2013. The U.S. Census Bureau has only reported income distribution data since 1967, so the annual rate of increase in household income for the top 5 percent and bottom 20 percent of the distribution is shown only for the period 1974 to 2012. Note that real income per household has not grown at all over the last 38 years for the bottom 20 percent of the income distribution. Household real income has grown 1.05 percent annually for the top 5 percent over this same period. If data were available for the top 1 percent, the skew would be even greater.

The decline in per capita real GDP growth from 2.29 percent annually in the period 1947 to 1974 to 1.81 percent annually in the period 1974 to 2013 is the direct result of the decline in productivity from 2.55 to 1.96 percent annually.

3. Why Does Growth in Income From Capital Exceed Growth in Economic Activity?

Part of household income is spent on consumption and part is saved. As household income rises, consumption and saving increase, but consumption rises more slowly. This results in the marginal propensity to consume, defined as the percentage of income spent on consumption, declining as household income rises. In other words, the rich consume a smaller portion of their income and save a larger portion. Saving adds to household wealth. As wealth accumulates over time, the portion of income high income households earn from investments rises and their total income increases. Low income households have little to no wealth and limited ability to accumulate wealth over time.

4. Why Did Inequality Decline from 1930 to the mid-1970s?

There was a long period from approximately 1930 to the mid-1970s when income inequality narrowed. This would appear to contradict Piketty's theory. But, according to Piketty, this reversal resulted from a variety of factors foremost of which was destruction of wealth during the Great Depression and World War II and confiscatory marginal tax rates on high incomes that prevailed into the 1950s.

To these reasons I would add cultural factors such as the predominance of the high-wage social contract during the period when inequality was declining, which has now been replaced by the low-wage social contract; societal changes of the sort described by Charles Murray,² and the drift towards an extractive governance framework that strengthens the financial elite's control of the sources of income and wealth, as described by Daron Acemoglu and James Robinson.³

5. Piketty's Policy Solution

Because the process of wealth concentration is inexorable the only solution is to prevent this from occurring. Piketty's solution is a global tax on wealth. The tax must be global to curtail efforts to evade the tax. There can be no tax havens.

Piketty acknowledges that his solution will be impossible to implement because it would require all nations to agree. The competitive aspect of human nature assures that this will never happen.

²Charles Murray. *Coming Apart: the state of white America, 1960-2010*, New York: Crown Forum, 2012.

³Daron Acemoglu and James Robinson. *Why Nations Fail: the Origins of Power, Prosperity and Poverty*, 2012.

But, even if Piketty's solution could be implemented, it would not necessarily solve growing inequality. That is because there are other social and political factors that are reinforcing the drift toward greater inequality. Indeed, these other factors may well be far more important than attempting to redistribute wealth through a global wealth tax.

6. Growing Income Inequality Leads to Financial Crisis — Kumhof and Ranciere's Bargaining Power Model

According to an IMF working paper authored by Michael Kumhof and Romain Ranciere, the triggering event causing income inequality to widen and reliance on debt to grow prior to the Great Recession was a shift in relative income bargaining power in favor of the top 5 percent relative to the bottom 95 percent.⁴ Once this shift in bargaining power commenced it set in motion a series of events that over several decades inexorably led to rising inequality and debt burdens.

First, as the share of income of the bottom 95 percent shrank, that group attempted to maintain consumption through borrowing. Second, as the top 5 percent gained income, and thus wealth, that group needed to find ways to invest its accumulating wealth. Accordingly, it provided the funds that the bottom 95 percent borrowed.

Borrowing was enabled by financial innovation, such as subprime mortgages and home equity loans. All this activity facilitated tremendous growth in the financial sector of the economy.

As the financial sector grew relative to the rest of the economy its political power grew as well. This led to adoption of policies that promoted and protected the interests of the financial elite, which in turn reinforced the building inequality. One can place deregulation, reduced capital requirements and other "free market" elements into this basket. And, the evolution of the social contract between employers and employees from a high-wage to a low-wage paradigm, coupled with the ascendancy of shareholder wealth maximization in driving corporate behavior, reinforced the shift in bargaining power.

However, the trends in widening income inequality and growing debt burdens, according to Kumhof and Ranciere, cannot continue indefinitely. A financial crisis eventually erupts because there is an ultimate limit to how much debt households can support. Increases in debt and decreases in savings reduce a household's ability to manage through a life crisis — illness, loss of job, divorce and so forth.

Sum this increase in financial vulnerability across millions of households and in the aggregate the economy's ability to withstand a shock, such as a sudden and sharp increase in oil prices, steadily erodes. Also, as we now know, runaway speculation in housing propelled a bubble in prices which was aided and abetted by abundant and cheap debt, steadily diminishing credit underwriting standards, and a laissez-faire attitude on the part of government regulators perhaps swayed by the belief in "The Market" as an efficient regulator or perhaps inhibited by the political power of the financial elite.

And, the greater are the excesses during the bubble period, the harder will be the crash when it eventually unfolds.

While the 2008 financial crisis apparently marked the limit for accumulation of household debt relative to income, the forces driving ever increasing income inequality still appear to be in play. But, there is also probably a limit to the extent of income inequality. As income inequality escalates, the macro economy

⁴Michael Kumhof and Romain Ranciere. *Inequality, Leverage and Crises*. International Monetary Fund Working Paper, November 2010.

becomes increasingly fragile. This already appears to be manifested in low productivity and anemic GDP growth.

Kumhof and Ranciere constructed a simple theoretical model which describes almost exactly the sequence of events summarized above. The benefit of a simple model, which explains real world phenomena well, is that it can be used to test how events might continue to unfold given different policy interventions.

Kumhof and Ranciere's simple model consists of two groups of households — investors who comprise the top 5 percent of the population and workers who comprise the remaining 95 percent. Investors derive utility from consumption and wealth. Workers derive utility only from consumption. In addition to the utility functions for investors and workers, the model includes an aggregate production function for the economy in which returns to factors of production incorporate a variable for workers' bargaining power. Capital and loans are also included in the model.

A change in relative bargaining power is introduced to the model and imbalances build over successive iterations. A crisis event can be introduced to the model at any iteration.

Once the crisis unfolds, the impact of policy responses can be tested. There are two types of solutions.

One solution is to restructure debt by moving it from creditors to taxpayers — the socialization of debt. This is what Ireland did with its banks. This solution also was applied in part to the Greek sovereign debt. The model reveals that this solution buys time but ultimately is relatively ineffective in curing the problem of overleverage because individuals, not directly but as taxpayers, ultimately are still saddled with excessive debt.

An alternative solution is to grow out of the problem. This involves increasing economic growth so that the debt burden, which remains unchanged in nominal terms, shrinks in relative terms as income increases. The challenge, of course, is to devise a policy that stimulates growth without creating additional leverage.

Austerity, which focuses on reducing debt, is a counterproductive policy because it results in depressing income and in so doing increases the burden of debt relative to income. This wrongheaded policy has driven the collapse in the Greek economy (GDP has declined over 25 percent) and has depressed other European economies including Portugal, Spain, and Italy in particular, and France to a lesser extent.

Kumhof and Ranciere use their model to demonstrate that the only way to grow earnings of workers successfully over time and reduce the debt burden is to restore the original income bargaining power balance. This solution results gradually over time in a reversal of income inequality. But, it takes a very long time to unfold. They do not explain how this might be accomplished but it would appear to require changing the now dominant low-wage social contract that limits the bargaining power of most workers.

There is a third solution, of course, and that is to tinker a bit with policy but do little of substance. The initial U.S. response was socialization of debt through tax cuts and a significant increase in debt-financed spending. That policy shifted the debt problem from households to taxpayers. However, the rapid escalation in the public debt led to policy reversal, which has stabilized the public debt-to-GDP ratio at a much higher level but at the apparent cost of a persistently weak labor market and slow growth in incomes and consumption.

With weak income growth, the accumulated debt burden has been an ongoing drag on economic recovery. It will take a very long time to return to a more normal economic environment and unresolved income inequality will remain an ever present threat both to the economy and to social/political stability.

If one accepts Kumhof and Ranciere's model at face value, the only effective long-term solution is to

alter relative income bargaining power between investors and workers. If this can be done, over time the distribution of income would shift back toward workers and debt burdens would shrink. That is what the model shows and that is what happened between 1932 and 1974.

But powerful forces stand in the way of implementing such a solution. First and foremost is the absence of a political consensus that purposeful intervention is required to alter the balance of income bargaining power between workers and investors. Part and parcel to this is the entrenchment of vested interests (economists call them rent seekers) in the status quo which have nothing to gain personally by permitting a change in relative bargaining power. These vested interests generally are the same people that Kumhof and Ranciere define as investors. Their entrenchment is supported by U.S. political campaign financing, which was exacerbated by the Supreme Court's Citizens United decision permitting individuals to establish "super PACs". It is hard to alter or break entrenched power alliances between the political and financial elite.

There are other obstacles which may be subject even less to successful intervention. An example is competition in a globally-integrated communications and technology era, which has rendered geographic and political boundaries meaningless. How does America grow income when competitive pressures from other countries constantly limit the ability of workers to negotiate?

Does growing income inequality matter? Intuitively speaking, the answer to this question is "Yes". History tells us that when the divide between the "haves" and the "have nots" becomes extended, at some point the masses rise up against the privileged few. This is a fairness/economic justice issue.

7. Consequences of Income Inequality — Michael Pettis' Theoretical Analysis

Michael Pettis reaches conclusions similar to those of Kumhof and Ranciere, but does so through a macroeconomic theoretical framework rather than a bargaining model.⁵ Pettis' analysis is based on the economic truism that saving always equals investment.

Pettis poses three propositions:

1. *"The rich in any economy save a greater share of their income than do the poor."*

This is an empirical fact and is true within any country but not necessarily between countries. This proposition is the basis of Thomas Piketty's theory.

2. *"In every closed economy savings is equal to investment. This is true by definition because the demand side of an economy consists of consumption and investment, while the supply side (how we allocate total production of goods and services) consists of consumption and savings. Because demand and supply always balance, savings is always equal to investment."*

3. *"No one has infinite debt capacity."*

Hyman Minsky's theoretical work shows that this proposition at the aggregate macro economy level is true when cash flows are insufficient to service interest and repayment of debt. Minsky refers to such a phenomenon as Ponzi finance. Ponzi finance leads to bubbles which eventually burst, usually cataclysmically. This outcome also occurs in Kumhof and Ranciere's bargaining model.

Based on these three propositions, Pettis deduces the following.

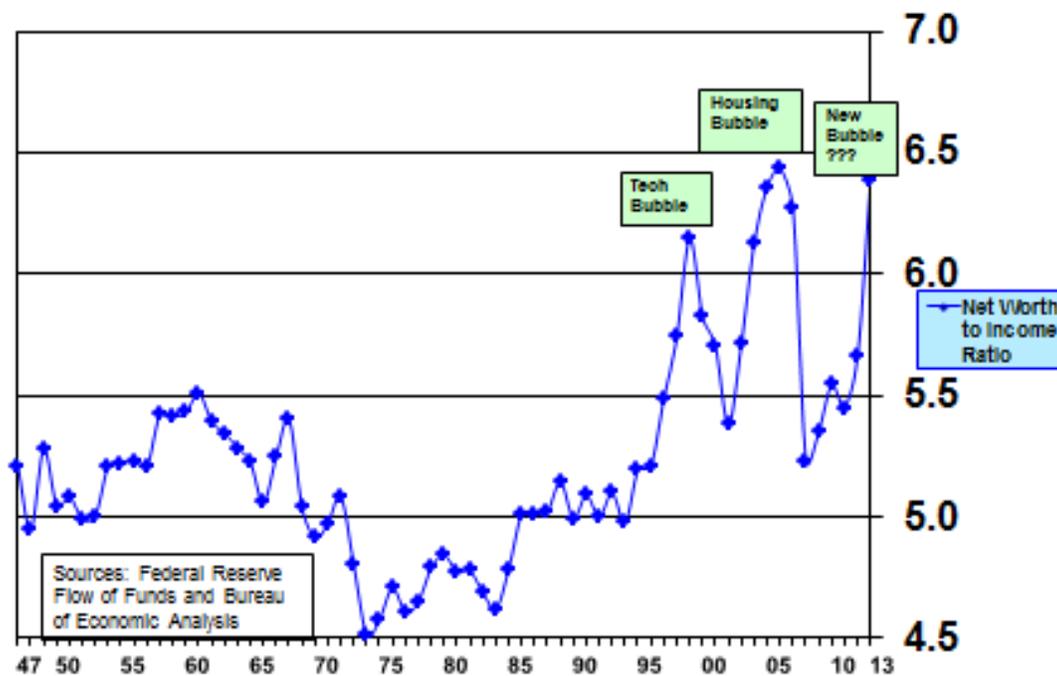
⁵Michael Pettis. "Economic Consequences of Income Inequality," Blog post on Economonitor, March 24, 2014.

First, if income inequality rises, the household savings rate must rise.

Second, because savings equals investment, an increase in household savings must either result in an increase in investment or savings in another part of the economy must decline by a commensurate amount.

*Third, based on the first part of the second possible outcome, if investment rises, either productive investment in plant, equipment, and intellectual property rises (sustainable), or nonproductive speculative investment rises (not sustainable). Productive investment is a good thing. It raises productivity and increases the size of the economy. Unfortunately, the weight of the evidence indicates that the potential growth rate of the economy is declining, not rising. So while the outcome of increased productive investment is possible, there is no evidence that it is occurring. But, there is plenty of evidence that nonproductive speculation in existing financial and real assets is occurring. The increase in household net worth, which is concentrated among the wealthy, is clear evidence of nonproductive speculative activity. **Chart 2** shows that household net worth as a proportion of disposable income has not only recovered from the plunge during the Great Recession but has reached levels previously only attained at the peaks of the tech and housing bubbles. When nonproductive investment is supported by cheap debt any Minsky's speculative Ponzi finance takes hold, it is bubble time and bubbles always end badly.*

CHART 2 – Consumer Net Worth to Disposable Income



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Fourth, based on the second part of the second possible outcome, if household savings of the wealthy increases, less wealthy households must increase consumption by decreasing their savings (not sustainable), or unemployment rises (sustainable). The less wealthy can increase

consumption only if they take on additional debt (reduce savings). This is exactly what happens in Kumhof and Ranciere's bargaining model. However, there is a limit to how much additional debt the less wealthy can service without increases in income, which means that this solution can work for only a limited time before it collapses. And, that is exactly what happened during the buildup of the housing bubble and the financial panic of 2007-2009. The alternative is that savings must decline in some other part of the economy, not through higher consumption but through lower income, and that occurs through increased unemployment or underemployment.

Pettis concludes that there are only two realistic sustainable outcomes to an increase in income equality. Either productive investment must increase or unemployment must increase. Unfortunately, the evidence to date pretty clearly indicates that the latter is developing rather than the former.

8. Income Inequality, If It Continues to Grow, Will Eventually Have Severe Economic and Social Consequences

While the analyses of Piketty, Kumhof and Ranciere, and Pettis are very discouraging, changes in policy could make a difference for the better. Solutions like the minimum wage or even Piketty's global wealth tax might help slow momentum a bit but by themselves will be insufficient to arrest and reverse the consequences of growing income inequality. Much more fundamental changes must occur. These need to include finding ways to boost productive investment significantly and changing the social, political, and economic milieu to channel a larger share of income to workers relative to investors.

Finding solutions and building consensus for implementing them requires recognition that there is a problem and that the problem is extremely serious. We seem to be a long ways away from taking affirmative action, but the first stage involving recognition appears to be well underway.

III. Real U.S. GDP Growth — Ugly First Quarter, But Stronger Growth On the Way

Annualized first quarter 2014 real GDP growth, according to the Bureau of Economic Analysis' (BEA) "Preliminary Estimate," was a much worse than expected 0.1 percent and is likely to be revised down to -0.6 to -0.7 percent in the "Advance Estimate" at the end of May. Most, including myself, view this development as a temporary departure from an otherwise slowly improving growth trend that should average approximately 3.0 percent over the remaining three quarters of 2014. Still the worse than expected first quarter has resulted in most forecasters trimming back their expectations for full-year real GDP growth.

Severe winter weather in much of the U.S. depressed first quarter growth. Much of this "lost" growth is likely to be recaptured during the second quarter and growth could approach 4.0 percent. Employment growth has been solid and points to steady improvement in consumer income and spending. However, growth in investment spending, which has been key to expectations of higher real GDP growth in 2014, did not perform as expected in the first quarter, and the underperformance cannot be blamed entirely on the weather.

So, all-in-all, 2014 still looks to be on track to be a reasonably good year, but not quite as good as expected at the beginning of the year. In the near term the risks of negative shocks that could significantly

depress U.S. real GDP growth appear to be limited.

However, in the longer run forces are at work which will result in slowing employment growth and could also lead to low productivity growth. This would cause growth in potential real GDP to be considerably lower over time than it has been in the past and could even fall short of lowered expectations. That, in turn, would mean that improvements in the standard of living, as conventionally measured, would be limited and growing income and wealth inequality could be aggravated. In this respect the 12.6 percent record-high share of corporate profits and the record low 52.2 percent share of labor income in fourth quarter gross domestic income is a decidedly negative trend.

So, prospective good news for 2014 should not be mistaken as having turned the corner of the U.S.'s long-term growth challenge

1. 2014 Q1 GDP — Preliminary Estimate

Annualized first quarter real GDP growth in the BEA's "Preliminary Estimate" was 0.1 percent. Details are shown in **Table 2**. Private GDP, which omits inventory growth and government spending, was a disappointing 0.8 percent. However, net exports subtracted 0.8 percent from private GDP. Typically, over longer periods of time, the contribution of net exports is close to zero. So, if the outsized drag from net exports to growth in the first quarter is set aside, private real GDP growth would have been 1.6 percent. The outsized decline in net exports in the first quarter reversed the large increase in the fourth quarter. Omitting net exports from private GDP results in a 1.6 percent GDP growth rate in the first quarter compared to 2.6 percent in the fourth quarter. Thus, even with all the adjustments, first quarter growth was unusually weak.

Personal consumption expenditures, which account for 67.9 percent of real GDP, contributed 2.04 percent to first quarter GDP growth. At first blush this looks like a pretty good number compared to the 1.65 percent average over the last four years. But, there were several special factors buried in the details that point on balance to greater weakness than the topline percentage increase implies.

Severe winter weather boosted spending on utilities and added 0.7 percent to real GDP growth, but depressed retail sales in January and February, particularly for durable goods, such as autos. However, retail sales rose sharply in March, offsetting a good part of the weather-related weakness.

Implementation of the Affordable Care Act also resulted in an unusually large increase in consumer spending. This added an estimated 0.9 percentage points to first quarter real GDP growth. Subtracting out this increase and extra utilities spending implies that consumer spending contribute only about 0.5 percent to real GDP growth in the first quarter rather than 2.0 percent, which is much weaker than the average 1.65 percent over the last four years.

Nonresidential investment accounts for 12.6 percent of real GDP. Its contribution to real GDP growth in the first quarter was a surprisingly dismal -0.25 percent. This translates to a -2.1 percent annualized decline in nonresidential investment. Bank of America/Merrill Lynch (**B of A**) had expected 3.3 percent growth and Goldman Sachs (**GS**) had expected 5.5 percent growth in business investment during the first quarter. Growth rates for all three categories of nonresidential investment — structures, equipment, and intellectual property — were lower than **B of A's** and **GS's** forecasts for each of these categories. Some of the reported weakness was probably due to weather and data revisions could lessen the extent of the large shortfall in business investment spending.

