The Longbrake Letter*

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I. While "Moderate" Growth Remains Likely in 2014, Longer Term Growth Prospects Are Edging Lower

In Federal Reserve terminology, the word "moderate" means slightly better than trend growth. Thus, moderate growth in 2014 would result in a healthier economy and gradually diminishing output and employment gaps. It is this expectation that is underpinning financial market optimism and explains why recent difficulties in emerging market economies have been brushed off so quickly.

However, optimism is primarily confined to financial markets. As David Brooks recently wrote, among the broad population of Americans, there is a loss in self-confidence, especially among the "Precariat," which "... *is the class of people living with short-term and part-time work with precarious living standards and without a narrative of occupational development.' The*

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

American Precariat seems more hunkered down, insecure, risk averse, relying on friends and family but without faith in American possibilities. This fatalism is historically uncharacteristic of America."[1]

In its annual report to Congress on the federal budget and economic outlook, the Congressional Budget Office (CBO) reduced, yet again, its long-term expectations for potential real GDP growth to just 2.0 percent by 2024.[2] To put into perspective just how dismal a 2.0 percent rate of potential growth is, consider that the average rate of real GDP growth over the 60-year period from 1947 to 2007 was 3.44 percent.

There are two stories. One is a positive but distinctly short-term story. It is a story about an economy that continues to heal. It is the story that dominates media and it is the one on which financial markets primarily focus. It is a story that leads to concerns about when the Federal Reserve will raise interest rates and the risk of rising inflation.

But, the more important story is the one which receives far less immediate attention. It is a story about an economy in which growth prospects have not only diminished considerably already but appear to be worsening. There is a piece of this story that is receiving a great deal of focus and that concerns growing income inequality. But policies focused narrowly on attempting to reduce income inequality, such as raising the minimum wage or raising taxes on the rich, will have negligible benefit on the underlying fundamental problem of declining potential growth.

While think tanks and academicians have proposed a plethora of policies aimed at reversing the decline in the potential real rate of GDP growth, politicians and policymakers have been preoccupied with short-term issues such as the size of federal budget deficits and the timing of phasing out the Federal Reserve's quantitative easing program. There has been little in the way of serious consideration of long-term policies designed to boost the long-term potential rate of real growth. Perhaps, worse, there appears to be little understanding that many of the recent short-term policy decisions are contributing to declining real long-term growth prospects.

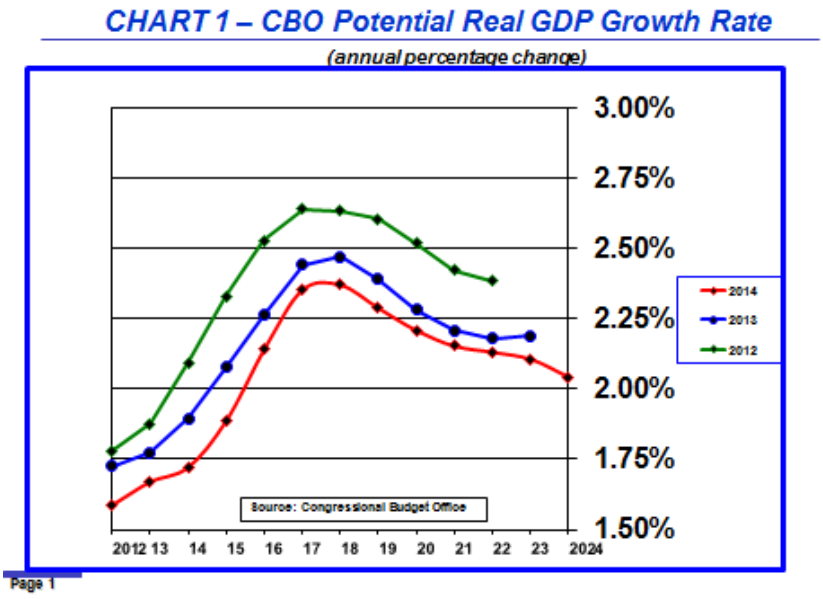
While a smaller federal budget deficit today might seem like prudent

[1] David Brooks. "The American Precariat," The New York Times, February 10, 2014.
[2] Congressional Budget Office. "The Budget and Economic Outlook: 2014 to 2024," Publication Number 4869, February 4, 2014.

policy of living within one's means, if it starves investment that would boost future growth potential, history will judge such a policy as short-sighted and a contributor to America's stagnation and decline as an economic and political global power.

II. Congressional Budget Office's Estimates of Potential and Forecast Real GDP Growth Are Falling

Chart 1 shows CBO's potential real rate of GDP growth estimates, which it included in its annual reports to Congress in 2012, 2013, and 2014. Annual growth rates are shown as the percentage change between average GDP for one year and average GDP for the previous year.

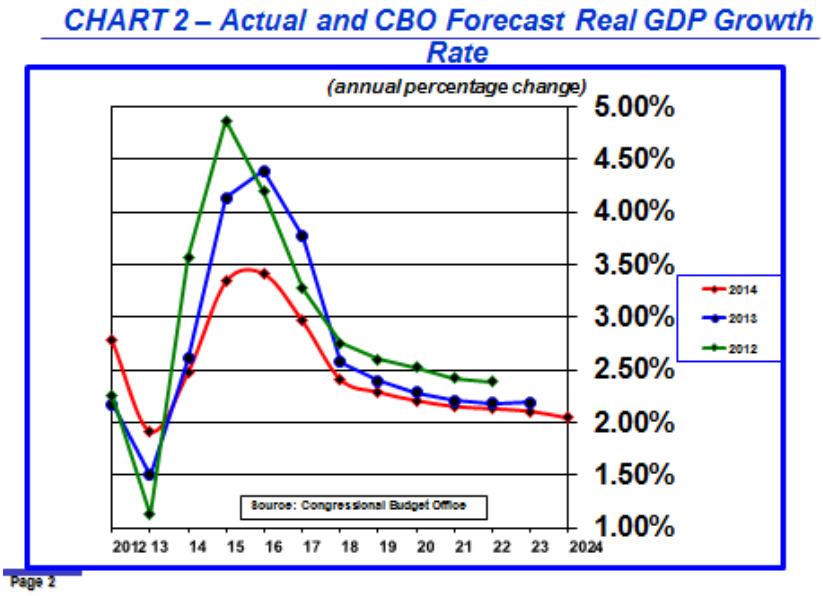


Potential real GDP growth approximately equals the sum of potential labor force growth and productivity.

There are three noteworthy aspects to observe in **Chart 1**. First, in the

aftermath of the Great Recession of 2007-09, potential growth was severely depressed, but has risen as the economy has recovered. Second, the potential growth rate peaks between 2016 and 2018 and then falls gradually thereafter. The decline, according to CBO is due almost entirely to a slowing in productivity (labor force growth shrinks 0.03 percent between 2018 and 2024 in the 2014 projections and productivity falls 0.29 percent). Third, CBO's estimate of the potential growth rate has decreased in each annual update across the entirety of the ten-year projection period. The average decline in potential real GDP growth is about 0.3 percent between 2012 and 2014 and is divided roughly equally between labor force growth and productivity.

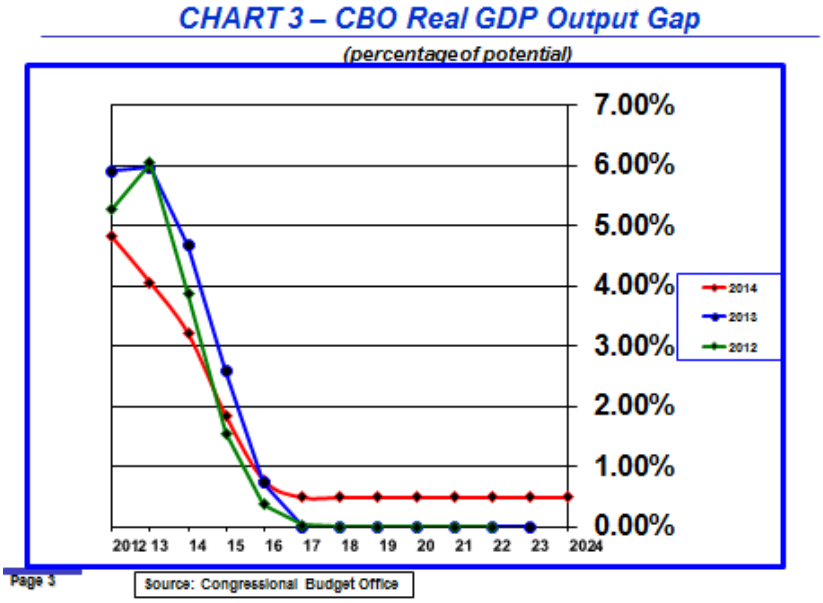
Chart 2 shows CBO's projections for actual realized real GDP growth. The 2014 projections include actual 2012 and 2013 data and the 2013 projections include actual 2012 data. The difference in actual 2012 GDP data between the 2013 and 2014 projections was caused by significant GDP data revisions announced by the Bureau of Economic Analysis (BEA) in July 2013.



CBO's actual real GDP projections are constrained by current law as-

sumptions about future fiscal policy impacts. Thus, the sharp projected declines in real GDP in 2013 in the 2012 and 2013 projections were in part due to an assumption that all of the Bush tax cuts would be repealed. The same factor is at work in reverse in the more moderate increase in real GDP growth between 2014 and 2016 in the 2014 projections compared to the 2012 and 2013 projections.

There are two other aspects of **Chart 2** which are worth pointing out. First, in all three sets of projections, CBO assumes that the output gap is largely eliminated by 2017 (see **Chart 3**). Second, forecast real GDP declines in each set of projections from 2012 to 2014 for the same reasons that potential real GDP declines.



There are two additional items to note in **Chart 3**. First, in its 2014 projections CBO substantially reduced the output gap from 5.9 percent in 2012 based on the 2013 projections to 4.8 percent; and from 6.0 percent in 2013 based on the 2013 projections to 4.1 percent. The decreases in the output gaps in 2012 and 2013 were mostly due to CBO's reduction in estimated potential real GDP but the lower output gap in 2013 also benefited

some from stronger actual real GDP growth.

Second, in the 2012 and 2013 projections CBO assumed that the output gap would fall to 0.00 percent by 2017 and would remain at that level thereafter. In the 2014 projection, CBO has the gap falling only to 0.48 percent, which apparently is the long-term average output gap over many business cycles.

III. Diminishing Supply (Labor and Investment) and Falling Productivity Are Reducing Potential Real GDP Growth

As most everyone knows, and especially if he/she has had at least one course in economics, an economy's performance depends upon the interaction between supply and demand.

Aggregate Demand. In macroeconomics, policy discussion and formulation focuses primarily on influencing demand because supply is presumed to be sticky or fixed in the short run. Measured real GDP is a record of aggregate demand based on spending on goods and services by all economic sectors — consumers, businesses, government, and the rest of the world. Policymakers adjust monetary and fiscal policies with the intent to maximize employment, output, and spending within the context of price stability.

Aggregate Supply. Supply consists of resources available to produce goods and services. Components include labor, raw materials, and capital (plant and equipment). Supply also depends upon how efficiently resources can be utilized to produce outputs. Productivity defines the efficiency of the conversion of inputs (resources) into outputs. Elements of supply, such as the number of people eligible to work and the capital stock, are relatively easy to measure. However, whether people actually choose to work and the productivity of the capital stock are not easy to measure. Furthermore, there are uncertainties about labor force growth trends and future technological innovations and investment which make measurement of potential real GDP growth difficult.

Long-Run Potential Real GDP Growth. In the long run, how fast

the economy can grow consistent with the policy objectives of maximizing employment, output, and spending, while maintaining price stability, depends upon growth in the labor force, growth in private and public investment, and productivity. Growth in the labor force and investment are quantitative measures, while productivity is a qualitative construct that converts hours worked and investment into greater or lesser amounts of output.

If the labor force, investment, and productivity grow more rapidly, the overall size of the economy will be larger and per capita income and wealth will be greater. There are other benefits of more rapid growth such as increased tax revenues to help fund Medicare and social security and downward pressure on the public-debt-to-GDP ratio. Generally, policies that encourage greater growth have favorable overall economic impacts while slowing growth exacerbates existing problems. However, by-and-large, public policy is not focused on promoting higher future growth rates. Rather, the thrust of policy has been to reduce the output gap and the unemployment rate in ways that minimize the consequences for near-term budget deficits. The recent policy mix is not one that is unlikely to foster stronger growth in the future.

1. Factors Influencing Labor Supply Growth

CBO estimates that the labor market gap averaged approximately 3.0 percent during 2013. Because CBO believes the natural rate of unemployment is 5.5 percent and the BLS measured U-3 unemployment rate averaged 7.4 percent during 2013, this implies that 1.1 percent of the employment gap was unmeasured and, presumably due to discouraged workers.

As of January the U-3 unemployment rate had declined 0.8 percent to 6.6 percent, while the participation rate declined 0.3 percent. Assuming for the moment that the participation rate should have remained unchanged, that would mean the total employment gap in January was 2.5 percent — composed of 1.1 percent measured unemployed workers and 1.4 percent discouraged workers. GS has conducted considerable analysis, much of which is described in **Section IV** below. GS believes that the employment gap currently is 2.5 percent, which corroborates the simple extrapolation of CBO's 2013 analysis set out above.

Ascertaining the "true" employment gap and untangling the details is a daunting task. Is the participation gap really 1.4 percent as of January or is greater or lesser? Moreover, what will happen to the participation gap, whatever it is, in coming months and years?

There is little agreement as to the answers to these questions. However, a bit of light can be shed on the situation by examining details of what is happening in the labor market. The critical factors are described below and examined in greater detail in **Section IV**.

Factors Influencing Labor Supply Growth — Labor Force Participation. The starting point is to count the number of people in the total population who are considered to be "eligible" to be employed. As of January 2014, BLS estimated this number to be 246,915,000 out of a total population of approximately 317,770,000.

Next, using a monthly survey, BLS constructs an estimate of the number of people who are working and who are willing to work. The difference in the two measures is the numbers who are unemployed. In January 2014, the number willing to work was 155,460,000 (usually referred to as the labor force); the number actually working was 145,224,000; the number unemployed was 10,236,000 or 6.58 percent of those willing to work. The **employment-to-population ratio** is the percentage of people working relative the number eligible to work, which was 58.82 percent (145,224,000/246,915,000). The **participation ratio** is the percentage of people willing to work (labor force) relative to the number eligible to work, which was 62.96 percent (155,460,000/246,915,000).

These data taken at face value and accepting CBO's assertion that the natural rate of unemployment currently is 5.5 percent, would require the employment of only 1.7 million additional people to reach full employment. CBO and many analysts, however, believe a **"participation gap"** exists because some people have become so discouraged that they have dropped out of the labor force and, thus, are no longer counted among those willing to work. It is argued that these discouraged workers will return to the labor force as the labor market tightens and jobs become easier to find. This would mean that the "true" unemployment rate is higher than the BLS "measured" rate, perhaps much higher.

Factors Influencing Labor Supply Growth — Demographic and

Cultural Trends. Over long periods of time demographic and cultural trends can have significant impacts on the participation rate. Until 2000 two factors drove the labor force participation rate up — entry into the labor force of baby boomers and greater participation of women. Now, however, as baby boomers reach retirement age, a reverse trend has set in which is reducing the participation rate by about 0.25 percent annually. This accounts for approximately half of the decline in the participation rate over the last six years. According to CBO, this trend will continue over the next decade.

While there have been shifts in participation in other labor force cohorts, such as decreasing participation among younger workers, some of these changes are probably temporary. Furthermore, there is little certainty that these other trends will continue.

Factors Influencing Labor Supply Growth — Permanent Structural Unemployment. CBO cites three drivers of permanent structural unemployment. First, some people have exited the labor force permanently because their skills no longer meet employer needs (this is referred to as *hysteresis* in economist parlance). This outcome could be caused by technology-induced changes in job opportunities or it could result from the atrophy of skills due to extended unemployment. In the wake of the Great Recession, the labor market has been punctuated by an unusually high percentage of unemployed workers who have been out of work for at least 26 consecutive weeks. Recently there have been about 4.0 million long-term unemployed people compared to 1.3 million before the Great Recession.

Second, CBO cites the possibility that employers shy away from considering long-term unemployed workers for job openings. CBO refers to this phenomenon as "the stigma of long-term unemployment." Norman Ornstein cites a study by Rand Ghayad that provides evidence of stigma.[3] Ghayad "... *sent fake resumes to employers with job openings and found that better-qualified and experienced applicants who had been out of work for more than six months were much less likely to be called for interviews than less-experienced individuals who only recently lost their jobs.*"

Third, extended unemployment benefits have had a small impact on rais-

[3]Norman J. Ornstein. "The Conservative Ideas That Could Solve Chronic Unemployment," National Journal, January 29, 2014.

ing the level of structural unemployment — approximately 0.1 percent, according to CBO. GS believes the percentage could be as high as 0.2 percent, with part of the effect yet to be realized because extended unemployment benefits just terminated at the end of 2013.

Structurally unemployed workers are unlikely to reenter the labor force in the future. Some structurally unemployed workers are counted in the BLS U-3 unemployment rate. Either they continue to hope to find work or they are going through the motions so they can collect unemployment insurance benefits. CBO believes that the natural rate of unemployment has risen from 5.0 percent prior to the Great Recession to 5.5 percent currently. The difference is due to an increase in structurally unemployed workers. But, CBO also believes that some of the recent decline is the participation rate includes additional structurally unemployed workers who are not counted in the official U-3 unemployment rate.

Factors Influencing Labor Supply Growth — Policy Impacts. There is also evidence that government programs and policies contribute to decreasing labor force participation. For example, studies show that disability insurance has depressed participation to a modest extent.

More importantly, a recent CBO study projects that the Affordable Care Act (ObamaCare) will depress full-time job participation by the equivalent of 2.5 million workers over the next ten years and reduce aggregate labor force compensation by 1.0 percent. This is a significant increase from CBO's estimate in a 2011 study of an 800,000 reduction. In a National Bureau of Economic Research (NBER) working paper, Casey Mulligan provides a more pessimistic assessment of a decrease of 5,000,000 people due to the impact of the Affordable Care Act.[4]

Many people would stop working altogether and others would probably seek part-time rather than full-time employment. Many people who currently work to take advantage of employer provided health care coverage would no longer have to do so. They could also work fewer hours in order to maximize health care subsidies. CBO estimates that lower and middle class workers, who work full time and receive employer health benefits, by foregoing the Affordable Care Act subsidies, in effect will pay an implicit

[4]Casey B. Mulligan. "Average Marginal Tax Rates Under the Affordable Care Act," NBER Working Paper, August 2013.

tax of approximately 15 percent.

Factors Influencing Labor Supply Growth — Immigration. Policies governing immigration amplify the rate of growth in the labor force beyond the natural rate which depends upon births and deaths and other demographic considerations. Immigration can have a significant favorable effect on increasing the growth rate in labor supply over time, provided that policies are structured to encourage immigration.

