



The Longbrake Letter*

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In this month's letter, I provide an overview of prospects for the U.S. and global economies, particularly for 2014, but also longer term. **Section I** summarizes the economic outlook for the U.S. in 2014, which should be better than in the year just concluding. Risks, both positive and negative, to the U.S. and global economies are covered in **Section II**. **Section III** contains a reprise of why U.S. real GDP is likely to continue to fall short of the historical trend level and why growth rates are likely to be disappointing. In **Section IV** I explore three possible long run economic scenarios — steady growth, strong growth, and stagnation.

Recent developments are summarized for **GDP** in **Section V**, **Consumer Income and Spending** in **Section VI**, **Employment** in **Section VII**, **Business Activity** in **Section VIII**, **Monetary Policy, Inflation, and Interest Rates** in **Section IX**, and **Fiscal Policy Developments** in **Section X**. **Sections XI, XII, and XIII** contain observations about developments in **Europe, China, and Japan**.

I. Economic Outlook for 2014 — U.S. Economic Fundamentals Should Improve More Rapidly in 2014, But Return to Full Potential Will Take Much Longer

It has been four and a half years since the official end of the Great Recession. Following all other recessions since the end of World War II, after four and a half years the economy was operating near or above potential. As we come to the end of 2013, even as there is growing optimism that the U.S. economy

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will improve more rapidly in 2014, there is still a long ways to go to achieve full potential. This policy objective will not be achieved in 2014 or 2015.

Although U.S. payroll employment rose 2.1 million over the first eleven months of 2013 and is growing at a 1.7 percent annual rate, payroll employment is 1.3 million below and household employment is 2.0 million below the pre-Great Recession peaks reached in January 2008. By comparison, payroll employment four and a half years after the severe 1980-82 double dip recessions was 11 percent above the pre-recession level.

Unemployment during 2013 has fallen from 7.85 percent to 7.02 percent and is closing in on the Congressional Budget Office's (CBO) full-employment estimate of 5.5 percent. That is the good news. But the official unemployment rate understates the extent of labor market weakness.

For example, the ratio of those employed to those eligible to be employed (employment-to-population ratio) did not improve during 2013. That ratio was .586 at the beginning of the year and remained at .586 in November. What this means is that all the job creation during 2013 has been just sufficient to absorb the natural increase in those eligible for employment. This ratio was .629 at the beginning of the Great Recession. There would be 10.8 million more people employed today, if the employment-to-population ratio had not declined.¹

What has happened to these 10.8 million people? They fall into four categories: (1) those officially counted as unemployed by the Bureau of labor Statistics (BLS); (2) those who have dropped out of the labor force permanently as a natural result of demographic trends, such as the aging of the baby boom and delayed entry because of pursuit of higher education; (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); and (4) discouraged workers, who have employable skills, but simply have given up trying to look for work. **Table 1** shows the composition of reduced employment as of November 2013.

According to my statistical analysis, demographic trends are reducing the participation rate by 0.23 percent annually. This is similar to GS's

¹The unemployment rate at the beginning of the Great Recession was 5.0 percent. If the natural rate of unemployment is 5.5 percent as CBO suggests, then the number of jobs that has disappeared is 10.0 million.

Table 1
Composition of Reduced Household Employment in November
2013 Compared to January 2008 When Unemployment Rate
Was 5.0%
(in millions)

Category	Number	Comment
Increase in Number Unemployed as Reported by BLS	2.76	Assumes a 5.0% unemp. rate; 1.98 for 5.5% unemp. rate
Decrease Due to Demographic Trends	3.33	Bill's estimate
Increase in Structural Unemployment	2.22	Residual of other estimates
Number of Discouraged Workers	2.46	Bill's estimate
TOTAL	10.77	9.99 assuming 5.5% unemp. rate

estimated annual rate of decline of 0.25 percent. This amounts to about 570,000 annually or 3.3 million over the last six years.

What all of this means is that the U.S. economy is simply smaller today than it would have been had the employment-to-population ratio not declined. The issue confronting policymakers is what the employment-to-population ratio would be, if jobs existed for those willing and qualified to work. The number of additional jobs required to return the economy to full employment ranges between 5.22 (4.44 million, if the full employment unemployment rate is 5.5 percent) and 7.44 million, depending upon whether any of the structurally unemployed people could ever expect to become reemployed. The number of jobs needed could be less than 5.22 (or 4.44) million, if some of the discouraged workers actually belong in the structural unemployment category.

If the recent rate of growth in employment continues at 1.7 percent, it will take 2.9 years (5.5 percent unemployment rate) to 3.5 years (5.0 percent unemployment rate) to eliminate the employment gap (late-2016 to

mid-2017).²

Of course, if the pace of employment growth accelerates in 2014 and 2015, the employment gap would close more quickly. There are grounds for optimism that this could occur. Payroll employment has grown at a 1.6 to 1.7 percent rate in each of the last three years in the face of significant negative forces, including housing foreclosures, tax increases, over indebtedness, gyrations in oil prices, and political uncertainty. Most of these factors should be more benign in 2014. In particular, the large tax increases in 2013, which depressed consumer spending, will not be repeated. Stock prices and housing prices are rising. Repair of consumer balance sheets is well advanced. Increasing U.S. energy production and shifting Chinese economic policy carry the promise of stable oil and gas prices. And, perhaps, the unsettling brinksmanship that Congress has engaged in will abate. The recent budget deal is cause for optimism.

We may look back a year from now and see that a virtuous circle finally took hold in 2014. With no further increases in taxes and rising employment, consumer spending should grow faster in 2014. This is the necessary catalyst to inaugurate the virtuous circle. Increased consumer spending will bolster employment growth. Employment growth will lead to even more consumer spending. And, as the employment gap slowly closes, nominal wages should begin to edge up. None of this is likely to occur very quickly but all of these developments should be mutually reinforcing and contribute to steady improvement.

II. Risks to the 2014 Outlook

There are risks to this more upbeat outlook — both positive and negative. There are several risks that could slow the rate of improvement but a few that could accelerate improvement.

²The estimate of the time to close the employment gap is based on the following assumptions. The number eligible to work is growing at an annual rate of 1.0 percent. Because of demographic trends, the number added to the labor force is growing .64 percent, or 1.0 million, annually. Assuming a 5.5 percent unemployment rate and a 1.7 percent annual growth rate in the number employed amounts to 2.5 million. Based on these assumptions the employment gap, which includes both discouraged workers and those counted as unemployed, would be reduced by 1.5 million annually.

Residential housing investment contributed 0.39 percent to the real GDP growth rate during the first three quarters of 2013. Residential housing investment has grown 14.32 percent over the first three quarters of 2013. Because excess housing inventory has declined considerably and building starts are running at about 60 percent of their long-term trend level, downside risks appear to be limited. However, recent increases in mortgage rates and tight underwriting, which could be exacerbated by the new qualified mortgage rules that go into effect in January, could slow residential housing investment. Some slowing already appears to have occurred during the fourth quarter.

Residential housing prices rose approximately 10 percent during 2013, adding \$1.9 trillion to household net worth through the first three quarters. Price increases are likely to slow in 2014 but remain positive. The contribution to wealth will probably be smaller and this could have a modest negative effect on the growth rate in consumer spending.

Private business investment contributed 0.33 percent to the real GDP growth rate during the first three quarters of 2013. It has grown at a 2.67 percent annual rate over the last three quarters, which is below the 3.54 percent rate over the last 40 years, but above the 1.06 percent rate over the last 10 years. If consumer spending picks up, private business investment is likely to move toward its 40-year average. A downside risk, which appears to be small, is that investment growth slows toward the lower level of recent years. A possible trigger for slower investment growth is increases in the cost of capital relative to expected returns on investment. Nominal Baa interest rates have risen since the middle of 2013 while simultaneously falling nominal inflation rates are depressing nominal expected returns on new investment. A troubling development, perhaps the canary in the coal mine, is a recent slowing in bank commercial loan growth.

Increases in the prices of financial assets have contributed \$4.4 trillion to consumer net worth during the first three quarters of 2013. S&P stock prices are up 27 percent through December 13. Outsized increases in prices are unlikely to continue. That would lessen the contribution of the wealth effect to consumer spending in 2014. More worrisome is the potential for a decline in prices. Stock prices are marginally overvalued, so the risk of a major downward correction appears to be limited. Even more worrisome is the possibility that an incipient financial asset price bubble is developing and could expand considerably during 2014. While this would boost growth

in 2014, past experience is clear that bubbles eventually burst and cause considerable economic damage.

Consumer spending could increase more than expected based upon probable improvements in employment, disposable income, and increases in wealth, if consumer confidence surges and access to consumer credit becomes easier. Already credit enabled purchase of cars has been strong during 2013. Recent increases in home prices could foster a renaissance in home equity lending. Macro data indicate that there is considerable room for consumers in the aggregate to service additional debt at current low interest rates.

Inflation has edged gradually lower throughout 2013. Increasingly, as Charles Evans, president of the Chicago Federal Reserve Bank, recently observed, the declines do not appear to be temporary. PCE inflation, which is the measure the Federal Open Market Committee (FOMC) tracks, was 0.74 percent in October and core PCE, which factors out volatile food and energy prices, was 1.11 percent. The core PCE measure is within 15 basis points of the lows touched briefly in late summer 2009 and then again in late 2011. Temporary factors, which contributed to these two previous low points, do not appear to be significant drivers of the recent declines. Forecasters expect inflation measures to move up modestly in 2014; however, this requires strong employment and consumer spending gains.

Government investment spending, both federal and state and local, subtracted 0.42 percent from the real GDP growth rate during the first three quarters of 2013. This spending has contracted at a 2.18 percent annual rate over the last three quarters compared to a growth rate of 1.82 percent over the last 40 years and 0.49 percent over the last 10 years. While growth in state and local investment spending is likely to be modestly positive in 2014, federal spending will probably continue to contract. Thus, the drag on real GDP growth in 2014 will remain, but should be smaller. The recent federal budget compromise adds back some discretionary spending. Because these spending increases will be offset by back-loaded fees, the compromise is expected to reduce fiscal drag modestly by about 0.1 to 0.2 percent in 2014.

Global economic growth is likely to improve in 2014 from about 2.8 percent in 2013 to 3.5 percent. This will have favorable impact on U.S. manufacturing and exports. However, if employment and consumer spending improve, this would benefit imports, which could offset the favorable

impact of increased exports on real GDP growth. A downside risk would be a stronger dollar, which would penalize exports and favor imports.

Abenomics in **Japan** has been successful so far in boosting stock prices, depressing the value of the yen, and increasing corporate profits. As a consequence, Japan is exporting deflation to the rest of the world. It is too early to judge whether Abenomics will overcome the long-run deflationary pressures of Japan's declining population. Structural reforms that increase involvement in the labor force and raise wage rates are necessary for the success of Abenomics, but little progress on either front is evident yet. The risk is that the market loses faith in Abenomics as 2014 wears on and that Japan then becomes a source of global financial instability.

China's leadership is forging ahead with reforms that will transform China's economy from a mercantilist trade-investment focus to a more sustainable consumer-based economy characteristic of developed economies. This pivot reduces the long-term risks of a hard landing because of overinvestment and bad loans that typically accompany overinvestment, but it will increase transition risks, and will likely slow the rate of GDP growth. Borrowing costs are rising with the implied intent of normalizing interest rates, driving out speculative investing, and relying more heavily on private sector lending and investment. These are important and necessary reforms but implementation risks and potential volatility are high.

Europe has emerged from austerity-driven recession. The European Central Bank (ECB) is forecasting 1.1 percent growth for the euro area in 2014 and 1.5 percent in 2015 compared to negative growth in both 2012 and 2013. The difficulty, however, is that fundamental problems remain unresolved. The economies of Spain, Italy, and Greece are still declining and France's economy is weak and vulnerable. Access to bank loans remains tight and could get worse as the ECB conducts individual bank stress tests. Centrist political parties continue to lose ground to extreme parties, particularly on the right. The European Parliament elections in May 2014 could catalyze political activism and social unrest. The governments of Greece, where the governing coalition holds only a three-seat margin, and Italy appear to be most at risk. Germany's strong export-led economy and the high value of the euro continue to block rebalancing of peripheral economies. Inflation is low and further declines, although not forecast, are a significant risk. There is not much the ECB can do other than to provide liquidity. Its OMT (outright monetary transactions) scheme has never been tested by the

market. The risk of another adverse round of developments during 2014 in Europe is extremely high.

Based on recent data, it appears that the **UK's** economy has turned the corner. It is interesting to watch how fast an economy can appear to improve when government policy shifts intentionally to promote housing price increases and easy access to consumer credit. That was Chancellor George Osborne's unabashed intent when he initiated the "Help to Buy" current fiscal program in the spring of 2013. It clearly has contributed to what appears to be another bubble in the making. Mark Carney, Governor of the Bank of England, is worried that rising home prices and the growing use of debt financing is amplifying risks for the banking system. He recently said as much in the Bank of England's quarterly "Financial Stability Report" and followed up by withdrawing the Bank of England's special financing facility for mortgage loans. But, bubbles can run a long ways before bursting, particularly when government policy is supportive. It remains to be seen whether the Bank of England's shift will slow or reverse inflation of the bubble. In the meantime, having a strong economy is clearly a political objective in advance of an election that must be held not later than May 2015.

III. Real U.S. GDP Likely to Remain Below the Long-Term Trend and Growth Likely to Disappoint

While progress in closing the employment and output gaps is likely to occur in 2014 and 2015, the level of potential real GDP and its rate of growth appear to have been permanently damaged by the Great Recession. There are two causes. First, much of the lower employment-to-population ratio may be permanent. That development is responsible for lowering the level of potential real GDP.

Second, the rate of growth in real GDP depends on labor force growth and productivity. Potential growth will be considerably less in the future for two reasons.

First, declining birth rates and immigration will reduce the growth rate in the number of people eligible to work. Demographic trends will continue

to depress the number of eligible workers who actively participate in the labor force. As noted above, this already points to a labor force growth rate in coming years of 0.64 percent. CBO estimates that this growth rate could further decelerate to 0.50 percent by 2023.

Second, productivity depends upon strong private and public investment spending. The severity of the Great Recession and the lethargic recovery depressed investment spending. Private investment spending is likely to accelerate as consumer spending increases. Given the anti-spending focus of Congress, public investment spending is not likely to rebound. Collectively, growth in private and public investment spending will probably fall short of historical levels. To the extent this occurs, productivity will be lower. Thus, there is downside risk to CBO's assumption that productivity will return to the 2.1 percent annual historical level.