In past letters I have expressed skepticism about forecasts of a strong resurgence in investment spending

Table 2
Composition of First Quarter 2014 and 2013 Quarterly GDP Growth

	First Quarter 2014	First Quarter 2014	First Quarter 2014	Fourth Quarter 2013	Third Quarter 2013	Second Quarter 2013	First Quarter 2013
	Advance Estimate	Preliminary Estimate	Final Estimate				
Personal	2.04%			2.22%	1.36%	1.24%	1.54%
Consumption							
Private Investment							
Nonresidential	-0.25%			.68%	.58%	.56%	-.57%
Residential	-.18%			-.26%	.31%	.40%	.34%
Inventories	-.57%			-.02%	1.67%	.41%	.93%
Net Exports	-.83%			.99%	.14%	-.07%	-.28%
Government	-.09%			-.99%	.08%	-.07%	-.82%
Total	.12%			2.62%	4.14%	2.47%	1.14%
Final Domestic Sales	.69%			2.64%	2.47%	2.01%	0.21%
Private GDP	.78%			3.63%	2.39%	2.08%	1.03%
Private GDP less Net Exports	1.61%			2.64%	2.25%	2.15%	1.31%

in 2014. To a very large extent forecasts of a substantial improvement in real GDP growth in 2014 have assumed strong investment spending growth and to a lesser extent, improving consumer spending growth, as employment increases and wages accelerate. But, as I have pointed out, the assumption of above trend growth in investment is critical to accelerating employment and income growth, which, in turn are necessary outcomes if consumer spending is to strengthen appreciably. Fundamentals, such as growth in corporate profits, are supportive of acceleration in investment spending. This is a bit of a “chicken and egg” problem because stronger consumer spending depends upon increased investment activity to drive employment and income, but increased investment activity depends upon expectations that consumer demand will improve. Thus, improvements in business and consumer confidence are important. Once investment growth rises a virtuous and self-reinforcing circle will set in with employment, income and spending steadily accelerating.

Forecasts of rising investment spending during 2013 turned out to be prematurely optimistic and the same is now true for the first quarter of 2014. **B of A** has decreased its assumed 2014 business investment growth from 4.7 to 3.6 percent; **GS** has decreased its forecast from 6.7 to 3.8 percent. Needless to say, full year 2014 real GDP growth estimates have been reduced as well. These downward revisions have subtracted about 0.1 percent from **B of A's** 2014 real GDP growth forecast and 0.3 percent from **GS's** forecast.

Based on the failure of business investment spending to accelerate as forecast, it appears that weak consumer spending and tepid revenue growth and anxieties about continued weakness are causing businesses to delay increases in investment spending. In short, the potential virtuous circle has yet to get underway and may not for several more quarters.

Residential investment accounts for 3.0 percent of GDP. It subtracted 0.18 percent from first quarter real GDP growth. This was the second consecutive quarter of declining activity. With lean housing inventories and housing prices rising at double digit rates, housing investment is supposed to be rising, not falling. This translated into a 5.9 percent annual rate of decline which compares dismally to 3.9 percent and 5.0 percent annual rates of increase forecast by **GS** and **B of A**, respectively.

Again, winter weather could account for part of the discrepancy, but other indicators of the housing market corroborate the disappointing first quarter GDP report. Depressed household formation, higher mortgage rates, tight underwriting, and higher compliance costs collectively are depressing housing activity.

Forecasters continue to expect stronger housing investment growth in coming quarters. Perhaps this optimism will be borne out, but the plethora of headwinds is considerable and shows little sign of abating. My sense remains that housing activity will continue to fall short of forecasts. For example, **GS** expects housing to increase at an annual rate of 5.3 percent in the second quarter, and 7.5 percent over the second half of the year. This would result in 1.4 percent growth for the entire year compared to **GS's** original forecast of 12.1 percent. **B of A** expects housing investment to grow 8.5, 10.0, and 12.0 percent over the remaining three quarters of 2014. This would result in 2.6 percent growth for the entire year compared to **B of A's** original forecast of 12.1 percent. These downward revisions have subtracted 0.3 percent from both **B of A's** and **GS's** original 2014 real GDP growth forecasts.

As anticipated, ***inventories*** reduced real GDP growth in the "Preliminary Estimate" by 0.57 percent. However, growth in inventories during the first quarter was a still high \$87.4 billion, which is above the four-year average of \$62.6 billion. This means that inventories may decrease real GDP growth in the second quarter. At least the balance of risks is tilted in that direction.

Government expenditures comprise 18.0 percent of real GDP and reduced first quarter GDP growth by 0.09 percent. This negative outcome was entirely due to the state and local government component, which subtracted 0.14 percent. Federal expenditures rose slightly and added 0.05 percent to real GDP growth.

Government expenditures will probably rise modestly during 2014 because state and local spending is expanding and federal government spending cuts will be smaller. Q4/Q4 growth is on track to rise between 0.2 and 0.3 percent, but Y/Y growth would actually be negative at approximately -0.9 percent compared to -2.2 percent in 2013.

Net exports subtracted 0.83 percent from first quarter real GDP growth after adding 0.99 percent to fourth quarter growth. Over long periods of time the contribution of net exports to real GDP growth is close to zero. Reporting anomalies, however, can lead to volatility from quarter to quarter and this is what happened in the fourth quarter of 2013 and the first quarter of 2014. Thus, it is best to net out the impact of net exports to gain a better sense of the underlying trend in real GDP growth. Private real GDP growth, net of net exports, was 1.61 percent in the first quarter of 2014 compared to 2.64 percent in the fourth quarter of 2013 (see bottom line of **Table 1**).

2. 2014 Q1 GDP

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

First quarter growth was 0.1 percent in the "Preliminary Estimate" and is likely to be revised down to between -0.6 and -0.7 percent in the "Advance Estimate."

Table 3
Real GDP Growth Forecasts *

	2014	2014	2014	2014	2015	2016	2023
	Q1	Q2	Q4/Q4	Y/Y	Y/Y	Y/Y	Y/Y
Reported	0.1						
B of A	-0.7	3.4	2.4	2.3	3.35		2.20
GS	-0.6	3.8	2.5	2.35	3.2	3.0	
Bill's Steady Growth			2.2	2.15	2.1	1.8	2.07
Bill's Strong Growth			2.7	2.4	2.8	2.7	2.40
FOMC — High[#]			3.0		3.2 [#]	3.0 [#]	2.10
FOMC — Low[#]			2.8		3.0 [#]	2.5 [#]	2.10
CBO*				2.6	3.3	3.4	2.11

*CBO GDP estimates were prepared in the third quarter of 2013.

[#]Measured from Q4 to Q4

Weather depressed consumer spending in the first quarter. Much of the shortfall will reappear in the second quarter. In addition, spending on the Affordable Health Care Act will remain elevated for at least one more quarter. However, April retail sales growth fell short of expectations, which could signal that second quarter consumer spending might not strengthen as much as expected.

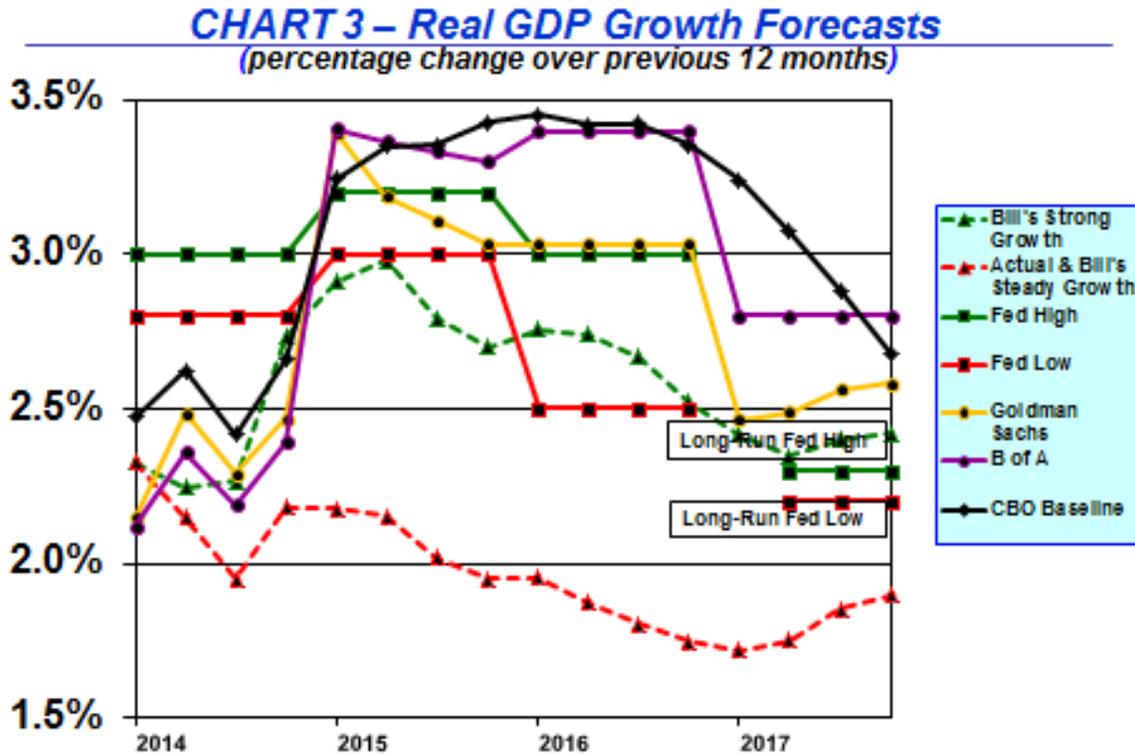
Weather also had a negative impact on investment spending, but some of the shortfall was due to other factors. There probably won't be much of a weather-related rebound in investment spending in the second quarter.

3. 2014 Q2 GDP Forecast

B of A and GS have raised second quarter real GDP forecasts to reflect the expected weather-related bounce back from the depressed first quarter growth level. B of A now expects second quarter growth of 3.4 percent compared to 3.3 percent previously. GS has raised its forecast to 3.8 percent from 3.0 percent.

4. 2014 GDP Forecast

As **Chart 3** and **Table 3** show, forecasters have reduced expected real GDP growth for 2014 to a range of 2.2 to 2.7 percent compared to the beginning of the year forecast range of 2.4 to 3.1 percent. Most of the reduction stems from downwardly revised expectations for residential and nonresidential investment activity. The reduced forecasts for real GDP growth are still an improvement from the 1.9 percent growth rate experienced in 2013, but are no longer substantially above the expected 1.7 percent potential rate of growth.



Page 4

There are several reasons to expect real GDP growth will be better over the remainder of 2014.

First, fiscal policy will not be highly contractionary as it was in 2012 and 2013. *While this is undeniably true, the deficit is falling faster than expected, which means that fiscal policy is tighter than initially expected.*

Second, corporate profits are high and balance sheets are strong. This should support an increase in investment spending. Note, however, that investment spending depends primarily on sales growth and pressures on capacity utilization. Excess capacity remains high and sales growth has been weak. Improving employment and consumer income should boost consumption and this, in turn, should stimulate greater investment. *Note that this expectation was not realized in the first quarter, which suggests that investment spending is likely to increase more slowly than many expect.*

Third, banks have rebuilt capital and are more willing to lend. Bank loan growth, which was very weak in 2013, has accelerated since the beginning of the year. Credit growth is accelerating in all sectors except housing.

Fourth, housing prices are rising, excess inventory has diminished considerably but, surprisingly, household formation has slowed. Notwithstanding the setbacks in the fourth and first quarters, residential investment should rise from a still depressed level. The question is one of how fast this will occur. *Recent data indicate that the process of acceleration will proceed gradually because considerable headwinds continue to buffet the housing market.*

Fifth, households have reduced debt burdens and rising prices for houses and financial assets are boosting wealth, which should increase consumer spending. Note, however, that the increase in wealth is almost entirely concentrated at the top of the distribution. Wealthy households have a much lower propensity to spend. Also, wealth accumulation could slow down in 2014 because the rate of appreciation in the prices of financial assets is likely to slow. Indeed, as of May 16, the S&P 500 stock index was up only 1.6 percent since the beginning of the year.

Acceleration in real GDP growth in 2014 and beyond depends primarily on consumer spending and investment, both residential and nonresidential. Optimism about employment gains leads to optimism about sales growth and optimism about sales growth leads to optimism about increases in business and residential investment.

Based on first quarter data reports, employment is moving in the right direction, but consumer spending and residential and nonresidential investment spending have fallen short of expectations.

5. GDP Forecasts for 2015 and Beyond

As **Chart 3** and **Table 3** show, forecasters expect real GDP growth to be near 3.0 percent or better in 2015 and 2016, which would be well above the level of potential growth.

Real GDP growth in Bill's "***Steady Growth***" scenario in 2015 and 2016 is approximately one percentage point lower than the consensus of 3.0 percent or better. Growth is considerably higher in Bill's "***Strong Growth***" scenario in 2015 and 2016, but still is a bit shy of 3.0 percent. These more pessimistic forecasts stem primarily from lower assumptions about consumer spending (and a higher inflation rate, which reduces real consumer spending) and investment. Differences in assumptions for consumer and investment spending are shown in **Tables 4 and 5**.

Table 4 shows consumption growth forecasts for 2014, 2015, and 2016. About 79 percent of the difference in consumption growth between the 2014 "***Steady Growth***" and "***Strong Growth***" scenarios is due to the wealth effect of increasing prices for houses and financial assets. The remaining 21 percent is divided between 16 percent from faster employment growth and 6 percent from a lower saving rate.

Table 4
Real Consumer Spending Growth Rate Y/Y Forecasts — B of A, GS, Bill's "Steady Growth" and Bill's "Strong Growth"

Real Consumer Spending Growth	2010	2011	2012	2013	2014	2015	2016
Actual	1.66	2.36	2.07	1.93			
B of A					3.09	3.22	3.06
GS					3.02	2.80	2.52
Bill's Steady Growth					2.24	1.75	1.95
Bill's Strong Growth					2.50	2.48	2.62

Business and residential investment growth forecasts are shown in **Table 5**. (*Note: forecast net change in inventories is not included in investment spending growth estimates in **Table 5**; but growth estimates*

in **Table 8** below are for total private investment, which includes net change in inventories.) Both **GS** and **B of A** slashed forecast investment growth for 2014 after the first quarter real GDP report, but both still expect investment growth to accelerate strongly in 2015 and 2016. **GS** forecasts stronger residential and business investment growth of 7.0 percent in 2015 and 7.1 percent in 2016 compared to 3.2 percent Y/Y in 2013. **B of A** forecasts investment growth Y/Y of 8.3 percent in 2015.

Table 5

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

Real Consumer Spending Growth	2010	2011	2012	2013	2014	2015	2016
Actual	1.51	6.25	8.28	4.46			
B of A					3.81	8.29	
GS					3.17	7.02	7.10
Bill’s Steady Growth					2.00	2.70	2.60
Bill’s Strong Growth					2.38	6.03	6.02

Investment growth in Bill’s “*Steady Growth*” scenario is 2.7 percent in 2015 and 2.6 percent in 2016. Investment in Bill’s “*Strong Growth*” scenario accelerates to a robust 6.0 percent in 2015 and 2016, but is about one to two percentage points less than the **GS** and **B of A** forecasts.

6. Potential Real GDP Growth

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

In 2007, the year preceding the Great Recession, CBO estimated potential growth to be 2.45 percent. This was well below the historical long-term potential growth rate of 3.2 percent. However, in the nearly five years since the recovery from the Great Recession commenced CBO estimates that potential growth averaged 1.55 percent. CBO expects potential growth to improve to 2.35 percent by the end of 2017. **GS** is more optimistic and expects potential growth to be 2.5 percent, composed of 0.9 percent labor growth and 1.6 percent productivity (note that 1.6 percent economy wide productivity growth requires nonfarm productivity of 2.0 percent).

My potential growth rates are 1.63 percent for the “**Steady Growth**” scenario and 2.02 percent for the “**Strong Growth**” scenario in 2017. My assumption for labor growth is 0.85 percent for the “**Steady Growth**” scenario and 1.22 percent for the “**Strong Growth**” scenario, which means that the preponderance of the difference between my projections of potential GDP growth and **GS**’s has to do with **GS**’s optimism about strong productivity compared to my pessimism.

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

There appears to be a growing consensus that potential real GDP growth will not improve materially as the economy heals and the output gap closes. CBO expects potential growth to be 2.0 percent in 2024. FOMC members have become progressively less optimistic. The central tendency of FOMC member long-term anticipated potential real GDP growth has fallen from 2.7 percent in June 2011 to 2.1 percent in March 2014. Diminished expectations appear to be a passive acknowledgment of declining U.S. economic vitality. Declining labor force growth should not have come as a surprise, so the preponderance of this significant downward adjustment in expectations, by default, has come from lowered expectations for productivity. This is not a foreordained outcome. Policies could be pursued that would amplify productivity prospects. But, political obsession with cutting government spending and monetary policy that has depressed the real rate of interest are having and could continue to have a combined depressing impact on investment activity essential in the long run to boost productivity.

7. GDP Output Gap

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

In **Chart 4** my estimates of the output gap in the “*Steady Growth*” and “*Strong Growth*” scenarios are based on my estimates of potential real GDP and not on CBO’s estimates. By 2023 my estimate of potential real GDP in the “*Strong Growth*” scenario is 1.2 percent lower than CBO’s estimate, and my estimate of potential real GDP in the “*Steady Growth*” scenario is 3.6 percent lower. Even though I have lowered expected potential real GDP in my “*Steady Growth*” scenario, the output gap does not close. This means that forecast growth in real GDP by 2023 in my “Steady Growth” scenario is even weaker than one might guess by looking at **Chart 4** — 3.6 percent lower than CBO’s potential and 5.3 percent lower than CBO’s actual estimates of real GDP.

Chart 4 benchmarks the GDP output gap as 4.0 percent at the end of 2013 and then shows how the output gap would change over time based upon CBO’s GDP projections and my “*Steady Growth*” and “*Strong Growth*” scenarios. CBO expects the output gap to close by 2017. The output gap closes in my “*Strong Growth*” scenario by the middle of 2018, but the gap does not close in my “*Steady Growth*” scenario.

In my “*Strong Growth*” scenario, which assumes strong labor force growth, strong investment growth, and robust productivity, the output gap shrinks in line with CBO’s estimates initially in 2014 and 2015, but then the rate at which the gap shrinks slows and it closes about a year and a half later in 2018.

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

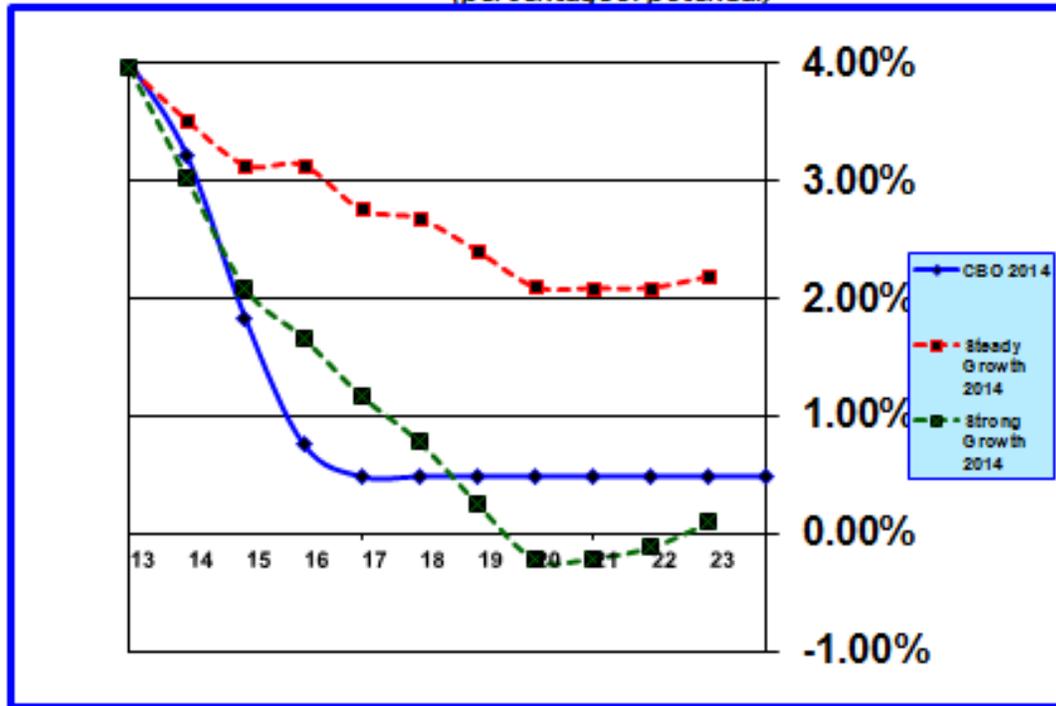
Chart 5 includes **B of A’s** and **GS’s** estimates of the output gap along with those for my two scenarios and CBO’s. **B of A’s** and **GS’s** estimated gaps are based upon CBO’s estimates of potential real GDP. The time period is also shortened in **Chart 5**.