There is broad agreement that U.S. immigration policies need to be revamped but there is considerable disagreement about specific reforms and no consensus has yet emerged. President Obama has made immigration reform a key policy objective and encouraged Congress to act in his recent State of the Union message. Speaker Boehner of the Republican-controlled House of Representatives recently proposed broad immigration principles to the Republican House caucus. However, because of considerable resistance from some members of the caucus, congressional action on immigration reform during 2014 now seems doubtful. This could change, however, because there is a high degree of agreement among the President, the Democrat-controlled Senate, and the House Republican leadership that immigration legislation should be a priority. However, concerns about the November mid-term elections may prevent legislative action until 2014.

2. Factors Influencing Investment — Innovation

In the past, periodic bursts in technological innovations have boosted investment in the capital stock and increased the economy's supply potential. Most would agree that huge advances in computing power, communications technology facilitated by the internet, and cheap communications devices should provide the impetus for substantial additions to the capital stock. The same could be said about advances in biotechnology.

3. Factors Influencing Investment — Financing

However, growth in the capital stock has actually decelerated to just 1 percent in recent years. This means that the potential increase in supply stemming from innovation is not occurring.

Innovation provides the potential for the capital stock to increase but investors must provide financing and so far financing has been insufficient. There are two explanations for the shortfall in financing.

Private Investment. The first involves the demand and supply of investment. Demand for investment dollars depends on whether companies expect the return on the investment will exceed the cost of financing (cost of capital). When demand for goods and services is weak, as it has been during the recovery from the Great Recession, the returns on investment dollars are likely to be depressed and more uncertain. Companies may have large stockpiles of cash, but they are reluctant to deploy it in investment initiatives with uncertain outcomes.

Investors are reluctant to supply funding for similar reasons — uncertain and potentially low rates of return. In addition, there is evidence that FOMC monetary policy, by depressing the long-term interest rate, rather than stimulating capital investment, has had the effect of diverting financing into speculation in existing assets. This has the intended effect of increasing the value of existing assets and creating wealth that translates into increased consumption. But, it does not induce investment in new assets.

Low growth in the capital stock in recent years provides ample evidence of a policy environment that is not conducive to investment in innovations.

Public Investment. The second involves the role of government in spurring investments that increase the supply potential of the economy. The efficacy of government's role is well documented from the historical record. Government can invest in high risk initiatives and because its cost of capital is much lower than that of the private sector, it can invest in initiatives with more uncertain and potentially lower rates of return. This has occurred in the past through both major and minor initiatives and has tended to occur counter-cyclically to a degree. That is, when the output gap is large, government investment spending has tended to increase.

This can be seen in **Table 1**. Since BEA began reporting public investment spending for both federal and state and local governments in 1972, annual investment growth has averaged 1.65 percent. And, if the period beginning with the Great Recession is omitted, the annual growth rate was 2.18 percent.

Table 1
Annual Percentage Growth in Public Investment

Time Period	Long-Term	Recession	Recovery
1971:2 – 2013:4	1.65%		
1985:1 – 2007:4	2.18%		
2001:1 – 2001:4		3.77%	
2002:1 – 2007:4			1.98%
2008:1 – 2009:2		3.02%	
2009:3 – 2013:4			**-1.09%**
2010:1 – 2013:4			**-1.58%**

Included in **Table 1** are two recessions — 2001 and 2008-09 — and subsequent recoveries from those recessions. During both recessions growth in public investment spending accelerated to an above long-term trend level — 3.77 percent in 2001 and 3.02 percent in 2008-09, which is evidence of the countercyclical impact of government fiscal policy.

During the recovery from the 2001 recession, public annual investment growth averaged 1.98 percent which was slightly below the 1972 to 2007 average of 2.18 percent. However, the story of public investment growth during the recovery from the Great Recession is, indeed, an exceptionally dismal one. Public investment has been contracting at an annual rate of -1.09 percent since the recovery began. The decline is an even worse -1.58 percent, if the last two quarters of 2009 are omitted when the benefits of federal stimulus were still filtering through the economy.

Federal fiscal policy, which has focused on reducing public spending and slowing growth in the accumulated budget deficit, unfortunately has crushed public investment. This is a major reason behind the slow growth in the capital stock and will depress growth in the supply side of the economy over time. Although normalization of fiscal policy now seems likely, which should result in an improvement in public investment growth rates, continuing constraints on spending will probably prevent public investment growth from returning to historical levels.

4. Productivity

Productivity is measured by the change in the ratio of output to inputs over time. Productivity depends upon application of increasing amounts of capital to the labor input. But, productivity also depends upon qualitative factors, such as improvements in labor skills through education and on-the-job experience, the kinds of innovations that occur, and management skill in deploying enhanced work methods. Productivity is also negatively affected by structural rigidities such as compliance with laws and regulations, limitations on worker mobility, and cultural trends, such as increases in single-parent households. Although hard to quantify, some of the qualitative factors influencing productivity have become less favorable in recent years. It is difficult to assert that any of the qualitative factors have become more favorable.

Productivity tends to rise during periods of substantial increases in innovation, provided, of course, that the innovation is financed.

Recent Labor Market Weakness — How Much of the Weakness Is Due to Temporary, But Reversible Factors?

Generally there is agreement that the BLS U-3 unemployment rate, which was 6.58 percent in January, understates the true extent of unemployment. There are some workers who are so discouraged that they have dropped out of the labor force and thus are not counted as unemployed, but who would probably re-enter the labor force when labor market conditions improve and jobs are easier to find. It is very difficult to know exactly how many discouraged workers there are as there is no explicit data collection methodology that is able to pinpoint the difference between a temporarily discouraged worker and one who has left the labor force and never will re-enter because of structural changes.

In **Table 2** I show my analysis of the fate of 10.15 million additional workers who would be in the labor force if the **employment-to-population ratio** were exactly the same in January 2014 as it was in January 2008 at the beginning of the Great Recession.

All we know with certainty is that 2.48 million would be counted as unemployed. CBO believes that the natural rate of unemployment has in-

Table 2
Composition of Reduced Household Employment in January 2014 Compared to January 2008 When Unemployment Rate Was 5.0%
(in millions)

Category	Number — Bill	Number — CBO
Increase in Number Unemployed as Reported by BLS (Assumes a 5.5% natural unemployment rate)	1.69	1.69
Decrease Due to Demographic Trends	4.10	3.83
Increase in Structural Unemployment	2.57	2.07
Number of Discouraged Workers	1.79	2.56
TOTAL	10.15	10.15

creased from approximately 5.0 percent at the start of the Great Recession to 5.5 percent currently. Accepting CBO's conclusion would divide the 2.48 million workers into two groups — 1.69 million who are counted as unemployed but can expect to find work in time and .79 million who are counted as unemployed but who won't ever be able to find a job — they are structurally unemployed. (But, it should be noted that CBO expects the natural rate of unemployment to fall gradually from 5.5 percent to 5.2 percent between 2020 and 2024.)

Subtracting out the measured unemployed of 2.48 million from 10.15 million leaves 7.67 million. These workers fall into three categories — (1) those who have dropped out of the labor force permanently as a natural result of demographic trends; (2) discouraged workers, who have employable skills, but simply have given up trying to look for work; and (3) those who have exited permanently because their skills no longer meet employer needs (this is referred to as structural unemployment or *hysteresis* in economist

parlance).

5. Demographic Trends

CBO believes that approximately half of the decline in the participation ratio is due to demographics trends. This translates into 3.83 million. I come to a slightly higher number of 4.10 million by employing a simple statistical trend analysis. GS employs a more detailed labor force cohort analysis that results in a 0.25 percent annual rate decline in labor force participation, which results in 3.76 million.

Samuel Kapon and Joseph Tracy, New York Federal Reserve economists, in a recent study determined that demographic factors account for 1.7 percentage points of the decline in the employment-to-population ratio.[5] Paul Krugman in a critique of Kapon and Tracy estimates that demographics account for 1.6 percentage points of the decline in the employment-to-population ratio.[6] These two estimates translate into 3.95 to 4.20 million people who have left the labor force because of demographic factors. The range of these five estimates is 3.76 to 4.20 million, which reflects rather substantial agreement. In **Table 2** I include my estimate of 4.10 million. Because structurally displaced workers are the residual in **Table 2**, substituting any of the alternative demographic estimates would change that data point in the table.

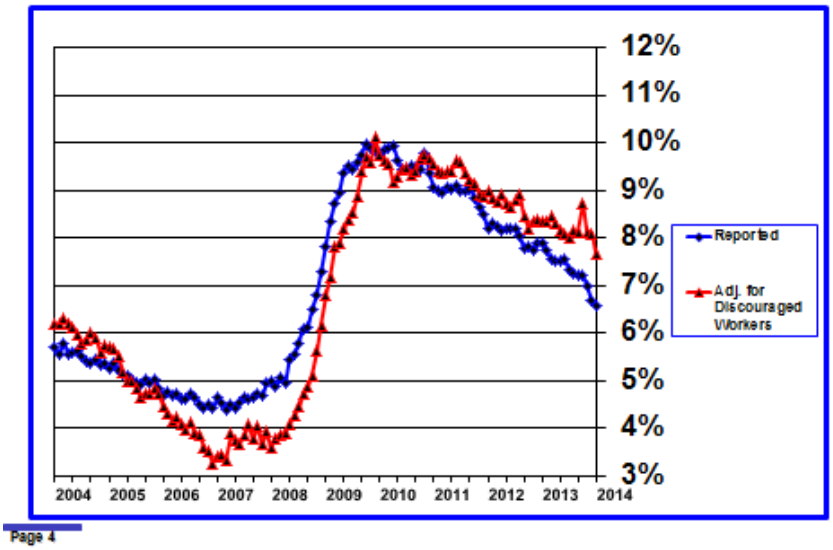
6. Temporarily Discouraged Workers

Chart 4 shows graphically my statistical methodology for estimating an unemployment rate that adjusts for exit and reentry of discouraged workers over the business cycle. In January, my alternative unemployment rate was 7.68 percent compared to BLS's reported rate of 6.58 percent. This difference of 1.10 percent amounts to 1.79 million discouraged workers based on the pre-Great Recession participation rate.

[5]Samuel Kapon and Joseph Tracy. "A Mis-Leading Labor Market Indicator," Liberty Street Economics, February 3, 2014.

[6]Paul Krugman. "Demography and Employment (Wonkish)," The New York Times, February 3, 2014.

CHART 4 – Reported Unemployment Rate & Adjusted for Discouraged Workers



CBO estimates that about one-third of the decrease in the participation ratio is due to the discouraged worker effect. This translates into an estimated 2.56 million discouraged workers who are likely to reenter the labor force.[7]

GS has developed three methodologies to estimate the separate effects of the cyclical and structural declines in the participation ratio: (1) a state-level analysis, which indicated that participation fell more in states where payroll growth was weak; (2) a wage growth model which performed better when estimates of a participation gap supplemented the traditional employment gap based on BLS's U-3 unemployment measure; and (3) a statistical examination participation dynamics of different labor age cohorts. Based upon all three analyses, GS finds substantial evidence that a large share of the participation rate decline is temporary and will reverse over time as the labor market strengthens.

[7]Congressional Budget Office. "The Slow Recovery of the Labor Market, Publication Number 4837, February 4, 2014. On page 8 of this report, CBO that the temporary decline in the participation rate since 2007 is about 1 percent or "roughly 3 million people who have left the labor force and are staying out of it until more jobs are available."

Others assert that a much larger share of the participation rate decline is permanent. ISI believes about 1/3rd of the participation rate decline is cyclical, which would include 1.69 million increase in those counted as unemployed. Netting this out leaves an estimate of 1.70 million discouraged workers, which is only a fraction lower than my estimate of 1.79 million.

7. Permanent Structural Unemployment

Those who are structurally and permanently unemployed constitute the residual number after subtracting the other two categories and the increase in the measured number of unemployed workers from the 10.15 million decreases in employment shown in **Table 2**.

CBO estimated that about .5 percent of structurally unemployed are included in BLS's U-3 measure of unemployment and thus has raised its estimate of the natural rate of unemployment from 5.0 to 5.5 percent. In addition, BLS believes that approximately 1/6th of the decrease in the participation ratio is due to structurally unemployed workers who have permanently exited the labor force and are counted as unemployed. Combining these two estimates results in 2.07 million structurally unemployed workers.

My estimate is 2.57 million and is derived as a residual after subtracting estimates for other categories from 10.15 million. ISI's would be 2.66 million, also derived as a residual.

Others assert that the number of discouraged workers is considerably less and the number of structurally displaced workers is much higher. However, they have not supplied quantitative or statistical analysis to back up their conclusions.

This is a very important matter as Federal Reserve Chair, Janet Yellen, acknowledged in recent congressional testimony. If the number of discouraged workers is considerably smaller than the range of 1.70 to 2.56 million provided above, the risk of higher inflation and higher interest rates sooner than later would be a major threat. Although Yellen was generally circumspect she mentioned the high number of people working part-time for economic reasons as evidence of cyclical forces.

Three Long-Run Scenarios — Steady Growth, Strong Growth,

and Stagnation — Updated for Data Revisions and Supplemented With CBO's Projections

To illustrate the possible pathways the U.S. economy might take over the next ten years from 2014 through 2023, I have constructed three scenarios — "***Steady Growth***," "***Strong Growth***," and "***Stagnation***." These are scenarios and not forecasts. The primary drivers of the scenarios are differences in assumptions about the path of employment growth and productivity, although other economic variables, such as stock prices and investment, for example, vary in ways consistent with historical patterns in employment growth and productivity. The "***Stagnation***" scenario is characterized early on by a brief, shallow recession and slow recovery thereafter — the output gap never closes.

Table 3 shows key values for labor growth, measured as hours worked (employment growth for the CBO projections), productivity, real GDP, and potential GDP.

Some general observations follow:

Employment growth declines over time in all scenarios toward a level consistent with demographic trends. Differences over the ten-year period depend on the speed of closing the current employment gap (it does not close in the stagnation scenario) and impacts on labor force participation, which rises if growth is stronger.

Productivity rises over time in all scenarios as the economy improves cyclically, but only reaches the historical average of 2.1 percent in the "***Strong Growth***" scenario by 2023.

Potential real GDP generally rises, except in the "***CBO***" projections, as the benefits of improving productivity outweigh the depressing effects of slowing labor force growth.

Real GDP growth is relatively flat in the "***Steady Growth***" scenario; starts out strongly as the output gap closes quickly in the "***Strong Growth***" and "***CBO***" scenarios, but then slows to potential after the gap has closed; and starts out very weak in the "***Stagnation***" scenario because of a brief period of recession and recovers very slowly thereafter.

Table 3
Employment Growth, Productivity, Real GDP Growth, and Potential Real GDP Growth for 2013-2017, 2018-2023 and 2014-2023 (percentages)

	Steady Growth	Strong Growth	Stagnation	CBO
Employment	**Hours**	**Hours**	**Hours**	**Labor Force**
2014-2017	1.39	1.75	1.20	1.25
2018-2023	.60	.77	.46	.62
2023	.49	.58	.51	.59
2014-2023	.92	1.16	.75	.88
Productivity	**Projected**	**Projected**	**Projected**	**Potential**
2014-2017	1.29	1.77	.91	1.43
2018-2023	1.62	1.84	1.35	1.69
2023	1.94	2.18	1.67	1.56
2014-2023	1.49	1.81	1.17	1.59
Potential Real GDP				
2014-2017	1.59	1.90	1.44	2.03
2018-2023	1.87	2.06	1.57	2.21
2023	2.14	2.37	2.02	2.11
2014-2023	1.75	2.00	1.51	2.14
Real GDP Growth				
2014-2017	2.09	2.72	1.56	3.07
2018-2023	2.11	2.49	1.88	2.22
2023	2.22	2.48	2.12	2.11
2014-2023	2.10	2.58	1.75	2.56

Charts 5, 6, 7, and 8 show the time trends for employment growth, productivity, potential real GDP, and realized GDP growth.

Chart 9 shows the unemployment rate.

Chart 10 shows the core PCE inflation rate.

CHART 5 – Employment Growth (Hours Worked)

(annual percentage change)

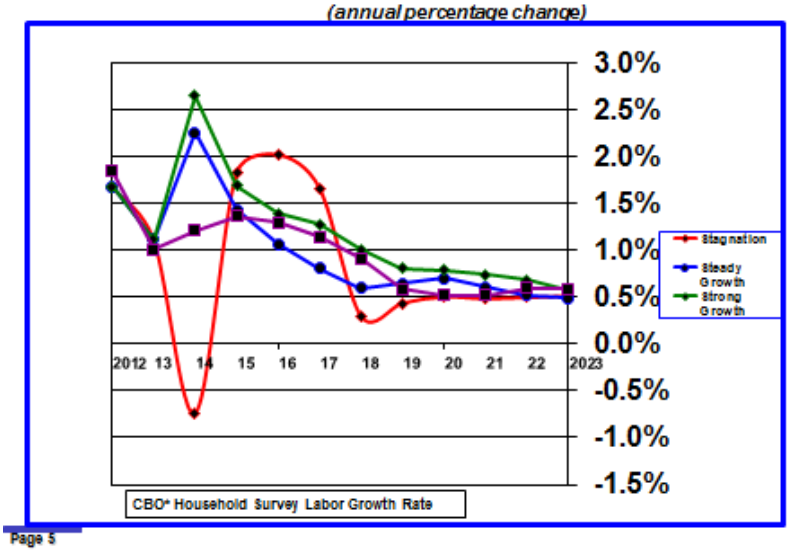


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CHART 6 – Productivity

(annual percentage change)

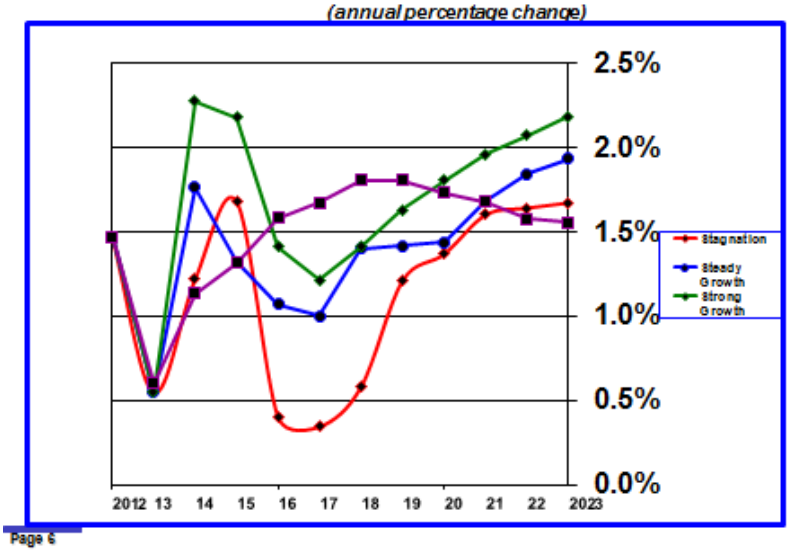

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CHART 7 – Potential Real GDP Growth

(annual percentage change)