Lower employment growth and lower productivity growth mean slower growth in real GDP. That, in turn, means that improvements in the standard of living, as conventionally measured, will fall short of historical experience.

You will note that I have said nothing about the role of *monetary policy* in this introduction. That is because all that can be done is being done. And, some feel that what is already being done will have potentially dangerous consequences in the future. In other words, the Fed has already gone too far. But, most economists agree that while fiscal policy is the key to fostering economic growth when the economy is mired in the liquidity trap of zero interest rates, as it is today, it is important for monetary policy to support fiscal policy. But when fiscal policy is contractionary it is hard for monetary policy to do much more than inflate the values of financial assets and stabilize financial conditions. Easy monetary policy arguably benefits the economy in limited ways but is insufficient by itself to drive rapid economic recovery.

IV. Three Long-Run Scenarios — Steady Growth, Strong Growth, and Stagnation

1. Larry Summers and Secular Stagnation

Former Secretary of the Treasury, Lawrence Summers, recently created quite a stir with a provocative speech he delivered at the International Monetary Fund (IMF) in which he argued that the U.S. economy has been in secular stagnation for the last 10 to 15 years. Secular stagnation occurs when there is persistent insufficient demand to bring the economy to full employment. Although Summers did not discuss why this has occurred, economists generally cite slowing population growth and technological innovation, which I discussed in the previous section.

When a condition of secular stagnation prevails the interest rate necessary to move the economy to full employment is negative. But, nominal interest rates for all intents and purposes cannot be negative so long as holding cash is an option. Thus, even a near zero nominal interest rate is insufficient to generate sufficient investment to drive the economy toward full employment. The economy is caught in a liquidity trap. Put differently, monetary policy is virtually ineffective. However, monetary policy can foster asset price bubbles. But as we all know, and as Summers observed in his speech, bubbles may boost the economy temporarily toward full employment but bubbles inevitably burst, wreak much havoc, and have no lasting effect on boosting aggregate demand — secular stagnation continues.

2. \$1 Trillion in Government Spending on Infrastructure Investment

Traditional macroeconomic theory says that the way out of secular stagnation is substantial government investment spending. But, in the fervor to control the federal budget deficit and to cut spending, Congress is doing exactly the opposite. Martin Feldstein, who was chairman of the Council of Economic Advisers from 1982 to 1984 when Ronald Reagan was president, recently added his voice to those of many others, including notables such as Larry Summers, Paul Krugman, and Woody Brock. He recommended that Congress enact a five-year, \$1 trillion infrastructure investment program,

which he argues would move economic growth back to 3 percent or greater. Such a program would more than pay for itself through the higher tax revenues that a return to full employment at a higher rate of growth would generate. Feldstein does add that this initiative should be accompanied by tax and entitlement reform. In essence Feldstein is making an argument not only for massive government fiscal stimulus to kick start the economy and wrench it out of secular stagnation, he is also arguing that existing tax and spending policies need to be revamped to improve their effectiveness in fostering strong economic growth.

3. Nontraditional Monetary Policy Is Contributing to Growing Income and Wealth Inequality

While there is still substantial support for the FOMC's aggressive monetary policy and specifically for quantitative easing, there is increasing uneasiness that the long-run costs might well exceed the short-run benefits. If Summers' view is on the mark, the current quantitative easing program is simply feeding yet another financial asset bubble, which will temporarily boost the economy but do little, or nothing, to address embedded secular stagnation.

One of the long-run costs is that the current monetary policy may be an active contributor to growing income inequality. It is argued that this occurs in two ways. First, the more obvious and readily acknowledged way is intentionally driving up the price of financial assets to induce greater consumer spending through the wealth effect. This benefits only the very small slice of the population that has wealth and does nothing for the vast majority. So, at the very least, greater wealth inequality is a direct consequence of current policy, and greater income inequality probably is as well.

Second, quantitative easing is a form of financial repression. It is a stealth tax on the public. What the Federal Reserve is doing through quantitative easing is buying long-term Treasury securities and mortgage backed securities with interest rates in the 2 to 4 percent range and funding these purchases with excess reserves on which it pays 25 basis points. The beneficiary of this enormous arbitrage, which grows larger by the month, is the U.S. federal deficit because the Federal Reserve remits almost all of its net interest income to the Treasury. In case you haven't thought about it, quantitative easing has been an important contributor to the more rapid than expected decrease in the size of the budget deficit.

Quantitative easing also contributes to greater income inequality. The policy impacts banks and financial repression occurs because there is no incentive for banks to pay much on consumer savings deposits when all they are earning on excess reserves is 25 basis points. Ending quantitative easing would freeze financial repression, but paying a greater rate of interest on excess reserves would reverse some of the accumulated effects of financial repression.

It is troublesome to hear FOMC-member talk about reducing the interest rate paid on excess reserves below 25 basis points on the grounds that this would improve the effectiveness of monetary policy in stimulating the economy. Such a policy action is unlikely for a lot of reasons, but nonetheless active discussion of the possibility reveals a lack of understanding of the full spectrum of impacts that the FOMC's nontraditional monetary policy initiatives might be having, both in the short term and in the long term.

4. Secular or Cyclical

There are those who do not accept the argument that the U.S. economy is mired in a "new normal" of secular stagnation. Instead, some argue that the lethargic growth over the last four years is a natural outcome of the severity of the Great Recession and the premature withdrawal of fiscal stimulus over the last two years.

As the drag from fiscal policy abates in 2014 and with the rapid improvements in the labor market that have already occurred, the economy should move more rapidly in 2014 and 2015 toward full employment. In other words, the current slack in the economy is cyclical, not secular, and time and the absence of new negative policy shocks will enable the economy to heal and return to full employment.

It should be noted that those who subscribe to the cyclical argument acknowledge that the potential real rate of GDP growth is about 2.3 percent, which is much lower than the historical average of 3.2 percent and Martin Feldstein's expected level, if his policy prescriptions were adopted. To reiterate, the slowing growth rate in the labor force is undeniable and largely irreversible. By itself this trend will reduce the potential rate of real GDP growth from the historical average.

As I have documented in previous letters, the 2.3 percent potential rate of real GDP growth assumes productivity growth of approximately 2.1 percent, which is the long-term historical average. Implicit in the concerns of those who believe in the new normal of secular stagnation is that productivity will undershoot its historical average. Those who believe we are merely experiencing a slow cyclical recovery expect the long-term level of productivity to be reestablished as the economy approaches full employment. But assuming this will happen does not mean it will happen. One of the important drivers of productivity growth in the past was government investment and for now, and it appears for the foreseeable future, government investment will have a smaller role. If the economy is in a liquidity trap, there is no chance that the private sector will make up the difference. Indeed, in a liquidity trap there is limited incentive for the private sector to invest, which means that productivity is likely to continue to be depressed below the historical level. This strongly argues in favor of the secular stagnation view rather than the cyclical view.

5. Long-Term Economic Scenarios — “Slow Growth,” “Strong Growth,” and “Stagnation”

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 2 shows key values for labor growth, measured as hours worked, productivity, real GDP, and potential GDP.

Table 2
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
Employment			
2014-2017	1.28	1.65	1.09
2018-2023	.67	.79	.55
2023	.66	.69	.54
2014-2023	.91	1.13	.77
Productivity			
2014-2017	1.09	1.55	.68
2018-2023	1.59	1.87	1.29
2023	1.86	2.12	1.68
2014-2023	1.39	1.74	1.05
Potential Real GDP			
2014-2017	1.51	1.82	1.32
2018-2023	1.86	2.10	1.54
2023	2.15	2.38	2.01
2014-2023	1.72	1.99	1.45
Real GDP Growth			
2014-2017	1.93	2.57	1.37
2018-2023	2.02	2.31	1.86
2023	2.15	2.28	2.08
2014-2023	1.99	2.41	1.66

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 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*” 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.

Charts 1, 2, 3 and 4 show the time trends for employment growth, productivity, potential real GDP, and realized GDP growth.

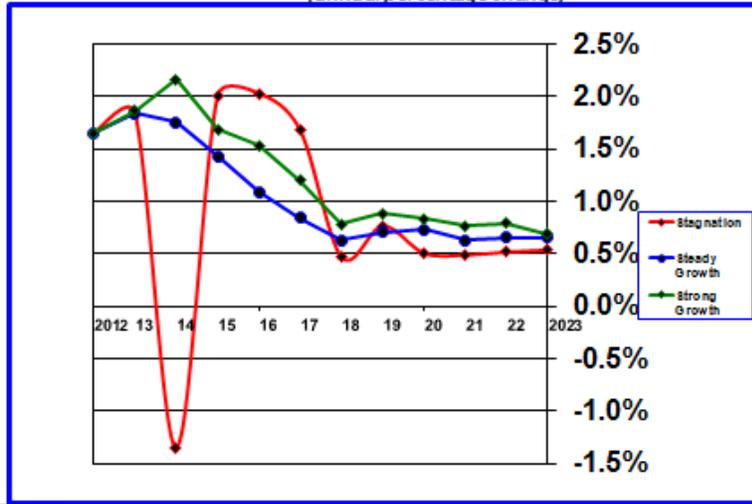
Chart 5 shows the unemployment rate. The decline in the unemployment rate in the “*Strong Growth*” scenario is probably overstated because it does not take into consideration improving participation in the labor force as the employment gap closes.

Chart 6 shows the core PCE inflation rate. Its strong rise in the “*Strong Growth*” scenario is probably overstated due to the understated unemployment rate.

Charts 7 and 8 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.

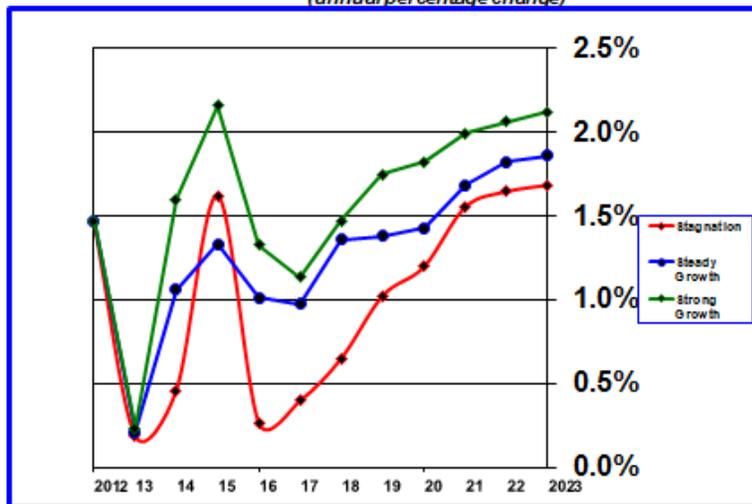
Charts 9 and 10 show the federal funds and 10-year Treasury rates. Obviously, the federal funds rate cannot be negative as indicated in **Chart 9** — the actual rate will be 0 to 25 basis points.

CHART 1 – Employment Growth (Hours Worked)
(annual percentage change)



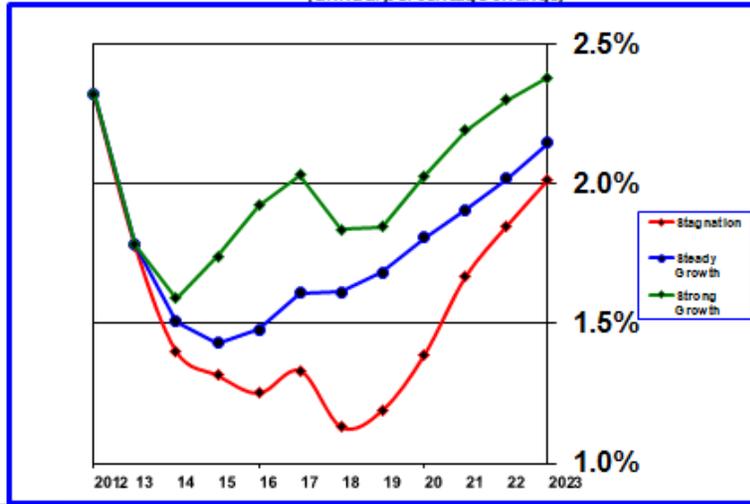
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CHART 2 – Productivity
(annual percentage change)



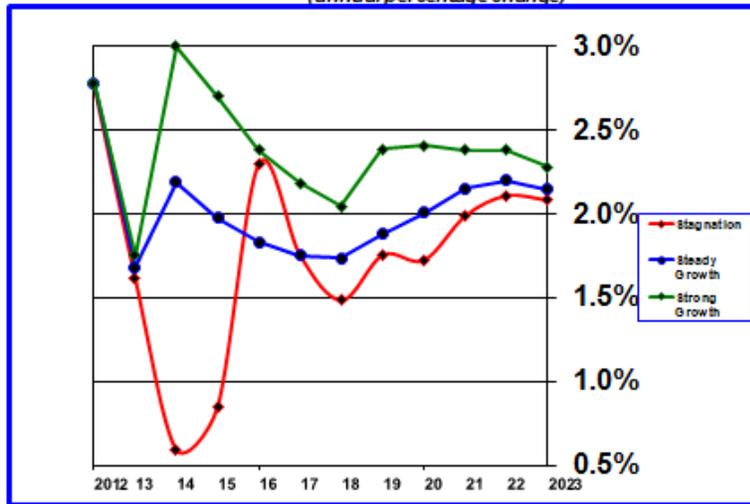
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CHART 3 – Potential Real GDP
(annual percentage change)



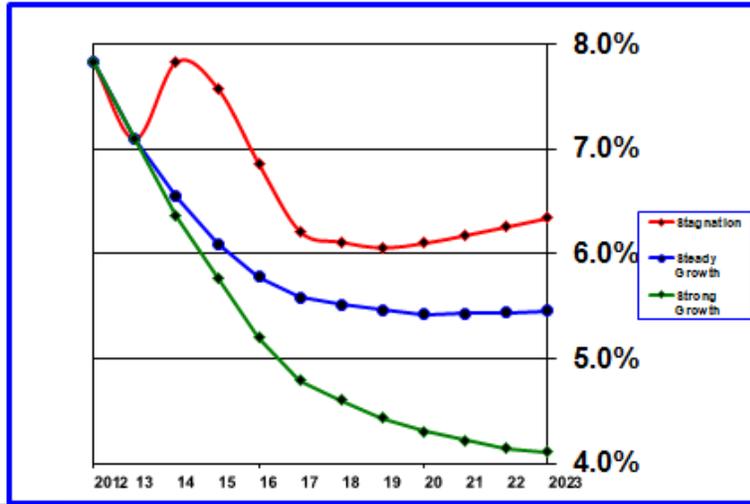
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CHART 4 – Realized Real GDP Growth
(annual percentage change)