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

Probably the most important take-away is that the output gap is large and it will take at least another three to four years for the economy to reach full potential, and perhaps longer. If the time ends up being shorter, it will either be because growth accelerates from

CHART 4 – Real GDP Output Gap

(percentage of potential)



Page 5

the expected trend, which is possible but seems unlikely, or that potential real GDP is less than CBO believes, which would be a very negative development.

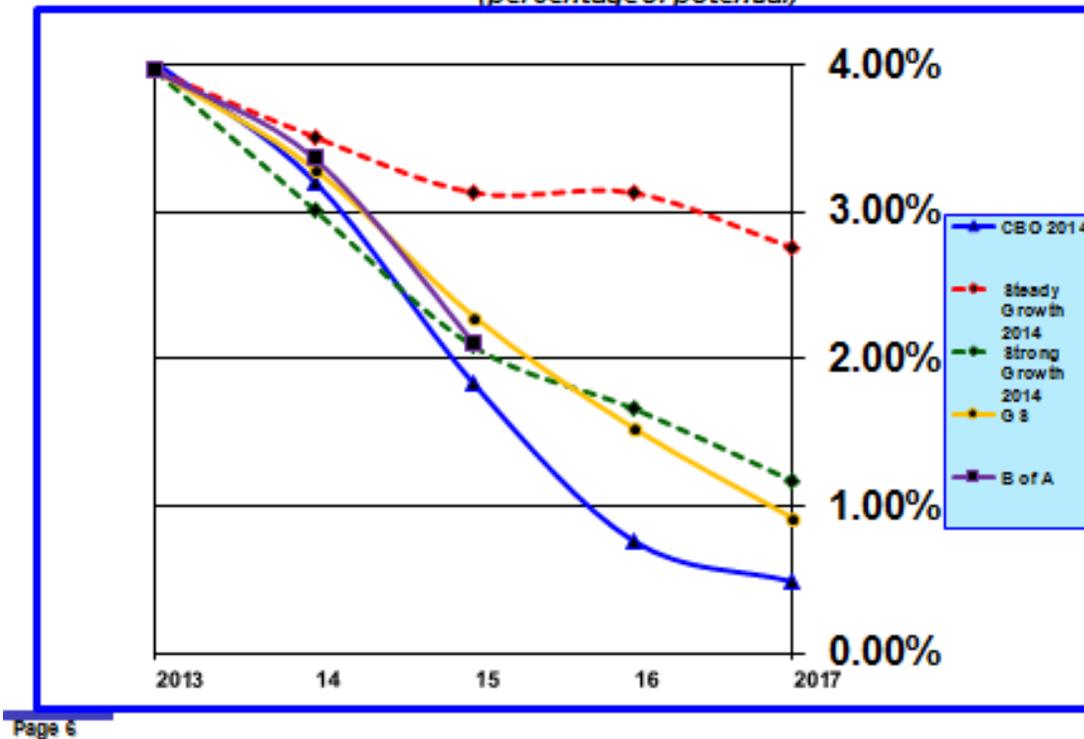
Because the output and employment gaps are highly correlated, full employment is about as far off as is achieving full potential real GDP. If this is not the case and the employment market is tightening rapidly, it is for the wrong reasons, namely that eligible workers are permanently leaving the labor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

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

IV. Recent Employment Trends

Top line employment data in April were stronger than expected, but details indicated underlying weakness remains. For example, the unemployment rate dropped from 6.7 percent to 6.3 percent, but that was entirely the result of an 806,000 decrease in the labor force. Needless to say, if sustained, a shrinking labor force is an extremely negative development and portends lower economic growth in the future.

CHART 5 – Real GDP Output Gap
(percentage of potential)



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April’s increase in payroll employment was 288,000, which was substantially above the consensus expectation. Upward revisions to February and March added another 36,000 jobs. Over the first four months of 2014, monthly payroll jobs have increased an average of 214,000. The 2013 monthly average was 194,000. Monthly payroll data can be volatile due to reporting and statistical issues and also due to short-term phenomena, such as the government closure last year or severe winter weather this year. Short-term phenomena are just that. Their effects quickly disappear. Over time data revisions correct statistical and reporting problems. It is best to focus on the trend in payroll jobs over several months rather than obsessing about the twists and turns in the monthly data. Thus, a reasonable conclusion, based on recent payroll data, is that the labor market continues to heal in a steady fashion.

The companion monthly household survey is even more volatile and is never revised except for periodic updates to monthly seasonal adjustment factors. Household employment increased 638,000 in January, 41,000 in February, 476,000 in March, but decreased 73,000 in April. The four-month average increase was 271,000. Overall, this seems strong, but strength so far in 2014 is probably just correcting the weakness reported during 2013 when household job growth averaged only 115,000 per month. The 16-month average is now 158,000 for the household survey compared to 199,000 payroll jobs. Historically, the two data series track each other closely. While the two diverged significantly during 2013, with the addition of 2014 data the difference between the two surveys has narrowed considerably.

1. Payroll and Household Employment

Employment trends can be observed more easily by viewing **Chart 6**, which shows the annual growth rates for both the payroll and household employment surveys on a year-over-year basis.

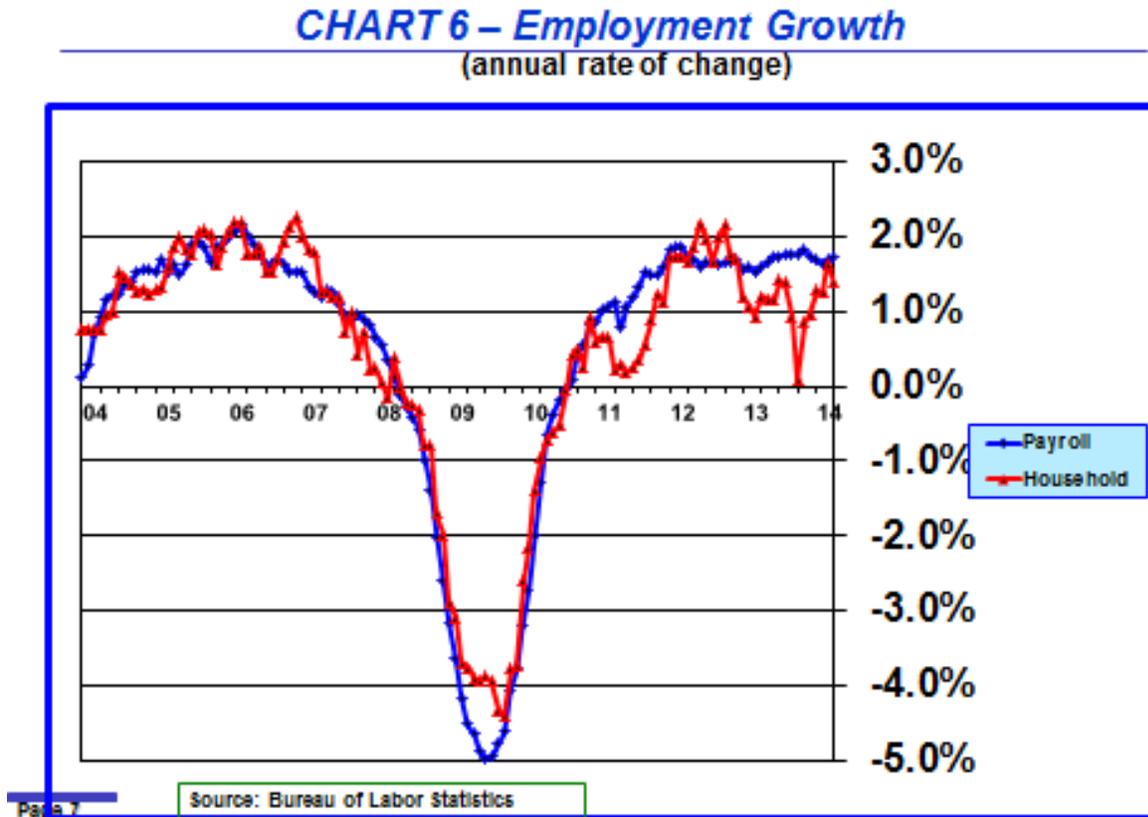


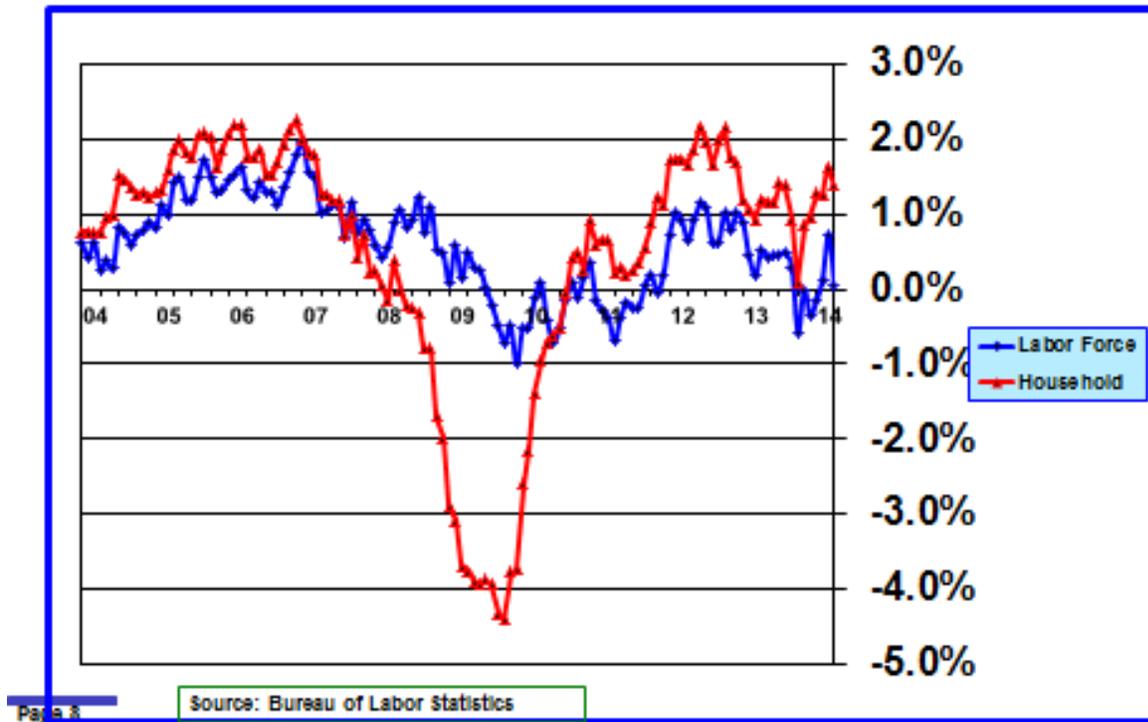
Chart 6 indicates that payroll employment is growing at an annual rate of 1.74 percent and household employment is growing at an annual rate of 1.39 percent. Employment growth is above CBO's long-term labor force trend level of 0.5 to 0.7 percent, which is necessary for the unemployment rate to fall and the economy to return to full employment. Annual payroll employment growth peaked at 1.82 percent in November and has edged a bit lower since then. It is too early to conclude that the trend growth rate is slowing because of recent weather-related anomalies in the data. However, as the labor market approaches full employment it is certain that growth will slow to the long-term trend level dictated by growth in the labor force.

2. Labor Force

Over extended periods of time growth in the labor force depends upon growth in the population eligible to work and on demographic and cultural factors. As can be seen in **Chart 7**, labor force growth tends to exceed household employment growth during recessions and the reverse is true during economic expansions. The difference between the number of workers in the labor force and the number employed equals the number of unemployed workers — the U-3 measure of unemployment reported by BLS. Thus,

when employment growth exceeds labor force growth, as typically occurs during economic expansions, the unemployment rate falls. Certainly, this has been the case since 2010.

CHART 7 – Labor Force and Employment Growth
(annual rate of change)



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

Normally, labor force growth rises during expansions, as can be seen over the period 2004-2007, implying that participation is improving relative to its long-run trend. However, as can be seen in **Chart 7**, beginning in 2013 the growth rate in the labor force began to slow. Not only did it slow to CBO's long-term trend level of 0.5 to 0.7 percent, labor force growth has been essentially zero since October 2012, falling 86,000 over that 18-month period.

In recent months the apparent collapse in labor force growth and with it the plunge in the participation rate has engendered considerable debate. Slower or no growth in the labor force, if sustained for any length of time, would result in a smaller economy — both the level and the growth rate in real GDP would be less. In addition, there are monetary policy implications should the labor market return to full employment sooner because of declining participation.

3. Three Components of Labor Market Slack

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

There are three components of labor market slack. The first is the U-3 *unemployment rate* reported monthly by BLS. This rate counts the number of workers who are eligible to work but who report they do not have a job but are looking for one. This is the measure that most analysts follow to assess the degree of labor market slack. It is also the measure that the Federal Reserve targeted until the March FOMC meeting.

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

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

BLS reports the U-6 unemployment rate, which provides partial, but not complete information about the participation gap. The U-6 rate adds underemployed workers, which includes involuntary part-time workers (4.8 percent of the labor force currently) and marginally attached workers (1.4 percent of the labor force currently), to the U-3 unemployment rate. The U-6 unemployment rate in April was 12.3 percent compared to 12.7 percent in March. The decline in the U-6 measure of unemployment from March to April was due entirely to the decline in the number of unemployed workers from 10.49 million to 9.75 million. The number of underemployed workers actually rose slightly from 9.58 million to 9.62 million.

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

There is a third component of labor market slack and that is the *hours gap*. An hours gap exists when employed workers are working fewer hours than they would like to work. Much of this phenomenon is picked up in BLS’s U-6 measure of involuntary part-time workers. But the U-6 measure is probably incomplete to the extent that some workers do not report that they are involuntary part-time workers but who would be willing to work more hours. Typically, employers cut back on overtime and even on

regular time during recessions before terminating employees. The reverse occurs as the economy improves as employers increase hours and employ more part-time workers before committing to full-time hires.

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

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

4. Unemployment Rate — Duration of Unemployment

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

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

Chart 8 divides the U-3 unemployment rate into two unemployment rates — one for short-duration unemployment and one for long-duration unemployment. The short-duration unemployment rate is almost back to its pre-Great Recession level. It averaged 3.81 percent in 2007 compared to 4.20 percent over the last four months. In contrast, the long-duration unemployment rate averaged 0.81 percent in 2007 compared to 2.36 percent over the last four months.

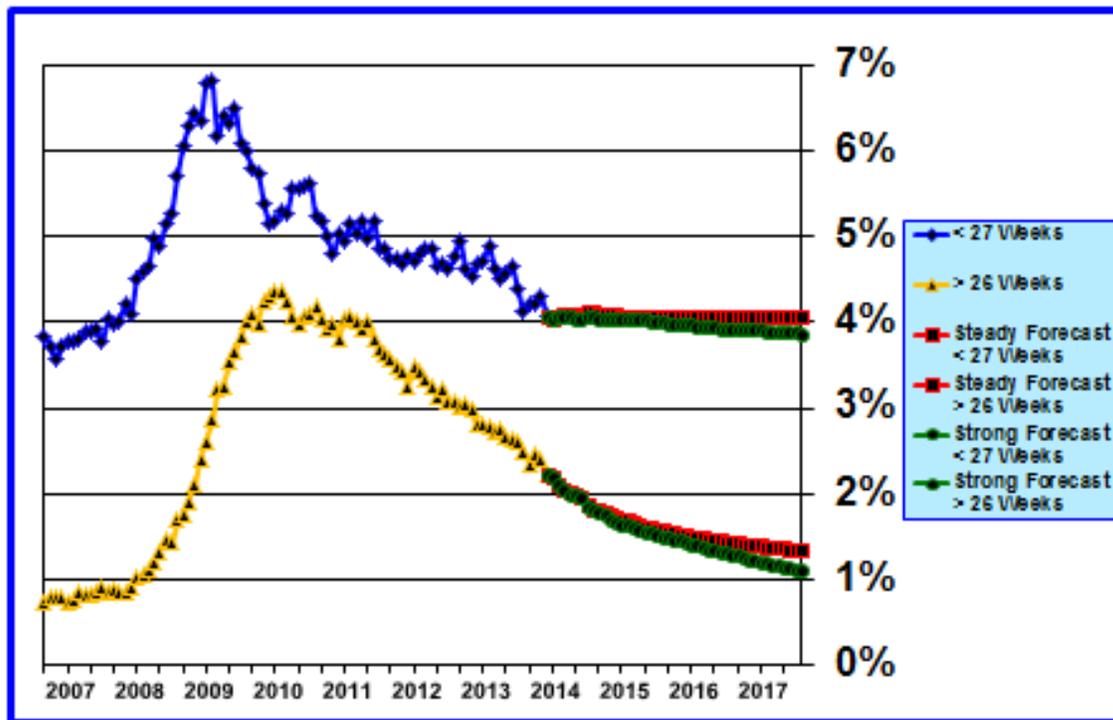
Chart 8 also shows my forecasts for the short-duration and long-duration unemployment rates. The short-duration unemployment rate changes little in the forecasts indicating that it has, indeed, returned to a “normal” labor market level. However, the long-duration unemployment rate continues to decline, but very gradually. The sum of the two forecast unemployment rates equals the forecast total unemployment rate, which reaches 5.41 percent by December 2017 in the “**Steady Growth**” scenario (4.07 percent short-duration and 1.34 percent long-duration) and 4.99 percent in the “**Strong Growth**” scenario (3.88 percent short-duration and 1.11 percent long-duration).

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

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

Statistical analysis, which includes both the total unemployment gap and the short-duration unem-

CHART 8 – Unemployment Rate – Duration of Unemployment: Actual and Forecasts



Page 3

ployment gap separately, indicates that core PCE inflation should rise in coming months, but the increase is moderate and tops out at about 2.3 percent in 2015. Alternatively, statistical analysis which includes only the total unemployment gap, projects a smaller 50 to 60 basis points increase in core PCE inflation to a peak of approximately 1.8 percent. **Table 8** below includes forecasts for 2015, 2016, and 2017 for both statistical versions.

It is unclear which statistical specification of the core PCE inflation rate should result in better forecasts. Forecasts using only the total unemployment gap are more similar to those of **B of A** and **GS** than those that also include the short-term unemployment gap. Moreover, the forecast difference in the core PCE rate peaks at 60 basis points in 2016 and then diminishes to 25 basis points by 2023, implying that at most including the short-term unemployment gap has a limited impact on the core PCE over longer periods of time. Perhaps most importantly, federal funds rate and 10-year Treasury interest-rate forecasts are only a few basis points higher when the short-term unemployment gap is included in the forecast of core PCE inflation. This finding suggests that whether the short-term unemployment gap is considered or not considered in the forecast of core PCE inflation may have very little impact on the conduct of monetary policy.

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

Expect to hear more arguments about structural unemployment and inflation risks as the monetary policy debate shifts from tapering quantitative easing to speculating about the timing of interest rate

increases. However, the initial flurry of discussion about the potential impact of the rapid decline in the unemployment rate and especially the decline in the short-term unemployment rate already appears to have ebbed. Perhaps that had to do with considerable analysis that pointed out flaws in the so-called linkage of the short-term unemployment rate to the inflation rate. Or perhaps the unexpected substantial decline in the 10-year Treasury rate from 3.04 percent at the beginning of 2014 to 2.52 percent on May 16 reinforced market expectations that inflation will remain subdued for a long time and will rise only gradually.