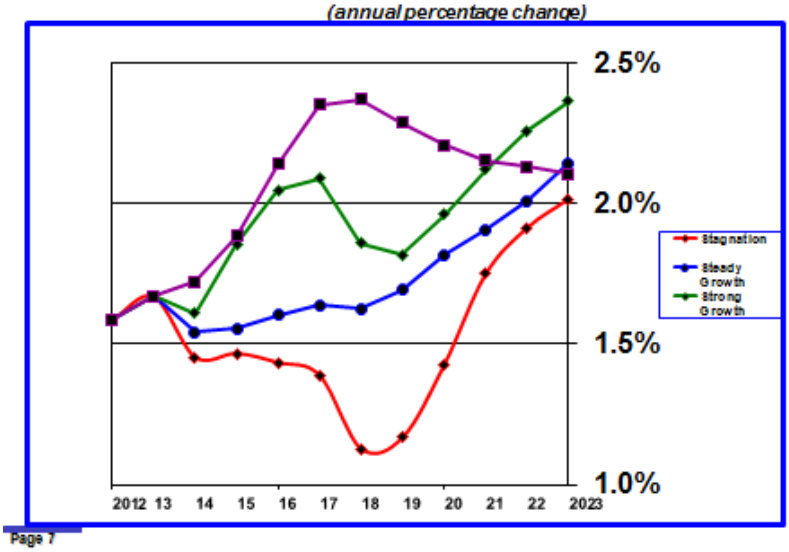


CHART 8 – Realized Real GDP Growth

(annual percentage change)

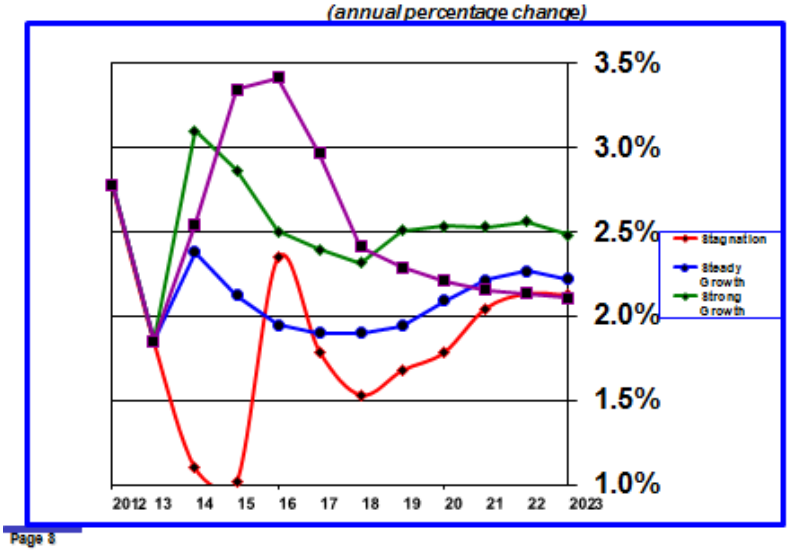


CHART 9 – Unemployment Rate

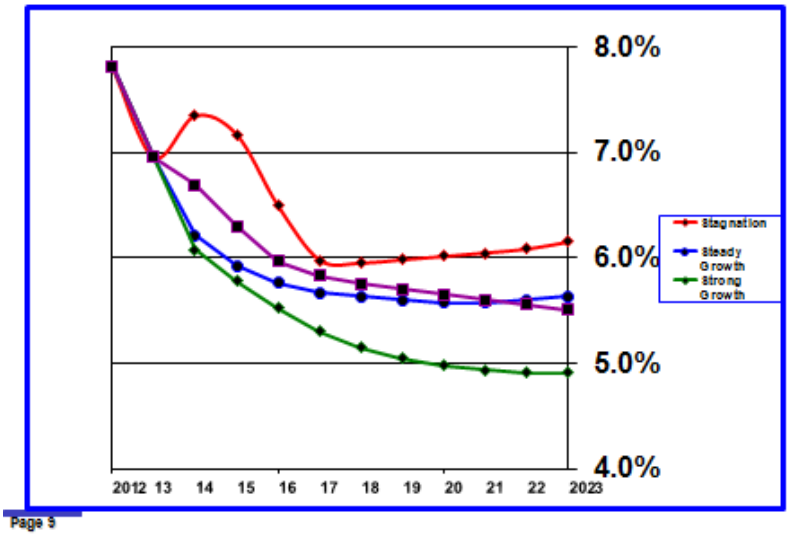
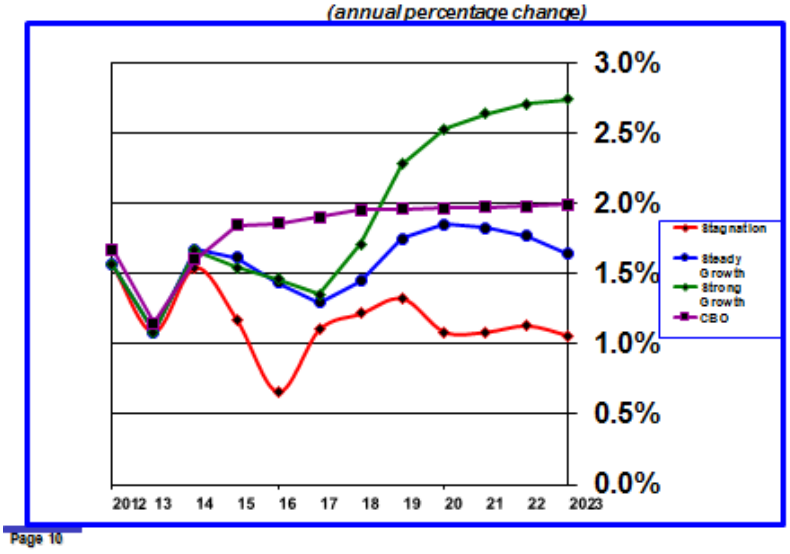
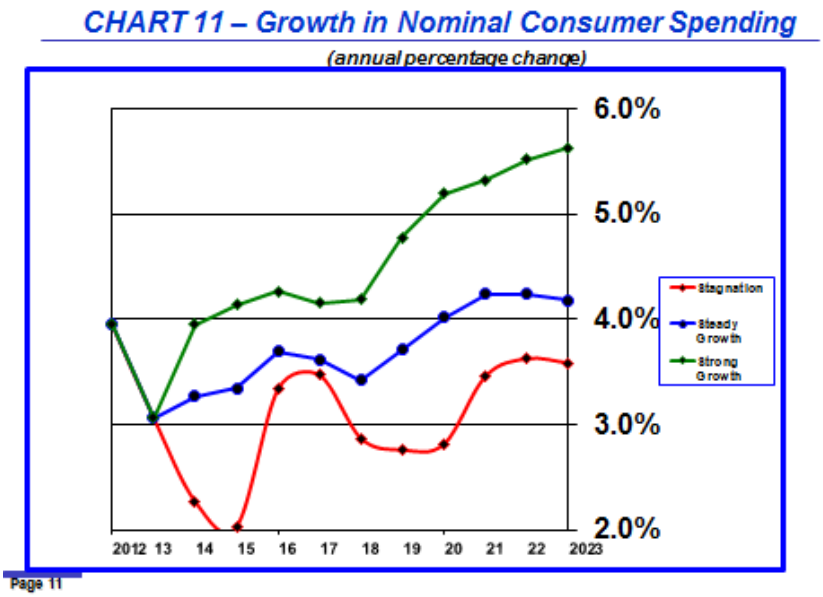


CHART 10 – Core PCE Inflation Rate

(annual percentage change)



Charts 11 and **12** show growth in nominal and real consumer spending. Notice that the differences in the real rate of growth in consumer spending are relatively small by 2023.



Charts 13 and **14** show the federal funds and 10-year Treasury rates. Obviously, the federal funds rate cannot be negative as indicated in **Chart 13** — the actual rate will be 0 to 25 basis points.

One interesting sidelight of the federal funds scenarios in **Chart 13** is that the earliest first increase is likely to be sometime in 2016 and it well could be 2017, if growth is a bit slower or perhaps never, if stagnation persists.

Real U.S. GDP Growth Is Poised to Accelerate in 2014

Above potential real GDP growth is probable in 2014 and this will contribute to reducing still sizable employment and output gaps. 2014 should be a "good" but probably not a "great" year. That is because GDP growth will be slightly above CBO's potential level of 1.7 percent so that the output gap, which was 4.1 percent in the fourth quarter of 2013, should shrink by

CHART 12 – Growth in Real Consumer Spending

(annual percentage change)

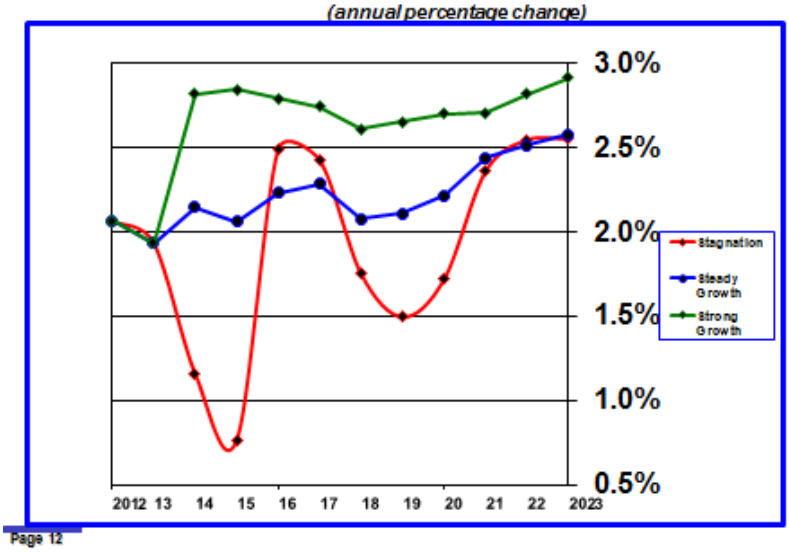


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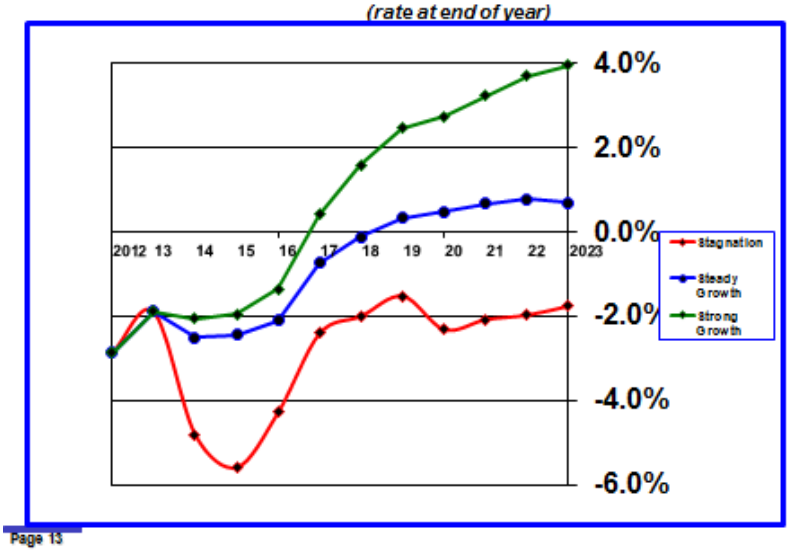
CHART 13 – Federal Funds Rate

(rate at end of year)



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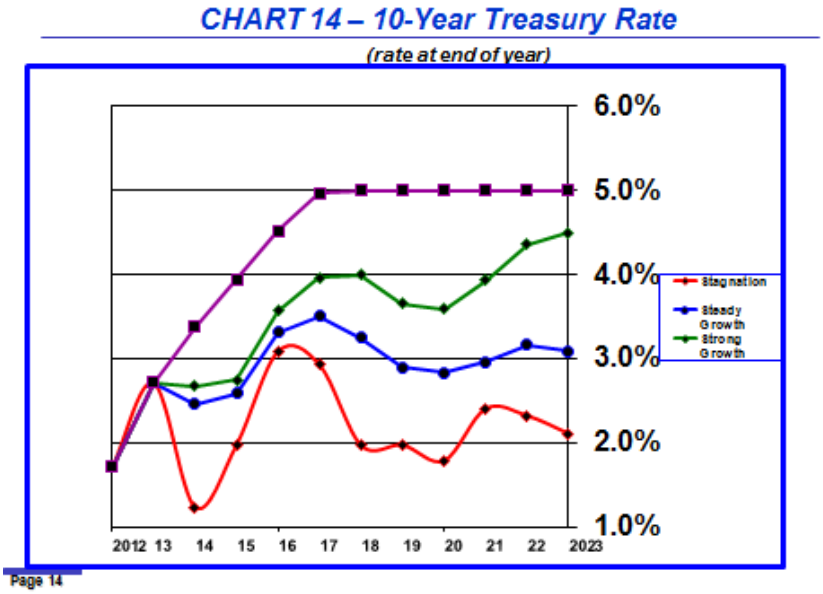


about 1.0 percent during 2014 (see **Table 6** below).

However, in the longer fun, as discussed above, forces are at work which will result in lower employment growth and lower productivity growth. This will lead to slower growth in real GDP over time. That, in turn, means that improvements in the standard of living, as conventionally measured, will fall short of historical experience.

So, good news in 2014 should not be mistaken as having turned the corner of the U.S.'s growth problem.

8. 2013 Q4 GDP — Advance Estimate

Annualized fourth quarter real GDP growth in the "Advance Estimate" was 3.2 percent, which was in line with expectations. Details are shown in **Table 4**. Private GDP, which omits inventory growth and government spending, was an even stronger 3.7 percent. As I will explain shortly, this good news is likely to be revised away when the BEA updates GDP estimates and reports

the "Preliminary Estimate" at the end of February.

Table 4
Composition of 2013 and 2012 Quarterly GDP Growth

	Fourth Quarter 2013 Advance Estimate	Fourth Quarter 2013 Preliminary Estimate	Fourth Quarter Final Estimate	Third Quarter 2013	Second Quarter 2013	First Quarter 2013
Personal Consumption	2.26%			1.36%	1.24%	1.54%
Private Investment						
Nonresidential	.46%			.58%	.56%	-.57%
Residential	-.32%			.31%	.40%	.34%
Inventories	.42%			1.67%	.41%	.93%
Net Exports	1.33%			.14%	-.07%	-.28%
Government	-.93%			.08%	-.07%	-.82%
Total	**3.22%**			**4.14%**	**2.47%**	**1.14%**
Final Domestic Sales	**2.80%**			**2.01%**	**0.21%**	**0.21%**
Private GDP	**3.73%**			**2.39%**	**2.08%**	**1.03%**

Details for some GDP components were unusual. For example, consumption appears to have surged in the fourth quarter after a string of lackluster quarterly growth rates. Inventories were expected to subtract from growth after the outsize contribution inventories made to third quarter growth. This did not happen. Offsetting these positive surprises was an enormous decline in government spending. Unlike consumer spending and inventories, which stand a good chance of being revised lower, the decline in federal government spending will probably not be revised. The anomaly in the fourth quarter has to do with the bunching of expenditures and GDP annualization mathematics, which can dramatically inflate quarterly changes.

Personal consumption expenditures, which account for 67.8 percent of real GDP, contributed 2.36 percent to fourth quarter GDP growth. To achieve sustainable GDP growth of 2.5 percent requires consumer spending to grow at an annual rate of 1.70 percent. This was the first quarter in the last seven that the 1.70 percent bogey was exceeded. Unfortunately, this estimate will be revised downward substantially in the "Preliminary Estimate." Retail sales in January fell -0.4 percent. While this development does not affect the estimate of fourth quarter consumer spending, it bodes poorly for strong consumer spending in the first quarter of 2014. But, that

was not the end of the bad news. November retail sales were revised from 0.4 percent to 0.3 percent and December sales actually fell -0.1 percent after originally reported growth of 0.2 percent. Perhaps January's weakness can be blamed on bad weather, which is always a convenient whipping boy when data disappoints. But, weather cannot explain the downward revisions in November and December.

Nonresidential investment growth was good in the fourth quarter but a little weaker than in the prior two quarters. Nonresidential investment accounts for 12.6 percent of GDP and contributed a little more than its fair share, 14.9 percent, to GDP growth. Investment in structures declined after a very strong third quarter.

To a substantial extent, a significant improvement in real GDP growth in coming quarters will depend upon strong acceleration in private investment spending including residential and nonresidential. This is exactly what most forecasters expect to occur. This is a very important assumption because 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.

On balance recent forecasts of rising investment spending have turned out to have been overly optimistic. For example, in early 2013 GS forecast the annual rate of growth in nonresidential investment during 2013 would be 4.5 percent. Actual growth was only 2.6 percent.

If investment activity does not accelerate in coming quarters, then growth in consumer spending and GDP will still rise because of improved disposable income growth, but will fall short of consensus expectations.

Residential investment accounts for 3.0 percent of GDP but con-

tributed 17.6 percent of GDP growth in 2013. However, residential investment reduced fourth quarter real GDP growth, reflecting the impact of higher mortgage rates since last summer on housing demand and construction activity.

Evidence continues to emerge that the much expected recovery in housing will be more gradual and take longer than was initially expected.

Government expenditures comprise 18.0 percent of real GDP and reduced fourth quarter GDP growth by -28.8 percent. This negative outcome was entirely due to the federal government as state and local government expenditures eked out a small gain, adding 0.06 percent to GDP growth. Federal expenditures continue to shrink and reduced fourth quarter real GDP growth by -0.99 percent.

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 could be about 0.7 percent, but Y/Y growth would actually be slightly negative in a range of -0.3 to -0.4 percent compared to -2.3 percent in 2013.

Net exports contributed an usually large 39.4 percent of real GDP growth in the fourth quarter. More recent trade data will result in the 1.33 percent contribution to fourth quarter GDP being reduced substantially. Exports of goods as a percentage of GDP have been relatively stable at 9.5 percent over the last year while imports of goods has eased slightly from 14.0 percent to 13.8 percent, probably reflecting declining dependency on oil imports.

9. Longer-Run Trend in Total Real GDP and Private GDP

Table 5 and **Chart 15** compares total real GDP growth from 2008 through the third quarter of 2013 with a measure of private sector real GDP growth, which is derived by subtracting changes in inventories and government spending from total GDP.

There are two takeaways from **Table 5** and **Chart 15** — one good, and

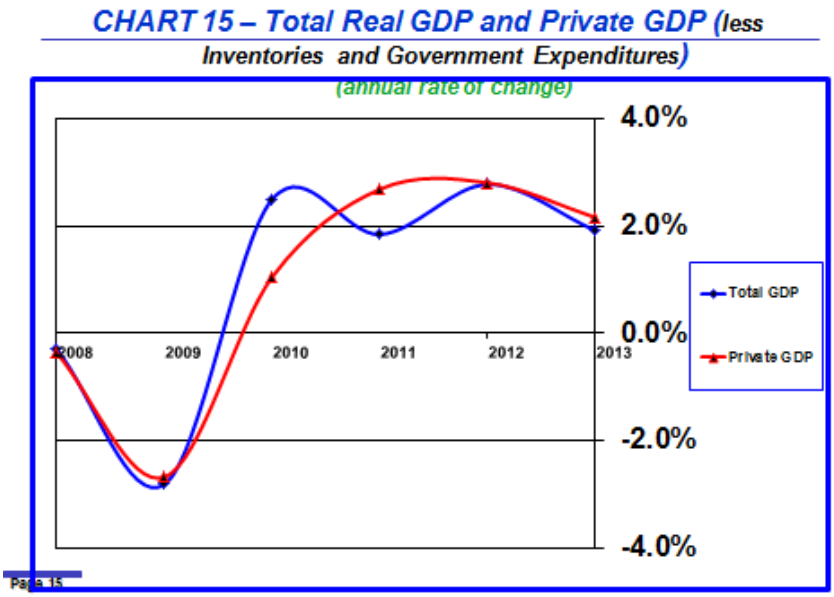


Table 5
Composition of 2008 to 2013 Annual GDP Growth

	2008	2009	2010	2011	2012	2013
Personal Consumption	-.24%	-1.05%	1.34%	1.73%	1.50%	1.36%
Private Investment						
Nonresidential	-.09%	-2.03%	.28%	.86%	.87%	.33%
Residential	-1.06%	-.71%	-.07%	.01%	.33%	.34%
Inventories	-.47%	-.77%	1.43%	-.17%	.16%	.18%
Net Exports	1.05%	1.04%	-.49%	.11%	.10%	.14%
Government	.54%	.64%	.02%	-.67%	-.19%	-.42%
Total	**-.29%**	**-2.80%**	**2.51%**	**1.85%**	**2.78%**	**1.92%**
Final Domestic Sales	**.18%**	**-2.03%**	**1.08%**	**2.02%**	**2.62%**	**1.74%**
Private GDP	**-.36%**	**-2.67%**	**1.06%**	**2.69%**	**2.81%**	**2.16%**

one troublesome. The good story is that private sector real GDP growth was approaching 3 percent in both 2011 and 2012. However, the bad news is that this measure decelerated to 2.2 percent in 2013. This reflects the negative effects of higher personal and payroll taxes implemented at the beginning of 2013.