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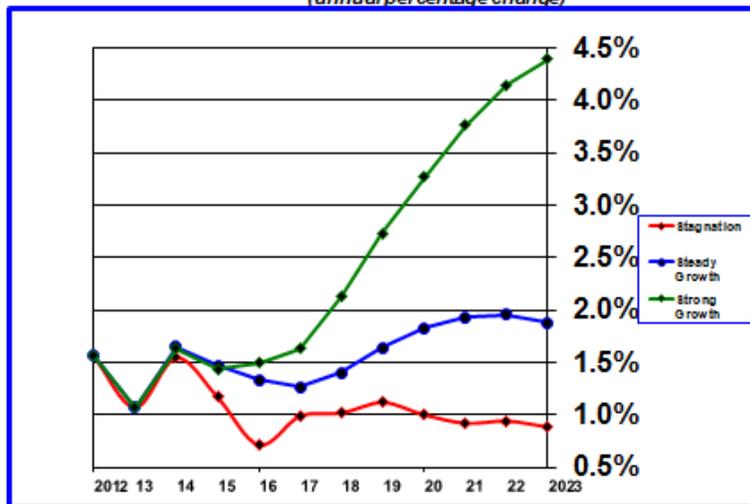
CHART 5 – Unemployment Rate



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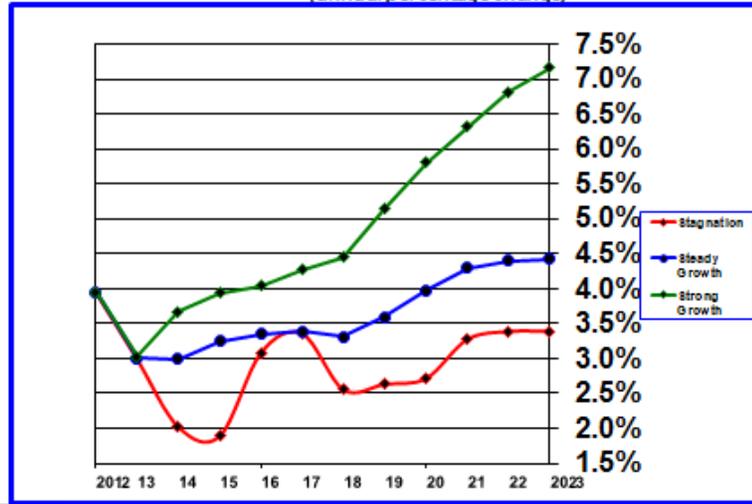
CHART 6 – Core PCE Inflation Rate

(annual percentage change)



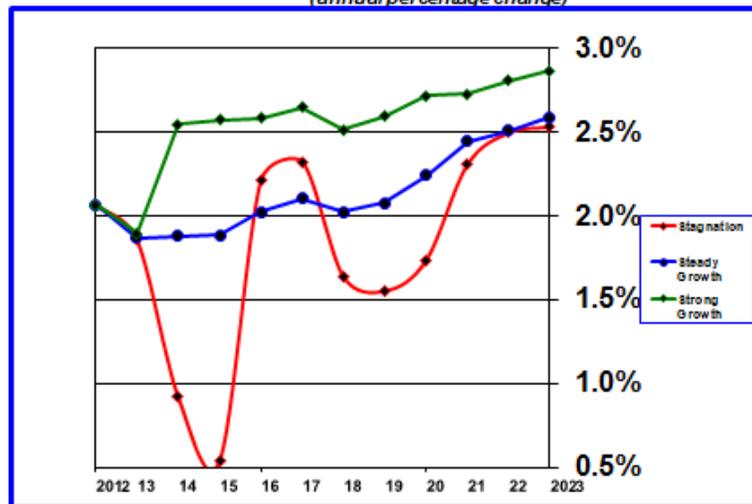
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CHART 7 – Growth in Nominal Consumer Spending
(annual percentage change)



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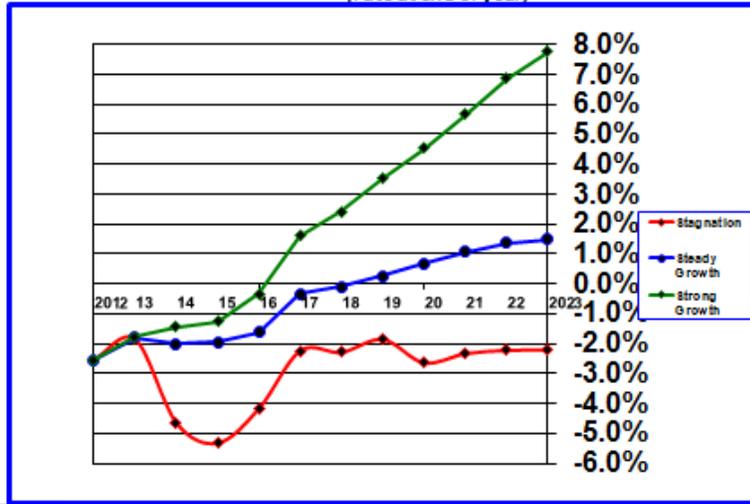
CHART 8 – Growth in Real Consumer Spending
(annual percentage change)



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CHART 9 – Federal Funds Rate

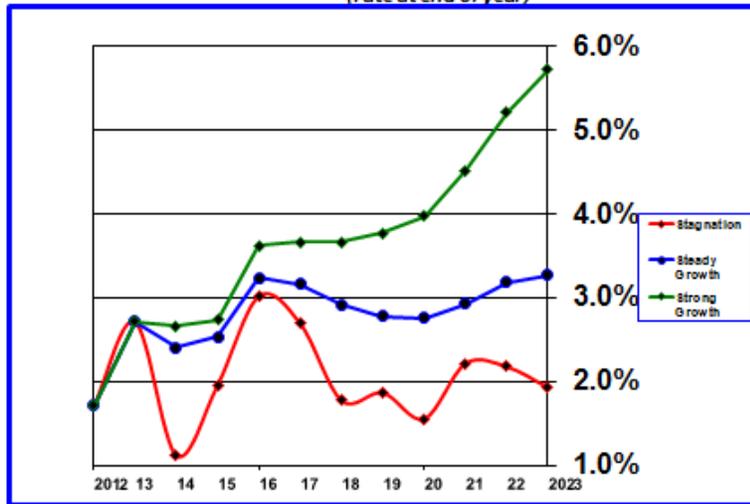
(rate at end of year)



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CHART 10 – 10-Year Treasury Rate

(rate at end of year)



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One interesting sidelight of the federal funds scenarios in **Chart 9** 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.

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

Annualized third quarter real GDP growth in the “Preliminary Estimate” was a much greater than expected 3.6 percent. However, details, shown in **Table 3**, were quite disappointing. That is because while the headline

Table 3
Composition of 2013 and 2012 Quarterly GDP Growth

	Third Quarter 2013 Advance Estimate	Third Quarter 2013 Preliminary Estimate	Third Quarter Final Estimate	Second Quarter 2013	First Quarter 2013	Fourth Quarter 2012
Personal Consumption	1.04%	.96%		1.24%	1.54%	1.13%
Private Investment						
Nonresidential	.20%	.42%		.56%	-.57%	1.13%
Residential	.43%	.38%		.40%	.34%	.50%
Inventories	.83%	1.68%		.41%	.93%	-2.00%
Net Exports	.31%	.07%		-.07%	-.28%	.68%
Government	.04%	.09%		-.07%	-.82%	-1.31%
Total	2.85%	3.60%		2.47%	1.14%	0.13%
Final Domestic Sales	2.02%	1.92%		2.01%	0.21%	2.13%
Private GDP	1.98%	1.83%		2.08%	1.03%	3.44%

growth rate rose from 2.85 to 3.60 percent, private GDP, which omits inventory growth and government spending, actually fell from 1.98 to 1.83 percent.

Consumer spending growth was the weakest since the second quarter of 2011 and even weaker than the “Advance Estimate”. Inventory growth surged from an already high and unsustainable level of 0.83 percent in the “Advance Estimate” to an incredible 1.68 percent in the “Preliminary Estimate”. Because inventories tend to be highly volatile, a more informative measure of the underlying strength of real GDP growth can be derived by subtracting inventory growth. This measure is referred to as “Final Do-

mestic Sales.” With the exception of the second quarter, “Final Domestic Sales” has been growing close to 2.0 percent annualized.

Private GDP, which eliminates both inventories and government expenditures, has averaged about 2.0 percent annualized growth over the last several quarters.

1. 2013 Q3 GDP — Preliminary Estimate

Personal consumption expenditures, which account for 67.8 percent of real GDP, contributed 0.96 percent to third quarter GDP growth. The revision was even more disappointing than the “Advance Estimate.” This weakness was offset by an outsized gain in inventories. Overstocking should lead to lots of holiday sales as excess inventories are worked off. It is highly likely that inventories will be a substantial negative contributor to fourth quarter GDP just as they were in the fourth quarter of 2012. To achieve sustainable GDP growth of 2.5 percent requires consumer spending to grow at an annual rate of 1.70 percent, not 0.96 percent indicated by the third quarter “Preliminary Estimate” or by the average of 1.22 percent over the last four quarters.

Growth in consumer purchases of durables was strong, but growth in expenditures on services was negligible. Auto makers and car dealers have been happy.

Consumer spending will increase sharply based upon strong retail spending in October and November. Faced with large inventories, merchants are engaging in heavy discounting and consumers appear to be responding.

Nonresidential investment growth improved substantially in the “Preliminary Estimate” and added 0.42 percent to GDP growth. Nonresidential investment accounts for 12.6 percent of GDP and contributed nearly its fair share, 12.2 percent, to GDP growth in the third quarter. Investment in structures was very strong but this was offset by a small decline in equipment and software spending.

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. Indeed, this is exactly what most forecast-

ers 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. 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 the first three quarters of 2013 would be 4.0 percent. The actual reported growth rate was 2.7 percent. GS’s forecast growth for all of 2013 early this year was 4.5 percent; it’s revised 2013 forecast, which includes actual results for the first three quarters of 2013, is 2.5 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 3.2 percent of GDP but contributed 14.3 percent of GDP growth during the first three quarters of 2013, which was revised down from 18.6 percent in the “Advance Estimate”. The downward revision reflects the impact of higher mortgage rates since early summer on housing demand and construction activity. A further weakening in residential investment growth is likely in the fourth quarter.

Evidence continues to emerge that the much expected recovery in housing will be more gradual and take longer than was expected early in the year. What this means is that residential investment growth is likely to continue to fall short of expectations.

Government expenditures comprise 18.4 percent of real GDP and contributed a tiny 0.09 percent to third quarter GDP growth, although this was a little better than the 0.04 percent reported in the “Advance Estimate.”

State and local government expenditures, which had been declining steadily since the Great Recession, accounted for 0.19 percent on top of 0.05 percent in the second quarter and clearly have become a positive contributor to GDP growth. This positive trend is likely to continue but substantial acceleration is unlikely.

Federal expenditures continue to shrink and reduced third quarter real GDP by 0.10 percent. However, the full impact of federal sequestration was not visible in second or third quarter data. A large decline seems likely when fourth quarter data are reported and this could depress fourth quarter real GDP growth significantly.

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 0.3 percent, but Y/Y growth would actually be slightly negative in a range of 0.1 to -0.4 percent compared to -2.1 percent in 2013.

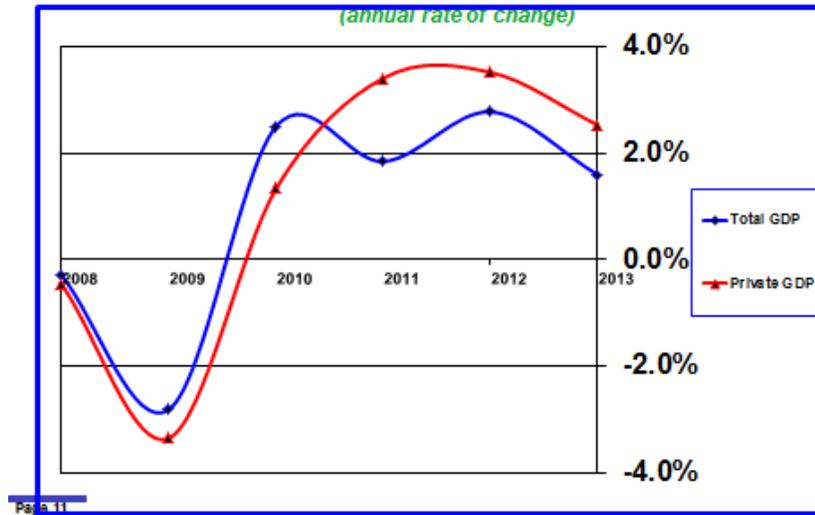
Net exports fell from a contribution of 0.31 percent in the “Advance Estimate” to 0.07 percent in the “Preliminary Estimate.” The estimate of net exports in the “Advance Estimate” is not very reliable because it is based upon only two months of actual data and an estimate for the third month. Imports rose sharply in September trade data and exports fell. While this GDP component tends to be extremely volatile from quarter to quarter, over longer time periods its contribution to real GDP growth is close to zero.

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

Chart 11 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. (Also, see the last line in **Table 3**.)

There are two takeaways from **Chart 11** — one good, and one troublesome. The good story is that private sector real GDP growth was about 3.5 percent in both 2011 and 2012. However, this measure decelerated to 2.5 percent in the first three quarters of 2013 compared to the first three quarters of 2012 and reflects the negative effects of higher personal and payroll

CHART 11 – Total Real GDP and Private GDP (less Inventories and Government Expenditures)
(annual rate of change)



taxes.

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 3.5 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.

3. GDP Forecasts for Q4

Because **third quarter** GDP growth exceeded expectations for the wrong reasons, namely inventory overstocking, estimates of **fourth quarter** GDP growth have been reduced substantially. **Table 4** shows GDP forecasts/projections for the fourth quarter of 2013 and for the full years 2013 through 2016.