5. Outlook for the U-3 Unemployment Rate

The unemployment rate plunged from 6.71 percent in March to 6.28 percent in April. The number of unemployed workers fell 733,000. Rather than being unambiguously good news, this decline appears to have been the result entirely of a slightly larger 806,000 decline in the labor force. Over the last 18 months, the labor force has changed very little, while unemployment has fallen 2.4 million.

There are two possible explanations and neither is positive. First, a large portion of the decline in unemployed workers may be discouraged who will reenter the labor force when jobs become easier to find. To the extent that is the case, the U-3 unemployment rate understates the extent of labor market slack. Alternatively, a large portion of these people will never reenter the labor market. While this would mean that the labor market is actually tightening, the negative story is that slower growth in the labor force will translate into slower growth in the economy and real GDP over time.

Chart 9 shows the FOMC's high (red line and circles) and low (green line and circles) unemployment rate projections for 2014, 2015, and 2016.

I have included in **Chart 9** unemployment rate forecasts for both my "*Steady Growth*" (red dotted line and diamonds) and "*Strong Growth*" (green dotted line and diamonds) scenarios. The "*Steady Growth*" unemployment rate forecast tracks close to the FOMC's low unemployment rate projections in 2014 and 2015, but is closer to the high projection in 2016. The "*Strong Growth*" unemployment rate forecast tracks below the lower end of the FOMC's range in 2014 and near the lower end in 2015 and 2016.

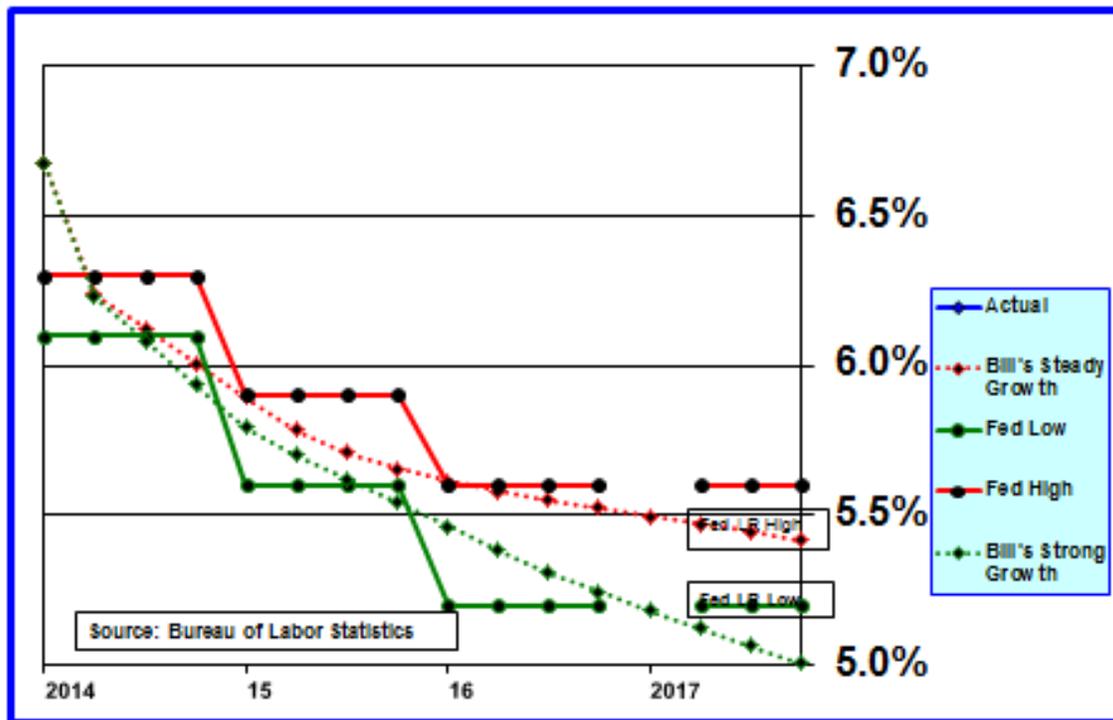
It is very likely that FOMC members will reduce their projections for the unemployment rate at the June FOMC meeting.

6. Discouraged Workers — Participation Gap

Chart 10 shows the historical relationship between the BLS U-3 unemployment rate and an alternative measure I calculate that includes an estimate of what the unemployment rate would be if discouraged workers are included. The alternative measure is adjusted for demographic trends, such as the aging of baby boomers. The difference in the two measures in April was 1.16 percent or 1.8 million discouraged workers who have dropped out of the labor force and are not counted as unemployed. Over the past 18 months, the number of "discouraged workers" has ranged from 553,000 to 2.3 million and averaged 1.2 million. The data clearly are highly volatile. That is because the data used to calculate the U-3 unemployment rate are volatile as pointed out in the discussion of the labor force above.

(I included an extensive analysis of the issue of discouraged and structurally-unemployed workers in the *February Longbrake Letter*)

CHART 9 – Unemployment Rate
(quarterly average)



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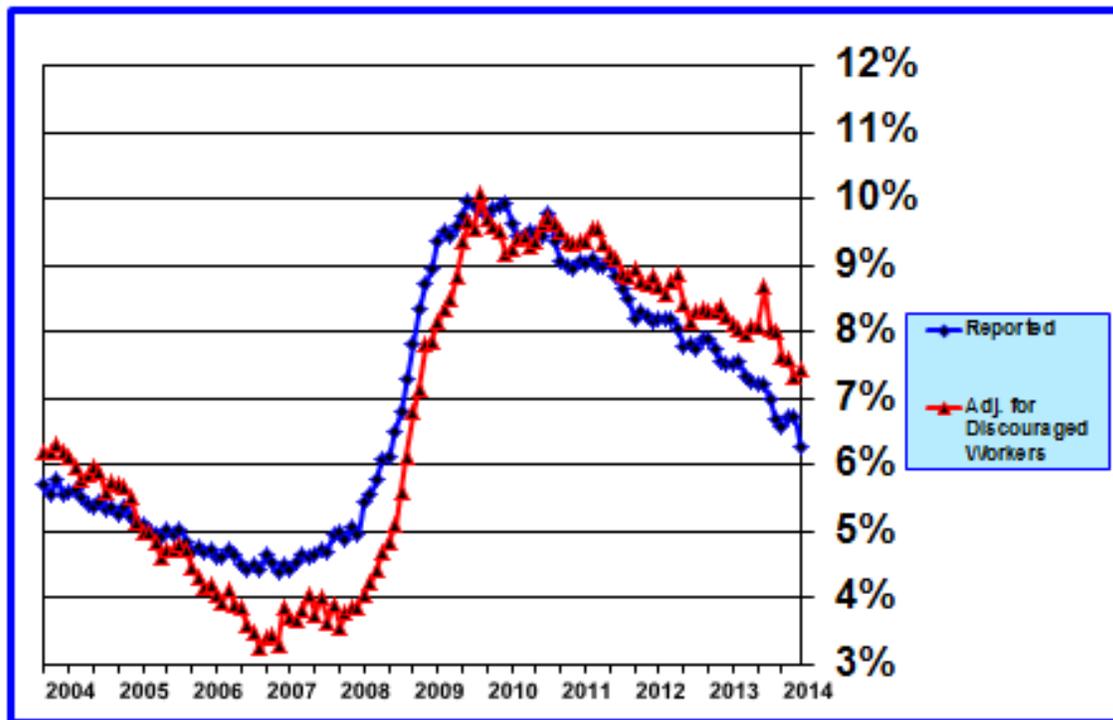
Again, the question under debate is whether “discouraged” workers will reenter the labor force as the economy improves or whether a portion of them will never return. There is no shared consensus as to the answer to this question. While it appeared from the March data that the number of discouraged workers might be shrinking, the April estimate bounced back to the higher 1.7 million level that has persisted over the last six months.

In previous reported analysis, **GS** has presented evidence that the *participation gap* is quite sizable and will have a moderating effect on inflation until it diminishes. Recently, **GS** extended its analysis to cover the U-6 unemployment rate which includes involuntary part-time workers (4.8 percent of the labor force in April) and marginally attached workers (1.4 percent of the labor force in April).⁶ Relative to long-term historical norms, **GS** concluded that the additional U-6 employment gap is currently 1.6 percent, including 1.2 percent for involuntary part-time workers and 0.4 percent for marginally attached workers. This 1.6 percent is in addition to the 0.8 percent total unemployment gap. Because **GS**'s U-6 employment gap covers only part of the participation gap, the total gap is higher than 2.4 percent. The total gap was 2.8 percent in March, but the entire decline from March to April was accounted for by the U-3 measure of unemployed workers.

As is the case for the long-duration unemployment, the involuntary part-time workers gap and the marginally attached workers gap will close more slowly than the short-duration unemployment gap. This implies that not only is there still a large amount of slack in the labor market, it will also take a considerable period to return to a more normal level. **GS** believes it will take until mid-2018 for that to occur for the

⁶David Mericle. “US Daily: When Will U6 Reach Its Structural Rate?” Goldman Sachs Research, April 8, 2014.

CHART 10 – Reported Unemployment Rate & Adjusted for Discouraged Workers



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U-6 employment gap.

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

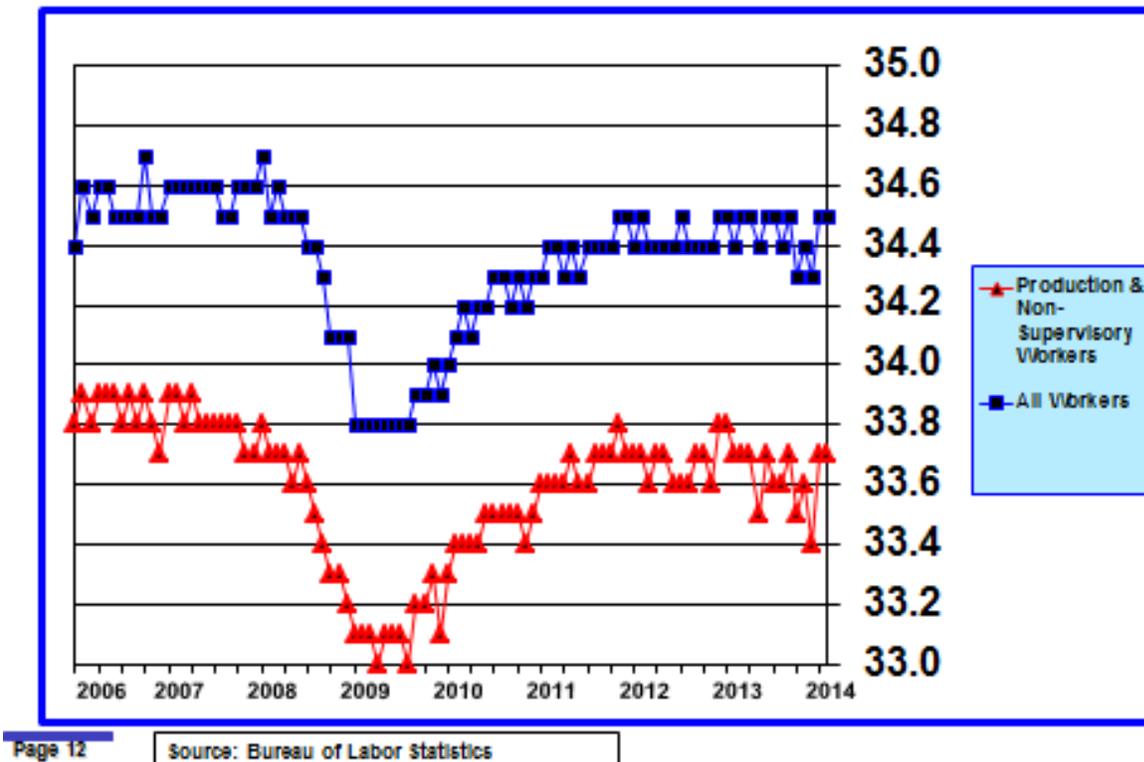
Average weekly hours are reported each month in the BLS Employment Situation Report for all private sector employees and for production and non-supervisory employees. The more inclusive “private sector employees” data series begins in March 2006; data for “production and non-supervisory employees” goes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

Average weekly hours cover both full-time and part-time workers and include overtime hours. Hourly data for production and non-supervisory employees have trended downward over the 50 years these data have been reported as the proportion of part-time workers has increased. Hours worked also fluctuate cyclically as employers cut down on hours first when economic conditions deteriorate and only later terminate employees. The cyclical pattern is clearly evident in **Chart 11** during the Great Recession. The rebound in hours worked following the Great Recession did not quite reach the pre-Great Recession level, which is indicative of a further increase in the proportion of part-time workers.

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

Average weekly hours worked for all employees dipped from 34.5 in November to 34.3 in February but returned to 34.5 in March and remained at that level in April. Typically, a decline in the length of the work

CHART 11 – Average Weekly Hours
(All Workers; Production and Non-Supervisory Workers)



week is an indication of a weakening labor market as employers cut down on overtime and rely to a greater extent on part-time employees. It is clear that the February dip was weather related and temporary. The 12-month average peaked at 34.46 hours in November and has fallen only slightly to 34.44 in April. These data indicate the trend in hours worked is stable.

Average weekly hours worked for production and non-supervisory workers peaked at 33.8 in February and March 2013, dipped to 33.4 in February, but rebounded to 33.7 in March and remained at that level in April. While much of the recent fluctuation in average weekly hours worked for production and non-supervisory workers is probably due to weather effects, it appears that part may also be due to increases in the proportion of part-time workers. This latter trend matters because the measure of the number of workers employed is not adjusted for hours worked. A part-time worker counts the same as a full-time worker. To the extent this is the case, the recent decline in the U-3 unemployment rate may be overstated.

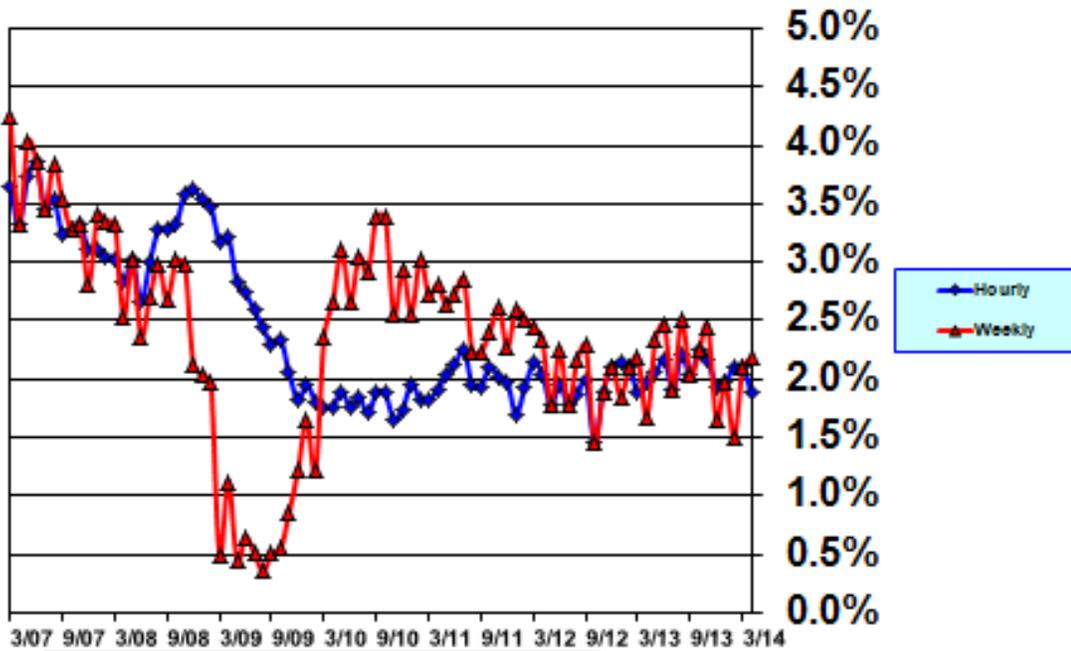
8. Growth in Hourly and Weekly Wages — All Private Employees and Production and Non-Supervisory Workers

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

Weekly average wages fluctuate more than average hourly wages over time due to cyclical oscillations

in the number of hours worked. This pattern is clearly evident in **Chart 12** with the plunge in average weekly wages for all private employees during the Great Recession and the rapid rise during the ensuing recovery. However, since the beginning of 2012, the growth rates for both hourly and weekly wages have been similar, which is indicative of relative structural stability in the labor market.

CHART 12 – Hourly and Weekly Wages – All Workers
(annual rate of change)



Source: Bureau of Labor Statistics

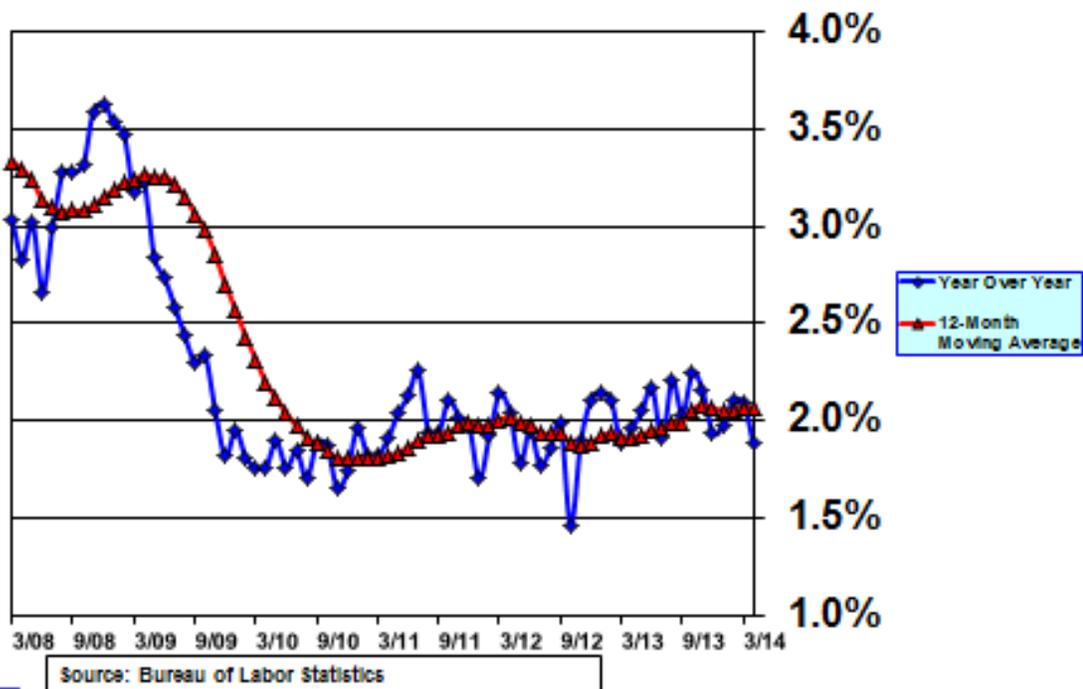
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As can be seen in **Chart 12**, the rate of growth in hourly wages for all private employees has fluctuated in a narrow band in the vicinity of 2.0 percent for the last four years. This is good news because the large output gap and high unemployment rate, which have persisted for several years, have not put further downward pressure on average wage rate growth for all private employees.

Chart 13 shows annual changes in hourly wage rates (diamonds and blue line) and a 12-month moving average (triangles and red line) for the same data series. The moving average smooths month-to-month changes and makes it easier to discern trends. The annual growth rate in hourly wages for all workers bottomed at 1.81 percent in January 2011. Over the last three years, the growth rate has edged up to 2.07 percent, but has been stuck at that level since last October. The year-over-year change in the hourly wage rate was only 1.89 percent in April and is not signaling an imminent upside breakout in the 12-month moving average.