Although the recent decline in private GDP growth is troublesome, as the shock effect of higher taxes on personal income disappears in 2014 there is reason to be hopeful that real private GDP growth will return to the 3 percent level. It is this expectation along with acceleration in investment spending that underpins forecasters' consensus that real GDP growth will accelerate to an above trend level in 2014.

10. Forecasts for "Preliminary Estimate" of Q4 GDP

Table 6 shows forecasts/projections for the "preliminary estimate" of 2013 fourth GDP and GDP estimates for the full years 2013 through 2016.

B of A expects Q4 GDP growth to be revised down from 3.2 percent to 2.2 percent growth because of updated net export data and significant downward adjustments in November and December retail sales. B of A's revised forecast for 2013 GDP fourth-quarter-to-fourth-quarter (Q4/Q4) growth is 2.5 percent and 1.85 percent year over year (Y/Y).

GS has not adjusted its fourth quarter 2013 estimate for recent weaker data reports Y/Y.

Bill's "***Steady Growth***" and "***Strong Growth***" 2013 Q4/Q4 and Y/Y estimates have been updated for probable downward revisions in fourth quarter consumption and net exports.

11. 2014 Q1 GDP Forecasts

Due to severe winter weather and slower inventory growth, **B of A** expects first quarter GDP growth to be 1.4 percent, while **GS** expects 1.9 percent.

Table 6
Real GDP Growth Forecasts

	2013 Q4	2013 Q4/Q4	2013 Y/Y	2014 Q4/Q4	2014 Y/Y	2015 Y/Y	2016 Y/Y
B of A	2.2	2.5	1.85	2.8	2.7	3.2	
GS	3.2	2.75	1.9	3.0	3.0	3.2	3.0
Global Insight	2.6				2.7	3.2	3.4
Economy.com	3.0				3.2		
Blue Chip Average*	2.4				2.8	3.0	2.8
Bill's Steady Growth		2.5	1.85	2.4	2.4	2.1	2.0
Bill's Strong Growth		2.5	1.85	3.5	3.1	2.9	2.5
FOMC - High#		2.3		3.2		3.4#	3.2#
FOMC - Low#		2.2		2.8		3.0#	2.5#
CBO		2.5	1.85*		2.55*	3.3	3.4

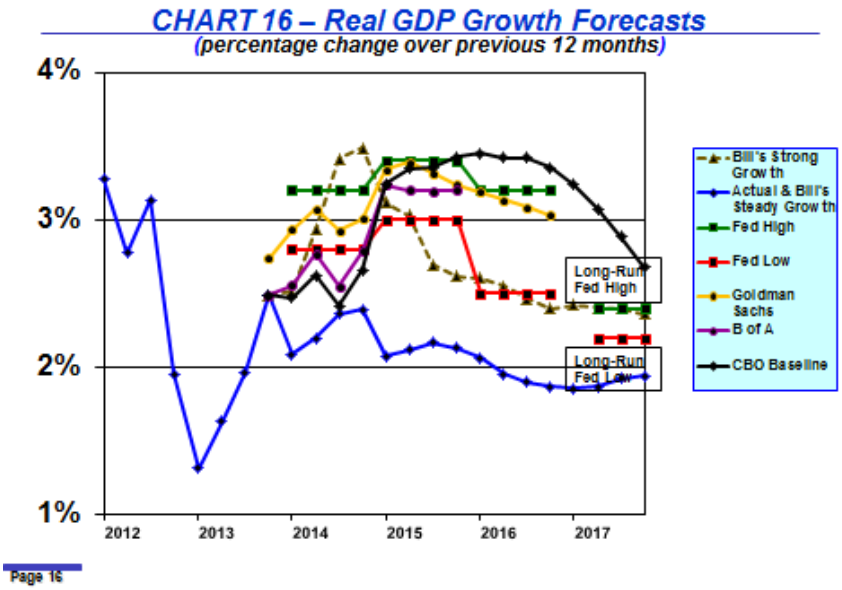
*CBO GDP estimates were prepared prior to release of the "Advance Estimate" of 2013 fourth quarter GDP and were 1.7 percent for 2013 and 2.7 percent for 2014.

#Measured from Q4 to Q4

12. GDP Forecasts for 2014 and Beyond

As **Chart 16** and **Table 6** show, most forecasters expect GDP growth to accelerate in 2014 and 2015 as negative fiscal drag diminishes and unemployment gradually declines.

GS forecasts slightly stronger residential and business investment growth of 6.6 percent Y/Y in 2014 compared to 5.4 percent Y/Y in 2013. **B of A** forecasts more moderate investment growth Y/Y of 5.5 percent. Since investment comprises 15.7 percent of real GDP, these forecasts imply that investment will contribute between 1.03 percent and 0.85 percent to real



GDP growth in 2014. If consumer spending continues at the 2013 level of 1.36 percent, then real GDP should grow between 2.21 percent and 2.39 percent in 2014, provided that none of the other GDP components contribute anything. B of A forecasts Y/Y 2.67 percent GDP growth in 2014 and GS forecasts Y/Y 2.99 percent. This implies that about 0.50 to 0.60 percent in GDP growth would have to come from additional consumer spending or sources other than investment spending.

The FOMC's median central tendency Q4/Q4 projection of 2.75 percent in **Table 7** is consistent with B of A's estimate but slightly below GS's estimate (**Table 6**). Note that the FOMC's high-low projection range of 3.2 percent to 2.8 percent in **Table 6** is slightly above the median central tendency estimate in **Table 7**.

As **Table 7** shows, the median of the FOMC's real GDP growth projections have been persistently overly optimistic. Following a well-established pattern, the FOMC reduced its GDP projections for 2014, 2015 and 2016 at its December meeting.

Except for my "***Steady Growth***" scenario and CBO's projection of 2.5

Table 7
Median of FOMC's Central Tendency Real GDP Growth Projections Compared to Actual Results — 2011 to 2016

Meeting Date	2011	2012	2013	2014	2015	2016	Long Run
Jan 2011	3.70	3.95	4.00				2.7
Apr 2011	3.30	3.65	4.00				2.7
June 2011	2.75	3.10	3.75				2.7
Nov 2011	1.70	2.90	3.35	3.60			2.6
Jan 2012		2.55	3.10	3.55			2.6
Apr 2012		2.55	3.10	3.60			2.6
June 2012		2.05	2.85	3.40			2.6
Sep 2012		1.80	2.90	3.40	3.35		2.6
Dec 2012		1.80	2.60	3.40	3.35		2.6
Mar 2013			2.50	3.20	3.15		2.5
June 2013			2.30	2.90	3.05		2.5
Sep 2013			2.10	2.75	2.95	2.85	2.3
Dec 2013			2.30	2.75	2.90	2.80	2.15
Actual Q4 to Q4	**2.01**	**1.95**	**2.74***	**3.42***	**3.24***	**3.03***	
Actual Y/Y	**1.85**	**2.78**	**1.92***	**3.37***	**3.35***	**3.11***	
Long Run Potential							**2.1-2.4#**

*GS forecast

#Bill's "***Steady Growth***" long-run potential = 2.14%; Bill's "***Strong Growth***" long-run potential = 2.37%

percent Y/Y growth in 2014, other real GDP Y/Y growth forecasts for 2014 range from 2.7 to 3.2 percent (**Table 6**). So, there is substantial consensus that growth will accelerate in 2014 from 2013's pace.

For the last couple of years both B of A and GS's forecasts have been at the pessimistic end of the spectrum and their conservatism proved to be well founded. However, both are now optimistic that growth will accelerate in 2014 and that the case for that call is strong for several reasons.

First, fiscal policy will not be highly contractionary as it was over the last two years. Recovery in state and local spending will marginally exceed a small negative impulse from federal spending. ***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 until the most recent quarter sales growth has been weak. **Third, banks have rebuilt capital and are more willing to lend.** Note, however, that willingness to extend credit requires demand for credit and so far demand has been slack. **Fourth, housing prices are rising, excess inventory has diminished considerably but, surprisingly, household formation has slowed.** Notwithstanding the fourth quarter set back, residential investment could increase further from already relatively strong levels in 2013, but access to mortgage credit remains constrained and higher home prices and interest rates are reducing affordability and could depress demand. ***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 seems likely to slow down in 2014 because the rate of appreciation in the prices of financial assets is likely to slow.

Bill's "***Strong Growth***" scenario of Y/Y 3.10 percent growth in 2014 is at the top end of forecast range and Bill's "***Steady Growth***" scenario forecast of 2.38 percent growth is at the bottom end of the range.

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

Real GDP growth forecasts for 2015 and 2016 for both of Bill's scenarios are lower than other forecasts. The principal difference has to do with my view that investment growth and, therefore, productivity growth will remain low relative to historical levels. Slow investment growth will hold back employment growth and retard income growth, which implies that consumer spending growth will continue to be disappointing.

13. GDP Output Gap

As shown in **Chart 3** above, CBO's updated reductions in its estimates of potential real GDP resulted in a substantial decrease in the GDP output gap at the end of 2013 from its year earlier forecast of 6.0 percent to 3.8 percent.

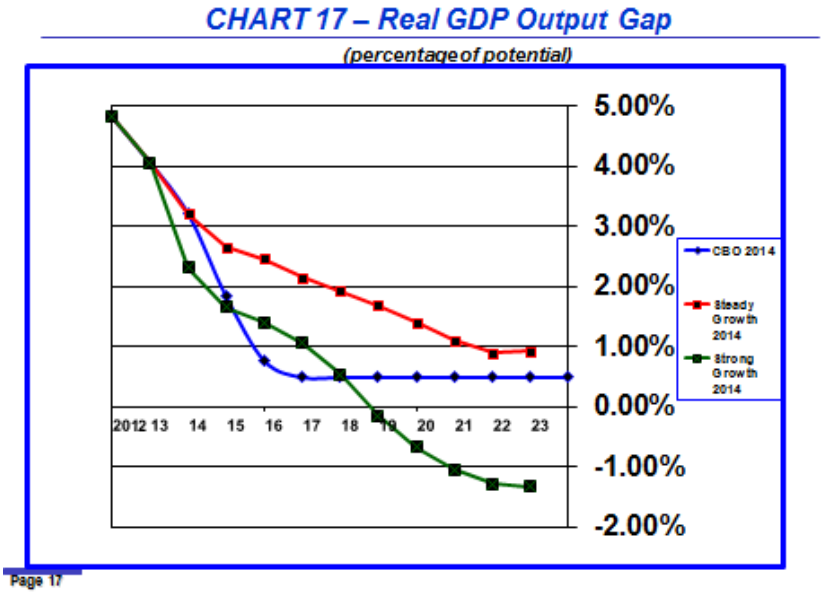
Chart 17 benchmarks the GDP output gap as 4.1 percent at the end of 2013 and then shows how the output gap would change over time based upon CBO's projections and my "***Steady Growth***" and "***Strong Growth***" scenarios. CBO expects the output gap to close by 2017. Pardon my cynicism, but CBO has had that same expectation for the last three years and each year it has lowered its estimate of potential real GDP.

In my "***Strong Growth***" scenario, which assumes strong labor force growth, strong investment growth, and robust productivity, the output gap shrinks more rapidly than CBO's estimates initially, but then the rate at which the gap shrinks slows and it does not close until 2018. I believe my "***Strong Growth***" scenario is very optimistic and that actual GDP growth will be slower. This reinforces my skepticism of CBO's projections.

In my "***Steady Growth***" scenario the output gap shrinks slowly and does not close until 2022. This scenario assumes slow labor force growth, tepid investment growth, and lackluster productivity. It is intentionally structured to be a pessimistic scenario. My expectation is that the eventual realized trend of GDP growth and the output gap are likely to fall somewhere between the "***Strong Growth***" and "***Slow Growth***" scenarios.

Consumer Income and Spending

At the end of 2012 personal income, consumption expenditures, and saving were very volatile from month to month. This was caused by timing



of income recognition in late 2012 to optimize tax burdens in anticipation of changes in fiscal policy. This led to a substantial increase in reported income in late 2012. This makes year-to-year comparisons in November and December difficult to interpret, which is evident in the November and December 2013 columns in **Table 8**.

Because of one-time events comparisons of changes in a particular month of a year to the same month in another year can be highly volatile and mask underlying trends. This is certainly true for the December year over year change columns in **Table 8**. This problem can be minimized by constructing a 12-month moving average, which is shown in the last two columns of **Table 8** for 2012 and 2013. While the moving average limits volatility, it takes many months for changing trends to show up.

Table 8
Percentage Change in Nominal Personal Income and Its Disposition for 2011, 2012, November 2013, and December 2013 and 12-Month Moving Average for 2012 and 2013

	2011 Pct. Change Dec 10-Dec 11	2012 Pct. Change Dec 11-Dec 12	2013 Pct. Change Nov 12 - Nov 13	2013 Pct. Change Dec 12-Dec 13	Pct. Change 2012 12-Month Moving Average	Pct. Change 2013 12-Month Moving Average
Personal Income	**4.63%**	**7.94%**	**2.29%**	**-0.78%**	**4.22%**	**3.22%**
Compensation	2.81%	6.80%	2.28%	0.79%	3.93%	3.19%
Proprietors' Income	11.05%	5.07%	8.25%	6.91%	6.40%	9.61%
Rental Income	19.44%	7.28%	8.18%	8.44%	12.26%	8.95%
Asset Income	4.59%	18.90%	2.16%	-10.42%	3.97%	3.26%
Government Transfers	0.17%	4.06%	3.46%	2.41%	2.07%	3.70%
Less: ***Personal Taxes***	4.50%	9.47%	11.61%	9.26%	5.38%	12.67%
Disposable Income	**3.63%**	**7.52%***	**1.47%**	**-1.66%**	**3.87%**	**2.29%**
Less: ***Consumption***	**4.13%**	**3.73%**	**3.24%**	**3.52%**	**3.96%**	**3.12%**
Personal Saving	**-4.40%**	**74.14%**	**-26.65%**	**-55.78%**	**2.30%**	**-11.64%**
Personal Saving Rate	**5.67%**	**5.61%**	**4.91%**	**4.50%**	**5.61%**	**4.50%**
Adj. Personal Income#	**3.77%**	**7.84%**	**3.17%**	**0.16%**	**4.12%**	**4.02%**

*2.68%, if tax-avoidance timing impacts on "Compensation" and "Asset Income" are removed

#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.

14. Percentage Changes in Personal Income and Disposable Income2011, 2012, November 2013, and December 2013 and 12-Month Moving Average for 2012 and 2013

Table 8 shows data which compare same-month year over year percentage changes for December 2011, December 2012, November 2013, and December 2013, and also the 12-month moving averages for December 2012 and December 2013.

Growth in personal income and disposable income was much weaker in 2013 than it was in 2011. This difference is due entirely to the change in the payroll tax rate. 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 8**, 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.

When personal income growth is adjusted for the decrease in the payroll tax rate in 2011 and the increase in 2013 personal, income growth changes by 0.80 to 0.94 percent in each of the two years — down in 2011 and up in 2013.

Because income acceleration occurred in December 2013 to minimize the consequences of 2014 tax increases, the best sense of trend can be seen from the 2012 and 2013 12-month moving averages, adjusted for the change in payroll taxes. Adjusted personal income grew 4.12 percent in 2012 and declined slightly to 4.02 percent in 2013. The decline in disposable income growth from 3.87 percent in 2012 to 2.29 percent in 2013 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 2012 to 2013.

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

Although it is hard to drawn any definitive conclusions from these noisy data, it appears that nominal personal income growth has neither accelerated nor decelerated when adjusted for tax-rate changes. This seems consistent with the slow recovery of the labor market and static wage growth.

15. Consumption

Data in **Table 8** suggest that the growth rate in consumer spending may have risen in recent months, but consumption growth remains lower than it was three years ago. Consumption growth has been bolstered by a decline in the saving rate, even as disposable income growth faltered.

Forecasters generally expect consumption growth to accelerate in 2014.

This is an easy call because the drag on consumption growth from higher taxes will go away. However, how much consumption growth accelerates beyond that will depend upon three additional factors. First, employment growth will have to accelerate. While possible, it seems more likely that employment growth will match recent rates.

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

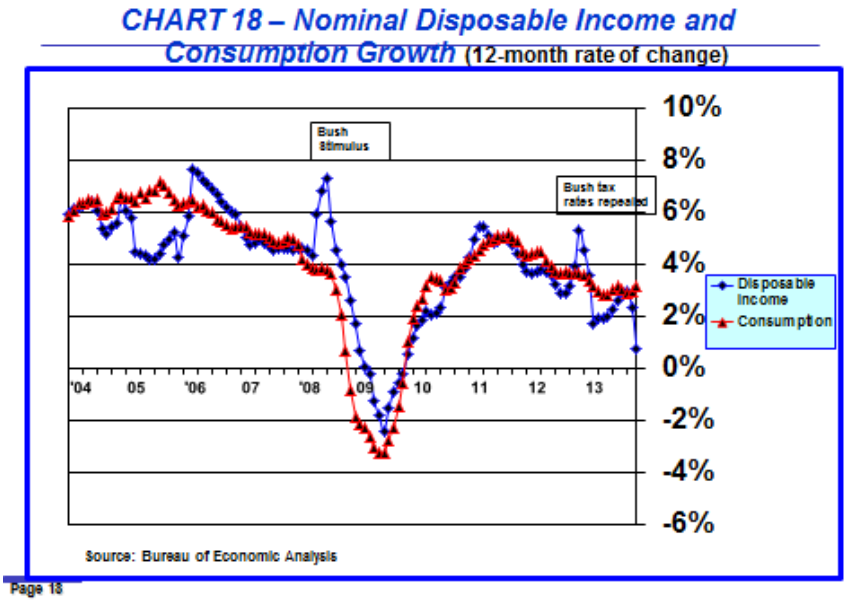
Third, the saving rate would have to continue to decline. It has already declined from 5.67 percent in 2011 to 4.50 percent in 2013. The normal tendency, however, would be for households to rebuild savings as disposable income growth accelerates. This would result in a higher saving rate and slower growth in consumption. However, pent-up demand, coupled with increased consumer optimism and easier access to credit, could lead to a further decline in the saving rate and an acceleration in consumption growth. Consumer optimism remains at cyclically low levels and has yet to show signs of a significant upside breakout. Credit conditions for revolving credit are easier, but access to mortgage and second equity credit is still tight.