B of A expects 1.7 percent growth in the fourth quarter, including a 0.5

Table 4
Real GDP Growth Forecasts — B of A, GS, Global Insight, Economy.com, Blue Chip Average, Bill’s “Steady Growth”, Bill’s “Strong Growth” and FOMC High and Low Projections

	2013 Q4	2013 Q4/Q4	2013 Y/Y	2014 Q4/Q4	2014 Y/Y	2015 Y/Y	2016 Y/Y
B of A	1.7	2.2	1.8	3.0	2.7	3.2	
GS	1.9	2.3	1.8	3.4	3.05	3.35	3.1
Global Insight*	1.6		1.5		2.5	3.2	3.2
Economy.com*	2.1		1.6		3.1		
Blue Chip Average*	2.4		1.6		2.6	2.9	2.8
Bill’s Steady Growth	1.9	1.7	2.2	2.2	2.0	1.8	
Bill’s Strong Growth		2.2	1.7	3.2	3.0	2.7	2.4
FOMC — High#		2.3		3.1		3.5#	3.3#
FOMC — Low#		2.0		2.9		3.0#	2.5#

*Not updated from November

#Measured from Q4 to Q4; may be revised at December 17, 18th FOMC meeting

percent reduction due to the federal government shutdown, which will be reversed in the first quarter of 2014. B of A’s forecast for 2013 GDP fourth-quarter-to-fourth-quarter (Q4/Q4) growth is 2.2 percent and 1.8 percent year over year (Y/Y).

GS’s forecast for the fourth quarter is slightly stronger than B of A’s forecast — 1.9 percent Q4, 2.3 percent Q4/Q4, and 1.8 percent Y/Y.

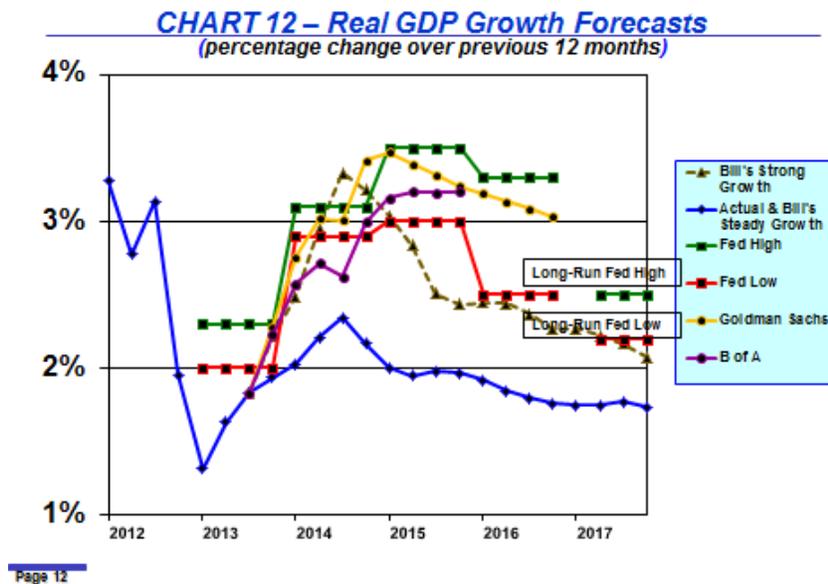
Fourth quarter forecasts prepared by Economy.com and the Blue Chip Average, which are shown in **Table 4**, have not been updated to reflect the

overshoot on inventories in the third quarter and, therefore, are too high.

Bill's "*Steady Growth*" Q4/Q4 forecast is 1.9 percent and 1.7 percent Y/Y. Bill's "*Strong Growth*" Q4/Q4 forecast is 2.2 percent, reflecting a strong finish to the year, which increasingly appears to be unlikely, but Y/Y growth of 1.7 percent is consistent with the "*Steady Growth*" scenario.

4. GDP Forecasts for 2014 and Beyond

As **Chart 12** and **Table 4** show, most forecasters expect GDP growth to



accelerate in 2014 and 2015 as negative fiscal drag diminishes and unemployment gradually declines.

GS forecasts strong residential and business investment growth of 8.1 percent Y/Y in 2014. B of A recently updated its forecast and slashed investment growth Y/Y from 8.6 to 5.3 percent. Since investment comprises 15.7 percent of real GDP, these forecasts imply that investment will contribute between 1.27 percent and 0.83 percent to real GDP growth in

2014. If consumer spending continues at its recent average level of 1.22 percent, then real GDP should grow between 2.05 percent and 2.49 percent in 2014, provided that none of the other GDP components contribute anything. B of A forecasts Y/Y 2.63 percent GDP growth in 2014 and GS forecasts Y/Y 2.96 percent. This implies that about 0.50 percent in GDP growth would have to come from additional consumer spending or sources other than investment spending. In addition, the FOMC's median central tendency projection of 2.75 percent (**Table 5**) is consistent, although the FOMC's high-low projection range of 3.1 percent to 2.9 percent is slightly higher (**Table 4**).

As **Table 5** shows, the FOMC's real GDP growth projections have

Table 5
FOMC Central Tendency Real GDP Growth Projections
Compared to Actual Results — 2011 to 2015

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
Actual Q4 to Q4	2.01	1.95	1.99*	3.42*	3.24*	3.03*	
Actual Y/Y	1.85	2.78	1.65*	2.88*	3.35*	3.11*	
Long Run Potential							2.2-2.4#

*GS forecast

#Bill's "*Steady Growth*" long-run potential = 2.15%; Bill's "*Strong Growth*" long-run potential = 2.38%

been persistently overly optimistic. Following a well-established pattern,

the FOMC reduced its GDP projections for 2013, 2014 and 2015 and introduced a more modest projection range for 2016 at its September meeting. It is likely that the FOMC will mark-to-market its 2013 GDP forecast at its December 17 and 18 meeting.

Except for my “*Steady Growth*” scenario, other real GDP growth forecasts for 2014 range from 2.5 to 3.1 percent. So, there appears to be substantial consensus.

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 has proved well founded. However, both are now optimistic that growth will accelerate in 2014 and that the case for that call is strong.

First, fiscal policy will not be highly contractionary as it has been 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 stoke a sizable increase in investment spending. Note, however, that investment depends primarily on sales growth and shrinking capacity. Excess capacity remains high and sales growth has been very 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 and shows little sign of improving. Loan growth has actually been slowing recently. *Fourth, housing prices are rising, excess inventory has diminished considerably but, surprisingly, household formation has slowed.* 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.

Bill’s “*Strong Growth*” scenario of Y/Y 3.00 percent growth in 2014 is consistent with the consensus, but Bill’s “*Steady Growth*” scenario projects only Y/Y 2.19 percent growth. About 66 percent of the difference in these two 2014 GDP growth rates is due to 9.4 percent private investment

growth in Bill's "*Strong Growth*" scenario, similar to GS, compared to 4.8 percent in Bill's "*Steady Growth*" scenario, which is similar to B of A.

While investment growth could accelerate sharply during 2014, the recent increase in mortgage rates, it will probably turn on the strength of employment gains and increases in consumer spending.

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.

Bill's real GDP forecasts for 2015 and 2016 are lower than other forecasts for both scenarios. 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 remain mired near recent low levels.

VI. 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 will make year to year comparisons in November and December difficult to interpret.

1. Percentage Changes in Personal Income and Disposable Income 2011, 2012 and 12 Months Ending in July, August, September, and October 2013

To provide a better sense of trends, **Table 6** shows data which compare percentage changes for 2011 and 2012 and the 12-month periods ending in July, August, September, and October 2013. The 12-month periods simply take the difference between data for a month in 2012 and the same month in 2013. This method omits the anomalies in the year-end 2012 data. By showing four successive 12-month periods, one can get a sense of the under-

Table 6
Percentage Change in Nominal Personal Income and Its
Disposition for 2011, 2012 and 12 Months Ending July, August,
September, and October 2013

	2011 Pct. Change	2012 Pct. Change	Pct. Change July 12- July 13	Pct. Change Aug 12- Aug 13	Pct. Change Sep 12- Sep 13	Pct. Change Oct 12- Oct 13
Personal Income	4.63%	7.94%	3.63%	4.07%	3.94%	3.44%
Compensation	2.81%	6.80%	3.50%	3.69%	3.22%	3.00%
Proprietors' Income	11.05%	5.07%	10.39%	11.30%	11.97%	9.76%
Rental Income	19.44%	7.28%	9.34%	9.71%	10.26%	10.02%
Asset Income	4.59%	18.90%	4.71%	5.08%	6.30%	4.89%
Government Transfers	0.17%	4.06%	3.77%	4.89%	4.23%	4.32%
Less: <i>Personal Taxes</i>	4.50%	9.47%	13.99%	13.70%	12.81%	12.77%
Disposable Income	3.63%	7.52%*	2.60%	3.17%	3.16%	2.58%
Less: <i>Consumption</i>	4.13%	3.73%	3.00%	3.11%	2.65%	2.80%
Personal Saving	-4.40%	74.14%	-4.69%	4.39%	13.37%	-1.63%
Personal Saving Rate	5.67%	5.61%	5.05%	5.05%	5.09%	5.07%
Adj. Personal Income [#]	3.77%	7.84%	4.49%	4.93%	4.78%	4.29%

*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

lying trend in various income categories. However, as a caution, the data will be revised many times in the future. In fact there were substantial revisions to the data for April through September in the October personal income report.

Growth in personal income and disposable income has been weaker so far in 2013 than it was in 2011. This difference is due entirely to the change in the payroll tax rate, which is explained further below. With revisions there is now no discernible trend in personal income until the most recent month. October shows a sharp slowdown, but the data are preliminary, so not much should be made of this development.

Growth in the primary component of personal income — wage and salary compensation — has not been improving and declined in September and again in October, based on preliminary data.

Changes in the payroll tax rates in recent years have distorted the growth rate in personal income. That is because payroll taxes are netted from personal income. That doesn't affect the growth rate in personal income if the payroll tax rate remains constant. However, Congress reduced the tax rate in 2011 and then returned it to its original rate in 2013. The bottom line in **Table 6**, labeled "Adj. Personal Income", shows what the growth rate in personal income would have been in each period, if the payroll tax rate had never been changed. The adjusted data tell an interesting story. The reported growth rate in 2011 was 4.63 percent, but if the payroll tax rate had not been reduced it would have been 3.77 percent. When the payroll tax rate was returned to its former level in 2013, the adjusted personal income growth rate as of October would have been 4.29 percent rather than the actual rate of 3.44 percent, which was depressed by the increase in the payroll tax rate. Note that the difference in the reported and adjusted growth rates in 2011 and 2013 is virtually identical except with opposite signs. When the effect of the changing payroll tax rate is removed it becomes clear that personal income growth has actually been strengthening. This should become apparent in the reported data beginning in January 2014 when there is no year-over-year change in the payroll tax rate. The strengthening trend is consistent with the addition of 2.1 million people to payrolls during 2013.

All-in-all, the story told in **Table 6** is an encouraging one.

2. Consumption

Although less definitive, data in **Table 6** suggest that the growth rate in consumer spending is rising gradually. However, the 12-month growth rate of 2.80 percent in October remains substantially below 2011 and 2012 growth rates. If disposable income growth continues to rise, consumer spending growth should edge up, but probably to a lesser extent as consumers seek to restore savings balances. Whenever the growth rate in spending exceeds the growth rate in disposable income the gap is filled by drawing down savings.

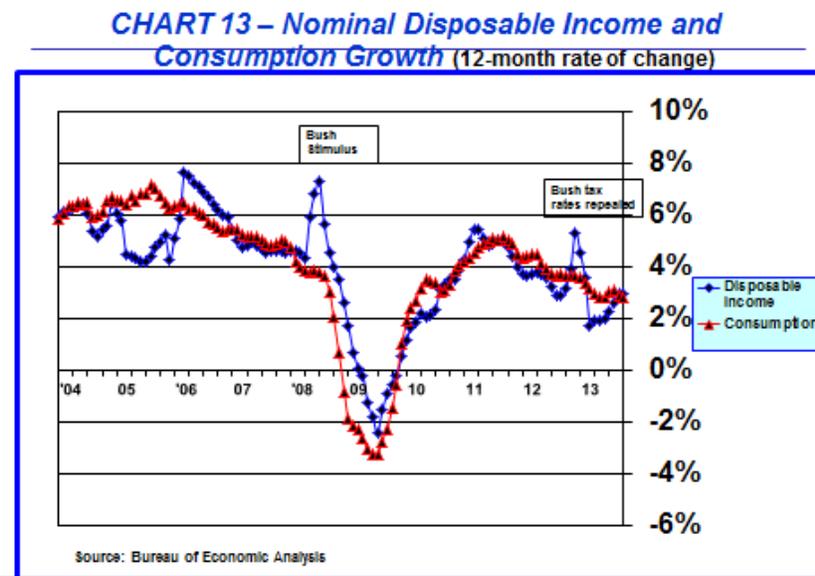
Prospects for faster income growth in coming months will also improve with employment growth. While employment growth has been good, a dis-

proportionate amount of new jobs has been in the part-time and lower wage categories.

Recently consumption growth has been tracking income growth with the result that the saving rate has been relatively stable. Disposable income growth will increase come January when the effects of the 2013 tax increases drop out of the year over year comparisons. The growth rate in consumption should also accelerate in 2014.

3. Disposable Income and Spending

Chart 13 shows the nominal rate of growth in disposable income and con-



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

The annual rate of growth in disposable income began slowing in 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, followed by a return to 3.0 percent growth in October.

Chart 13 shows that growth in consumer spending, after peaking at 5.2 percent in September 2011, slowed to about 3.7 percent in July 2012, remained at that level until November 2012 and has since declined further to 2.9 percent in October 2013.

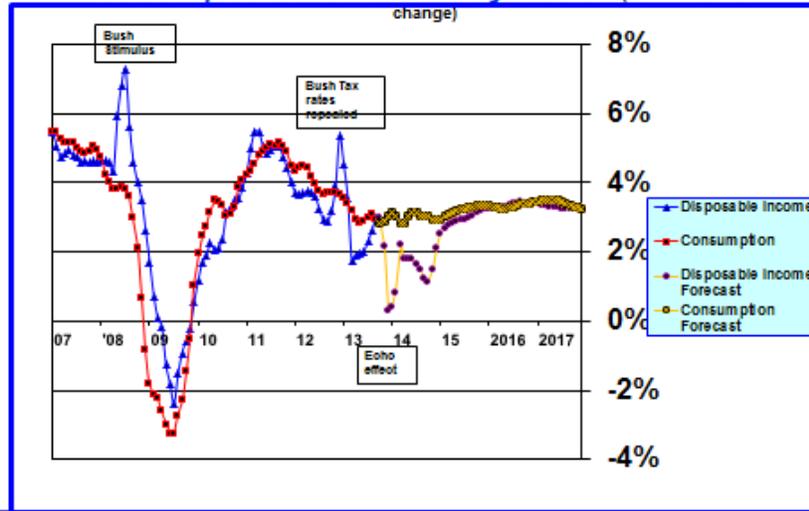
4. Outlook for Nominal Disposable Income and Spending

As can be seen in **Charts 14A** and **14B**, I expect nominal consumer disposable income growth will slow in coming months. This trend is not in doubt because of the 12-month moving average calculation method. Strong acceleration in nominal income growth in the “*Steady Growth*” scenario (**Chart 14A**) does not occur until 2015. 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 retard improvement in 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 14B 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.