Recently, attention has focused on another BLS wage rate data series, which shows that wages of production and supervisory workers have been rising over the last 18 months (see **Chart 14**). Production and non-supervisory workers comprise 82.7 percent of total private employees and consist predominantly of lower skill, lower paid jobs. Over the cycle wages of this subgroup are much more volatile, rising more during good times and falling more during bad times. Much of this cyclical volatility is caused by changes

CHART 13 – Hourly Wage Rate Growth – All Workers
(annual year over year and 12-month moving average rates of change)



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in the mix of jobs. The wage rate data series for all production workers is impacted to a much lesser extent by a changing job mix, which makes it a more stable and reliable indicator of wage trends.

This is the data series that those who emphasize potential inflation risks focus on. The assertion is that an upturn in wages for production and nonsupervisory workers leads an upturn in wages for all workers. **B of A** conducted extensive statistical analysis of this hypothesis and found no evidence to support it. There was no correlation, on a lagged basis, between this measure of wages and any other labor cost or inflation measures. Indeed, **B of A** believes that this measure of wages “... *is arguably the least reliable of labor cost measures.*” That is because this data series does not calculate hourly wage rates directly but derives an estimate by dividing total earnings by the number of hours worked. **B of A** believes that the wage data for all workers is much more reliable and the employee cost index is an even better measure because it includes benefits, which amount to 30 percent of total compensation, as well as cash compensation and it uses fixed employment weights so that it is not affected by shifts in the mix of jobs over the cycle. The employment cost index rose only 1.3 percent in the first quarter.

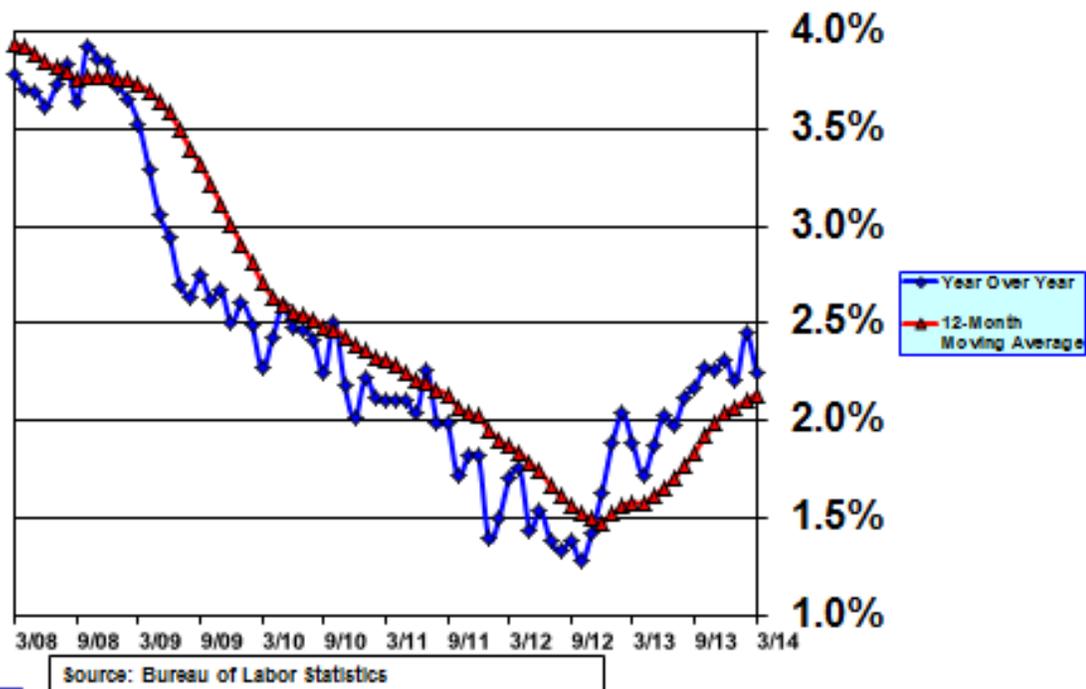
According to **B of A**, wage pressures are unlikely to develop for a considerable time.

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

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

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

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



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labor market.

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

In any event, the annual rate of increase in the hourly wage rate for production and non-supervisory workers has plateaued at approximately 2.30 percent over the last six months. Furthermore, the rate of increase is still below the historical level of 3.5 to 4.0 percent which typically accompanies full employment. It is at that level, and not before, that inflation becomes a concern.

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

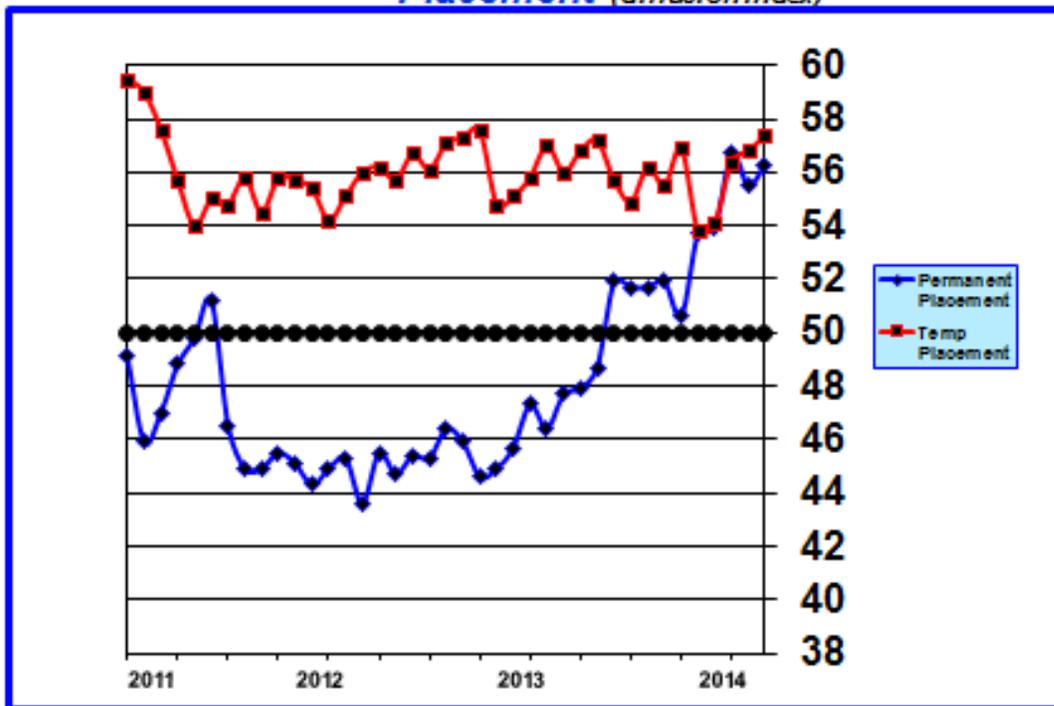
9. Temporary and Permanent Employment Surveys

ISI conducts a weekly survey of “Temporary” and “Permanent” placement companies’ employment activity and also a survey of “Temporary” and “Permanent” employee placement wage pressures.” Both surveys

use a diffusion index methodology which means that a reading above 50 indicates increasing employment activity and increasing wage pressures.

Chart 15 shows that temporary employment placement activity has been relatively strong over the last three years, with no discernible rising or falling trend. However, permanent employment placement activity contracted steadily until the third quarter of 2013. Since then activity has not only been rising but the pace has increased during 2014. These surveys provide solid evidence that improvement in the employment market has gotten considerably better in the last few months.

CHART 15 – Temporary & Permanent Employment Placement (diffusion index)



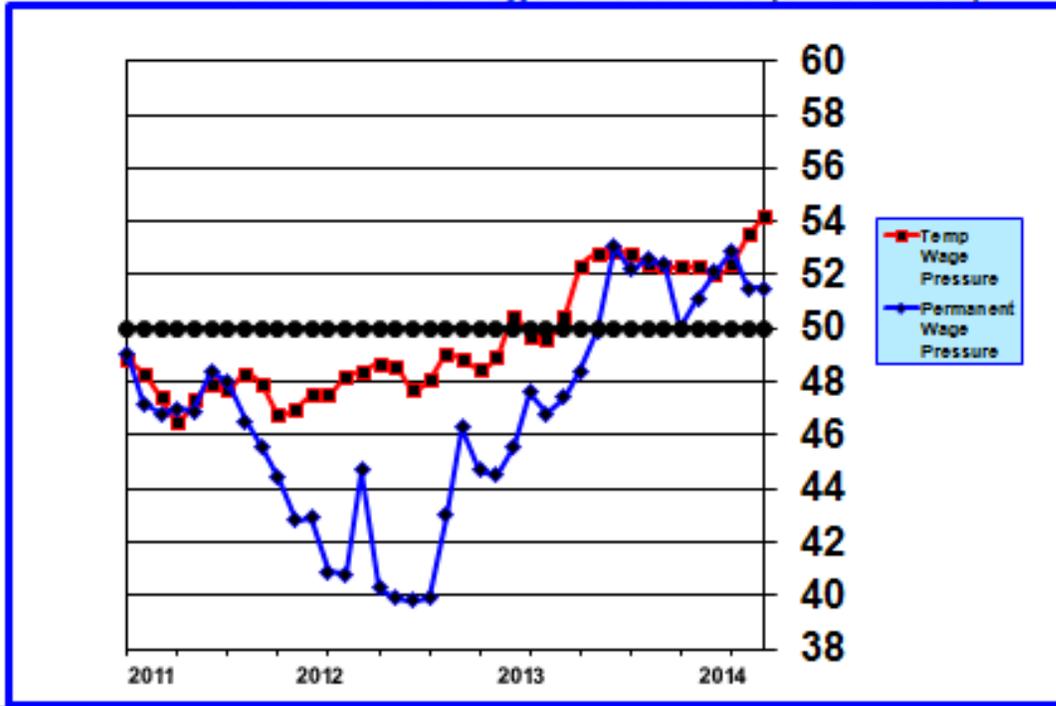
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Source: ISI Company Surveys

Chart 16 indicates that there was consistent downward pressure on temporary employee wages until the beginning of the third quarter of 2013. Upward pressure on permanent employee wages began about one quarter later in the fourth quarter of 2014. It should be noted, however, that the wage pressure diffusion indices for both temporary and permanent workers are just barely above 50 which means that upward wage pressure is still quite modest.

Both **Charts 15** and **16** are signaling that the labor market has improved considerably in the last few months and support forecasts of accelerating real GDP growth in 2014.

CHART 16 – Temporary & Permanent Employment Placement Wage Pressures (diffusion index)



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Source: ISI Company Surveys

V. Consumer Income and Spending

Interpreting personal income and spending data is always challenging. The data are revised substantially over time, which means that what might appear to be a trend when monthly data are first reported may well be revised away or reversed later on. In addition, policy anomalies can skew reported data from month to month, sometimes to a considerable extent. For example, at the end of 2012 personal income, consumption expenditures, disposable income were impacted by decisions to optimize tax burdens in anticipation of changes in federal tax rates. This led to a substantial increase in reported personal income in late 2012 and a corresponding reduction in early 2013. Tax increases that took effect in January 2013 also negatively impacted disposal income.

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

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

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

	2012 Pct. Change Dec 11-Dec 12	2013 Pct. Change Dec 12-Dec 13	Pct. Change Mar 13 - Mar 14	Pct. Change Dec 2012 12-Month Moving Average	Pct. Change Dec 2013 12-Month Moving Average	Pct. Change Mar 2014 12-Month Moving Average
Personal Income	7.94%	-0.77%	3.42%	4.22%	3.23%	3.05%
Compensation	6.80%	0.76%	3.47%	3.93%	3.18%	3.00%
Proprietors' Income	5.07%	7.65%	0.61%	6.40%	9.74%	8.51%
Rental Income	7.28%	8.44%	5.19%	12.26%	9.00%	8.43%
Asset Income	18.90%	-10.52%	4.32%	-3.97%	3.27%	2.78%
Government Transfers	4.06%	2.29%	3.89%	2.07%	3.68%	3.50%
Less: <i>Personal Taxes</i>	9.47%	5.98%	3.93%	5.38%	11.07%	10.64%
Disposable Income	7.52%	-1.60%	3.34%	3.87%	2.31%	2.30%
Less: <i>Consumption</i>	3.73%	3.38%	3.92%	3.96%	3.13%	3.16%
Personal Saving	74.14%	-53.67%	3.93%	2.30%	-11.59%	-13.12%
Personal Saving Rate	8.73%*	4.11%*	3.81%*	5.61%	4.50%	4.50%
Adj. Personal Income [#]	7.84%	0.18%	3.45%	4.12%	4.03%	3.72%

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

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

1. Impact of the Affordable Care Act

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

Consumer spending increased a somewhat larger \$40.5 billion due to increased Medicaid coverage and subsidies to pay for insurance premiums for low-income individuals and families. This increase in consumer spending contributed 0.9 percent to first quarter GDP growth. Analysts believe that when hard data becomes available the initial \$40.5 billion spending estimate could be revised lower.

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

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

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

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

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

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

Because timing of income recognition accelerated in December 2012 to minimize the consequences of 2013 tax increases, the best sense of trend can be seen from the December 2012, December 2013, and March 2014 12-month moving averages, adjusted for the change in payroll taxes. Adjusted personal income grew 4.12 percent in 2012, declined slightly to 4.03 percent in 2013, and declined further to 3.72 percent in March 2014. The decline in disposable income growth from 3.87 percent in December 2012 to 2.31 percent in December 2013 and further to 2.30 percent in March 2014 was obviously much greater and reflects the impact not only of increased payroll taxes, but also the increase in personal income tax rates. Thus, it is not surprising that growth in consumption fell as well from 3.96 percent in 2012 to 3.13 percent in 2013. The growth rate moved up to 3.16 percent in March 2014, but this modest improvement appears to be due entirely to the Affordable Care Act.

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

Although it is hard to draw any definitive conclusions from these noisy data, it appears that growth in nominal personal income, adjusted for tax rate changes, has slowed a little over the last 15 months. This seems consistent with the slow recovery of the labor market and relatively static wage growth.

3. Consumption

Moving average data in **Table 6** indicate that the growth rate in consumer spending fell during 2013 but now appears to have bottomed. Notwithstanding the diminished growth rate in consumption, it still has exceeded disposable income growth, which means households have reduced their saving rate to maintain consumption.

Forecasters generally expect consumption growth to accelerate in 2014. This is an easy call because the

drag on consumption growth from higher taxes has gone away. However, how much consumption growth accelerates beyond that will depend upon five additional factors.

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

Second, wage growth will need to rise. As the labor market tightens, this will eventually happen but there is a very good chance that hourly wage growth will remain at approximately 2.0 percent in 2014 or edge up, at most, to 2.25 percent.

Third, the saving rate would have to continue to decline. It has already declined from 5.61 percent in 2012 to 4.50 percent in March 2014. The normal tendency, however, would be for households to rebuild savings as disposable income growth accelerates. This would result in a higher saving rate and slower growth in consumption. However, pent-up demand, coupled with increased consumer optimism and easier access to consumer credit, could lead to a further decline in the saving rate and an acceleration in consumption growth. Consumer optimism remains at depressed levels. Credit conditions for revolving credit are easier, but access to mortgage and second equity credit is still tight.

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

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

All-in-all consumer spending seems likely to accelerate as 2014 wears on but achieving the kinds of increases that **B of A** and **GS** are forecasting could prove challenging (see **Table 4**).

4. Nominal Disposable Income and Spending

Chart 17 shows the nominal rate of growth in disposable income and consumer spending from 2004 to the present. Growth rates are calculated as the rate of change in the 12-month moving average on a year-over-year basis. This method smooths timing anomalies, although major events, such as occurred at the end of 2012 and to a lesser extent the more recent impact of the Affordable Care Act, will still impact the observed trend for the following 12 months.

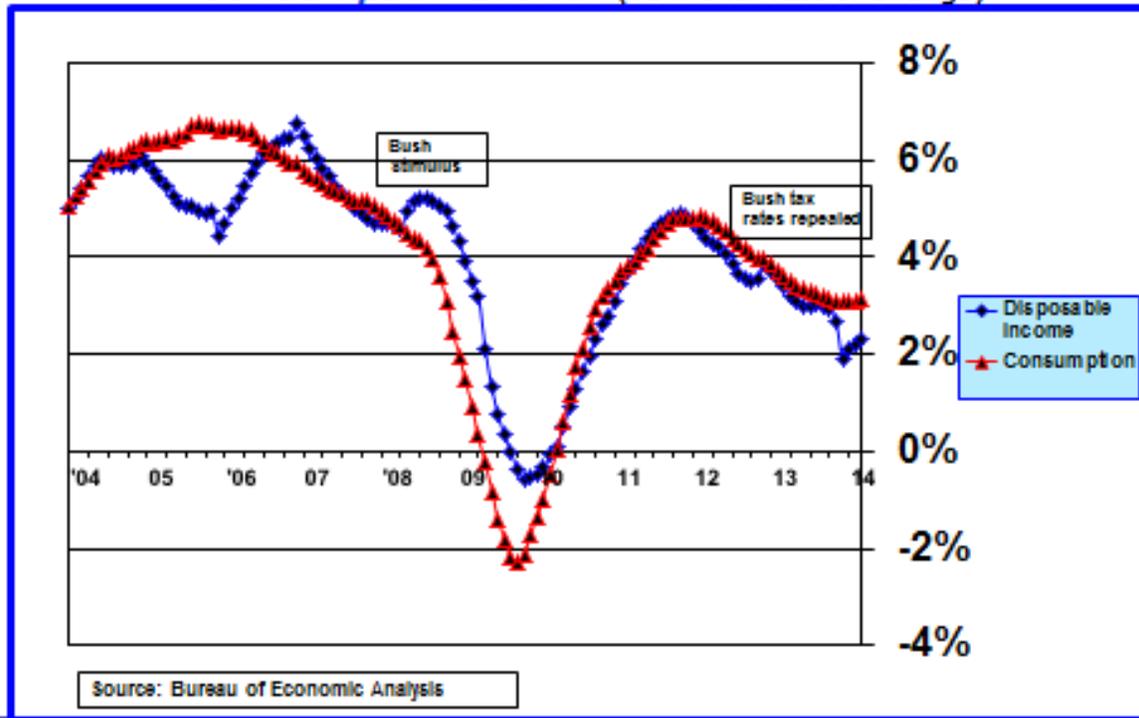
The annual rate of growth in nominal disposable income began slowing in late 2011 and declined from 4.9 percent in November 2011 to 1.9 percent in December 2013. Growth edged up to 2.3 percent in March 2014.

Chart 17 shows that growth in consumer spending, after peaking at 4.8 percent between October 2011 and March 2012, slowed to 3.1 percent in February 2014, and then rose slightly to 3.2 percent in March, which may be the result of Affordable Care Act spending.

5. Outlook for Nominal Disposable Income and Spending

As can be seen in **Chart 18**, forecast nominal consumer disposable income growth is relatively stable between 1.8 percent and 2.4 percent through the third quarter of 2015. After that growth accelerates and

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



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converges with spending growth by the early 2016. Acceleration in income growth is delayed until the employment gap closes and wage rate growth picks up.