All-in-all it is difficult to get excited about the likelihood of a significant increase in consumption growth other than the favorable impact stable taxes will provide.

16. Disposable Income and Spending

Chart 18 shows the nominal rate of growth in disposable income and consumer spending from 2004 to the present. Growth rates are calculated as changes in quarterly averages year over year. This method smooths timing anomalies to a certain extent, although major events such as occurred at the end of 2012 will still impact the observed trend for the following 12 months. It does not smooth trends to nearly as great extent as a 12-month moving average.

The annual rate of growth in nominal disposable income began slowing in early 2011 and declined from 5.5 percent in April 2011 to 2.9 percent in



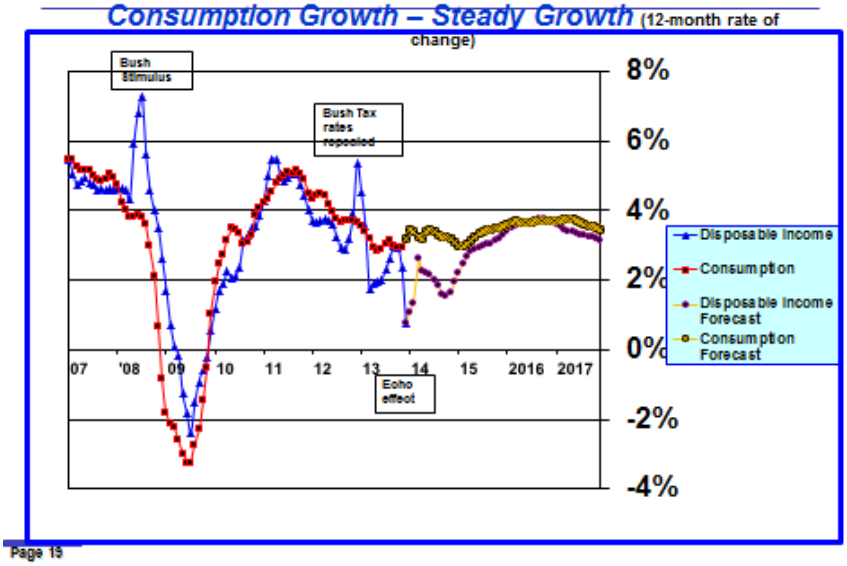
September 2012, but then surged to 5.3 percent in December 2012. Since then growth in nominal disposable income has slowed in a choppy fashion to 0.7 percent in December 2013. The year over year comparison in December was depressed by last year's acceleration of income recognition in December. The rate of growth should rise sharply in early 2014 as the anomaly of December 2012 passes out of the data (see **Charts 19A** and **19B**).

Chart 18 shows that growth in consumer spending, after peaking at 5.2 percent in September 2011, slowed to about 3.7 percent in August 2012, remained at that level until November 2012 and has since declined further to 2.9 percent in October 2013. Since then spending growth has picked to 3.2 percent in December 2013.

17. Outlook for Nominal Disposable Income and Spending

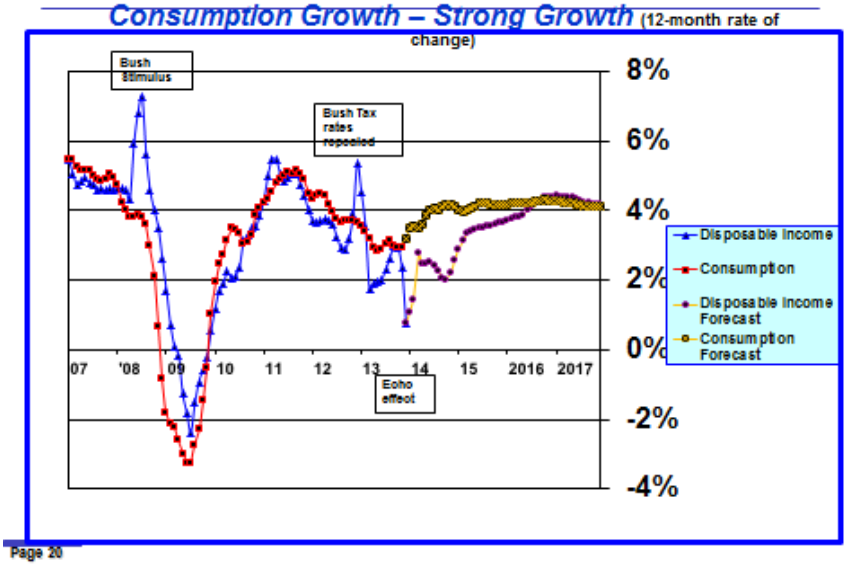
As can be seen in **Charts 19A** and **19B**, I expect nominal consumer disposable income growth will rebound in coming months, but strong acceleration in the "***Steady Growth***" scenario (**Chart 19A**) does not occur until 2015.

CHART 19A – Forecast Nominal Disposable Income and Consumption Growth – Steady Growth (12-month rate of change)



Page 19

CHART 19B – Forecast Nominal Disposable Income and Consumption Growth – Strong Growth (12-month rate of change)



Page 20

This is partly due to the distortion of the year-over-year comparisons in early 2014 due to the effects of tax increases in early 2013 and partly due to very low nominal PCE inflation in 2014. Since nominal wage growth tends to follow the trend in inflation in the long run, low inflation will probably retard improvement in nominal wage growth. Thus, most of the increase in the growth rate in disposable income during 2014 will have to come from improved employment growth. Of course, above trend employment growth will slowly close the employment gap and as the gap closes eventually that will result in upward pressure on nominal wages and that explains the expected acceleration in the growth rate in 2015.

Chart 19B shows my "***Strong Growth***" scenario forecast for growth in nominal consumer disposable income and consumption through 2017. Higher rates of growth in employment and productivity in the "***Strong Growth***" scenario lead to stronger growth in nominal disposable income and consumption on an escalating basis during 2014-2017.

18. Real Consumer Spending Forecasts

Chart 20 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 about the same as GS's and B of A's forecasts through late 2014 but underperforms B of A's and GS's forecast slightly in 2015 and then outperforms GS's forecast by the end of 2016.

GS and B of A believe real consumer spending will accelerate during 2014 to between 2.7 and 3.0 percent. Y/Y growth is 2.73 percent for all of 2014 for GS and 2.98 percent for B of A. B of A forecasts real spending growth of 3.12 percent in 2015, while GS projects growth will be 2.98 percent in 2015 and 2.64 percent in 2016. **Table 9** shows forecast real consumer spending growth rates for B of A, GS and my two scenarios.

For reasons discussed above, my sense is that acceleration of real consumer spending growth in 2014 to the levels forecast by B of A, GS, and my "***Strong Growth***" scenario are optimistic and the risks are tilted in the

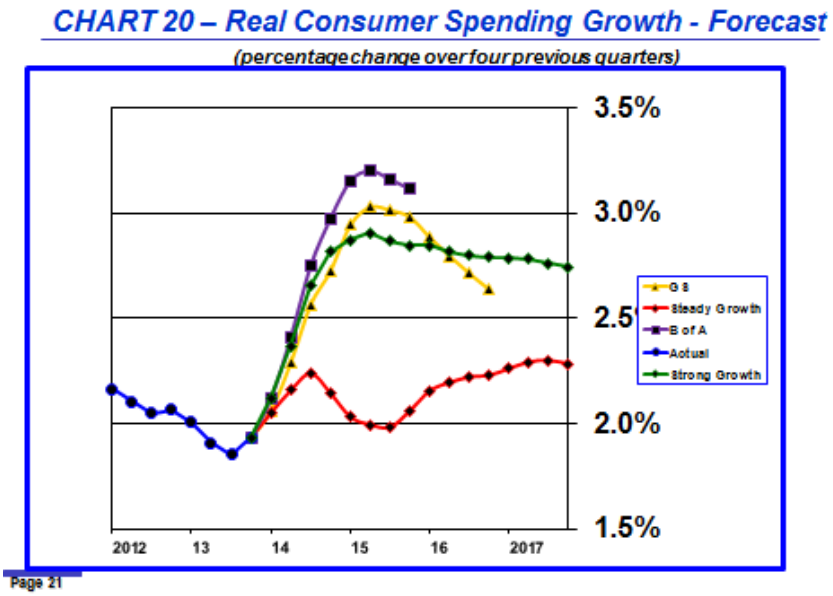


Table 9
Real Consumer Spending Growth Rate Y/Y Forecasts — B of A, GS, Bill's "Steady Growth" and Bill's "Strong Growth"

Real Consumer Spending Growth	2010	2011	2012	2013	2014	2015	2016
B of A	1.66	2.36	2.07	1.93	2.98	3.12	
GS	1.66	2.36	2.07	1.93	2.73	2.98	2.64
Bill's Steady Growth	1.66	2.36	2.07	1.93	2.14	2.06	2.23
Bill's Strong Growth	1.66	2.36	2.07	1.93	2.82	2.85	2.79

direction of slower growth. If this turns out to be the case, then real GDP growth would also disappoint.

The principal difference between GS's and Bill's forecast models has to

do with slower growth in disposable income in Bill's model because of low growth in productivity. This is very apparent in the "***Steady Growth***" scenario. Higher productivity growth in Bill's "***Strong Growth***" scenario boosts real consumer spending growth so that the differences between GS's forecast and Bill's "***Strong Growth***" forecast are relatively small in 2014, 2015, and 2016.

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, household balance sheets, as discussed in the next section, have been cleaned up. 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. But these favorable factors could be offset to some extent by an increase in the saving rate.

19. Consumer Confidence

Measures of consumer confidence were mixed in January, indicative of a consumer economy that is neither gaining nor losing momentum.

The **University of Michigan**'s consumer sentiment index eased slightly to 81.2 in January from 82.5 in December and remains below its recent peak of 85.1 in July.

According to the **Conference Board**'s survey, overall consumer confidence rose to 80.7 in January from 78.1 in December. The Present Situation Index rose to 79.1 from 75.3 and the Expectations Index rose to 81.8 from 79.0.

ISI's weekly company surveys have been relatively stable over the last eight months. Its diffusion index peaked at 52.3 in the week of June 7, edged down to 50.7 in the week of November 8, then rose a tad to 51.5 in the week of February 14.

Rasmussen conducts a daily consumer confidence poll. Prior to the government shutdown the Rasmussen index averaged 100 during September and was 103 on October 1. By October 9 the index had fallen to 92. By

the end of 2013, this measure of consumer confidence bounced to 105, but then fell back to 98 on January 30, probably in response to the decline in stock prices during January. The recent peak in this index was 108, which was temporarily achieved in July 2013.

Overall, consumer confidence measures are not particularly robust and reflect the on-going lethargic improvement in the labor market and consumer incomes. Confidence measures remain consistent with sluggish consumer spending growth. **Recent Employment Trends**

January's payroll employment increase of 113,000 on top of December's revised increase of 75,000 was a big disappointment. The companion household survey reported a much stronger two-month employment increase of 781,000. The unemployment rate unexpectedly fell further to 6.58 percent. But, hourly wage growth for all employees remained below 2.0 percent.

What is one to make of all this contradictory information? The most important observation is data reports are based on surveys with large sampling errors. This means that the data are very noisy. Some data series, such as payroll employment are revised many times; others, like the household survey are never revised, but nonetheless, because it is based on a survey with a large sampling error, the monthly data tend to be very volatile.

All of this means is that the health of the labor market is better measured by observing trends over time rather than trying to explain each twist and turn in the monthly data reports.

20. Payroll Employment Revisions

BLS benchmarked several decades of payroll data in the January report. Overall, employment increased 509,000, but the adjustments were spread over several decades so that the increase in 2013 was only 136,000. Seasonal factors were also revised and were applied retroactively to all past data.

Over the last two years payroll employment gains have been relatively strong, averaging 194,000 monthly in 2013 and 186,000 in 2012.

The household survey, from which the unemployment rate is calculated,

is based on a monthly survey of 60,000 households and is never revised. The payroll survey is based on data from large employers and supplemented by extrapolation of recent trends for small employers. Payroll data are periodically updated based on detailed employment information from state-level employment statistics. Household data are revised once a year, but only for changes in seasonal patterns.

Over the last two years household employment gains averaged 115,000 in 2013 and 198,000 in 2012. However, with the surge in household employment in January, the 12-month average rises to 153,000.

Growth in the payroll and household employee counts track each other closely over extended periods of time, but can diverge substantially over shorter periods of time, primarily due to sampling anomalies and periodic updates to population controls in the household survey.

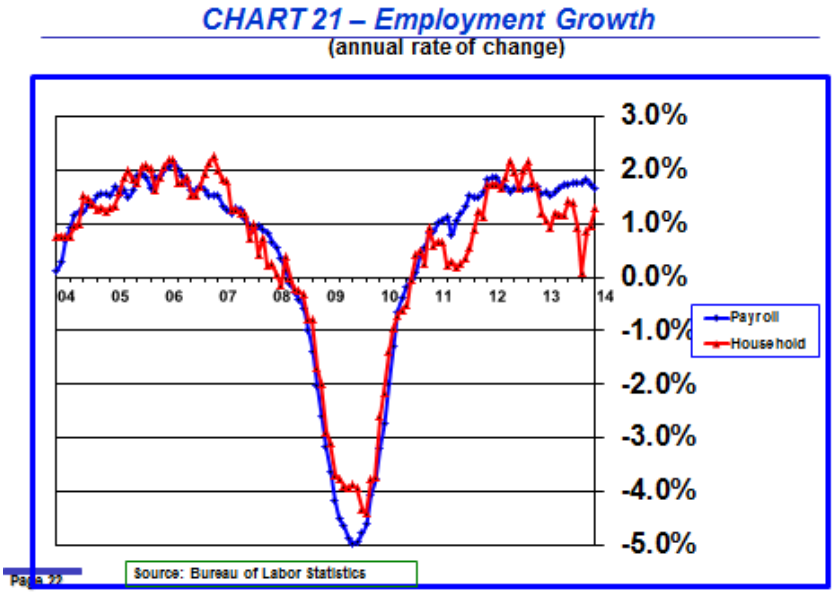
Chart 21 shows growth trends in employment for the payroll and household surveys and indicates that payroll employment is growing at an annual rate of approximately 1.66 percent and household employment is growing at an annual rate of 1.28 percent. Payroll growth is above CBO's long-term trend level of 0.5 to 0.7 percent, which is necessary for the unemployment rate to fall and the economy to return to full employment.

Even with data revisions there were 866,000 fewer people employed in January 2014 than in January 2008 and 1.15 million fewer according to the household survey.

21. Hours Worked

Average weekly hours worked for all employees dipped from 34.5 in November to 34.4 in December and January. The 12-month average was 34.46. The length of the workweek remains relatively stable. When the length of the workweek is stable it generally indicates an absence of pressure to retain workers as output slackens (declining length of the workweek — weak labor market) and an absence of pressure to resort to overtime work (lengthening workweek — tight labor market).

Average weekly hours worked for supervisory and production workers peaked at 33.8 in February and March 2013 and have declined since then to



33.5 over the last two months. This reflects a bit of developing weakness in the labor market, but may be a reflection of bad weather over the last two months.

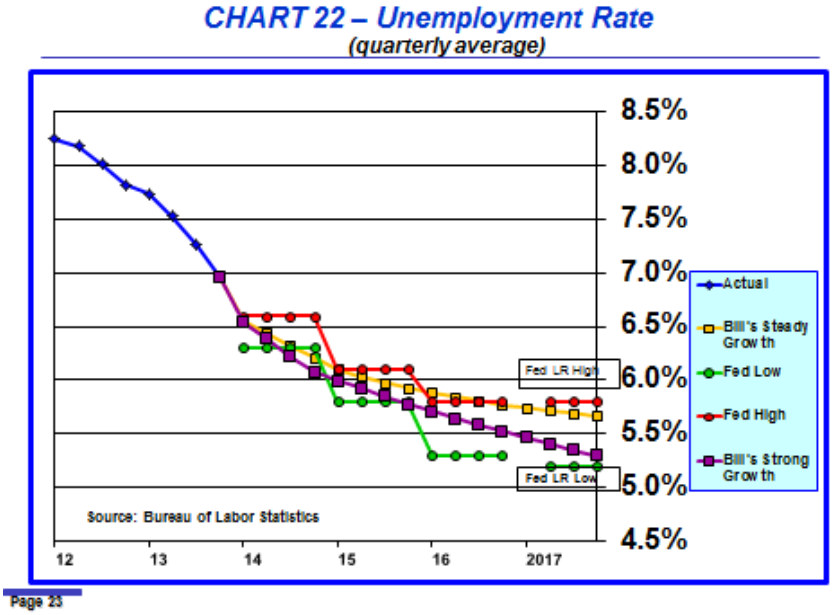
22. Unemployment Rate

Prior to its December 2013 meeting the FOMC had linked monetary policy explicitly to the BLS's U-3 unemployment rate. In December it backed away from this policy guideline without eliminating it altogether from consideration. As was discussed in previous sections, the discouraged worker phenomenon and its impact on the participation rate is critically important in ascertaining just how meaningful the 6.5 percent unemployment rate guideline, as conventionally measured, is. The evidence, such as it is, suggests that the labor market will probably still be quite weak even when the U-3 6.5 percent rate is penetrated, which now seems likely to occur within the next couple of months.

According to BLS, the number of unemployed workers fell 1.9 million

during 2013. The unemployment rate was 6.58 percent in January. Over the last 12 months the unemployment rate decreased from 7.91 to 6.58 percent.

Chart 22 shows the FOMC's high (red line and circles) and low (green line and circles) unemployment rate projections for 2013, 2014 and 2015. The FOMC's projections imply that the 6.5 percent unemployment rate guideline will be penetrated during 2014. The FOMC clarified in its December monetary policy statement "... that it likely will be appropriate to maintain the current target range for the federal funds rate well past the time that the unemployment rate declines below 6- percent, especially if projected inflation continues to run below the Committee's 2 percent longer-run goal."



I have included in **Chart 22** unemployment rate forecasts for both my "***Steady Growth***" (yellow line and squares) and "***Strong Growth***" (purple line and squares) scenarios. The "***Steady Growth***" unemployment rate projection tracks the lower end of the FOMC's range in 2014 and then moves gradually toward the upper end of the range by 2016. This progression is influenced by my assumption regarding the gradual return of discouraged

workers to the labor force. The "***Strong Growth***" unemployment rate projection tracks below the lower end of the FOMC's range in 2014 and then moves gradually toward the middle of the range in 2016. The unemployment rate forecast in both the "***Strong Growth***" and "***Steady Growth***" scenarios reaches the 6.5 percent threshold by the second quarter of 2014.

In effect, the FOMC in its December policy statement distanced itself from the 6.5 percent unemployment guideline without going to the trouble of eliminating it or revising it. In retrospect, it was an interesting attempt by the FOMC to provide quantitative policy guidance. But, measurement issues and the difficulty of discerning labor market dynamics undercut the reliability of the U-3 unemployment rate as a guidepost for the conduct of monetary policy. As a consequence, going forward, monetary policy will be less transparent in terms of explicit numerical markers and more dependent on the interpretation of a variety of labor market indicators.