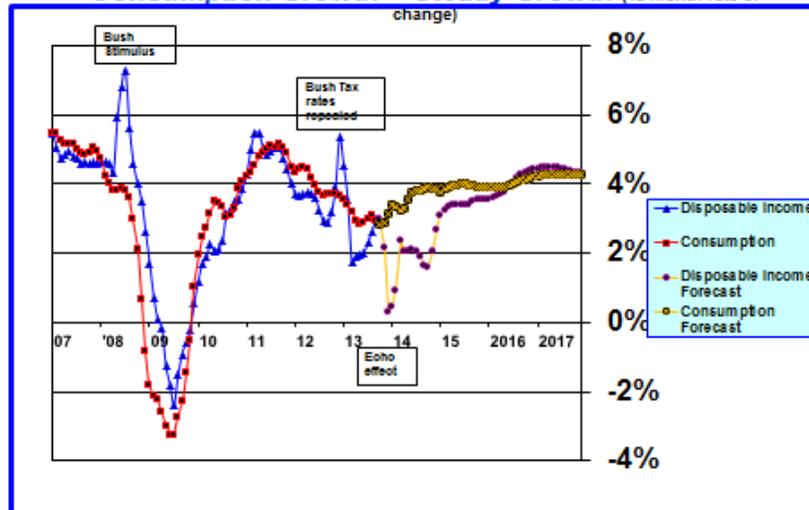
Notice that in **Chart 14B** nominal disposal income growth modestly exceeds nominal consumption growth in 2016 and 2017. This means that the saving rate, based upon the assumptions underpinning the “*Strong Growth*” scenario, will increase in those two years.

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



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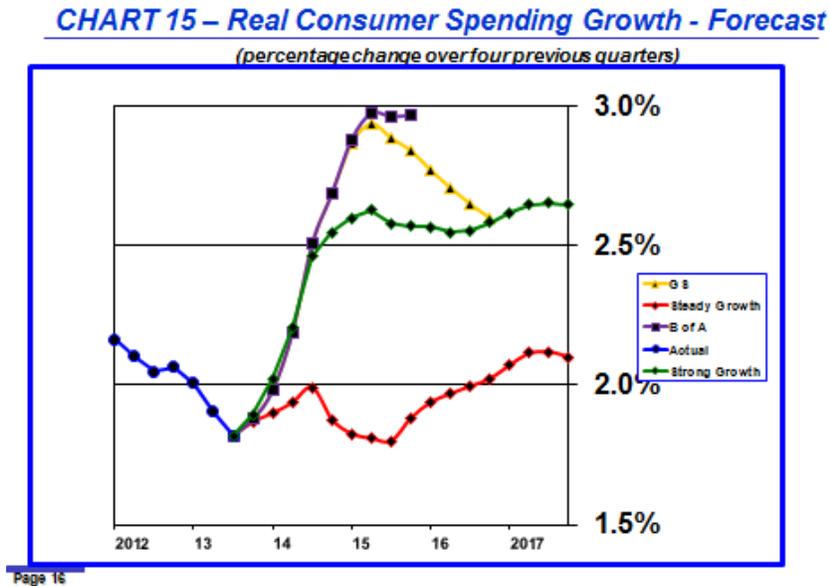
CHART 14B – Forecast Nominal Disposable Income and Consumption Growth – Steady Growth (12-month rate of change)



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5. Real Consumer Spending Forecasts

Chart 15 shows forecasts for quarterly real consumer spending growth at



an annualized rate. B of A and GS expect real consumer spending to rise 1.8 percent, rounded down, during 2013. Bill’s “**Steady Growth**” forecast indicates growth of about 1.9 percent, rounded up, in 2013.

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 higher than GS’s and B of A’s forecasts through late 2014 but underperforms GS’s forecast in 2015 and then converges by the end of 2016.

GS and B of A believe real consumer spending will accelerate during 2014, reaching 3.0 percent toward the end of the year. Y/Y growth is 2.52 percent for all of 2014 for GS and 2.58 percent for B of A. GS projects that real consumer spending growth will be 2.84 percent in 2015 and 2.60 percent in 2016. **Table 7** shows forecast real consumer spending growth rates for B of A, GS and my two scenarios.

Table 7
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	1.88	2.69	2.97	
GS	1.66	2.36	2.07	1.88	2.69	2.84	2.60
Bill’s Steady Growth	1.66	2.36	2.07	1.87	1.88	1.88	2.02
Bill’s Strong Growth	1.66	2.36	2.07	1.90	2.55	2.57	2.58

GS’s forecast is derived from a model that includes consumer disposable income, consumer sentiment, financial and housing wealth, credit availability, and deviations in the actual consumer saving rate from the long-run target level as variables. Real spending growth in GS’s model accelerates in 2014 primarily because the drag of higher taxes in 2013 no longer impacts spending in 2014. Rising employment and a modest increase in wage rates to a range of 2.0 to 2.5 percent from 2.0 percent in 2013 results in a further modest increase GS’ forecast growth in real spending.

Bill’s forecasts are derived from a model that includes hours worked, productivity, financial and housing wealth, and the saving rate as variables. Hours worked and productivity replace GS’s consumer disposable income variable. The principal difference between GS’s and Bill’s 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.

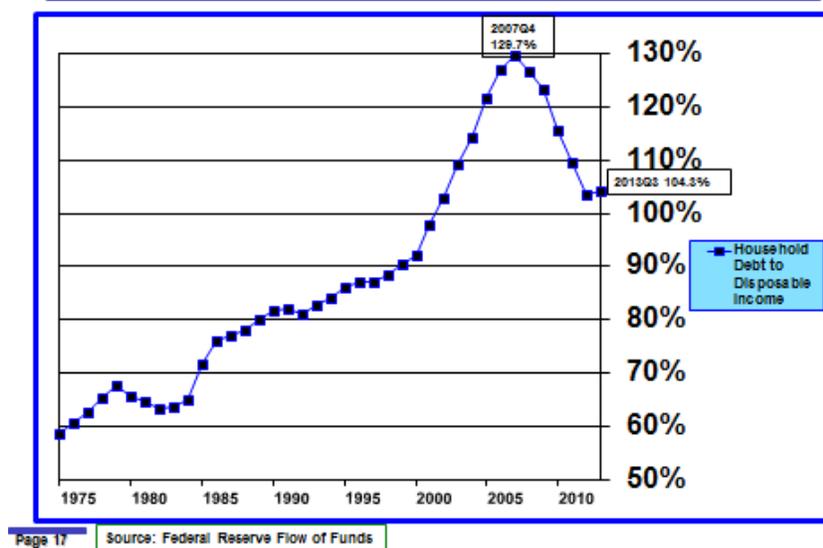
In summary, there are four arguments for stronger consumer spending in 2014 and, therefore, strong real GDP growth. First, the tax rate increase shock will no longer be a factor. Second, household balance sheets, as discussed in the next section, have been cleaned up. Third, hiring is relatively

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.

6. Household Debt

Households have made substantial progress in reducing debt relative to disposable income (see **Chart 16**). The ratio declined from a peak of 129.7

CHART 16 – Household Debt to Disposable Income – 1975-2013



percent at the end of 2007 at the onset of the Great Recession to 104.3 percent in the third quarter of 2013. The ratio is now back to where it was in 2002 before the housing bubble.

Some argue that households have completed the job of restoring healthy balance sheets because the ratio of debt-to-disposable income has returned to its long-term trend line. Others believe that the ratio needs to decline further to at least a level in the 80 to 90 percent range, which was last experienced in the 1990s. If balance sheet repair is largely complete, household debt will cease to be an impediment to growth in consumer spending.

Household debt consists of mortgage debt and other consumer debt, including car loans, credit card debt, home equity loans, and student loans. Mortgage debt increased modestly in the third quarter of 2013. This was the first quarterly increase in mortgage debt since the first quarter of 2009. This is an encouraging development, but access to mortgage credit will remain difficult because of stringent underwriting and the qualified mortgage regulation, which goes into effect in January.

Other consumer debt has been growing strongly in recent quarters. Auto sales continue to improve and reached a 16.3 million annual rate in November. The ratio of other consumer debt to disposable income was 24.4 percent in the third quarter of 2013 compared to 24.5 percent prior to the onset of the Great Recession. In fact, this ratio has been very stable, ranging between 23.1 percent and 24.5 percent since 2000.

In summary, whether household debt remains a headwind or becomes a tailwind depends upon what happens to household mortgage debt. Problems remain in restoring a robust housing finance market. This implies that it may take a while for mortgage debt to become a tailwind for consumer spending, but it is probably safe to say that the preponderance of balance sheet repair has already occurred.

7. Consumer Wealth — Is a Financial Asset Bubble Developing?

Because of the belief that quantitative easing is market friendly and because economic growth is lethargic (stock prices are rising much faster than nominal GDP growth) there is some risk that another financial asset bubble may be in the making. Over very long periods of time stock prices rise in line with growth in corporate profits. And, profit growth tracks growth in the economy.

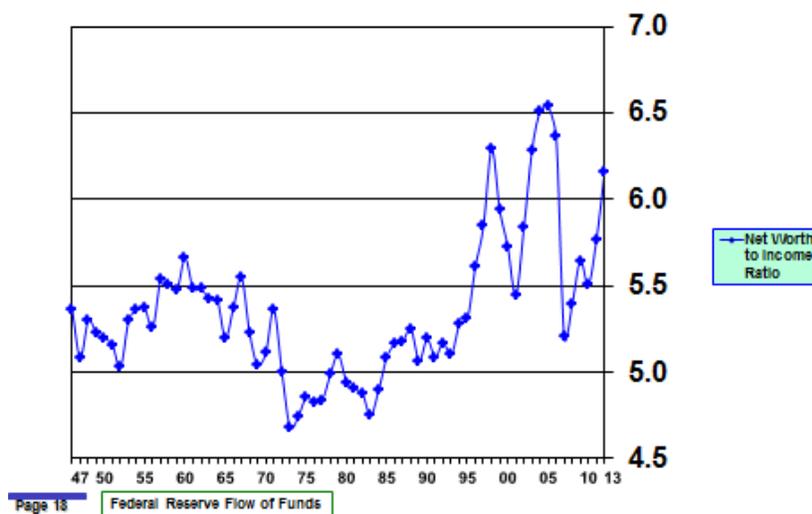
Profits are growing at a faster rate than the economy. That is because profit margins are rising as the share of national income shifts toward investors and away from workers. Currently, the distributional income shares of investors and workers are at historical extremes. Reversion to the mean is possible, but changes in America's social system may have locked in either permanently or for an extended period of time the new income shares. In other words, current income shares may not be extremes but the new

normal.

But, even given expanding profit margins, stock prices have been rising faster than profits, which means that price-earnings multiples are expanding. Price multiples always eventually revert to the mean, but it can take a long time for that phenomenon to emerge and speculative forces can drive multiples even further from fair value in the interim. At the moment price multiples do not appear to be overly above where they theoretically should be if one factors in the favorable economic growth forecasts and modest further expansion of profit margins.

Chart 17 shows the ratio of consumer net worth (wealth) to disposable

CHART 17 – Consumer Net Worth to Disposable Income
1947 - 2013



income. Over the last 65 years a “normal” level for this ratio has been between 5.0 and 5.5. There were two periods when the ratio exceeded 6.0. Both of these periods in retrospect involved substantial price bubbles which led eventually to spectacular price collapses. The first bubble occurred in the late-1990s and burst in 2001. It was propelled primarily by stock price speculation in technology and dot.com stocks. The second bubble occurred in the mid-2000s and burst in 2008. The defining feature of this second bubble was massive home price inflation.

An uncritical interpretation of **Chart 17** is that a third price bubble is in the making currently. Although home prices have risen at double digit rates during 2013, national nominal housing prices, as measured by the Federal Housing Finance Agency, are still 10 percent below the peak registered in the first quarter of 2007. The current bubble, if it really is one, is the product of rising stock prices. History may record that the FOMC's monetary policies and, in particular, quantitative easing aided and abetted the building of a third price bubble. We probably won't know whether this is so for several years.

In the meantime, what we know for sure right now is that this hefty increase in wealth is concentrated among a few at the top of the wealth distribution. There is reason to question the wisdom of a policy intended to stimulate aggregate demand that has its greatest favorable impact on the few who have least need and are more likely to save the proceeds rather than increase consumer purchases. Although it is unpopular to ask the following question, is it possible that current monetary policy, rather than accelerating economic growth, is contributing to widening income and wealth disparities, depressing the potential rate of real GDP growth, and reinforcing deflationary pressures? Perhaps the answer is "No" and perhaps monetary policy is on the right track, although with a rather feeble impact. But, it is worth pondering whether the answer might be "Yes" because, if it is, future consequences will be significant and troublesome.

8. Consumer Confidence

Measures of consumer confidence were mixed during November.

The University of Michigan's consumer sentiment index improved to 75.1 in November from 73.2 in October, but remains well below its recent peak of 85.1 in July. Expectations improved to 66.8 in November from 62.5 in October.

According to the Conference Board's survey, overall consumer confidence fell further to 70.4 in November from 72.4 in October; the present situation index fell from 72.6 to 72.0. The differential between jobs easy to get minus jobs hard to get improved slightly from -23.3 in October to -22.2 in November. This is not indicative of a robust labor market and indicates that the households remain deeply pessimistic about the job market.

ISI's weekly company surveys have been relatively stable over the last five 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 December 13. This is indicative of an economy that is neither gaining nor losing momentum.

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. After the shutdown ended, the index edged back up to 96 and then stalled. It is currently 97. However, to put matters into perspective, this index fell to the mid-60s during the federal debt crisis in July and August 2011.