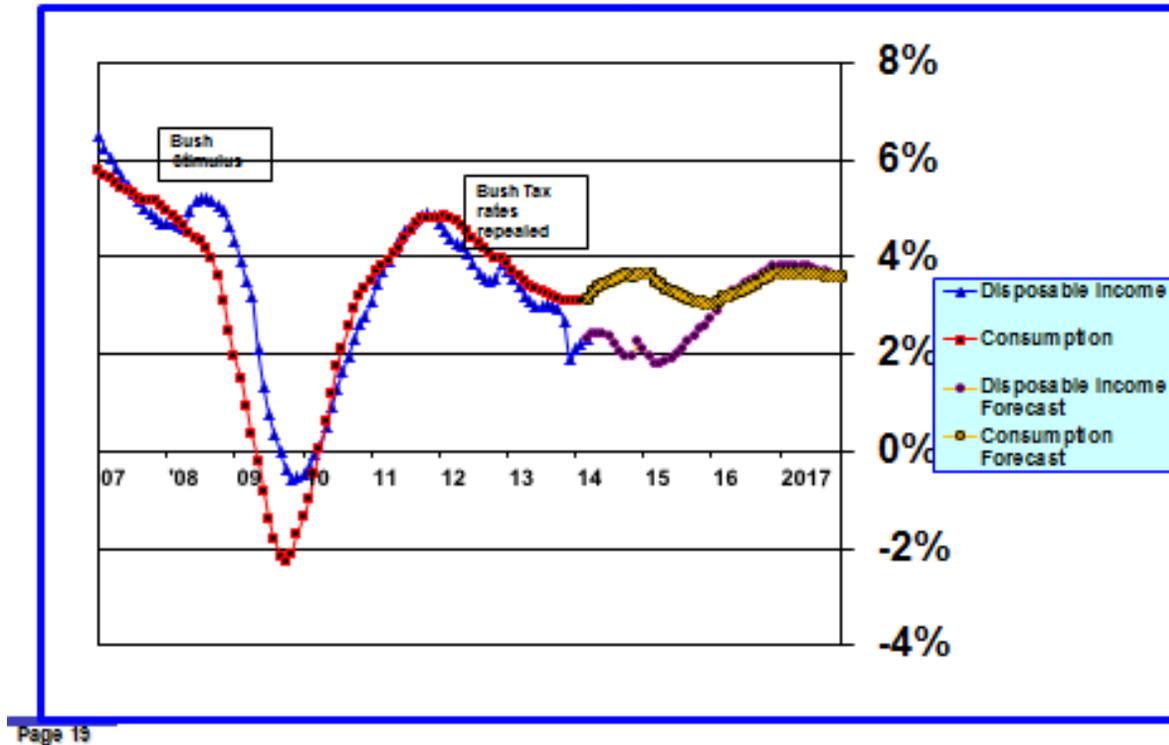
Chart 18 shows the forecast for the “*Steady Growth*” scenario. The forecast for the “*Strong Growth*” scenario follows the same pattern, but the level of growth is higher. In the “*Steady Growth*” scenario, nominal disposable income growth is 3.6 percent at the end of 2017 and nominal spending growth is 3.6 percent. Both growth rates are approximately 80 to 90 basis points higher in the “*Strong Growth*” scenario due both to stronger growth but also because of higher inflation.

6. Real Consumer Spending Forecasts

Chart 19 shows forecasts for quarterly real consumer spending growth at an annualized rate. My “*Steady Growth*” scenario forecasts much weaker real consumer spending growth in 2014, 2015, and 2016 than either **GS** or **B of A**. My “*Strong Growth*” forecast is also lower than **GS**’s and **B of A**’s forecasts for most of the next two years. In 2016 it continues to underperform **B of A**’s forecast but is slightly better than **GS**’s forecast (also see **Table 4**).

GS and **B of A** believe real consumer spending will accelerate during 2014 to between 3.0 and 3.1 percent. Y/Y growth is 3.02 percent for all 2014 for **GS** and 3.09 percent for **B of A**. **B of A** forecasts real spending growth of 3.22 percent in 2015 and 3.06 percent in 2016, while **GS** projects growth will be 2.80 percent in 2015 and 2.52 percent in 2016.

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



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The principal difference between **B of A's** and my forecasts has to do with slower growth in disposable income in my forecast, which results from the assumption of low growth in productivity. This is very apparent in the “*Steady Growth*” scenario. Higher productivity growth in the “*Strong Growth*” scenario boosts real consumer spending growth so that the differences between **B of A's** forecast and the “*Strong Growth*” forecast diminish over time and disappear by the end of 2017.

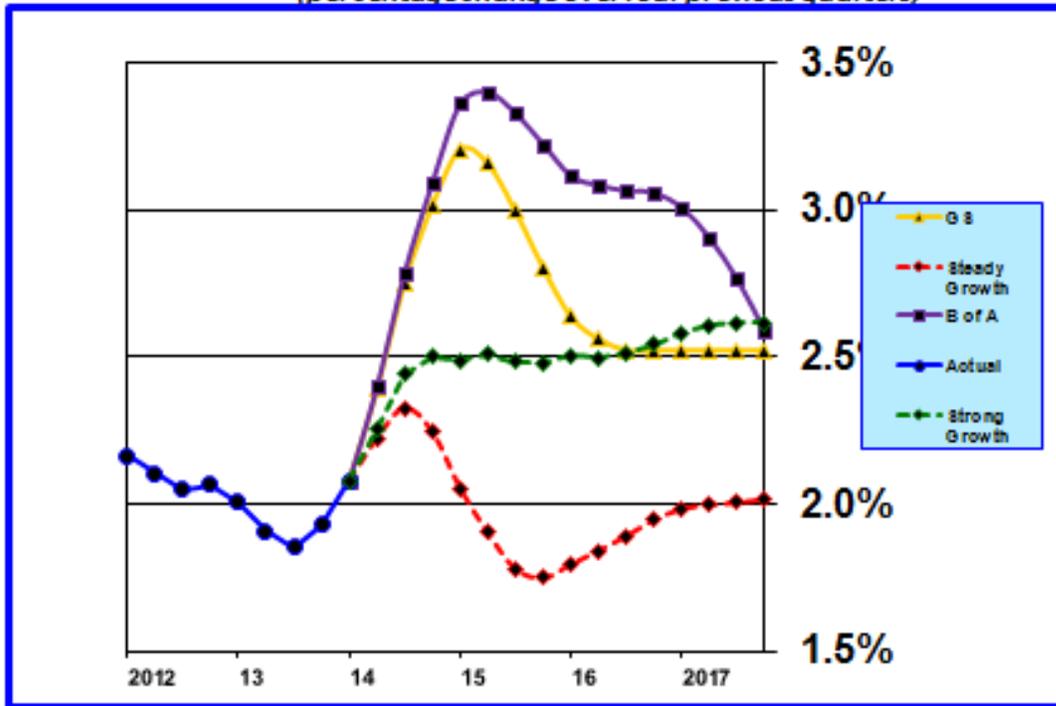
In summary, there are four arguments for stronger consumer spending in 2014 and, therefore, strong real GDP growth. First, the tax rate increase shock will no longer be a factor. Second, households' balance sheets have been cleaned up, which opens up borrowing capacity. Third, hiring is relatively strong and firing is declining as reflected by the decline in new unemployment claims. Fourth, there is some evidence that wage rates are beginning to rise and a tightening labor market should lead to a more rapid increase in wages. In addition, the Affordable Care Act will boost spending over the next few months. But these favorable factors could be offset to some extent by an increase in the saving rate.

7. Consumer Confidence

Most measures of consumer confidence strengthened in April, reflecting improving employment and the absence of significant negative news events. This bodes well for an acceleration in consumer spending.

The **University of Michigan's** consumer sentiment index fell to 81.8 in May from 84.2 in April. This measure continues to oscillate in a narrow band and remains at a relatively low level compared to typical values recorded during an economic expansion. Expectations decreased to 73.2 in May from 74.7

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



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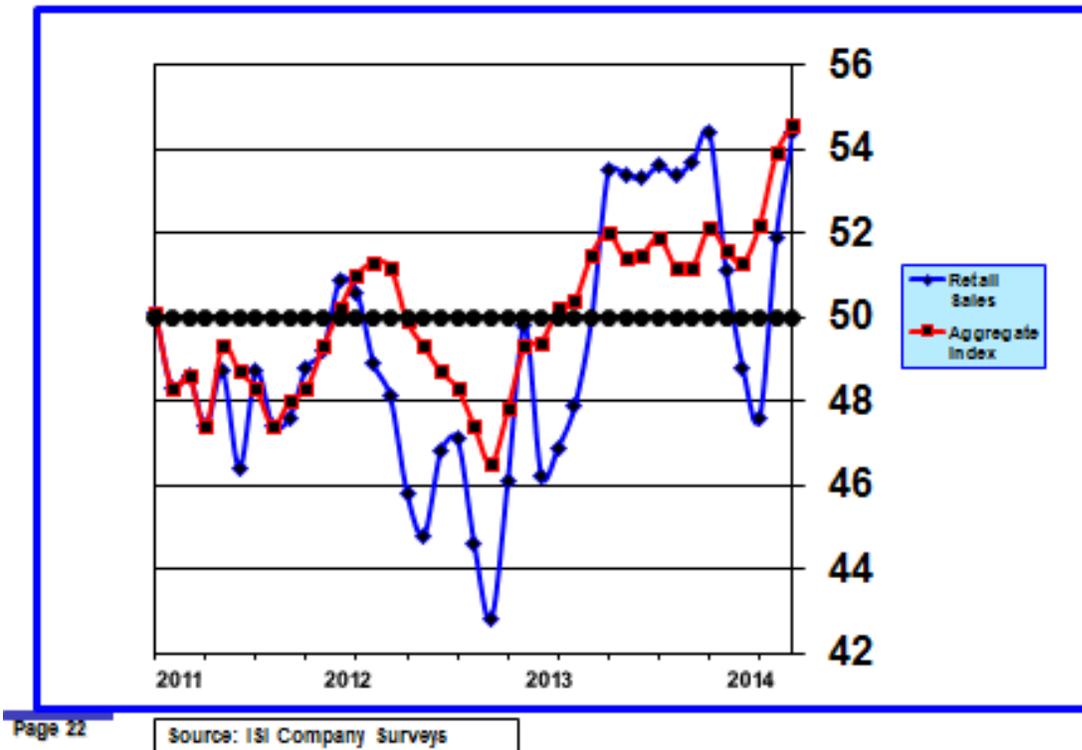
in April, while current conditions rose fell from 98.7 to 95.1.

According to the **Conference Board’s** survey, overall consumer confidence slipped slightly in April to 82.3 from 83.9 in March. The Present Situation Index fell to 78.3 from 82.5 but the Expectations Index was unchanged at 84.9. The differential between jobs “easy to get” versus “hard to get” worsened to -19.6 in April from -17.6 in March.

Chart 20 indicates that **ISI’s** weekly company surveys have now clearly broken out to higher ground and continue to improve. The significance of the recent breakout lies in the fact that it is the strongest this measure has been since 2006, well before the beginning of the Great Recession.

Retail sales have been relatively strong since the second quarter of 2013. The dip in retail sales, due to severe winter weather in early 2014, is clearly visible in **Chart 20**. But, there has been a sharp rebound in April and so far in May, which bodes well for stronger consumer spending in the second quarter. Note that weaker than expected retail sales in April reported by the U.S. Census Bureau is at odds with ISI’s survey results for April; however, the three-month trend in retail sales is consistent with the trend in ISI’s survey of retail sales. ISI’s trucking survey, which moves in tandem with increases or decreases in sales activity, has climbed to a very robust 61.9, the highest it has been since 2006.

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



VI. Business Activity

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

1. Recent Developments

Until recently, manufacturing was one of the few bright spots in an otherwise lackluster economic recovery. Other indicators are now perking up, while manufacturing remains relatively strong. The **ISM Manufacturing Index** is the traditional measure of manufacturing strength. The index remains firmly in expansion territory and rose to 54.9 in April from 53.7 in March.

The ISM production sub-index has been quite volatile from month to month. It fell from 61.7 in December to 54.8 in January to 48.2 in February, only to rise sharply to 55.9 in March and 55.7 in April. The new orders sub-index was unchanged in April at 55.1. The ISM employment index jumped to 54.7 in April from 51.1. Manufacturing remains a steady contributor to economic growth.

Similarly, the **ISM Non-Manufacturing Index** indicates steady expansion in services. The index rose from 53.1 in March to 55.2 in April. The ISM employment sub-index rebounded from a depressed weather related 47.5 in February to 53.6 in March, but fell back to 51.3 in April. Services also remain a

steady contributor to economic growth.

GSAI (Goldman Sachs Activity Index) improved from 56.5 in March to 57.3 in April. The employment index also moved back into expansion territory in March and remained there in April.

An encouraging data point is an acceleration in the growth rate in bank loans to businesses. This implies that business spending is increasing. However, although ISI's bank loan survey, which covers both individuals and businesses, has been rising in recent months and reached 49.1 in the week ending May 9, it remains below 50, which means that lending is still contracting a bit. Growth in loans ordinarily will occur when economic activity is expanding. However, some suggest that a part of the recent surge in business lending may have resulted from above normal inventory accumulation due to inclement weather rather than improving economic conditions.

Small business optimism (**NFIB — National Federation of Independent Business**) increased to 95.2 in April from 93.4 in March and 91.4 in February. Although this measure remains at an historically depressed level, it is now at the highest level since 2007. According to NFIB, "*... from the small business perspective, there continues to be no progress on their top problems: cost of health insurance, uncertainty about economic conditions, energy costs, uncertainty about government actions, unreasonable regulation and red tape, and the tax code.*"

2. Inventory Investment

Over time and absent any significant structural changes, inventories should grow at the same rate as the economy. In reality the change in the level of inventories is very volatile from quarter to quarter depending upon the relative strength of sales activity. When sales are stronger than expected, inventories will be drawn down or grow more slowly than normal. This results in a negative change in inventory growth which reduces measured GDP. If higher sales are expected, inventories may be built up in anticipation. In this case the change in inventories would exceed the normal increase and this would add to GDP growth.

Inventories have grown at about an annual rate of \$63 billion over the last four years. If inventories grow each quarter at that annual rate, inventory growth would neither add nor subtract from GDP growth. However, if inventories grow over two quarters from \$48 billion to \$70 billion and then fall to \$48 billion, GDP growth will be favorably impacted in the first quarter and negatively impacted in the second quarter.

In the second quarter of 2013 inventories grew at an annual rate of \$56.6 billion, about the normal amount. However, inventory growth soared to an annual rate of \$115.7 billion in the third quarter and added 1.67 percent to annualized real GDP growth. The rate of growth in inventories normally would have fallen back in the fourth quarter and subtracted from real GDP growth. That, in fact, did happen but not to the extent that might have been expected. Inventories grew \$111.7 billion in the fourth quarter, well above the average, and only slightly slower than the third quarter. Because the amount accumulated in the fourth quarter was slightly less than the amount accumulated in the third quarter, inventory accumulation subtracted .02 percent from fourth quarter GDP.

The inventory correction finally arrived in the first quarter of 2014, but inventories grew \$87.4 billion, which was still above the recent average rate. Nonetheless, inventories subtracted 0.57 percent from first quarter real GDP growth. This means that the inventory correction has probably not yet run its course. Thus, negative contributions to real GDP growth in the next couple of quarters is possible.

3. Shortfall in Private Investment Spending and Low Productivity

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

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

Table 7
Private Investment Growth Rates
— **Historical and Forecasts (B of A, GS, Bill's "Steady Growth", and Bill's "Strong Growth")**

	1973- 2007	2008- 2013	1973- 2013	2014	2015	2016	2014- 2023
Historical	3.53%	0.24%	3.04%				
B of A				3.27%	7.78%		
GS				2.77%	7.44%	7.38%	
Bill's Steady Growth				3.40%	2.97%	2.52%	2.41%
Bill's Strong Growth				4.49%	6.94%	5.30%	3.59%

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

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

In remarks to the American Economic Association in early January, former Federal Reserve Chairman, Ben Bernanke, noted that productivity recently has been disappointingly weak for reasons that are "not entirely clear." He mentioned some possible reasons including the impact of the Great Recession on credit availability, slow growth in sales revenues, mis-measurement, or unspecified long-term trends. Notably, he did not mention the possibility that the FOMC's own policy of depressing long-term interest rates may be contributing to the investment shortfall and miserable productivity gains.

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

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

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

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

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

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

GS has been much more optimistic than I am that investment spending will increase substantially over the next few years. Importantly, **GS** has supported its optimism with detailed analysis.⁷

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

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

Collectively, these two analytical methodologies pointed to acceleration in nonresidential investment spending to approximately 7 percent in 2014. But first quarter results were not kind to **GS's** analysis. **GS** has now revised its growth forecast and expects business investment spending to grow only 2.7 percent in 2014. What this about face points out is that models based on past patterns do not necessarily result in good predictions, especially if structural changes have occurred in the economy. Again and again during the recovery from the Great Recession, forecasts have turned out to be overly optimistic as past cyclical patterns have proved to be unreliable forecasting guides.

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

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

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

VII. Monetary Policy and Interest Rates

The FOMC met on April 29 and 30. As expected the Committee made no significant changes to its monetary policy statement.

1. FOMC Assessment of the Economy

In the April statement the FOMC noted that economic activity had rebounded from the adverse effect of weather conditions earlier in the year. It mentioned slightly faster consumer spending but slower investment spending. The language about the labor market, “Labor market indicators were mixed but on balance showed further improvement,” was exactly identical to the language in the March statement. The language about the slow recovery in the housing market, fiscal policy, and inflation was also unchanged.

While the overall tone was constructive about progress, the language in the statement made it clear that the Committee remains concerned about the significant amount of slack that remains in the economy. There was no change in the assessment of inflation and no concern expressed about the recent low level of inflation relative to the Committee’s long-term 2.0 percent target, although the Committee reiterated that

it is "... *monitoring inflation developments carefully for evidence that inflation will move back toward its objective over the medium term.*"

2. FOMC Policy Statement

There were no changes in the policy statement.

As expected the Committee continued tapering of large scale asset purchases and beginning in April will purchase \$25 billion in mortgage backed securities and \$30 billion in Treasury securities monthly.

3. FOMC Economic Projections

Member projections were updated at the March FOMC meeting but some are already out of date. The unemployment rate projections are too high and will probably be adjusted down. Similarly, the real GDP growth projections for 2014 are clearly too high based on worse than expected first quarter results and weak residential and nonresidential investment activity. No substantive changes are likely in the inflation or federal funds rate projections.

4. FOMC Special Discussion

On April 29 the FOMC held a discussion of medium-term monetary policy issues. What was discussed was not disclosed in the FOMC's statement but may be covered in the minutes. One possible topic might be strategy principles for exiting its highly accommodative monetary policy. The FOMC adopted principles at the June 2011 meeting, but developments since then argue for updating them. Another topic that might have been discussed would involve how to frame qualitative forward guidance.

5. Chair Janet Yellen's April 16 Speech

In her speech in New York on April 16, Janet Yellen defended the FOMC's repeated downward revisions in projected economic activity by stating that the FOMC responded systematically to economic weakness by taking a considerably higher level of accommodation than markets expected. The thrust of her commentary was that the FOMC adjusts policy as the outlook changes. "*While monetary policy discussions naturally begin with a baseline outlook, the path of the economy is uncertain, and effective policy must respond to significant unexpected twists and turns the economy may take.*" Downside changes in the outlook were met with more accommodative policy and have helped support economic recovery.

She observed that various measures suggest that economic slack is greater than traditional measures, e.g., the unemployment rate, suggest. She also commented that inflation risks are skewed to persistently lower inflation. Both observations imply a continued highly accommodative monetary policy for a considerable time. Notably, she did not mention financial stability concerns in the speech. She reiterated that the FOMC is committed to maintaining low rates until employment and inflation are close to target levels and then to raise interest rates slowly and perhaps terminate a tightening cycle at a lower level than in the past.

6. Chair Janet Yellen's May 7 Congressional Testimony

For the most part Chair Yellen's congressional testimony mirrored the April 30 FOMC statement. She did emphasize, however, housing and geopolitical risks. She also noted that the labor market is "*still far from satisfactory*," which is significant as this remark followed release of the seemingly strong April employment report. In making this comment she highlighted slow increases in most measures of wages. She also suggested that labor force participation might increase as the economy improves rather than continuing to decrease. This was a veiled reference to a potentially large contingent of uncounted discouraged workers.

She also mentioned the potential for financial instability that low interest rates might spawn but concluded that this is a modest risk at this time. But she added that the Fed is "*considering whether additional measures are needed*" to reduce risks that large systemically important financial institutions might pose.