23. Implications for Monetary Policy

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

If discouraged workers re-enter the labor market as unemployment falls this will retard the speed with which the unemployment rate falls. This prospective phenomenon is embedded in my unemployment rate projections.

Put differently, it might take longer for the unemployment rate to fall to the full-employment rate of 5.5 percent. Historical precedence and research indicate that many discouraged workers will re-enter the labor force as labor market conditions improve but that reentry will not occur to a meaningful extent until the unemployment rate, as conventionally measured by BLS, falls well below 6.5 percent. However, the recent greater than expected decline in the participation rate has fueled doubts about this expectation. Falling participation among older workers over the last year lends some support to a larger permanent decline in the participation rate. About 80 percent of those exiting the labor force in 2013 were over the age of 55. Few

older workers, once they leave the labor force, re-enter later on.

It is clear from Chairman Bernanke's post-December FOMC meeting press conference that FOMC members increasingly are skeptical that a large part of the drop in the participation rate is due to discouraged workers and, thus, is temporary. In response to a question about the extent of structural changes driving the drop in the participation rate, Chairman Bernanke said: *"I think a lot of the declines in the participation rate are, in fact, demographic or structural, reflecting sociological trends. ... I think a lot of the unemployment decline that we've seen, contrary to sometimes what you hear, I think a lot of it really does come from jobs as opposed to declining participation."* Commentary from other FOMC members corroborates a growing belief among some that the U-3 unemployment rate should be taken at face value. In her maiden congressional testimony Chair Yellen was quizzed repeatedly about structural unemployment and discouraged workers. Her responses carefully steered a middle ground as she acknowledged both the importance of the issue as well as the difficulty of knowing just how many discouraged workers might eventually reenter the labor force.

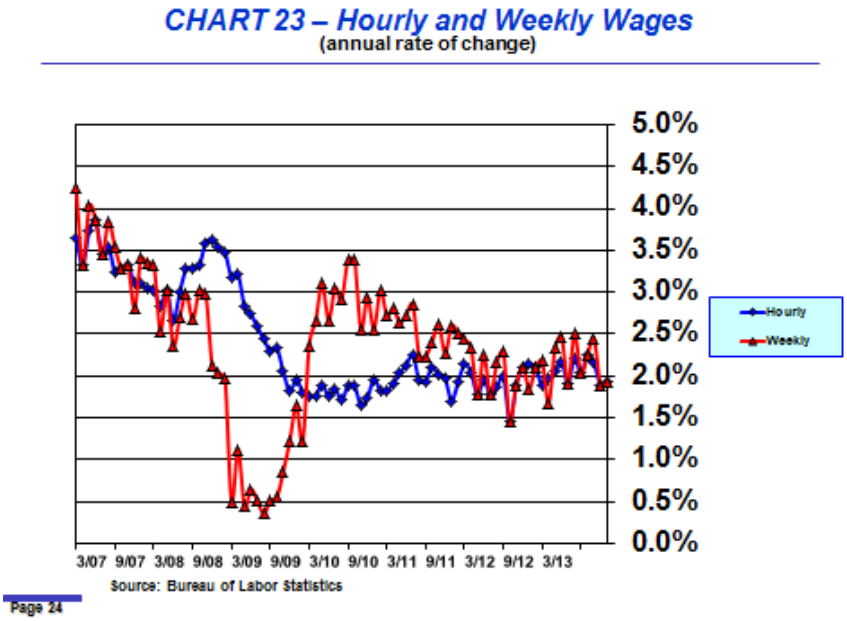
What the evolution of FOMC thinking about the participation rate suggests is that any increases in the various measures of inflation — various reported indices, financial market expectations, and survey measures of expectations — will have a significant impact on the timing of increases in the federal funds rate. In that sense the unemployment rate now is less important than previously implied and the future course of inflation is more important in guiding monetary policy.

24. Growth in Wages

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

As can be seen in **Chart 23**, the rate of growth in hourly wages has fluctuated in a narrow band in the vicinity of 2.0 percent for the last four years.

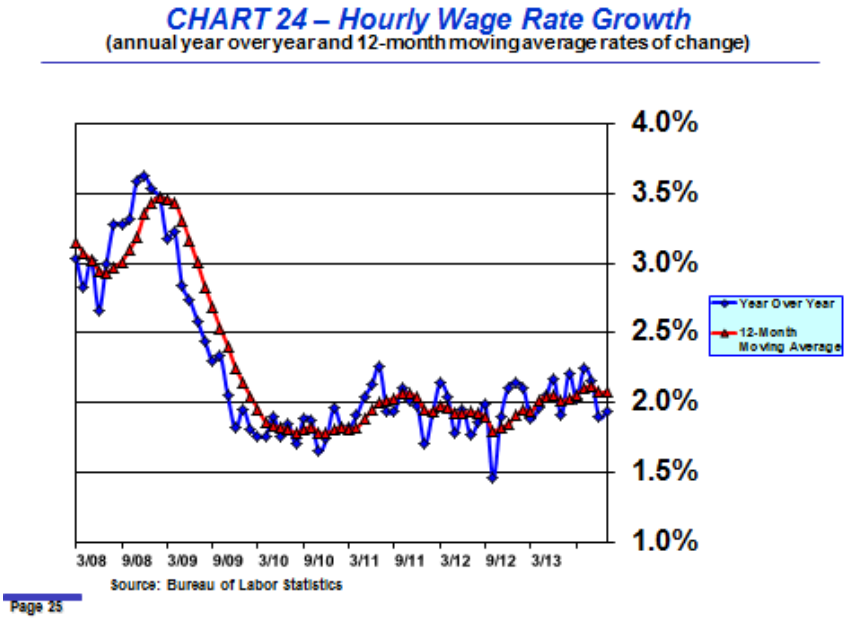
This is good news because the large output gap and high unemployment rate, which have persisted for several years, have not put further downward pressure on wage rate growth.



Both hourly and weekly wage growth for all employees slowed sharply in December and did not recover appreciably in January. Nominal hourly wages grew 1.94 percent from January 2013 to January 2014; the 12-month moving average, shown in **Chart 24**, was 2.05 percent over the same period. While the deceleration in weekly wage growth possible can be blamed on cold weather and a shorter workweek, it is more difficult to make the same argument for the hourly wage growth rate.

Chart 24 shows the 12-month moving average of the growth rate in hourly wages. Until November there had been a slight improvement in the 12-month moving average rate of growth from 1.88 percent in November 2012 to 2.08 percent in November 2013. However, the trend reversed in December and January and the 12-month moving average has now fallen to 2.05 percent. As **Chart 24** shows, this is not the first time during this economy recovery that an upward trend in hourly wage growth has reversed

course.



Although some analysts believe there is evidence of accelerating wage growth, there is no definitive indication in the BLS data that this is occurring. Based on details of the December BLS report, the nominal hourly wage rate increased 1.96 percent for high-wage jobs during 2013, but just 1.48 percent for low-wage jobs.

Based on econometric analysis, GS has constructed a "wage tracker" measure from three data series: average hourly earnings for production and nonsupervisory workers, the employment cost index, and hourly compensation in the nonfarm business sector. GS's "wage tracker" is a derived aggregate measure of wage rate growth momentum. It has been relatively stable in the vicinity of 2.0 percent since the end of the Great Recession and has a recent value of 1.85 percent. To gain insight into where the "wage tracker" might be heading in coming months, GS correlated its past movements with data from three consumer and seven business surveys. The survey measures act as leading indicators. Based on its analysis, GS concluded that the "wage tracker" could move up to about 2.2 percent from

the recent 1.85 percent level over the next 12 months. This reflects a very modest tightening of the labor market.[8]

Because of uncertainty about how quickly the labor market is tightening, it will be important to continue to monitor trends in nominal wages. While the data are noisy from month to month, there is no clear indication of acceleration in wage growth. As was discussed in **Section VII**, personal and disposable income growth also show no clear signs of acceleration. Thus, 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.

25. Relationship Between Wage Growth and Various Measures of Labor Market Slack

Because the rate at which wages are growing is a good indicator of the degree of labor market slack, it is possible to work backwards to determine which measures of labor market slack best explain changes in wage rates over time.

GS conducted an econometric analysis to gain insight into how different measures of unemployment impact changes in wage rates.[9] There should be an inverse relationship between each of these measures and wage rate growth. The three measures of labor market slack included a short-term unemployment rate (those unemployed up to 26 weeks as a share of the labor force), the standard U-3 unemployment rate, and the sum of the standard U-3 unemployment rate and CBO's estimate of the participation gap.

GS found that the short-term unemployment rate, which has fallen recently, over-predicts wage rate growth. Adding the long-term (over 26 weeks) unemployment rate to the model improves the predictive power of the model in explaining changes in wage rates. The influence of the short-term unemployment rate on changes in wage rates is about twice as important as the impact of the long-term unemployment rate. (Note that the sum of the short-term and long-term unemployment rates equals the U-3 measure.)

[8]David Mericle. "US Daily: Watching for Faster Wage Growth," Goldman Sachs Research, January 28, 2014.

[9]David Mericle. "US Daily: What Does Wage Growth Tell Us About Labor Market Slack?" Goldman Sachs Research, February 5, 2014.

The model predicts an increase in wages over the next 12 months of between 2.1 and 2.4 percent. This result is consistent with the 2.2 percent in GS's "wage tracker" derived from survey measures. Both methodologies suggest an increase in the growth rate in wages of about 30 to 40 basis points over the next year.

Adding the participation gap as a separate variable does not improve the explanatory power of the model.

The takeaway point of GS's analysis is that tracking wage growth is a better indicator of labor market slack than various conventional measures of employment market slack and forecasts of wage growth are more dependable as leading indicators to use in determining the timing of changes in monetary policy than attempting to anticipate changes in the inflation rate, which do not appear to be particularly sensitive to changes in the wage rate in the short run.[10] *Sven Jari Stehn and Jan Hatzius. "Using Wages to Improve the Fed's Aim," Goldman Sachs US Economics Analyst, Issue No: 14/06, February 7, 2014.*

26. Expiration of Extended Unemployment Benefits

Extended unemployment benefits expired at the end of 2013. Although there was an attempt by the Senate to put this issue back on the table in early January, a subsequent attempt failed to receive the necessary 60 votes. Extension was not included in the 2014 budget package passed by both the U.S. House of Representatives and the Senate. For all intents and purposes, extension is now dead.

Discontinuation of extended unemployment benefits will probably push the participation rate down by an additional 0.1 percent as some of those who had been receiving unemployment benefits and thus were counted as unemployed will drop out of the labor force. Assuming that occurs, it would also push the unemployment rate down by as much as 0.16 percent, according to a GS analysis.

Income Inequality — Policy Proposals

[10]

President Obama in his 2014 State of the Union address, asked Congress to pass legislation introduced by Sen. Tom Harkin (D) of Iowa and Rep. George Miller (D) of California, which would raise the federal minimum wage from $7.25 per hour, where it has been stuck for years, to $10.10 in three steps over a two-year period and index it to inflation thereafter.

President Obama also announced that he would sign an executive order requiring these increases to be paid by federal contractors. So far in 2014, 13 states have raised the minimum wage.

27. Broad Public Support Exists for Raising the Minimum Wage

Americans overwhelming support the efficacy of a minimum wage. A recent Gallup poll indicated that 76 percent support raising the minimum wage to $9.00 per hour. This is not just a liberal issue — 57 percent of Republicans are supportive. Historically, surveys have indicated 60 to 70 percent support a minimum wage, but as income inequality has worsened, support has risen.

28. Congress Has Been Reluctant to Pass Legislation

In spite of broad public support, Congress has not given this issue serious attention. Why is that? Americans have a deep visceral commitment to "fairness" and an aversion to exploitation. Mandating a "living wage" through minimum wage legislation is viewed as a legitimate component of America's social contract. Based on these values and the broad bi-partisan support, one would think that Congress would have acted long ago.

Lobbyists, such as those representing the restaurant industry, are partially responsible for the lack of action. Politics may be involved as well. Democrats actively advocate raising the minimum wage as evidenced by Sen. Harkin's and Rep. Miller's sponsorship of the current legislation. Since this hasn't been an issue that Republicans have claimed as their own, there is little to nothing for them to gain politically by supporting legislation. Thus, there is little incentive for the Republican-controlled House of Representatives to consider minimum wage legislation.

29. Number of Workers Who Would Benefit From An Increase in the Federal Minimum Wage

There appears to be disagreement about how many workers would benefit from an increase in the federal minimum wage.

According to a B of A analysis of BLS data from the Occupational Employment Statistics Survey (OES), just 3.6 million workers were paid at or below the federal minimum wage in 2012, which was approximately 2.8 percent of the labor force. And of these, only 1.6 million workers were paid at the federal minimum, while the remaining 2.0 million were paid less than the minimum. This means that an increase in the federal minimum wage would benefit an even smaller percentage of the work force. The percentage of hourly paid workers potentially benefiting from an increase in the federal minimum wage is a slightly higher 5 percent if only hourly workers are considered. In addition, a large preponderance of hourly workers receiving the minimum wage is between the ages of 16 and 19. Few older workers are affected and many of those may be second wage earners in the household.

However, the Economic Policy Institute has estimated that passage of this legislation would benefit 30 million workers or about one out of every five participants in the labor force. Only 12 percent are teenagers; 43 percent have some college education, although some of these people most likely are second wage earners in a household. Over time those who would benefit from an increase in the minimum wage have grown older and more educated.

Part of the difference between the two analyses has to do how many workers are currently above the minimum wage, and thus are not counted in the BLS analysis, but would benefit from a sizable increase in the minimum wage. Obviously, a greater increase in the minimum wage could increase substantially the number of workers who would benefit.

B of A estimates that the average hourly wage rate would rise 0.33 percent and that assumes that all 3.6 million workers, rather than the 1.6 million actually paid at the federal minimum wage rate, would benefit. Although this seems trivial, the increase could be larger if more than 3.6 million workers are impacted, depending upon the size of the increase in the minimum wage.

Generally, studies indicate that small increases in the minimum wage have not had much impact on employment levels. However, some studies have found small negative impacts, such as a reduction in the number of teenagers pursuing education and an increase in teenagers who are neither employed nor in school, but other studies have not corroborated this finding.

However, large changes in the minimum wage seem more likely to have significant, and probably negative, impacts on employment levels. As described below, if the movement in Washington State to raise the minimum wage by more than 50 percent takes hold, in a few years' data analysts will be able to determine the consequences. Unfortunately, the absence of good analysis on the effects of large increases in the minimum wage is not available today, so policymakers are flying blind and are subject to emotional political pressures.

30. Proposed Washington State Legislation to Raise the State Minimum Wage to $15.00 Per Hour

Citizens of Sea-Tac, Washington passed a referendum late last year which raised the minimum wage for workers within the boundaries of the city to $15 per hour. Both the City of Seattle and the State of Washington are considering passing ordinances/legislation that would follow Sea-Tac's lead.

The minimum wage in the State of Washington is $9.32 per hour, which is considerably above the current federal minimum of $7.25. The hourly minimum wage in Washington is indexed to inflation and automatically adjusts each year.

Grant D. Forsyth, an economist at Avista Corporation, recently analyzed the BLS OES data for hourly food services workers in the Spokane, Washington metropolitan statistical area (MSA) and the Seattle-Bellevue-Everett, Washington MSA.

In both MSAs the current Washington State minimum wage covers approximately the bottom 10 percent of the wage distribution. An increase in the minimum wage would cover more than 75 percent of Seattle-Bellevue-Everett MSA food service workers and nearly 90 percent of Spokane MSA food service workers. Clearly, a large increase in the minimum wage would

have substantial impacts.

31. Economic Arguments Opposing Increasing the Minimum Wage

Economic purists argue that fixing a minimum wage interferes with natural market processes and could lead to fewer jobs. However, most studies of the impact of increases in the minimum wage rate show no significant effect on employment levels. It appears that wage increases typically get passed through to consumers through higher prices. If demand is price inelastic, which means that changes in prices have limited to no impact on demand, then employment would not decline. Other research shows that modest increases in the minimum wage lower turnover and vacancies and this reduces aggregate employment costs and boosts worker productivity, which collectively offset higher direct wage costs.

Even though research shows that increases in the minimum wage rate have little impact on employment, there is some risk that a patchwork approach at the state and local level could have some consequences on a regional basis. This risk can be mitigated through federal legislation. Then, to the extent that higher wages are passed along to consumers through higher prices, this would lift inflation. But, this could be a welcome development at this time because the inflation rate is well below the FOMC's long-term target level of 2 percent. More importantly, pulling up wages for lower income workers should boost consumption spending and reduce income inequality.

32. Arguments Favoring Increasing the Minimum Wage

Ron Unz, who is publisher of *The American Conservative*, is pouring a substantial amount of his personal wealth into a citizen initiative in California which would raise the minimum wage from $9.00 per hour to $10.00 in 2015 and further raise it to $12.00 in 2016. He cites many benefits.[11] For example, he argues that raising the minimum wage would help reduce government spending on social services. It would raise payroll tax revenues,

[11] Unz, Ron. *"Raising American Wages by ... Raising American Wages,"* New American Foundation, October 2012. Also, see Medina, Jennifer. *"Conservative Leads Effort to Raise Minimum Wage in California,"* The New York Times, November 25, 2013.

which would improve the long-term solvency of Social Security, Medicare, and other government entitlement programs. It would increase sales tax receipts by enabling higher consumption — the propensity to consume is high for low wage earners and declines as income rises.

33. Raising the Minimum Wage Rate Is An Inefficient Way to Deal With Income Inequality

Some analysts argue that policy should focus on raising the earned income tax credit (EITC) rather than the minimum wage because the EITC is available only to low-income households and incentivizes employment; whereas, the minimum wage would apply across the board, including benefiting second wage earners in high-income households that do not qualify for the EITC, and, arguably, who are not necessarily victims of income inequality at the household level.

One idea is to encourage firms to hire people at low wages, which might breach the minimum wage, and couple that with an expanded EITC for those individuals hired. This is an interesting idea but probably would be very hard to administer.

Others argue that the taxpayer funded EITC distorts markets by enabling employers to benefit by paying low wages. An expanded EITC would also result in reduced tax revenues since the EITC works not just as a tax credit but also as a tax rebate for those owing no federal taxes.

34. Alternatives That Would Be Effective For Job Creation and Improving Income Equality

Ideally, the objective of employment policy should be to increase labor force participation and income equality. The risk of focusing only on income equality is that it will reduce labor force participation especially among those at the bottom end of the income distribution.

One idea is to combine a government-provided wage subsidy with a lower minimum wage requirement that would cover hiring of long-term unemployed workers.

Another idea would be to adopt the German program of job sharing in which rather than laying off workers, all workers in a business work fewer hours and the government makes up the difference in reduced wages. This is an alternative to unemployment insurance and, like unemployment insurance, would be paid for by employers over the business cycle by contributing to an insurance fund. Germany's program has been highly effective in reducing unemployment volatility. It also weighs against the loss of skills and re-employment stigma that stems from long-term unemployment in the U.S.