Overall, consumer confidence measures are not particularly robust, which reflects the on-going lethargic improvement in the labor market and incomes. Confidence measures do not suggest acceleration in economic activity but more of the same — an economy muddling along but showing gradual improvement.

VII. Employment

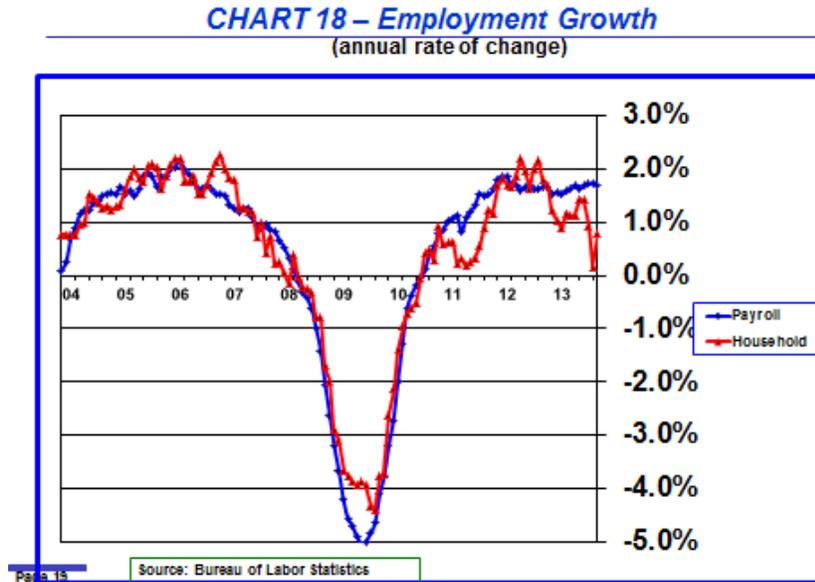
November's payroll employment report was much stronger than expected and the companion household survey reversed the plunge reported in the October report, which stemmed from reporting anomalies caused by the government shutdown.

Employment increased 203,000 according to the payroll survey but increased 820,000 in the household survey more than offsetting the 737,000 decrease in October.

The labor force participation rate, which fell precipitously to 62.85 percent in October from 63.19 percent in September, recovered only part of that decline in November, rising to 62.98 percent.

Overall, while strong gains in payroll employment continue, and that is a welcome development, other measures of the labor market, such as participation and wage growth, continue to paint a picture of weakness.

Chart 18 shows growth trends in employment for the payroll and house-



hold surveys. Over the long-run the employment growth rate in the two surveys is generally the same. Over shorter periods of time, growth rates in the two surveys often diverge and that most definitely was the case in October and again in November. 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.

Chart 18 indicates that payroll employment is growing at an annual rate of approximately 1.7 percent and household employment is growing at an annual rate of 0.8 percent. Payroll growth is above the long-term trend level of 0.7 to 0.8 percent, which is necessary for the unemployment rate to fall and the economy to return to full employment.

Yet, the labor market is still extremely weak. There are 1.3 million fewer people employed than in January 2008 according to November's payroll data and 2.0 million fewer according to the household survey. The unemployment rate is 7.0 percent versus a pre-Great Recession low of 4.4 percent. But,

if approximately 2.5 million discouraged workers are counted, the current unemployment rate would be in the vicinity of 8.5 percent. According to CBO, full employment will be reached when the unemployment rate falls to 5.5 percent, which would require 2.3 to 4.7 million additional workers to be employed currently, depending upon how many discouraged workers actually exist.

In summary, the good news is that the labor market is healing gradually. It appears to be weathering reasonably well intensely negative fiscal policy. The bad news is that the labor market remains weak and has a long ways to go to return to robust health.

1. November Payroll Report

Employers added 203,000 jobs in November, considerably above expectations. Revisions to September and October added another 8,000 jobs, resulting in a total increase of 211,000. This brought the recent three-month average monthly increase to 193,000 compared to a 12-month average monthly growth of 191,000.

2. November Household Jobs Report

Over the first eleven months of 2013 household employment growth has increased 98,000 monthly compared to the 201,000 monthly average in 2012.

Average weekly hours worked were 34.5 in November compared to the 12-month average of 34.48. The length of the workweek appears to be 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).

3. Temporarily Discouraged Workers or Permanent Structural Unemployment?

Household employment remains 1.99 million below the pre-Great Recession peak. The question of whether people are too discouraged to look for work in today's difficult labor market or whether they have chosen to leave the labor force permanently is of paramount importance to the conduct of monetary policy.

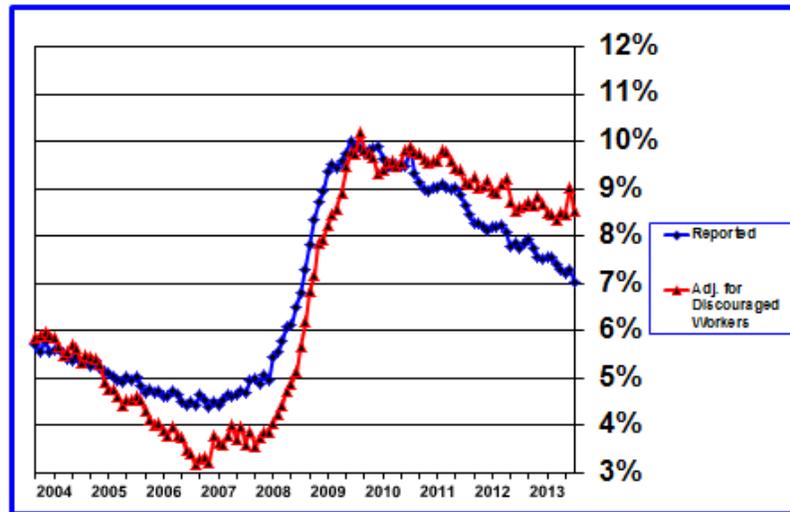
Unemployment fell to 7.0 percent of the labor force in November — the number of unemployed workers rose 365,000, while 455,000 entered the labor force — those eligible and willing to work. The participation rate (those willing to work — includes both employed and unemployed workers — relative to those eligible to work) rose to 62.98 percent from 62.85 percent. The employment-to-population ratio, which measures the number of people who have jobs relative to the number eligible to work, recovered to 58.56 percent. It has been near this level for the last two years.

In recent months the unemployment rate declined more than expected, partially because employment growth was a little stronger but also because more workers dropped out of the labor market than expected. **Chart 19** shows my alternative unemployment measure, which adjusts for discouraged workers. In November, my alternative unemployment rate was 8.53 percent compared to BLS's reported rate of 7.02 percent. This difference of 1.51 percent amounts to 2.5 million discouraged workers.

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

If discouraged workers re-enter the labor market as unemployment falls this will retard the speed with which the unemployment rate falls. Put differently, it might take longer for the unemployment rate to fall to the monetary policy guideline of 6.5 percent or to the full-employment rate of 5.5 percent. To date the preponderance of analysis supports the expectation 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

CHART 19 – Reported Unemployment Rate & Adjusted for Discouraged Workers



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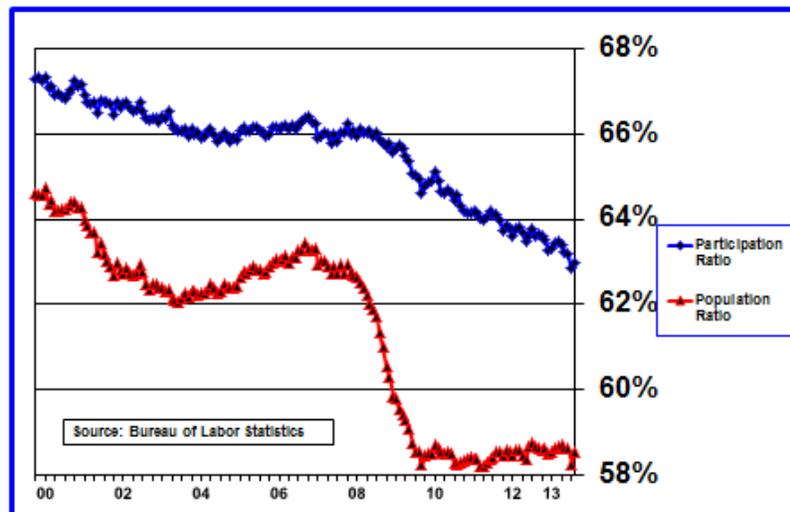
below 6.5 percent.

4. Labor Force Participation and Employment-to-Population Ratios

While the focus of debate has been on discouraged workers and the labor force participation ratio, another important measure of the health of the labor market is the employment-to-population ratio which measures the percentage of people eligible to work who have a job. Trends in both the **labor-force-participation ratio** and the **employment-to-population ratio** are shown in **Chart 20**. The denominator of both ratios is the same — total number of people eligible to work. The difference in the numerators of the two ratios is the number of unemployed workers — those who say they are looking for work.

When the Great Recession hit, the employment-to-population ratio plummeted from 62.9 percent in December 2007 to 58.2 percent in December 2009. What is troubling is that this ratio has not recovered to any signifi-

CHART 20 – Labor Force Participation and Employment-to-Population Ratios



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cant extent. It was 58.6 percent in November 2013. What this means is that almost all the new jobs created since December 2009 have only been sufficient to accommodate new entrants into the labor force and reemployment of unemployed workers. Or putting this differently, few jobs lost during and just following the Great Recession have been recovered.

5. Implications of Substantial Labor Market Slack

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

Second, the U.S. has no unemployment objectives other than “full employment”. As discussed above, we are not even sure how to measure what “full employment” is. We do not know how to determine whether someone

is discouraged. We do not have any objective for what the employment-to-population ratio ought to be. Therefore, we have few specific policies aimed at creating jobs.

6. Unemployment Rate

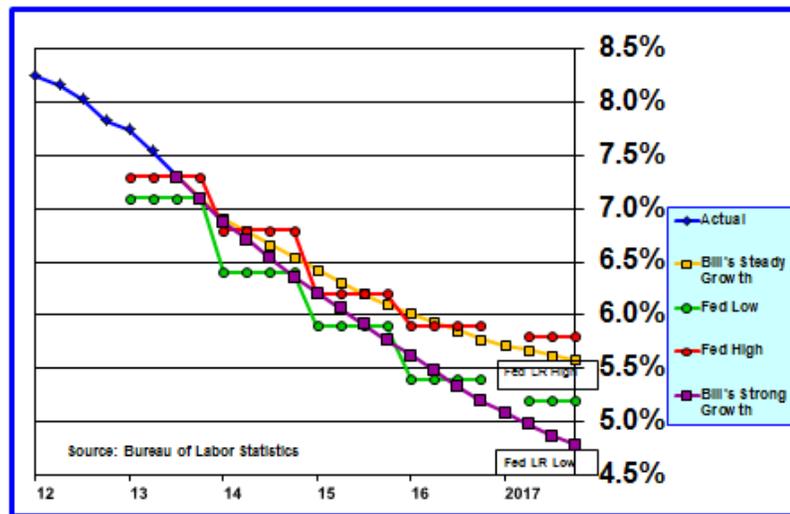
Because the FOMC has linked monetary policy explicitly to the BLS's U-3 unemployment rate, it is important to track this data point and various forecasts of when the unemployment rate is expected to reach 6.5 percent, which is the FOMC's stated threshold for considering whether to raise the federal funds rate. And, 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.

According to BLS, the number of unemployed workers has fallen 1.3 million since 2013 began. The unemployment rate was 7.02 percent in November. Over the last year since November 2012 unemployment has decreased 1.1 million and the unemployment rate has decreased from 7.75 to 7.02 percent.

Chart 21 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 first increase in the federal funds rate will occur in early 2015. That presumes, of course, that as soon as a 6.5 percent unemployment rate is reached the FOMC would start raising the federal funds rate. That seems unlikely.

I have included in **Chart 21** 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 generally tracks the upper end of the FOMC's range and the "**Strong Growth**" unemployment rate tracks the lower end of the FOMC's range. The unemployment rate forecast in the "**Strong Growth**" scenario reaches the 6.5 percent threshold in late-2014 while the unemployment rate in the "**Steady Growth**" scenario reaches 6.5 percent at the beginning of 2015. Should the FOMC elect to reduce the guidance unemployment rate

CHART 21 – Unemployment Rate
(quarterly average)



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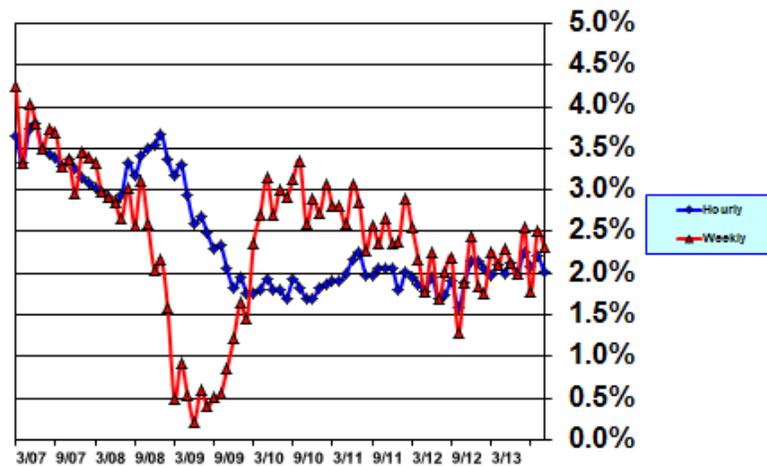
to 6.0 percent, my scenarios indicate that the first increase in the federal funds rate would occur between late 2015 and early 2016.

GS recently updated its forecast of the unemployment rate to include the combined effects of its employment growth forecast and the reversal of the larger than expected declines in employment participation in recent years. GS does not expect improvements in the participation rate until the labor market tightens further. Thus, the unemployment rate should decrease rapidly during 2014 but improvement should slow in 2015 as participation begins to improve. This results in the 6.5 percent unemployment level being reached in the second half of 2014 and 6.0 being achieved in the middle of 2015. Interestingly, GS's revised forecast tracks approximately the midpoint of the FOMC's high and low projections for the unemployment rate for 2014 and 2015.