7. Financial Stability

Since the financial panic of 2007-2009, policy has focused primarily on increasing liquidity and capital requirements for financial institutions and conducting rigorous stress tests. The intent is two-fold. First, the objective is to assure substantial liquidity and loss absorption capacity on the part of individual financial institutions so that they can weather a severe disruption in financial markets. Second, by achieving the first objective, it is hoped that the contagion effect that leads to virulent panic will not be triggered.

While the thrust of policy is to prevent or quickly contain a potential financial panic in the future, this policy also results in discouraging risk taking, much of which is probably well within the prudential range. To the extent that reduced risk taking is a policy outcome, economic activity and growth will probably diminish somewhat. In other words, there is a tradeoff between preventing financial panics and fostering economic growth. The challenge of policymakers is to craft regulatory mechanisms that achieve an optimal balance. The jury is out on the impact of the policy and regulatory responses so far, but it appears that policy may have tilted too far in the direction of corralling risk taking and may have focused on the wrong institutions.

Reint Gropp, a visiting scholar at the Federal Reserve Bank of San Francisco and a professor at Goethe University in Frankfurt, Germany, recently published a study that examined the transmission of financial contagion among financial institutions during the financial panic of 2007-2009.⁸ His findings indicate that policy and regulatory responses that have focused primarily on commercial banks and investment banks have omitted the primary culprit responsible for transmitting contagion during the financial panic of 2007-2009.

Gropp conducted a statistical analysis that found that hedge funds were the most important transmitters of financial shocks and were much more important than commercial banks and investment banks. Insurance companies were not systemically important. Gropp observes that hedge funds are opaque and highly leveraged. During normal times spillover effects from hedge funds to other financial institutions are negligible. But during the panic about three-quarters of the shock experienced by a hedge fund was quickly transmitted to investment banks within 10 to 15 days.

Hedge funds remain opaque, highly leveraged, and lightly regulated. So, we may have the worst possible outcome. Regulation of the weak links remains limited and little changed while regulation of the stronger

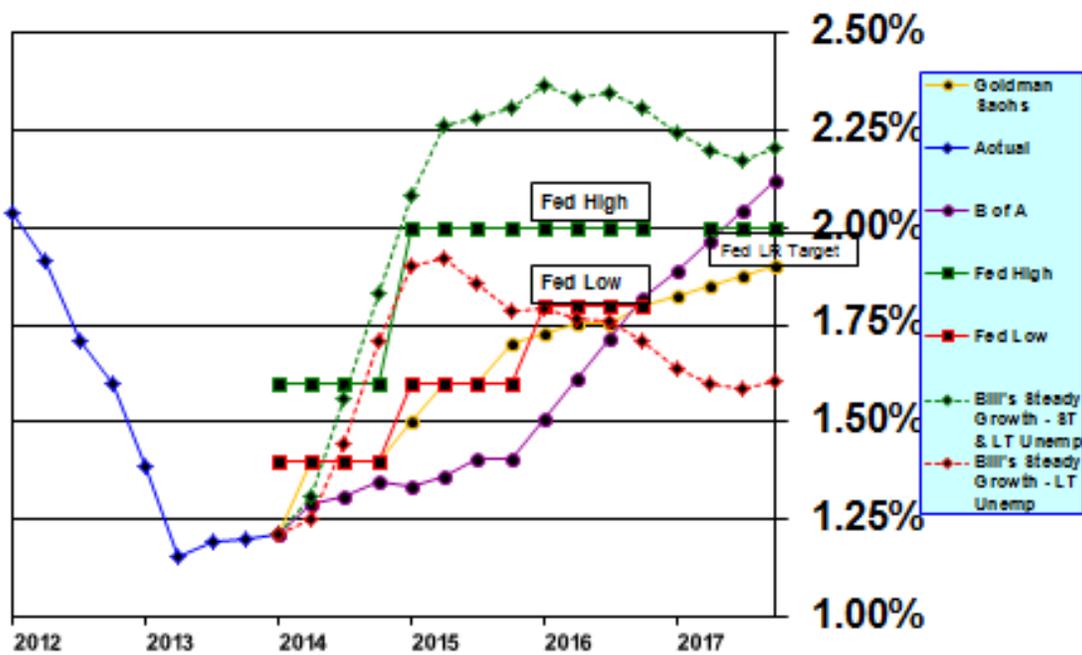
⁸Reint Gropp. "How Important Are Hedge Funds in a Crisis?" Federal Reserve Bank of San Francisco Economic Letter, 2014-11, April 14, 2014.

links is bordering on the draconian and may contribute to slower future economic growth.

8. Prospects for PCE Inflation

Core PCE inflation was 1.21 percent in March and total PCE inflation was 1.15 percent (see **Chart 21**). Core PCE inflation currently is well below the FOMC’s target level of 2 percent and is not much above the lows experienced briefly in mid-2009 and late-2010 when the FOMC was concerned about the threat of deflation.

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



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Chart 21 compares two versions of my core PCE forecast for the “*Steady Growth*” scenario with the FOMC’s projections and **GS’s** and **B of A’s** forecasts. One version is based only on the long-term employment gap and the other is based on both the short-term and the long-term employment gaps.

Table 8 shows **B of A’s** and **GS’s** core PCE forecasts and the FOMC’s high and low core PCE projections. It also shows my core PCE forecasts for my “**Steady Growth**” and “**Strong Growth**” scenarios.

As can be seen in **Table 8** (**Chart 21** shows historical core PCE price index data and data from **Table 8** in graphical form), forecasts of the core PCE inflation index indicate that inflation should edge up slowly in 2014 from its 2013 fourth quarter level of 1.1 percent to between 1.4 and 1.7 percent, which is consistent with the FOMC’s 2014 central tendency projection range of 1.5 to 1.6 percent. **GS’s** and **B of A’s** 2015 forecasts track the lower end of the FOMC’s projection range of 1.5. My forecasts are higher

Table 8
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
B of A	1.1	1.35	1.4	1.8	2.1
GS	1.1	1.4	1.7	1.8	1.9
Bill’s Scenarios					
Steady Growth LT Unemp	1.1	1.7	1.8	1.7	1.6
Steady Growth ST & LT Unemp	1.1	1.7	2.3	2.3	2.2
Strong Growth LT Unemp	1.1	1.7	1.8	1.8	1.8
FOMC — High	1.2	1.6	2.0	2.0	
FOMC — Low	1.1	1.5	1.5	1.7	

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

in 2014 and slightly above the top end of the FOMC’s projection range. In 2015 and 2016 my forecast based on only the long-term employment gap tracks in the middle of the FOMC’s projection range, but my forecast based on both the short-term and long-term employment gaps tracks slight above the FOMC’s target of 2.0 percent. Generally speaking, all forecasts move toward 2.0 percent over time. There appears to be negligible risk of deflation and limited risk of a significant upside breakout in inflation above the 2.0 percent target. April PPI and CPI inflation was a little firmer and is indicative of a slight firming in PCE inflation over the course of 2014.

GS has constructed an “inflation tracker” measure. Based on April data the inflation tracker moved up to 1.4 percent, slightly above the actual reported core PCE inflation rate of 1.21 percent for March. Although the inflation tracker has moved up from 1.1 percent in January to 1.4 percent in April, **GS** believes that the risk of core PCE inflation moving sharply higher is limited. It still expects core inflation will move up gradually but remain below 2.0 percent through 2017 (see **Table 8**).

Note that inclusion of the short-duration unemployment rate, which is already close to its long-run normal full-employment level, raises the core PCE inflation forecast by about 60 basis points. This analysis does not indicate that inflation risks are significant enough for the FOMC to alter the course it has been on. Rather, it reinforces the need to continue to monitor all relevant measures of employment, wages, and inflation and to exercise patience in determining when to tighten monetary policy.

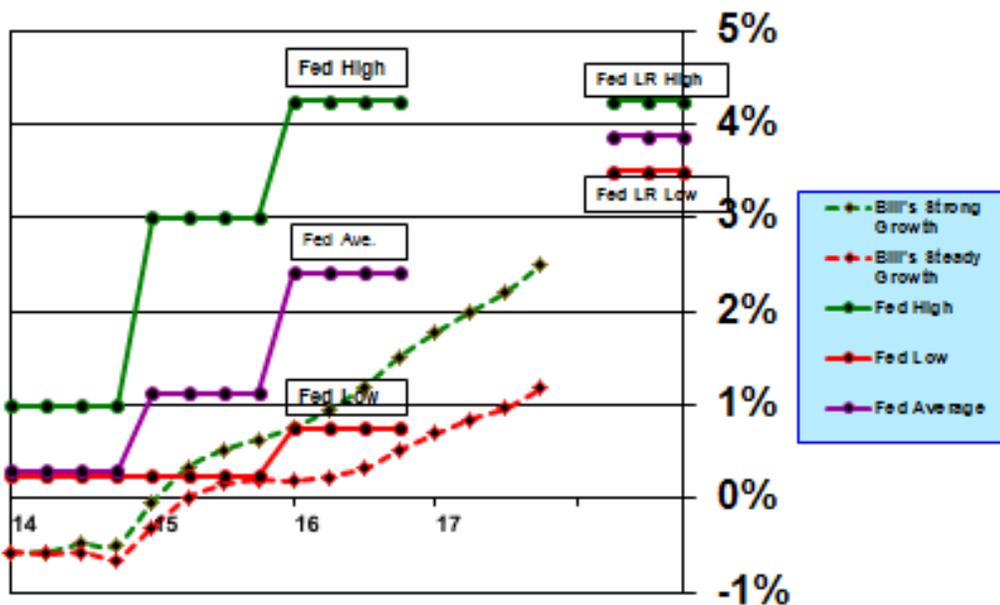
Michael Bauer and Jens Christensen, economists at the Federal Reserve Bank of San Francisco, recently published a study that explored the financial markets outlook for inflation.⁹ Based on statistical analysis of inflation caps and floors, Bauer and Christensen found that financial markets expect “... *inflation will remain low for some time and return only slowly to levels consistent with the Federal Reserve ’s notion of price stability. Inflation caps and floors give evidence that investors seem less uncertain about inflation forecasts than in recent years, and that they perceive a favorable outcome as increasingly likely.*” The probabilities that inflation will stay below 1.5 percent or rise above 2.5 percent have decreased since the end of 2011. This is an important finding as it reflects growing market confidence that the FOMC will be able to stabilize inflation near its 2.0 percent target.

⁹Michael D. Bauer and Jens H.E. Christensen. “Financial Market Outlook for Inflation,” Federal Reserve Bank of San Francisco Economic Letter, 2014-14, May 12, 2014.

9. Federal Funds Rate

Chart 22 shows the FOMC’s central tendency range for high and low projections for the federal funds rate for 2014, 2015, and 2016. The purple line (circles) is the average of projections for the current 16 FOMC members (4 governors and 12 presidents). The FOMC’s projections imply that the first increase in the federal funds rate will take place during 2015. However, the median expected federal funds rate is 1.00 percent by the end of 2015 — the average is skewed up to 1.13 percent by three high estimates.

CHART 22 – Federal Funds Rate Forecast



B of A expects the first federal funds rate increase to occur no sooner than the fourth quarter of 2015. **GS** is sticking with early 2016 and **ISI** expects the first increase to occur between June and September 2015. The market expects the first increase in the federal funds rate to occur in mid-2015. The market expects the first increase to occur in the August-September 2015 time frame.

My “*Steady Growth*” and “*Strong Growth*” forecasts are shown by the red dotted line (diamonds) and green dotted line (diamonds). My “*Steady Growth*” forecast indicates that the federal funds rate is not likely to increase until mid to late 2016. In my “*Strong Growth*” forecast, the first increase in the federal funds rate occurs in mid-2015. My projections assume that the employment gap remains high for an extended period, the short-duration employment gap returns to a normal level, and inflation remains low. However, if the employment gap is smaller because discouraged workers are really structurally unemployed and, therefore, will not re-enter the labor force, the employment gap will close more quickly, inflation will start rising sooner and the FOMC could begin raising the federal funds rate before my forecast dates.

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

As the time for the first increase in the federal funds rate nears, the market will focus increasingly on what the level of the *long-term neutral rate* should be. FOMC members' estimates of the neutral rate range from 3.50 percent to 4.25 percent. The median is 4.00 percent and the average is 3.88 percent. The neutral rate is composed of the rate of inflation plus the real rate of interest. Because all members agree that the long-run rate of inflation will be 2.00 percent, this necessarily implies that members believe the real rate of interest will be between 1.50 percent and 2.25 percent.

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

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

11. 10-Year Treasury Rate

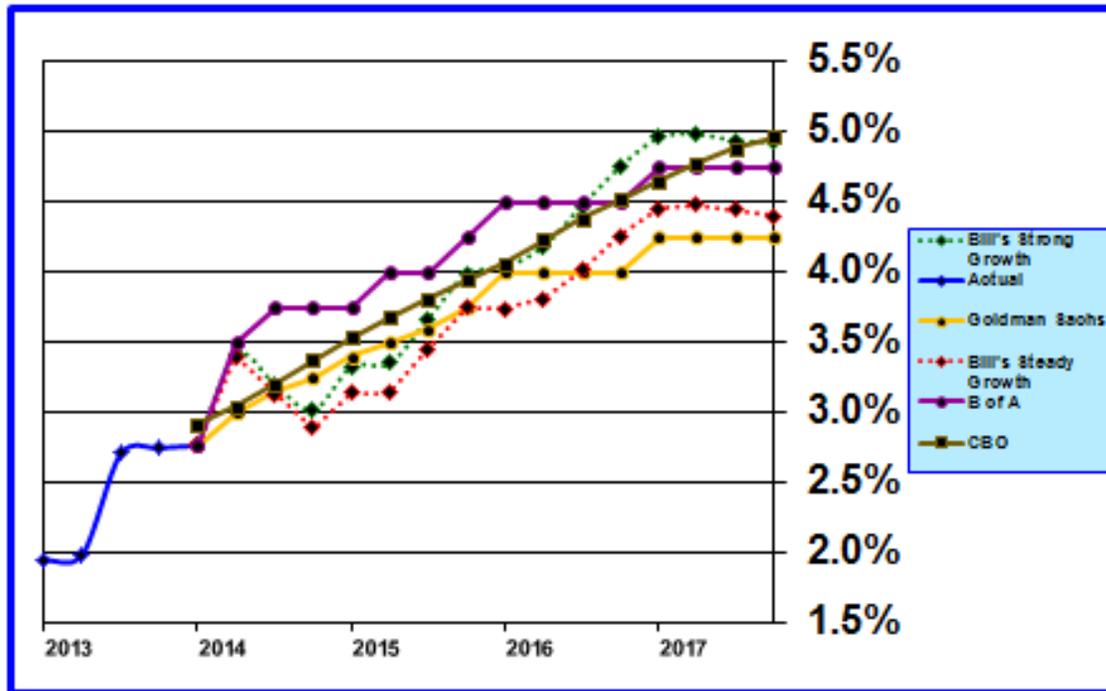
Chart 23 shows forecasts for the 10-year Treasury rate for my "**Steady Growth**" (red dotted line and diamonds) and "**Strong Growth**" (green dotted line and diamonds) scenarios. **GS's** forecast is also shown (yellow line and circles) as is **B of A's** (purple line and circles) and CBO's (brown line and squares).

As can be seen in **Chart 23**, my 10-year forecast for the "**Steady Growth**" scenario fluctuates in the vicinity of 3.0 percent through the middle of 2015. After the middle of 2015, the 10-year rate moves up gradually to 4.25 to 4.50 percent by the end of 2017. This is between the pathways forecast by **B of A** and **GS**. The forecast for the "**Strong Growth**" scenario tracks the pattern of the forecast for the "**Steady Growth**" scenario but rises a little faster reaching nearly 5.00 percent by late 2016 and follows a pathway very similar to CBO's forecast.

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

There is one potential disconnect in the inflation and 10-year Treasury rate forecasts. A long-term inflation rate of 2.0 percent and a long-term interest rate of 5.0 percent imply a 3.0 percent real rate of

CHART 23 – 10-Year Treasury Rate Forecasts



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interest, which would be considerably higher than the historical average. This suggests that the interest-rate forecasts may be too high, or the inflation forecast is too low, or timing lags are involved in the sense that either the inflation rate will move higher or the 10-year rate will move lower after 2017. My own analysis suggests that the third explanation is the relevant one. The real 10-year Treasury yield falls from 2.48 percent in the “*Steady Growth*” scenario in 2017 to 1.90 percent in 2023 and the real yield falls in the “*Strong Growth*” scenario from 2.93 percent to 2.73 percent over the same period. This also implies that once the economy returns to full employment, inflation will not spiral out of control, even in the “*Strong Growth*” scenario, and nominal long-term interest rates will not materially exceed 5.0 percent.

12. Why Are Long-Term Interest Rates Declining?

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

One explanation has to do with increased pension fund demand for yield. This is simply a supply demand argument. If demand is increasing and supply is limited, yields must fall. Perhaps aiding and abetting this is the Fed’s quantitative easing program which is gobbling up the dwindling supply of net new Treasury securities, even though tapering is proceeding. Some data illustrates the potential squeeze on supply. Over the first four months of 2014, the Treasury has issued an average of \$37 billion monthly in net new securities. Much of this issuance is of short duration which means that the supply of longer-duration

Treasury securities that the Federal Reserve is purchasing as part of its quantitative easing program is smaller. In April the Federal Reserve purchased \$30 billion of long-duration Treasury securities, which was probably more than 100 percent of the net new supply.

Another explanation is that the ten-year yield should reflect the full-employment neutral federal funds rate. Increasingly, the market has come to expect that rate will be lower than previous anticipated because inflation is well under control and because real economic growth expectations have diminished. As a result the neutral full-employment federal funds rate is now expected to be lower and that expectation has pulled down the 10-year Treasury yield.

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

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

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

VIII. Fiscal Policy Developments

There is little new on the fiscal policy front to discuss. While there is increasing interest in significant tax reform, serious consideration will not take place any sooner than 2015. Only two tax matters are likely to see action during 2014 — tax extenders and the highway trust fund. While there is generally favorable bipartisan sentiment for enacting both measures, the problem is finding sources to replace lost revenues in the case of the extenders and to cover additional spending in the case of the highway trust fund. Other issues, such as incentivizing U.S. corporations to remain domiciled in the U.S. — referred to as tax inversions — will only be addressed in the context of comprehensive tax reform.

1. Federal Deficit

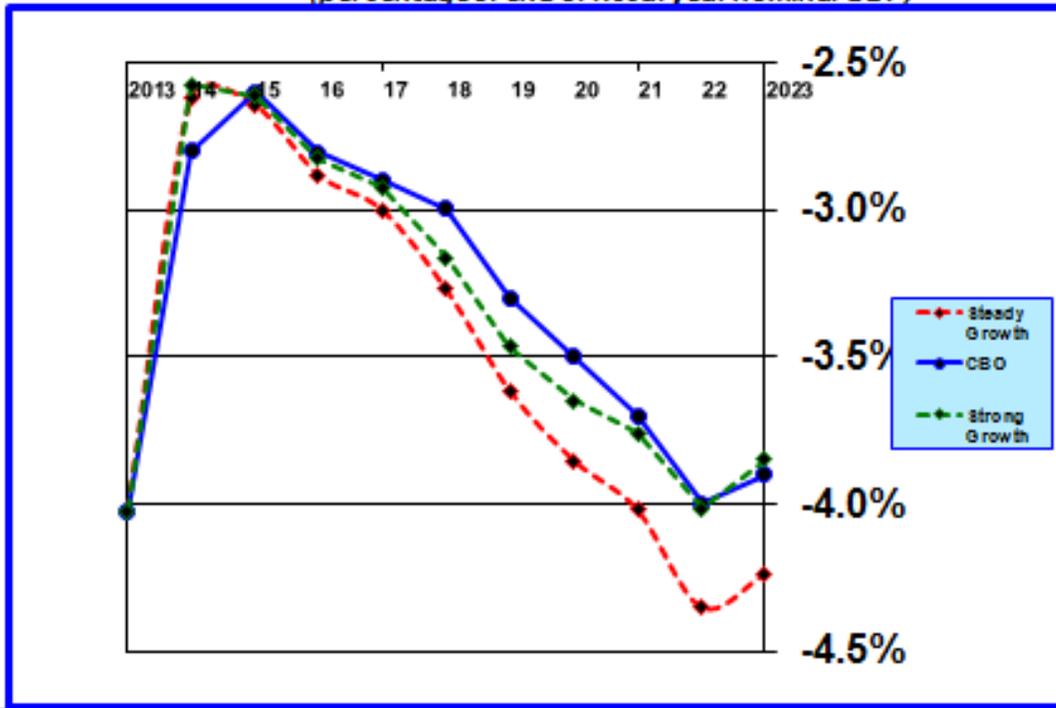
Federal tax revenues continue to be strong and the deficit appears to be falling faster than CBO's reduced forecast. The 12-month deficit through April was \$500 billion, which close to CBO's revised forecast of \$492 billion for fiscal year 2014 and there are five months remaining in the fiscal year. The deficit appears to be on a trajectory that could be smaller than expected. However, this better than expected trend could easily reverse, if Congress passes tax extender and highway trust fund legislation later this year without finding commensurate revenue offsets.