Other ideas increasing participation and reducing unemployment faster include providing a cash bonus to people who find jobs and go off of unemployment, providing monthly rather than weekly unemployment benefits which would incent workers to accelerate job searches, and provide relocation subsidies.

While most of these proposals focus on increasing work force participation, a program to guarantee employment at a "decent wage" for anyone willing to work would address both the participation and income equality objectives. A job guarantee program could be run through the government or through non-profit institutions. Government already provides funds to many non-profit social service agencies that are frequently more efficient in delivering social services to the public than is possible through government. An increasing number of non-profit organizations are becoming social enterprises which are run with both a mission and a bottom-line focus.

A job guarantee program would be expensive, perhaps as much as one to two percent of GDP or about $175 to $350 billion annually and would increase federal government outlays by 5 to 10 percent. It would have to be paid for through higher taxes, but a good part of the cost would be covered naturally by higher tax revenues that would flow automatically from increased employment and income levels. A job guaranty program has been much discussed by liberals, but is not a favored approach among conservatives. Nonetheless, it seems an idea worthy of much more serious policy and economic analysis. People forget that the U.S. has engaged de facto in job guaranty programs in times of war. World War II, for example, resulted in full employment and enormous prosperity that was accompanied by rapid increases in the standard of living and a leveling of income inequality.

35. Concluding Comment

In summary, while as with most issues there is a plethora of views and opinions about raising the minimum wage rate. Although a higher minimum wage is likely to reduce income inequality to some extent, as explained in the ***November Longbrake Letter; Special Edition: Income Inequality***, the forces driving increasing income inequality are deep and broad and solutions to reverse this trend will need to be equally deep and broad and extend well beyond simply raising the minimum wage rate.

Business Activity

Business activity is positive but is also indicative of a weak economy. Business investment continues to be lackluster. But, manufacturing continues to be a strong contributor to economic growth.

36. Recent Developments

Manufacturing had been strong for many months but forward momentum appears to have slowed sharply in January. The **ISM Manufacturing Index** dropped to 51.3 in January from 56.5 in December. Values of this index above 50 mean that manufacturing activity is expanding. Production fell from 61.7 to 54.8; new orders collapsed from 64.4 to 51.2; inventories declined from 47.0 to 44.0; and employment worsened to 52.3 from 55.8. Some of the weakness in the January report was attributed to severe weather conditions. Some regard an alternative index provided by Markit Economic Research as a more reliable indicator of manufacturing strength than the ISM index. The Markit index did not experience the same sharp increase as the ISM index over the last few months of 2013 and did not turn down nearly as much in January. This suggests that the apparent softening in manufacturing could be overstated and thus not a particularly material development.

In contrast, the **ISM Non-Manufacturing Index** rose to 56.6 in January from 53.0 in December.

Small business optimism **(NFIB — National Federation of Independent Business)** improved slightly to 94.1 in January from 93.9 in December, but remains below the recent peak of 94.4 reached in May 2013.

This measure remains at an historically depressed level. A bright spot in this survey was the improvement in hiring plans from 8 to 12, bringing this measure to its highest level since the onset of the Great Recession. The percentage of small businesses planning to boost compensation continues to rise, but still is short of the level that prevailed prior to the Great Recession. A high percentage of small businesses continue to complain about lack of qualified candidates for job openings, providing some evidence of the contribution of labor skill mismatches to high unemployment.

GSAI (Goldman Sachs Activity Index) fell to a still relatively strong 57.0 in January from a very strong level of 64.0 in December. As is the case for the ISM index, a value above 50 connotes business expansion. The employment index, which had registered sub-50 readings for several months, moved to a modest expansionary level of 51.3 in November, then surged to 58.6 in December, but fell back to a contractionary 47.8 in January.

37. Shortfall in Business Investment Spending and Low Productivity

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. However, the inflation-adjusted rate of change in capital spending has been declining steadily and is near zero. Cash is being 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, mismeasurement, 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 remains extremely weak. In the case of private investment spending the depressed risk-adjusted rate of return on capital incents firms to deploy cash in financial engineering, which returns capital to investors, rather than pursue new capital projects. The shortfall of public investment is simply the result of budget deficit anxiety and significant cutbacks in government spending.

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

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

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

It may turn out that quantitative easing, which is intended to accelerate economic recovery, has contributed in a meaningful way to a sustained lower potential rate of real GDP growth by discouraging investment necessary to boost productivity. So, although FOMC officials may not understand why the long-run potential rate of growth is declining, they have acknowledged the reality by steadily reducing the median of the central tendency range of long-term real GDP projections from 2.7 percent in January, 2011 to 2.15 percent at the December, 2013 meeting (see **Table 7**). 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.

Note that Larry Summer's discussion of secular stagnation (see the ***December Longbrake Letter***) focused on the long-term consequences of persistent negative real rates of interest. He explained the issue of a depressed long-term rate of growth by arguing that when the zero bound is binding, monetary policy is unable to lower interest rates enough to achieve positive real rates, which are necessary to induce investment. This is essentially the same logic as summarized above. Summers' solution is for the government to engage in massive infrastructure investment spending because there is no way that the private sector will engage in significant investment spending as long as the real rate of interest is negative.

Monetary Policy, Inflation and Interest Rates

The FOMC met on January 28 and 29. Unlike its December meeting when it surprised the markets by initiating tapering of large scale asset purchases, it did exactly what the market expected by announcing a further $10 billion per month decrease in asset purchases to $65 billion, divided equally between U.S. Treasury securities and mortgage backed securities.

38. FOMC Assessment of the Economic Outlook

Overall the FOMC seems pleased with the performance of the U.S. economy. Growth "*picked up in recent quarters*," which is consistent with the expectation in the December FOMC meeting statement that "*economic growth will pick up from its recent pace.*" However, it tempered its outlook a bit in the January statement by saying "*economic activity will expand at a moderate*

pace." This can be interpreted that the FOMC expects growth to remain above trend but will be a bit slower than the strong finish to 2014.

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.

39. FOMC Policy Statement

Other than decreasing asset purchases by another $10 billion monthly to $65 billion, there was no explicit policy statement about the timing or amount of further decreases in large scale asset purchases. The FOMC policy statement reiterated the following guidance originally contained in the December policy statement: "*If incoming information broadly supports the Committee's expectation of ongoing improvement in labor market conditions and inflation moving back toward its longer-run objective, the Committee will likely reduce the pace of asset purchases in further measured steps at future meetings. However, asset purchases are not on a preset course, and the Committee's decisions about their pace will remain contingent on the Committee's outlook for the labor market and inflation as well as its assessment of the likely efficacy and costs of such purchases.*"

Notwithstanding the cautions strongly articulated in the second sentence, most market observers expect the FOMC to reduce asset purchases by an additional $10 billion per month at each meeting during 2014. That would result in the end of quantitative easing by the end of the year. There is a sense that FOMC members are eager to put quantitative easing behind them. The benefits have been ambiguous and the political consequences have not been trivial. Based on this view, many market participants expect deviation from a "measured pace" of tapering only if the economy slows or accelerates materially. A further fall in inflation, which no one expects, would also probably lead to a slowdown in the pace of tapering.

40. Separation Principle and Forward Guidance

It finally appears that the FOMC has made some headway in convincing market participants that tapering of quantitative easing and raising the

federal funds rate are not linked policies. This is known as the Separation Principle.

The FOMC December policy statement, which was repeated word for word in the January statement, went to great lengths to emphasize this separation by adding the following language: "*In determining how long to maintain a highly accommodative stance of monetary policy the Committee will also consider other information, including additional measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial developments. The Committee now anticipates, based on its assessment of these factors, that it likely will be appropriate to maintain the current target range for the federal funds rate well past the time that the unemployment rate declines below 6-1/2 percent, especially if projected inflation continues to run below the Committee's 2 percent longer-run goal.*"

Although the 6.5 percent unemployment rate guideline remains in the policy statement, the FOMC rejected lowering it and chose, rather, to qualify its importance as a guideline with a lot of conditional language. So ends the FOMC's experiment with a quantitative measure of unemployment as a policy guideline. In effect, although the 6.5 percent guidepost remains, it is now irrelevant in gaging timing of future policy actions.

Also, the FOMC chose not to include any explicit alternative forward guidance language. This means that we are back to the days of old when market participants speculated about the FOMC's reaction function and hung on every comment made by a member of the FOMC, particularly, of course, comments made by the Chairman. In this sense monetary policy has become less transparent and this may lead to increased market volatility.

As the unemployment rate moves below 6.5 percent, it will be important for the FOMC to revamp its approach to forward guidance. Unfortunately, there is no easy formulaic approach. On the one hand the FOMC wants rates to remain low as long as unemployment is above and inflation is below their targets. However, on the other hand, the FOMC does not want to lock itself in arbitrarily to rules based on flawed measures, partly because it wishes to reserve flexibility to respond to significant changes in the economic environment, but partly also because it doesn't want to encourage risk taking that could create financial stability risks.

The great debate about the extent to which discouraged workers have depressed the U-3 unemployment rate is indicative of the unreliability of simple quantitative measures in guiding policy. The challenge the FOMC faces is communicating forward guidance in a way that maintains financial market credibility but does not surrender flexibility to respond to significant changes in economic developments or foster incipient financial instability. The recent taper tantrum has reminded the FOMC how easily markets can misinterpret poorly communicated policy guidance.

During the five-year period the FOMC has pursued a zero interest rate policy (ZIRP) it has experimented with three types of forward guidance — qualitative, calendar-based, and a measure-based threshold. The two latter forms of forward guidance have been effective in anchoring the short-end of the yield curve but less effective with respect to long-term rates. But, the usefulness of the measure-based threshold has come to an end and there is no apparent appetite to try to come up with a better threshold measure, probably because no one really thinks that is possible any longer.

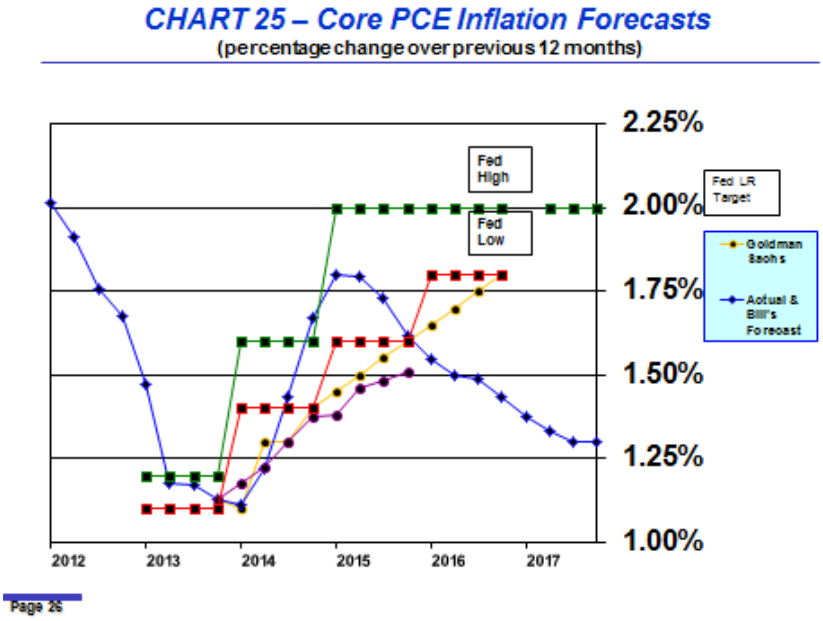
What all of this means is that the FOMC has now come full circle and is back to where it began five years ago. Forward guidance will need to be qualitative. One possible qualitative approach suggested by Krishna Guha of ISI is a so-called "inertial approach" to monetary policy. As he puts it, such a policy involves "*a commitment to respond less than normal to the expected strengthening in the macro and price data, smoothing the adjustment in the policy stance and staying deliberately behind the curve for a period for traditional zero bound risk-management purposes.*"

If the FOMC chooses to follow Guha's advice, it will need to revamp its policy statement and supplement it with speeches and congressional testimony that provide the context for how to interpret the qualitative guidance contained in the policy statement. Relevant topics include, but are not limited to, prospects for potential GDP, trade-offs between inflation and employment stabilization, trade-offs between macroeconomic management and financial stability risks, pace of adjustment, and the long-run "natural rate" of interest. Such an approach assumes market participants are rational and can process intricate information and discern complex relationships. However, as the taper tantrum illustrated, markets can feed on a set of beliefs that are out of sync with underlying fundamental analysis and that are at odds with explicit guidance from policymakers.

My own sense is that the FOMC will muddle along as best it can by providing qualitative guidance but that guidance will be fraught with uncertainty and will not guaranty the kinds of market responses the FOMC ideally would like.

41. Prospects for PCE Inflation

Core PCE inflation was 1.16 percent in December and total PCE inflation was 1.07 percent (see **Chart 25**). Compared to core PCE inflation, total PCE inflation is much more volatile and has been negative for short periods of time in the past. For that reason the FOMC prefers to focus policy deliberations on the core PCE inflation measure.



Core PCE inflation 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.

As can be seen in **Table10** (**Chart 25** shows historical core PCE price

index data and data from **Table 10** 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 1.3 to 1.7 percent, which is consistent with the FOMC's 2014 central tendency projection range. All 2015 forecasts track the lower end of the FOMC's projection range of 1.4 to 1.6 percent. My 2016 core PCE inflation forecasts are slightly below GS's forecast and the FOMC projection range. In all cases inflation edges up gradually, but remains below the FOMC's 2.0 percent long-run guideline. Since inflation risks appear benign, this suggests that the FOMC will not be in any hurry to raise the federal funds rate.

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

Core CPE	**2013**	**2014**	**2015**	**2016**	**2017**
B of A	1.1	1.3	1.5		
GS	1.1	1.4	1.6	1.8	
Bill's Steady Growth	1.1	1.7	1.6	1.4	1.3
Bill's Strong Growth	1.1	1.7	1.6	1.5	1.4
FOMC — High	1.2	1.6	2.0	2.0	
FOMC — Low	1.1	1.4	1.6	1.8	

*Inflation rates are quarterly averages; thus, the fourth quarter 2013 average was 1.13 percent, which rounds to 1.1 percent, while the December rate was 1.16 percent, which rounds to 1.2 percent.

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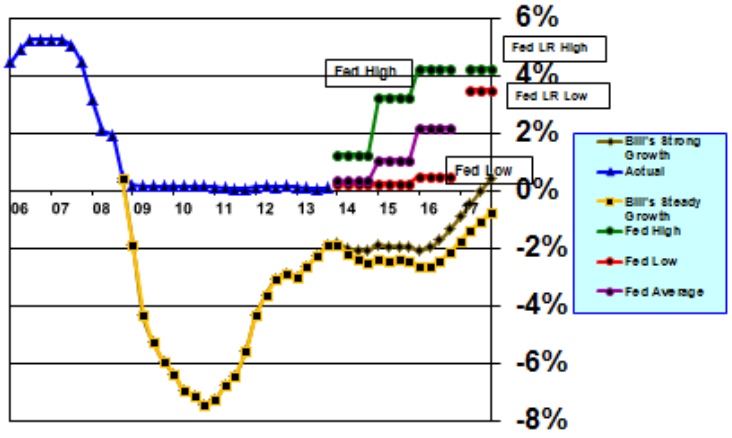
42. Federal Funds Rate

Chart 26 shows the FOMC's central tendency range for high and low projections for the federal funds rate for 2013, 2014, 2015, and 2016. The purple line (circles) is the average of projections for the current 17 FOMC members (5 governors and 12 presidents). The projections imply that the first

increase in the federal funds rate will take place during 2015. However, the median expected federal funds rate is only 0.75 percent by the end of 2015 — the average is skewed to a higher 1.06 percent by three high estimates.

CHART 26 – Federal Funds Rate Forecast



Page 27

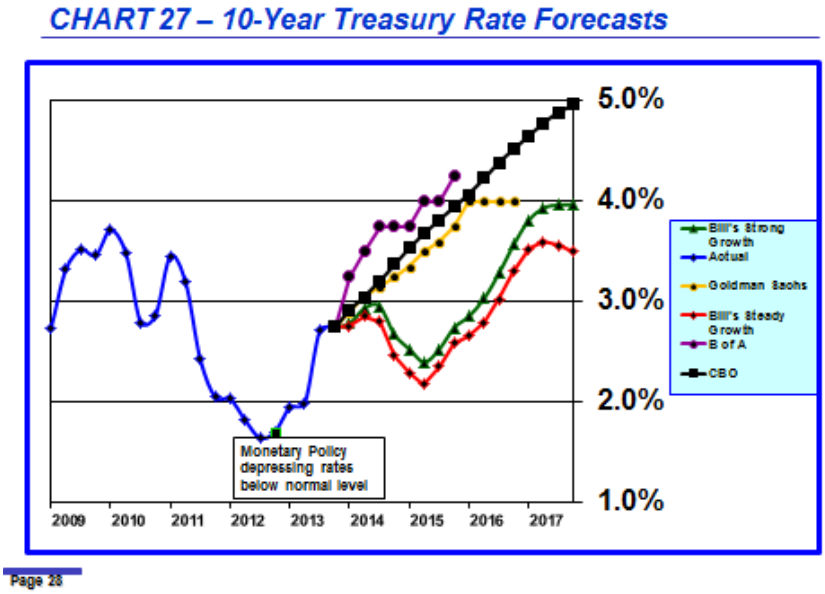
Both B of A and GS do not expect the first federal funds rate increase to occur until early 2016. The New York Federal Reserve's primary dealer survey indicates that the median expectation is that the first increase in the federal funds rate will occur in the third quarter of 2015.

My "***Steady Growth***" and "***Strong Growth***" forecasts are shown by the yellow line (squares) and brown line (diamonds). My "***Steady Growth***" forecast indicates that the federal funds rate is not likely to increase until after 2017. In my "***Strong Growth***" forecast, the first increase in the federal funds rate occurs during 2017. My projections assume that the employment gap remains high for an extended period of time 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 will begin raising the federal funds rate

well before my forecast dates of 2017 or later.

43. 10-Year Treasury Rate

Chart 27 shows forecasts for the 10-year Treasury rate for my "***Steady Growth***" (purple line and diamonds) and "***Strong Growth***" (red line and triangles) scenarios. GS's forecast is also shown (yellow line and circles). Also included are forecasts from GS, B of A, and CBO.



As can be seen in **Chart 27**, my 10-year forecast for the "***Steady Growth***" scenario remains near its recent level of 2.75 percent for most of 2014. The rate could fall some during 2015, but given statistical forecasting confidence intervals a reasonable interpretation would be that upward pressure on long term rates does not take hold until 2016. But even then the upward movement in the 10-year rate is limited to approximately 3.50 percent by the end of 2017. The forecast for the "***Strong Growth***" scenario tracks the pattern of the forecast for the "***Steady Growth***" scenario but rises a little faster reaching 4.00 percent by late 2017.

In contrast, 10-year rates in the other forecasts rise a little sooner and a little faster. GS's forecast does not decline, but rises only about 50 basis points to 3.25 percent by the end of 2014 and rises a further 50 basis points to 3.75 percent by the end of 2015 and reaches 4.00 percent by the end of 2016. B of A expects the 10-year rate to rise a little sooner and a little more, reaching 4.25 percent by the end of 2015. CBO forecasts a steady rise to 5.0 percent by the end of 2017, but after 2017 the 10-year rate remains at 5.0 percent in CBO's projections.