7. 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. As can be seen in **Chart 22**, the rate of growth in hourly

CHART 22 – Hourly and Weekly Wages
(annual rate of change)



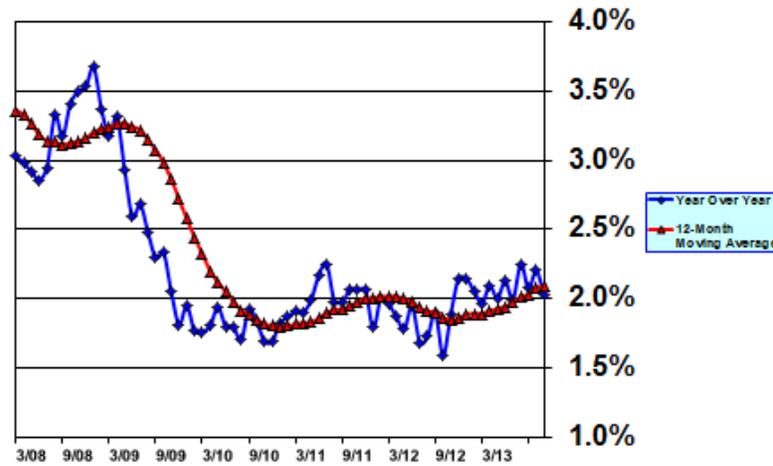
Source: Bureau of Labor Statistics

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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.

Chart 23 shows a slight improvement in the 12-month moving average rate of growth from 1.85 percent in November 2012 to 2.09 percent in November 2013. The 12-month rate of change in weekly wages was a slightly higher 2.32 percent in November. The comparable measure for hourly wages was 2.03 percent in November. **Chart 23** compares monthly hourly wage rates with a 12-month moving average. Although the recent upward trend seems to be gaining some traction, a similar acceleration in early 2011 petered out and reversed. We can hope that the recent acceleration will be

CHART 23 – Hourly Wage Rate Growth
(annual year over year and 12-month moving average rates of change)



Source: Bureau of Labor Statistics

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sustained. GS believes that it will, but the rate of increase will be subdued and will be in the 2.0 to 2.5 percent range at the end of 2014.

8. Expiration of Extended Unemployment Benefits

Extended unemployment benefits are scheduled to expire at the end of 2013. When the U.S. House of Representatives passed budget legislation it did not include extended unemployment benefits. Separate legislation to do so is almost certainly not going to occur. This will reduce government expenditures by approximately \$15 billion in 2014. It will also probably push the participation rate down by 0.1 percent as some of those receiving unemployment benefits and thus counted as unemployment 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.

9. Should the Minimum Wage Be Raised?

President Obama in his 2013 State of the Union address, asked Congress to raise the federal minimum wage from \$7.25 per hour, where it has been stuck for years, to \$9.00. The president reiterated his request in a recent speech that focused on income inequality. In inflation-adjusted terms, the federal minimum wage was \$10.60 an hour in 1968 and equaled 55 percent of the median hourly wage. Today's minimum wage of \$7.25 per hour is only 37 percent of the median hourly wage.

Sen. Tom Harkin (D) of Iowa and Rep. George Miller (D) of California have introduced legislation that would increase the national minimum wage to \$10.10 per hour and index it to inflation. 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.

Americans overwhelmingly 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.

Yet, 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.

However, as public interest has risen, 14 states have raised the minimum wage over the last year and a proposed increase is pending in one other state and the District of Columbia. Nearly all of these increases occurred through citizen-initiated ballot measures rather than through direct action by a state legislature.

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.

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.³ For example, he argues that raising the minimum wage would help reduce government spending on social services. It would raise payroll tax revenues, 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.

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

³Unz, 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.

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.

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. However, others argue that the taxpayer funded EITC distorts markets by enabling employers to benefit by paying low wages.

In summary, while as with most issues there is a plethora of views and opinions about raising the minimum wage rate, the preponderance of the evidence suggests that raising the federal minimum wage rate would do more good than harm. However, 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.

VIII. Business Activity

Business activity is positive but is also indicative of a weak economy. Business investment continues to be lackluster.

1. Recent Developments

Manufacturing has been strong for many months and got even stronger in November. The **ISM Manufacturing Index** rose to 57.3 in November from 56.4 in October. Values of this index above 50 mean that manufacturing activity is expanding. The production subcomponent, already at a high level, rose further to 62.8 and the new orders subcomponent rose to 63.6, indicating continuance of relatively strong manufacturing growth. The employment subcomponent rose to 56.5 from 53.2. Manufacturing continues to be a bright spot in an otherwise lackluster economy.

Small business optimism (**NFIB — National Federation of Independent Business**) improved to 92.5 in November, but remains below the recent peak of 94.4 reached in May. This measure remains at an historically depressed level.

GSAI (Goldman Sachs Activity Index) jumped to 57.2 in November from 50.0 in October. As is the case for the ISM index, a value above 50 connotes business expansion. Importantly, the employment index, which has registered sub-50 readings for several months, moved to a modest expansionary level of 51.3 in November.

2. Business Investment and Capital Stock

Net growth in the real net private stock of capital, as measured by the 5-year average rate of growth, has fallen from about 3.5 percent in the mid-1950s to 1.2 percent. Growth was a marginally higher 1.4 percent in 2012. While business investment spending has recovered from the depths of the Great Recession, it has risen only to its long-term average which is considerably below levels experienced during vigorous past economic expansions. The recent decline in nonfarm productivity growth is especially worrisome because it indicates the consequences of weak investment spending and the declining rate of growth in the real net private stock of capital.

All three components of private investment — equipment/software, structures (residential and nonresidential), and intellectual property have grown more slowly in the current economic expansion than in past expansions. Growth in structures has been especially weak. The pattern of weak growth has impacted most all industries — construction, finance and retail being among the worst.

However, GS expects private investment spending to ramp up in coming quarters and to grow an average of approximately 8 percent annually over the next three years.⁴ Because private investment is 15.7 percent of real GDP, an 8 percent growth rate would add about 1.25 percent to annual real GDP growth. If, instead, investment grows at its 30-year average of about 3.0 percent, the boost to real GDP growth would only be about 0.50

⁴Mericle, David. “*US Daily: A Closer Look at the Capital Spending Drought*,” Goldman Sachs Research, October 14, 2013; and “*US Daily: Capex: The Fundamentals Remain Strong*,” Goldman Sachs Research, November 12, 2013.

percent. This differential of 0.75 percent is very significant and will spell the difference between a rapid closing of the output gap and ongoing economic stagnation.

First, GS finds that some, but not all, of the slowdown in investment growth is due to slowing population growth. Growth in the capital stock, when adjusted for population growth, should have been 1 percent annually in the current expansion; instead it has only been 0.1 percent. Only 3 of 19 industries — agriculture, mining, and transportation — have experienced above average growth in the capital stock.

GS has constructed an econometric model of investment activity. Variables include lending underwriting stringency, as measured by the Federal Reserve's Senior Lending Officer survey; the lagged profit rate on domestic capital; two lags of consumption growth; the lagged growth rate of the capital stock; and potential labor force growth. Over the next 12 months the model forecasts 10.0 percent growth in equipment/software, 8.0 percent in structures, and 5.5 percent in intellectual property, which averages out to 8.0 percent overall.

GS's forecast model indicates that the current low rate of investment spending is due to the consumption component. Thus, GS's forecast that investment will rise to 8.0 percent depends upon its assumption that real consumption growth will ramp up to 3.0 percent by the end of 2014. This is a chicken and egg problem. GS's model clearly confirms the virtuous feedbacks between consumption and investment growth. The question is one of what will be the catalyst that stimulates consumption growth and ignites the virtuous circle between investment growth and consumption growth.

Recent investment growth has fallen short of GS's expectations and bank commercial loan growth is slowing. Both are moving in the wrong direction. Of course, this could reverse in 2014.

ISI's recent capital expenditures and hiring survey indicates that investment spending should improve somewhat in 2014, but ISI's report adds that companies are cautious and most investment spending will be for replacement and productivity improvements rather than for additional capacity.

While GS's optimism is plausible, the balance of risks appears to point toward somewhat slower growth in investment and consumption spending and, therefore, in GDP growth.

IX. Monetary Policy, Inflation and Interest Rates

The FOMC meets on December 17 and 18. This meeting occurs after the writing of this month's letter, but before its distribution. Thus, whatever I say below about what the FOMC might or might not do could turn out to be old news or wrong news.

Recent data reports for GDP, employment, and retail sales have exceeded expectations. This has led to speculation that the FOMC might begin to taper large-scale asset purchases as soon as this month's meeting. However, inflation has been a little lower than expected, which argues for a later start to tapering.

1. Monetary Policy Objectives and FOMC Communications

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

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

- First, historically, the FOMC's primary policy instrument was changing the federal funds rate. Changes in this rate affected interest rates and the cost of capital. By easing monetary policy through reductions in the federal funds rate, the FOMC expects to stimulate business investment spending and consumer spending on durables such as homes and cars.
- A second transmission mechanism involves boosting financial wealth and stimulating additional consumer spending.
- A third transmission mechanism is to change market and household expectations through policy statements. This is where the credibility of the FOMC's communications becomes important. If communications lack credibility, this transmission mechanism will not work as intended.

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

When interest rates hit the zero boundary in early 2009, the primary policy instrument of cutting the federal funds rate ceased to be effective. In an attempt to overcome this problem the FOMC has implemented non-traditional policy tools including large scale asset purchases, calendar-based guidance, and projections of economic variables, including an unemployment rate threshold of 6.5 percent for considering whether to increase the federal funds rate.

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

There is general agreement in the market that the FOMC's policy com-

munications have become less transparent over the course of 2013. How a Yellen chairmanship will deal with this problem remains to be seen. In the meantime, lack of policy clarity and data-dependent guidance implies that the bond markets will probably be volatile.

If the objective of large scale asset purchases were to reduce long-term interest rates, that objective no longer appears to be achieved. Following Bernanke's congressional testimony in May and the June FOMC meeting in which tapering of large scale asset purchases was discussed the ten-year Treasury yield soared from 1.66 percent on May 2 to 2.98 percent on September 5. This rate fell only to 2.69 percent on September 18, the day of the FOMC's meeting, when the FOMC surprised the markets by not beginning tapering as expected. Since then the 10-year Treasury rate was edged back up and was 2.88 percent on December 13. During this time period the core rate of PCE inflation edged down to 1.1 percent, which means that the real rate of interest has increased from about 0.5 percent in early 2013 to 1.7 percent recently.

Clearly, the objective of large scale asset purchases to reduce long-term interest rates has been impaired. Except for residential housing, it is not clear that low long-term interest rates were having much of an impact on real economic activity. As rates have risen in the second half of 2013, housing activity has weakened.

However, if the objective of quantitative easing was to lift prices of financial assets so as to stimulate consumer spending, then the policy must be judged to be a huge success. The S&P 500 stock average has risen 11 percent since May 2. Stock prices depend on the discount rate and the discount rate falls when long-term interest rates fall. Thus, the failure of quantitative easing to depress long-term rates should have had a negative impact on stock prices. So far, however, stock prices have continued to rise. Quantitative easing also has an expectations effect and that effect appears to be dominating stock price performance. In that respect a policy to taper or not to taper has an effect on expectations similar to policy guidance. Market participants appear to believe that large scale asset purchases support market liquidity and diminish downside risks. *What is important is not whether this is actually true but that the market believes it is true.* As long as that belief prevails continuation of large scale asset purchases will support stock prices, while tapering will threaten them.

2. Tapering Large-Scale Asset Purchases

Opinion about when tapering will start is split roughly between the January and March 2014 FOMC meetings. While the recent stronger data could prompt the FOMC to begin tapering following its December meeting, an argument can be made that it needs to clarify its forward guidance first.

3. Optimal Control Approach to Monetary Policy — Potential Policy Adjustments

Several months ago Janet Yellen made a number of speeches outlining an “optimal control” approach to monetary policy. Optimal control policy involves applying the various monetary policy tools in ways that minimize the deviations over time from the two policy mandates — the unemployment rate and the rate of inflation. The target unemployment rate is currently 5.5 percent and the target PCE inflation rate is 2 percent. Deviations currently are very large for both policy targets.

Before the federal funds rate hit the zero boundary, monetary policy generally was guided by the Taylor Rule which specifies what the federal funds rate should be given deviations in unemployment and inflation from their target levels. There were two shortcomings of the Taylor Rule. First, while the rule was simple in concept there were differences of opinion as to how to measure the quantitative inputs in the policy equation. This led to differences of opinion as to what the federal funds rate should be at a particular moment in time. Second, the rule described a static situation and implied that the federal funds rate should be adjusted instantly. Optimal control theory acknowledges that monetary policy impacts unemployment and inflation over a fairly long time period and involves feedback loops between the two targets. In other words, an optimal policy might involve intentionally missing one of the two targets for a short period of time to ensure that satisfactory progress is made on the other target. This is usually interpreted as meaning that it might be appropriate to permit inflation to exceed the 2 percent target by a little bit for a short period of time if that resulted in a faster reduction in the unemployment rate to the 5.5 percent target.

Federal Reserve economists have been hard at work analyzing an opti-

mal monetary control framework, constructing models, and conducting simulations. Two papers were presented at the International Monetary Fund conference on November 5, 2013. The first paper, “*The Federal Reserve’s Framework for Monetary Policy — Recent Changes and New Questions*,” was authored by William English, head of the Fed’s Monetary Affairs Division, David Lopez-Salido, and Robert Tetlow, which is referred to as the “English” paper.⁵ The second paper, “*Aggregate Supply in the United States: Recent Developments and Implications for the Conduct of Monetary Policy*,” as authored by David Reifschneider, William Wascher, and David Wilcox, Director of the Division of Research & Statistics, which is referred to as the “Wilcox” paper.⁶

The English paper reviews monetary policy developments and communications strategies and uses model simulations to examine alternative policy rules and implementation strategies. The key finding is that by delaying raising the federal funds rate until late 2016, the unemployment rate would fall an additional 0.5 percent by 2015-16 at the cost of a small increase in the inflation rate. The implication is that the unemployment rate threshold for considering raising the federal funds rate should be reduced below the current guidance level of 6.5 percent.