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

Chart 24 shows that the budget deficit as a percentage of nominal GDP bottoms out in fiscal 2015 at approximately 2.6 percent. Thereafter the deficit rises to about 4.0 percent by 2022. The deficit increases more rapidly in the "*Slow Growth*" scenario because nominal GDP grows more slowly.

CHART 24 – Annual Federal Budget Deficit

(percentage of end of fiscal year nominal GDP)



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Chart 25 shows the progression of publicly held federal debt as a percentage of nominal GDP over time. CBO’s projection, which is based upon current law, indicates that after a short period of stability, publicly held debt as a percentage of nominal GDP begins to climb and the rate of increase accelerates as time passes. This outcome is a direct consequence of demographics and entitlement programs. Everyone knows that eventually something will have to be done to contain entitlement spending, but it presents an extremely difficult challenge politically. For that reason Congress is likely to continue to delay coming to grips with entitlement spending. The best outcome would be to deal with entitlement spending in conjunction with comprehensive tax reform.

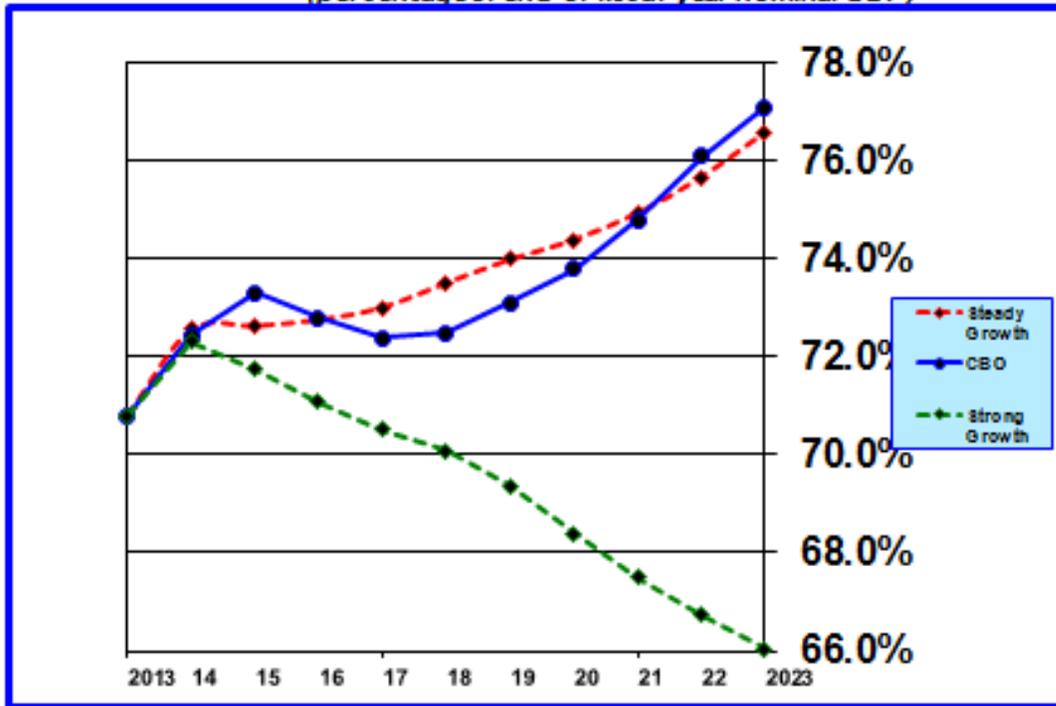
The decline in the public debt ratio in the “Strong Growth” scenario has to do with faster growth in nominal GDP not only because growth is stronger, which reduces the size of annual budget deficits, but also because inflation is higher, which increases nominal GDP.

2. Infrastructure Funding

Federal transportation infrastructure funding authorized by legislation entitled “Moving Ahead for Progress in the 21st Century” expires on September 30, 2014 unless Congress enacts legislation to extend it. The highway trust fund runs out of money on August 29, 2014 and also needs to be replenished to avoid insolvency. In general, transportation spending is not a partisan issue. However, as with many spending initiatives these days, the challenge lies in finding sources of funding and that is where partisan differences surface. A possible sequence of events includes stopgap funding for the highway trust fund sometime this

CHART 25 – Publicly Held Federal Debt

(percentage of end-of-fiscal-year nominal GDP)



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summer, a one-year extension to provide time to develop long-term funding sources, followed by long-term legislation in 2015.

3. Tax Extenders

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

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

IX. APPENDIX: Outlook — 2014 and Beyond — Forecast Summary for the U.S. and the Rest of the World, Highlights of Key Issues, and Identification of Risks

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

1. U.S.

- **2014 real GDP Q4/Q4** growth projections range from 2.9% to 3.4%; the FOMC’s projection range is 2.9% to 3.1%. **2014 real GDP Y/Y** growth projections range from 2.5% to 3.1%. (Q4/Q4 projections are highly dependent upon potential anomalies in Q4 data; therefore, Y/Y estimates, which average all four quarters, are more stable estimates.) Growth should improve gradually over the course of the year. I expect real GDP growth to track the lower end of the Y/Y range in 2014.
 - ✓ + Y/Y forecast range has been reduced to 2.2% to 2.4%; the FOMC revised its projection range to 2.8% to 3.0%
 - ✓ GDP was 0.1% in the Advance Estimate and is likely to be revised down to -0.6% to -0.7% in the Preliminary Estimate
- **Real GDP output gap** will remain very high, but will close a little faster during 2014.
 - ✓ ? CBO updated its output gap analysis on February 4, 2014; 2013 Q4 gap was 3.96%; CBO’s projected 2014 Q4 gap is 3.21%; I expect the year-end output gap to be between 3.0% and 3.5%
 - ✓ ? the output gap rose to 4.34% in Q1, but should decline over the remaining three quarters of 2014
- **Potential structural rate of real GDP growth** has declined significantly in recent years. I expect potential growth to be about 1.5% in 2014, which means the output gap could close by approximately 1.0%. Potential GDP growth is likely to rise slowly in coming years to between 2.1% and 2.4%.
 - ✓ - CBO expects 2014 potential growth to be 1.7%; my estimate has risen to 1.7%
 - ✓ + My future potential growth range remains between 2.1% and 2.4% and most other forecasts now fall within this range
- **Productivity** should rise as growth improves and investment increases, but should still fall well short of the historical 2.1% average.
 - ✓ + Productivity fell at an annual rate of 1.7% in the first quarter, but is up 1.4% over the last year.
- **Employment** should grow about 190,000 per month in 2014, about the same as in 2013.
 - ✓ ? payroll employment averaged 214,000 over the first four months of 2014, which is a little stronger than expected; household employment averaged 271,000 over the first four months of 2014, but just 158,000 over the last 16 months
- **Employment participation** will not rebound in 2014, which will contribute to a more rapid decline in the unemployment rate; the secular demographic decline will be offset by a small reduction in discouraged workers.

- ✓ + the participation rate in April was 62.8% the same as in December 2013
- **Unemployment rate** should edge down to about 6.5%. A lower rate is not very likely unless discouraged workers do not re-enter the labor force or more exit the labor force.
 - ✓ - the unemployment rate was 6.3% in April and will probably be about 6.0% by the end of the year
 - ✓ - the labor force plummeted 806,000 in April, implying a large increase in the number of discouraged workers
- **Nominal consumer disposable income**, measured on a Y/Y basis will rise about 2.0% with employment growth and a small increase in the nominal wage rate. Because of the depressing effect of increased taxes in 2013 on disposable income growth, the Q4/Q4 growth rate should be a much higher 2.9%.
 - ✓ the 12-month moving average was 2.3% in March and I project it to be 2.3% by the end of the year
- **Nominal consumer spending growth** on the Y/Y basis will grow at a faster rate of approximately 3.3% (Q4/Q4 growth rate would also be about 3.3%, as spending was not affected materially by increased tax rates in 2013).
 - ✓ + the 12-month moving average was 3.2% in March and I project it to be 3.6% by the end of the year
- **Household personal saving rate** will decline slightly as growth in spending exceeds growth in disposable income.
 - ✓ + the saving rate average 4.08% through the first three months of 2014 compared to 4.50% in 2013
- **Stock prices**, as measured by the S&P 500 average, should rise about 5%.
 - ✓ + through May 16, S&P 500 average is up 1.6% year to date
- **Manufacturing** growth will continue to be relatively strong and the PMI index will exceed 50.
 - ✓ + April ISM index was above 50
- **Business investment** spending growth should improve to about 5 to 6% as employment and consumer spending growth gathers momentum.
 - ✓ - business investment spending decreased 2.1% in the first quarter of 2014 and is now projected to grow less than 4.0% in 2014
- **Residential housing investment** should rise about 10% and contribute 30 to 40 basis points to real 2014 GDP growth; residential housing starts should rise 20 to 25%.
 - ✓ - residential investment spending decreased 5.7% in the first quarter and is now projected to increase only about 2% to 3% in 2014
 - ✓ - total housing starts were down 2.9% over the first four months of 2014 from the 2013 average; residential housing starts are down 1.9%
- **Residential housing prices** should rise about 5% in 2014, more slowly than 2013's 10% increase.
 - ✓ + Housing prices were up at an annual rate of 6.0% in January according to data compiled by the Federal Housing Finance Agency
- **Trade deficit** should rise slightly as economic growth improves because imports should grow more quickly than exports. The *dollar's value* should decline modestly on a trade-weighted basis.

- ✓ ? *trade deficit was 2.77% in March compared to the 2013 trade deficit of 2.78%, but should rise later in 2014 as consumer spending strengthens*
- ✓ - *the value of the dollar has risen 0.2% so far in 2014*
- **Monetary policy** — the Federal Reserve will end quantitative easing by mid-year and will clarify forward guidance.
 - ✓ - *the FOMC is on a course to end quantitative easing by the fourth quarter of 2014*
 - ✓ + *the FOMC eliminated the 6.5% unemployment threshold and clarified forward guidance to embrace a broader set of labor market indicators and to emphasize that rate increases will occur slowly after the initial increase takes place*
- **Inflation** will rise slightly in 2014 but will remain well below the FOMC's 2% objective at least through 2016.
 - ✓ ? *core PCE inflation was 1.21% in March compared to 1.20% in December;*
 - ✓ ? *total PCE inflation was 1.15% in March compared to 1.15% in December*
- **Federal funds rate** is not likely to increase before mid-2015 and might not increase until late 2016 or early 2017. The 10-year Treasury rate is likely to fluctuate in a range between 2.5% and 3.5% in 2014.
 - ✓ + *outlook for federal funds rate is unchanged*
 - ✓ + *the 10-year Treasury rate was 2.52% on May 16, which is at the lower end of the expected range*
- **Fiscal policy** will be significantly less contractionary in 2014, decreasing real GDP growth by about -0.4%; the **federal budget deficit** will decline to 3.0% by the end of 2014.
 - ✓ - *federal budget deficit is decreasing faster than expected and was 2.88% in April and is on track to decline to 2.58% by the end of 2014*

2. Rest of the World

- **Global growth** is likely to improve to 3.5% in 2014 from 2.9% in 2013.
 - ✓ ? *first quarter growth was weaker than expected; B of A decreased its estimate of global growth to 3.3%; however, recent reports have been more upbeat*
 - ✓ ? *the IMF's most recent forecast for the next 5 years to 2018 is 4.0% annual global growth, which would be about the same as the 3.9% average from 1998 through 2007.*
- **European growth** will be positive but will fall short of the ECB's forecast of 1.1%.
 - ✓ + *first quarter growth for the euro area came in below expectations at 0.9% over the previous 12 months*
 - *first quarter growth in France was 0.0%*
 - *first quarter growth in Italy was -0.1%*
 - *first quarter growth in Germany was 0.8%*
 - ✓ + *Euro area inflation was 0.7% year over year in April; core inflation was 1.0%*
 - ✓ ? *the ECB raised its growth forecast for 2014 from 1.1% to 1.2% for the euro area and expects growth of 1.7% in 2015; however, it cut its inflation forecast to 0.8% in 2014 and 1.2% in 2015*
- **European financial markets** are likely to remain relatively calm thanks to the activist role of the European Central Bank; the May European parliamentary elections could lead to a new round of turmoil.
 - ✓ + *all is quiet so far, but financial conditions may have eased to the maximum possible extent*

- **European banking union** will do little to solve deep-seated European and Eurozone structural problems; ECB stress tests will contribute to slow credit expansion.
 - ✓ ? *institutional structures to implement the banking union have been put in place; however, critics say the plan is fraught with uncertainties and weaknesses*
 - ✓ + *private bank loans have contract 2.2% over the last year*
 - **European political dysfunction, populism and nationalism** will continue to worsen gradually.
 - ✓ + *Italy recently replaced its prime minister without triggering new elections; established parties seem intent on postponing new elections for as long as possible*
 - ✓ + *in advance of the May European parliamentary elections, Euroskeptic parties appear to be gaining momentum*
 - ✓ + *French municipal elections were won by the center right, but the right wing Euroskeptic party also made significant gains*
 - ✓ + *ruling parties in Italy and France are facing growing resistance from within while dealing with an increasingly populist opposition*
 - **U.K. growth** will continue to be robust as the housing and debt bubble continue to build.
 - ✓ + *first quarter GDP was a strong 0.8%, but was slightly below expectations of 0.9%*
 - **China's GDP growth** will slow below 7% as economic reforms are implemented.
 - ✓ ? *first quarter year over year real GDP was 7.4%, which was slightly below the 7.5% growth target; forecasters expect full year growth to come in at 7.2%*
 - **China's leadership** will focus on implementing **economic reforms** and will overcome resistance and maintain stability.
 - ✓ ? *it's really too early to make a call; however, investor anxiety is increasing in the wake of weaker than expected data reports*
 - **Japan's** economic resurgence is likely to falter by the end of 2014, as Abenomics' third arrow of economic reforms fails to raise the level of potential growth sufficiently to overcome negative population growth.
 - ✓ + *market skepticism has increased and is reflected in a moderately stronger yen and poor stock market performance, particularly for bank shares*
 - ✓ + *2013 Q4 GDP 0.7 percent annual rate of growth was much slower than expected due to a greater than expected trade deficit*
 - ✓ - *2014 Q1 GDP was stronger than expected*
 - **Emerging market countries** on balance will experience greater growth, as long as the U.S. and European economies do better in 2014; countries heavily dependent upon commodities exports for growth will do less well as will also be the case for countries with large balance of payments deficits.
 - ✓ + *emerging markets countries with large balance of payments deficits are under pressure that will stunt 2014 growth*
3. **Risks** — stated in the negative, but each risk could go in a positive direction. “+” means risk not realized; “?” means risk may be developing; “-” means risk realized
- **U.S. potential real GDP growth** falls short of expectations
 - ✓ - *Q1 real GDP growth fell well short of expectations; full year growth estimates have been revised lower, however, an improving trend in growth over the remainder of 2014 is expected*

- **U.S. employment growth** is slower than expected; the *participation rate* continues to decline
 - ✓ + *participation rate remains unchanged over the first four months of 2014*
 - ✓ + *employment growth is slightly higher than expected*
- **US. Unemployment rate** falls less than expected
 - ✓ + *unemployment rate has fallen more than expected*
- **U.S. productivity** does not improve
 - ✓ - *productivity fell at an annual rate of 1.7% in Q1*
- **Real U.S. consumer income and spending** increase less than expected
 - ✓ + *consumer income and spending are increasing at a slightly faster rate than expected*
- **U.S. financial asset prices** rise more than expected posing increased bubble risks
 - ✓ + *stock prices are up slightly*
- **Growth in U.S. residential housing investment and housing starts** is less than expected
 - ✓ - *housing formation hit a new low in last year's fourth quarter; starts have been disappointing and are 2.9% below 2013's average; residential investment fell 5.7% in Q1; full year forecasts have been revised lower*
- **U.S. residential housing price increases** slow more than expected
 - ✓ + *first quarter data will be available next month*
- **U.S. private business investment** does not improve as much as expected
 - ✓ - *business investment fell 2.1% in Q1; forecasts have been revised down, but forecasters remain optimistic*
- **U.S. manufacturing growth** slows
 - ✓ + *manufacturing activity is stable*
- **U.S. trade deficit** widens and the *value of the dollar* falls
 - ✓ + *the trade deficit and the value of the dollar have been relatively stable*
- **U.S. monetary policy** spawns financial market uncertainty and contributes to financial instability
 - ✓ + *financial conditions continue to ease*
- **U.S. inflation** falls, rather than rising, and threatens deflation
 - ✓ + *Inflation has been stable at a low level, although some indicators show a small amount of firming*
- **U.S. interest rates** rise more than expected
 - ✓ + *long-term rates have fallen approximately 50 basis points so far in 2014*
- **U.S. fiscal policy** is more restrictive than expected and the *budget deficit* falls more than expected
 - ✓ - *in the first four months of 2014 the budget deficit has fallen considerably more than expected*
- **U.S. state and local spending** does not rise as fast as expected
 - ✓ ? *state and local spending unexpectedly fell 1.3% in Q1*
- **Global GDP growth** does not rise as fast as expected
 - ✓ - *first quarter growth was below expectations*
- **Europe** slips back into recession

- ✓ + *growth is lackluster but remains positive*
- **Europe** — financial market turmoil reemerges
 - ✓ + *financial conditions continue to ease, but bank lending continues to contract*
- **Europe** — political instability and social unrest rises more than expected threatening survival of the Eurozone and the European Union
 - ✓ ? *European Parliament election scheduled in May could bolster anti-European Union political parties' strength*
- **U.K. growth** falters as housing bubble collapses
 - ✓ + *first quarter growth was relatively strong; housing prices, particularly in London, continue to rise*
- **Chinese** leaders have difficulty implementing **economic reforms**
 - ✓ ? *too early to determine but crisp policies to deal with the underperformance of state owned enterprises have not yet been developed*
- **China's growth** slows more than expected
 - ✓ ? *Q1 GDP growth was 7.4% near the 7.5% target; full year GDP growth may slow to 7.2%; financial stresses may be building, but visible signs of acute stress are absent*
- **Japan** — markets lose faith in Abenomics
 - ✓ ? *Abenomics is at a critical juncture — stock price appreciation has stalled; the yen is no longer appreciating in value; the trade deficit is larger than expected, but Q1 GDP growth was stronger than expected; the increase in the consumption tax may depress consumer spending*
- Severe and, of course, unexpected **natural disasters** occur, which negatively impact global growth
 - ✓ +
- **Middle East oil supply** is disrupted and oil prices rise sharply
 - ✓ +
- **New — Russia's annexation of the Crimea and Civil Unrest in Ukraine**
 - ✓ - *political tensions between Russia and member nations of NATO have risen; however, no discernible economic consequences are apparent yet*

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