What is important to note is that none of these forecasts indicates a surge in the 10-year rate. My sense is that the forecasts of others have a built in upward bias based on historical experience. If one stops and thinks for a moment, a CBO long-term inflation rate of 2.0 percent and a long-term interest rate of 5.0 percent implies a 3.0 percent real rate of interest, which would be considerably higher than the historical average. This suggests that either CBO's interest-rate forecast is too high or its inflation forecast is too low. My own analysis suggests that it is the interest-rate forecast that is too high. To the extent this turns out to be the case, it would mean that CBO's estimates of future budget deficits are inflated by too-high assumptions for interest expense on the debt.

Fiscal Policy Developments

With the passage of a 2014 fiscal year budget and suspension of the federal debt ceiling until March 16, 2015, there are no further fiscal issues of consequence facing Congress until the end of the fiscal year in September. By that time, Congress will either need to pass a fiscal year 2015 budget or a continuing resolution. At the moment that task does not appear particularly daunting because Congress already agreed, when it passed the Bipartisan Budget Act in December 2013, upon spending limits for fiscal year 2015. Of course, budgetary details would still need to be worked out.

In addition, 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, there will not be serious pressure on Congress to deal with entitlement spending reforms for another five years. Of course, it would be good policy to deal with long-term budgetary issues long before the eruption of crisis forces them to be addressed. But the issues are difficult and the proposed solutions are highly politically charged, which prompts a "kick the

can down the road" default strategy on the part of politicians.

44. Debt Ceiling

There is no longer a debt ceiling. The way in which Congress has been dealing with debt issuance is simply to reimpose a ceiling at a future date. The amount of the ceiling at that date is calculated as the sum of debt already issued at the time the ceiling was suspended plus all additional debt issued between the time of suspension and reimposition of the ceiling.

When March 16, 2015 arrives, Treasury will no longer be able to issue net new debt. However, because the deficit is falling and the Treasury has a variety of methods available to continue funding expenditures, the effective deadline to raise or suspend the debt ceiling is not likely to occur until the fourth quarter of 2015.

By following this methodology, Congress has given up trying to use the debt ceiling as a political lever to engineer action on other issues.

45. Tax Extenders and Medicare Physician Reimbursements

Various tax breaks (called tax extenders) and Medicare physician reimbursements expired at the end of 2013. There is a high probability that Congress will eventually vote to extend most of these provisions. The price tag would be approximately $950 billion over ten years. Dealing with these issues has been slowed down by Sen. Max Baucus's presidential appointment and Senate confirmation to be the U.S. ambassador to China. Baucus had been chairman of the Senate Finance Committee, which is responsible for all tax legislation. Ron Wyden, U.S. Senator from Oregon, has now assumed leadership of the Senate Finance Committee and is likely to continue where Baucus left off.

46. 2014 Legislative Agenda

President Obama set forth several legislative priorities for Congress in his State of the Union Address.

Immigration. This issue was discussed in **Section III**. Eventual passage of legislation seems probable because there is broad bipartisan interest in the issue. However, lack of consensus on specific issues and mid-term congressional elections in November may delay passage of legislation until 2015.

Comprehensive Tax Reform. The issue of comprehensive tax reform has been on the table since the Simpson-Bowles Commission made its report. Sen. Baucus had initiated a systematic legislative review of key issues. Momentum is likely to continue under the leadership of Sen. Wyden, the new Chairman of the Senate Finance Committee. No action is expected in 2014, but prospects for some kind of reform appear to be favorable in the longer run.

Extended Unemployment Compensation. The Senate failed to muster the necessary 60-vote super majority to move this legislation forward. It currently appears that no action will occur on this priority.

Federal Minimum Wage. Hiking the minimum wage is popular and local referenda to raise the minimum wage always pass. President Obama has proposed that the federal minimum wage be raised in steps from the current $7.20 per hour to $10.10 per hour in 2016. Eventual passage of legislation seems likely, but the Republican-controlled House of Representatives may delay action because Republicans have little to gain politically. This legislative priority was discussed in **Section IX**.

Earned Income Tax Credit (EITC). The EITC is already a standard provision of the tax code. The issue at hand is to increase the benefits to low-income persons with families to incent them to seek employment. This would increase labor force participation. In addition, it would be a more efficient means of dealing with income inequality than raising the minimum wage, as explained in **Section IX**. However, to the extent that an expanded EITC effectively raises wages at taxpayer expense, it takes pressures off businesses to do so. In effect, it is also a subsidy to businesses. There is also the matter of how an increase in the cost of the EITC should be paid for, although an argument can be made that at least part of the cost can be recovered through increased tax revenues that stem from higher employment and greater consumer spending.

Trade Promotion Authority. There are two pending treaties — one

covering Pacific nations and one covering Europe — which, under the Constitution, require Senate approval. Generally, there is broad political support for removing impediments to trade. However, there is always an undercurrent about the possible loss of U.S. jobs to foreign countries and there are political considerations involving holding foreign countries accountable to high environmental and worker rights standards. This makes it difficult for the Administration to negotiate treaties with foreign nations with any assurance that the Senate will approve the treaties. For this reason, presidents have sought, and sometimes received, "fast track" authority which limits Senate action to a simple "yes" or "no" vote on a treaty the Administration negotiates. To date, the Senate has been unwilling to grant the President "fast track" authority on the two treaties in question.

Infrastructure Investment. Current infrastructure funding legislation, particularly for transportation, expires at the end of fiscal year 2014. Increased infrastructure spending is essential in the long-term to boost productivity and economic growth. Unfortunately, in an era of spending caps there are no significant funding mechanisms available to enable increased infrastructure spending. Even simple extension of existing funding authority may prove difficult.

Housing Finance Reform. Replacement of Fannie Mae and Freddie Mac with a new federal housing finance structure was endorsed by the President which would "put private capital at the center of the housing finance system." However, a myriad of issues have blocked and will continue to block enactment of housing finance reform legislation. At the moment Fannie and Freddie are enormously profitable. This has contributed to the more rapid than expected decline in the budget deficit, amounting to an estimated $88 billion in fiscal 2014. But, profits from these companies also provide sources of funding for other proposed expenditure programs. There are also mounting legal issues concerning private capital confiscation by the government as Fannie and Freddie reach the point at which government bailout funds have been repaid fully.

Federal Data Breach. Data breaches have become endemic. The recent loss of 40 million customer credit records by Target has focused public attention. According to the Privacy Rights Clearinghouse there have been 4,100 data breaches involving 660 million records over the last ten years. Legislation is needed to establish data breach customer notification stan-

dards and also for setting standards for companies' handling of sensitive customer data. Federal legislation seems increasingly probable and likely would set minimum federal standards, while leaving discretion to states to enact stricter standards. Companies that operate on a multi-state basis would prefer federal standards to pre-empt state standards, but such an outcome seems unlikely. Legislation will also probably increase regulatory enforcement powers for the Federal Trade Commission and possibly for the Consumer Financial Protection Bureau.

47. Federal Budget Deficit

On February 4, 2014, CBO released revised budget deficit projections for the next ten years covering calendar years from 2014 through 2024. In aggregate the projected budget deficit for the period 2014-2023 rose $1.0 trillion compared to CBO's projection made a year ago, but the increase is actually closer to $1.4 trillion on an "apples-to-apples" comparative basis. When the projection is extrapolated for the addition of 2024, the Committee for a Responsible Federal Budget estimates that the increase in the full ten-year budget deficit is $1.4 trillion and $1.7 trillion on an "apples-to-apples" basis.

Most of the increase in the accumulated deficit is due to CBO's reduction in expected GDP growth, which includes CBO's now much higher estimated decline in the employment participation rate due largely to revised estimates of 2.0 to 2.5 million workers who will exit the labor force over the next ten years because of the Affordable Care Act compared to its much lower previous estimate of 800,000. Slower overall economic growth has reduced its estimates of future revenues by $1.5 trillion. This is offset to a minor extent by reductions in the estimate of the long-term costs of the Affordable Care Act.

CBO is required to make budget projections on the basis of current law. This means that $950 billion in the cost of tax extenders and Medicare physician reimbursements are not included in the deficit projections. If these tax provisions are extended without revenue offsets, then the projected deficit would rise by more than this amount as additional interest on the outstanding stock of debt would have to be added.

There are some other considerations that will affect the long-run deficit projections. CBO does not account for Fannie and Freddie in making its projections in the same way that the Treasury calculates the budget deficit. CBO reduced its estimate of the fiscal year 2014 budget deficit by $88 billion to bring it in line with Treasury's reporting methodology. CBO's interest rate assumptions may be too high, which would cause deficit projections to be too high. CBO assumes federal spending will rise at a 4 percent annual rate, which seems high given spending caps and low inflation. Overseas military spending also appears to be on the high side given developing trends in U.S. global military engagement. Cutting in the other direction, CBO's estimate of potential growth may not be pessimistic enough, in which case deficits would end up being higher.

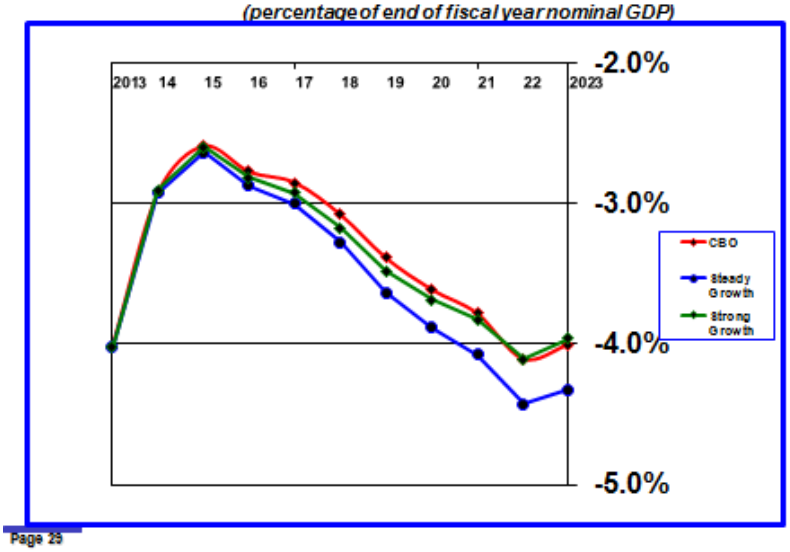
It should be noted that GS's detailed analysis of CBO's deficit projections for the next three fiscal years, which involves a number of adjustments, pretty much ends up at the approximately the same deficit estimate as CBO expects in each year.

Chart 28 shows the projected annual federal budget deficit as a percentage of end of fiscal year nominal GDP for CBO and my "***Steady Growth***" and "***Strong Growth***" scenarios. The slow deterioration in the budget deficit beginning in fiscal year 2016 is the result of an aging population which drives up entitlement spending.

Chart 29 shows the ratio of federal debt held by the public as a percentage of nominal GDP for the same three scenarios. "***Strong growth***" leads to a small decline in the public-debt-to-GDP ratio. This, of course, assumes that current revenue and spending policies remain unchanged. "***Steady growth***" results in a steady increase in the public-debt-to-GDP ratio. CBO's estimate of the public-debt-to-GDP ratio declines initially as deficits shrink and revenue growth accelerates. However, beginning in 2018 CBO's current law projections result in a rapid increase in the public-debt-to-GDP ratio.

CHART 28 – Annual Federal Budget Deficit

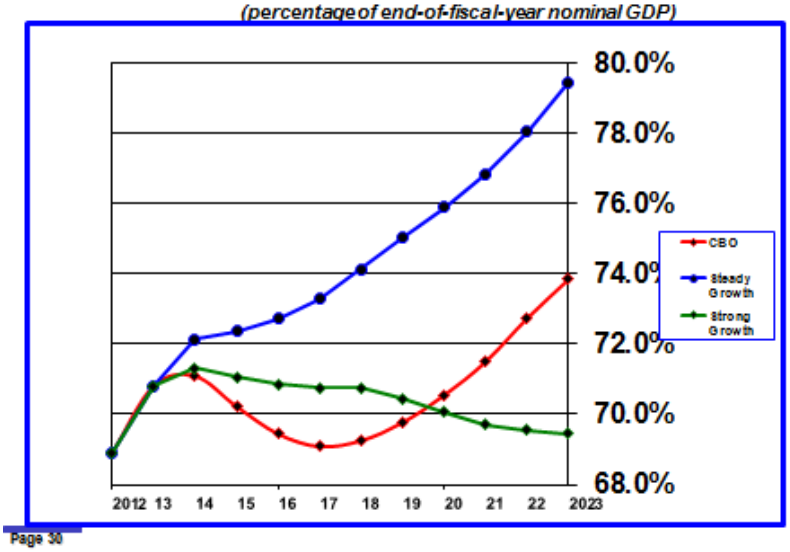
(percentage of end of fiscal year nominal GDP)



Page 29

CHART 29 – Publicly Held Federal Debt

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



Page 30

IV. 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 risen to 2.7% to 3.2%; I remain comfortable with Y/Y growth near the bottom end of the original forecast range*

     ✓ *? no data for 2014 will be available until late April*

   - ***Real GDP output gap*** will remain very high, but will close a little faster during 2014 (I intend to supply numerical estimates once CBO updates its GDP gap analysis).

     ✓ *CBO updated its output gap analysis on February 4, 2014; 2013 Q4 gap was 4.06%; projected 2014 Q4 gap is 3.21%; I expect actual results to be close to CBO's projected gap*

     ✓ *? no data for 2014 will be available until late April*

   - ***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

✓ *CBO expects 2014 potential growth to be 1.7%; my estimate remains slightly lower*

coming years to between 2.1% and 2.4%.

- ***Productivity*** should rise as growth improves and investment increases, but should still fall well short of the historical 2.1% average.

  ✓ *? no data for 2014 will be available until late April*

- ***Employment*** should grow about 190,000 per month in 2014, about the same as in 2013.

  ✓ *- employment grew 113,000 in January*

- ***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.

  ✓ *+ preliminary January data are supportive*

- ***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 6.6% in January and will probably decrease substantially below 6.5% by the end of the year*

  ✓ *+ the discouraged worker phenomenon appears to be increasing but is hard to measure*

- ***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

  ✓ *? no 2014 data as of yet, but projection remains reasonable*

  Q4/Q4 growth rate should be a much higher 2.9%.

- ***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).

✓ *? no 2014 data as of yet, but projection remains reasonable*

- ***Household personal saving rate*** will decline slightly as growth in spending exceeds growth in disposable income.

  ✓ *? no 2014 data as of yet; however, the saving rate declined sharply during the last three months of 2013*

- ***Stock prices***, as measured by the S&P 500 average, should rise about 5%.

  ✓ *? through February 14th, S&P 500 average is down 0.5% year to date*

- ***Manufacturing*** growth will continue to be relatively strong and the PMI index will exceed 50.

  ✓ *+ January ISM index was above 50*

- ***Business investment*** spending growth should improve to about 5 to 6% as employment and consumer spending growth gathers momentum.

  ✓ *? no 2014 data will be available until April*

- ***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%.

  ✓ *? no data 2014 are available yet; outlook remains reasonable*

- ***Residential housing prices*** should rise about 5% in 2014, more slowly than 2013's 10% increase.

  ✓ *? no data for 2014 are available yet*

- ***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.

  ✓ *? no trade data for 2014 have been reported yet*

  ✓ *- the value of the dollar rose about 1.1% in January*

- ***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 end of 2014*

  ✓ *? the FOMC provided some additional forward guidance that undercut the important of the 6.5% unemployment threshold, but has more work to do*

- ***Inflation*** will rise slightly in 2014 but will remain well below the FOMC's 2% objective at least through 2016.

  ✓ *? no data for 2014 are available yet*

- ***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 is near the lower end of the expected range*

- ***Fiscal policy*** will be significantly less contractionary in 2014, decreasing real GDP growth by about -0.4%; the **federal *budget deficit*** will decline to 3.0% by the end of 2014.

  ✓ *+ federal budget deficit is on track to decline to 3.0% or slightly less 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.

  ✓ *? no data for 2014 are available yet; however, growth appears to be moderately slower than 3.5%*

- ***European growth*** will be positive but will fall short of the ECB's forecast of 1.1%.

  ✓ *? no data for 2014 are available yet; 2013 Q4 euro area growth was 0.3%, which is consistent with an annual growth rate of 1.2%*

- ***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*

- ***European banking union*** will do little to solve deep-seated European and Eurozone structural problems; ECB stress tests will contribute to slow credit expansion.

  ✓ *+ no new action has occurred*

- ***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, Eurosceptic parties appear to be gaining momentum*

- ***U.K. growth*** will continue to be robust as the housing and debt bubble continue to build.

  ✓ *+ early reports indicate that U.K. growth is getting stronger*

- ***China's GDP growth*** will slow below 7% as economic reforms are implemented.

  ✓ *? no 2014 data are available yet*

- ***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, but so far so good*

- ***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; 2014 Q4 GDP 1.0 percent annual rate of growth was a much slower 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

  ✓ *+ emerging markets countries with large balance of payments deficits are already under severe pressure that will stunt 2014 growth*

  countries with large balance of payments deficits.

3. **Risks** — stated in the negative, but each risk could go in a positive direction. "+" means risk not realized; "-" means risk realized

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

✓ +

- ***U.S. employment growth*** is slower than expected; the ***participation rate*** continues to decline

  ✓ +

- ***US. Unemployment rate*** falls less than expected

  ✓ +

- ***U.S. productivity*** does not improve

  ✓ +

- ***Real U.S. consumer income and spending*** increase less than expected

  ✓ +

- ***U.S. financial asset prices*** rise more than expected posing increased bubble risks

  ✓ +

- ***Growth in U.S. residential housing investment and housing starts*** is less than expected

  ✓ +

- ***U.S. residential housing price increases*** slow more than expected

  ✓ +

- ***U.S. private business investment*** does not improve as much as expected

  ✓ +

- ***U.S. manufacturing growth*** slows

  ✓ +

- ***U.S. trade deficit*** widens and the ***value of the dollar*** falls

  ✓ +

- ***U.S. monetary policy*** spawns financial market uncertainty and contributes to financial instability

  ✓ +

- ***U.S. inflation*** *falls, rather than rising, and threatens deflation*

  ✓ +

- ***U.S. interest rates*** rise more than expected

  ✓ +
- ***U.S. fiscal policy*** is more restrictive than expected and the ***budget deficit*** falls more than expected

  ✓ +
- ***U.S. state and local spending*** does not rise as fast as expected

  ✓ +
- ***Global GDP growth*** does not rise as fast as expected

  ✓ +
- ***Europe*** slips back into recession

  ✓ +
- ***Europe*** — financial market turmoil reemerges

  ✓ +
- ***Europe*** — political instability and social unrest rises more than expected threatening survival of the Eurozone and the European Union

  ✓ +
- ***U.K. growth*** falters as housing bubble collapses

  ✓ +
- ***Chinese*** leaders have difficulty implementing ***economic reforms***

  ✓ +
- ***China's growth*** slows more than expected

  ✓ +
- ***Japan*** — markets lose faith in Abenomics

  ✓ +
- Severe and, of course, unexpected ***natural disasters*** occur, which negatively impact global growth

  ✓ +
- ***Middle East oil supply*** is disrupted and oil prices rise sharply

  ✓ +

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