The Wilcox paper analyzes the possibility that the Great Recession may have reduced the long-term potential growth rates in employment and real GDP because of increases in structural unemployment and reductions in productivity due to reduced capital investment. The paper makes a case for more aggressive monetary policy to mitigate these adverse developments. Based on model simulations the authors conclude that substantial improvements in labor and output growth can be achieved by delaying raising the federal funds rate for one to two years longer than a standard Taylor Rule dictates. This implies that the first increase in the federal funds rate would not occur until 2017. The Wilcox paper also discusses the potential consequences of an extended period of zero interest rates and suggests that there is risk of credit and financial bubbles and financial instability. In other

⁵English, William B., Lopez-Salido, J. David, and Tetlow, Robert J. “*The Federal Reserve’s Framework for Monetary Policy — Recent Changes and New Questions*,” Finance and Economics Discussion Series, Divisions of Research & Statistics and Monetary Affairs, Federal Reserve Board, Washington, D.C., 2013-76

⁶Reifschneider, Dave, Wascher, William, and Wilcox, David. “*Aggregate Supply in the United States: Recent Developments and Implications for the Conduct of Monetary Policy*,” Finance and Economic Discussion Series, Divisions of Research & Statistics and Monetary Affairs, Federal Reserve Board, Washington, D.C., 2013-77.

words, what is optimal now, may not be optimal in the long run, if a policy of delaying raising the federal funds rate leads to a new financial crisis in a few years.

It is interesting that both these papers are consistent with a later increase in the federal funds rate that my own model has projected for some time (see **Chart 25** below) than indicated by FOMC projections and market expectations. Neither paper should be treated as reflecting FOMC monetary policy. However, both are indicative of the debate that is underway inside the Fed. The FOMC still is faced with the tasks of deciding what to do about quantitative easing and in improving communication of policy intentions.

Goldman Sachs has built its own set of simulations to test optimal monetary policy pathways.⁷ The GS paper adds an interesting twist by calculating the net welfare gain or loss of various alternative pathways. The authors conclude that a policy linked to 6.0 percent unemployment rate and 2.5 percent inflation rate thresholds achieves an optimal welfare outcome. However, they also note that the model's results depend upon the assumptions used to construct it, which may or may not be a reasonable reflection of how the real world would work. In other words, the model is an interesting exercise, but it does not eliminate uncertainty surrounding specification and implementation of a policy framework. The same caution applies to the findings of the English and Wilcox papers.

4. Policy Clarifications

Refinement of monetary policy seems likely in coming FOMC meetings. Chairman Bernanke has indicated and the minutes of the October FOMC meeting reinforce that the FOMC is moving toward using forward guidance as its primary monetary policy tool. Bernanke said that the FOMC does not view forward guidance and quantitative easing as entirely equivalent. More specifically, asset purchases involve greater uncertainty and entail risks, which, although manageable, are not fully understood. Whether risks are manageable will not be known for a long time. Perhaps the greatest risk is that quantitative easing, in combination with forward guidance, could foster financial instability in the long run by facilitating speculation in financial

⁷Stehn, Sven Jari, and Mericle, David. "Thresholds and Thereafter," Goldman Sachs US Economics Analyst, Issue No: 13/46, November 15, 2013.

assets — in others words, yet another bubble.

It could take several meetings to establish a revised policy framework that provides transparency, clarity, and credibility, while at the same time moving forward with systematic curtailment of large-scale asset purchases.

Elements that are likely to be addressed include:

- Initiating tapering of large-scale asset purchases — amounts and time-frame for tapering or guidance metrics in a data-dependent environment will need to be specified. Alternatively, the FOMC could establish a maximum balance sheet size, but leave some discretion for the exact amounts and timing of tapering. The latter approach would align better with a data-dependent policy.
- Strengthening policy guidance for raising the federal funds rate — there is increasing discomfort with the 6.5 percent unemployment rate threshold; the threshold could be lowered or the 6.5 threshold could be linked to the inflation target. In the latter approach the FOMC would state that if the unemployment rate falls below 6.5 percent, the federal funds rate would not be raised as long as the inflation rate was below some stated level.
- Establishing “Inertial Taylor Rule” guidance — this would involve stating that federal funds rate increases would be limited not to exceed a specific amount, say 50 basis points a year, until the unemployment rate reached the next guidance threshold or inflation rose above a certain level. This kind of guidance could improve communications transparency by providing more explicit conditions for raising the federal funds rate.
- Cutting interest paid on excess reserves (IOER) — such an action, according to the minutes of the October FOMC meeting, would signal the FOMC’s intention “... to keep short-term rates low or reinforce the forward guidance on the federal funds rate.” John Williams, president of the San Francisco Federal Reserve Bank, has been a vocal proponent. Because the IOER rate is now 0.25 percent, any cut in that rate would be unlikely to have any direct benefits other than as a signaling device. For example, why would banks increase lending if there is a small decrease in IOER? Lending depends primarily on borrower demand and not on a miniscule decrease in the bank’s earning rate

on excess reserves. Disadvantages of such a policy include disrupting the federal funds and money market mutual funds markets, and subjecting depositors to negative interest rates net of the FDIC deposit insurance premium. Because the FDIC levies insurance premiums on total assets, the net earnings rate on excess reserves equals 25 basis points less the 7 to 10 basis points insurance charge. Fannie Mae and Freddie Mac are large suppliers of federal funds, which banks purchase at approximately 13 basis points currently and deposit at the Federal Reserve at an earnings rate of 25 basis points. This is a 12 basis points net spread and considerably less than that after the FDIC insurance premium is deducted. It is easy to see why a small decrease in IOER could upset the federal funds market.

Other policy tools, such as targeting nominal GDP growth, are possible but unlikely.

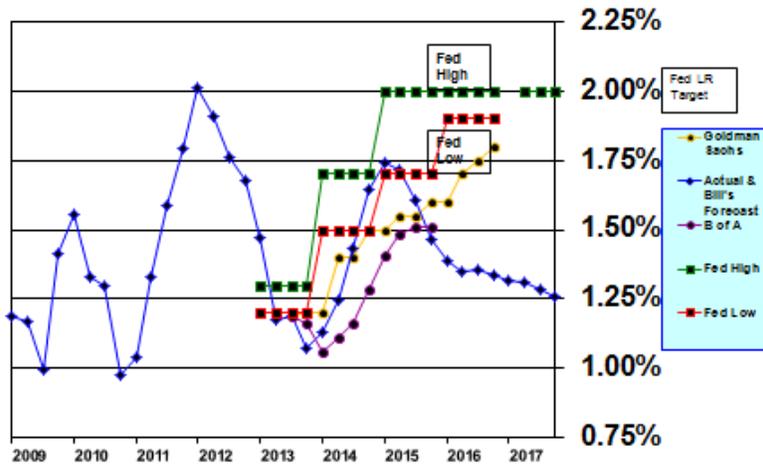
5. Prospects for PCE Inflation

Core PCE inflation was 1.11 percent in October and total PCE inflation was 0.74 percent (see **Chart 24**). 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 **Table 8** (**Chart 24** shows historical core PCE price index data and data from **Table 8** in graphical form), forecasts of the core PCE inflation index indicate that inflation should edge up slowly in 2014 from its October level of 1.1 percent to 1.3 to 1.6 percent in 2014, which is generally consistent with the lower bound of the FOMC's central tendency range for 2014. However, in 2015 and 2016 my core inflation forecasts edge down a bit while other forecasts move modestly higher but remain below 2 percent. CPI forecasts are shown in the bottom panel of **Table 8**. Over the last 20 years CPI inflation has averaged about 40 basis points higher than CPE inflation. Assuming this differential does not change materially in the

CHART 24 – Core PCE Inflation Forecasts
(percentage change over previous 12 months)



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future, most inflation forecasts are a tad more pessimistic than the FOMC's projections.

6. Federal Funds Rate

Chart 25 shows the FOMC's central tendency range for high and low projections for the federal funds rate for 2013, 2014, 2015, and 2016. *These projections have not been updated for the December FOMC meeting.* The purple line (circles) is the average of projections for the 19 FOMC members (7 governors and 12 presidents). The projections imply that the first increase in the federal funds rate will take place either very late in 2014 or in early 2015, although two do not expect the first increase to occur until 2016.

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 occurs in the third quarter of 2015.

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

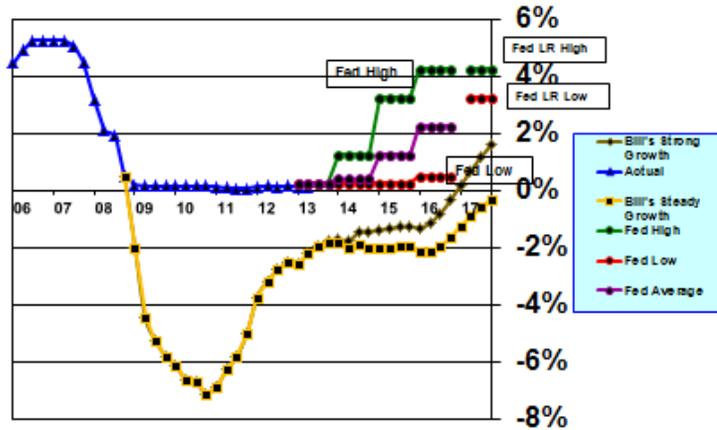
Core CPE	2013	2014	2015	2016	2017
B of A	1.2	1.3	1.5		
GS	1.2	1.5	1.6	1.8	
Bill’s Steady Growth	1.1	1.6	1.5	1.3	1.3
Bill’s Strong Growth	1.1	1.6	1.4	1.5	1.6
FOMC — High	1.3	1.7	2.0	2.0	
FOMC — Low	1.2	1.5	1.7	1.9	
Total CPI	2013	2014	2015	2016	2017
Global Insight*	1.5	1.6	1.7	1.9	
Economy.com*	1.4	1.8			
Blue Chip Average*	1.5	1.9	2.2	2.3	2.4

*Not updated from November

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 2017 or later, which is inconsistent with FOMC guidance and my forecast that the unemployment rate should fall below 6.5 percent in early-2015. In my “*Strong Growth*” forecast, the first increase in the federal funds rate occurs in late 2016.

However, if the unemployment rate guidance is reduced to 6.0 percent, Bill’s “*Steady Growth*” scenario indicates that consideration of the first increase in the federal funds rate would move from early-2015 to early-2016, compared to late-2016 in **Chart 25**. Based upon a 6.0% unemployment rate threshold, consideration of the first increase in the federal funds rate in Bill’s “*Strong Growth*” scenario would move from late-2014 to late-2015, compared to late-2016 in **Chart 25**. Later dates for the first increase in the federal funds rate are more consistent with the “optimal control” monetary policy analysis than with the FOMC’s unemployment rate guidance or federal funds projection “dots.”

CHART 25 – Federal Funds Rate Forecast



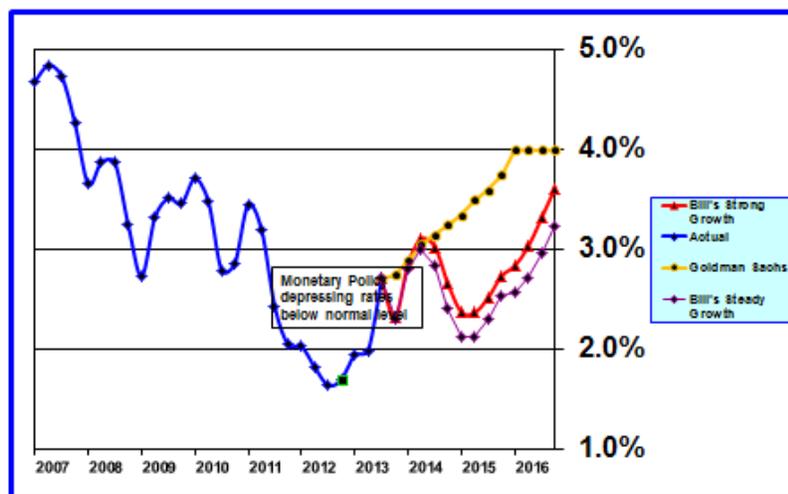
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7. 10-Year Treasury Rate

Chart 26 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).

As can be seen in Chart 26, my 10-year forecast for the “*Steady Growth*” scenario remains near its current level for the next year and then falls about 50 to 75 basis points to approximately 2.25 percent by early 2015 and then gradually increases to about 3.25 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 3.75 percent by late 2017.

In contrast, 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 4.00 percent by the end of 2016. The principal difference between my forecasts and GS’s is that I forecast inflation to be about 25 to 50 basis points lower and the employment gap

CHART 26 – 10-Year Treasury Rate Forecasts

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to be a little higher.

What is important to note is that none of these forecasts indicates a surge in the 10-year rate for a very long time. Indeed, the 10-year rate should fluctuate in a narrow range around 2.75 percent for at least the next year and move only modestly higher after that.

X. Fiscal Policy Developments

On December 10, 2013, Rep. Paul Ryan (R) and Sen. Patty Murray (D) announced a compromise on the federal budget. In spite of strident Tea Party opposition, the House passed the compromise by a vote of 332-94. For the time being the congressional budget wars have ended. All that remains to be addressed is the debt ceiling; it seems likely that a way will be found to do that without once again threatening default. The rapid decline in the size of the budget deficit is quickly taking the urgency out of using the debt ceiling as leverage to address deeper-seated fiscal issues such as tax and entitlement reform.

1. Key Features of the Budget Deal

- The deal covers both fiscal 2014 and 2015.
- Discretionary spending is raised \$45 billion over the fiscal year 2014 limit of \$967 billion to \$1,012 billion.
- Discretionary spending is raised \$19 billion over the fiscal year 2015 limit to \$1,014 billion. (Note that the 2016 fiscal year budget limit is \$1,016 billion, which means that the compromise effectively sets discretionary spending close to the 2016 limit for the next two years.)
- Defense outlays will be \$18 billion higher in calendar year 2014 and \$9 billion higher in 2015; \$520 billion in 2014, \$521 billion in 2015, and \$523 billion in 2016.
- Non-defense outlays will be \$20 billion higher in calendar year 2014 and \$8 billion high in 2015.
- Budget committee chairs are permitted to determine spending levels for both fiscal years 2014 and 2015 and to set limits for appropriations. This removes the arbitrary across-the-board spending reductions and permits allocation of expenditures within spending limits; Congress will still need to pass appropriation bills or a continuing resolution.
- Discretionary spending is increased \$62 billion over 10 years, all of which occurs in the next two years, which is offset by \$85 in spending cuts and additional fees.
- The deal reduces the 10-year budget deficit by \$23 billion but only \$14 billion after adjusting for timing effects on interest on the federal debt; and further reduces the deficit by \$100 billion between 2024 and 2033.
- The offsets are loaded onto the out years, which means that fiscal policy will have a smaller negative impact on real GDP over the next two years — -0.4 percent in 2014 instead of -0.5 percent, and a benefit of less than 0.1 percent in 2015.
- Offsets include:
 - ✓ Extends 2 percent Medicare sequester to fiscal years 2022 and 2023.

- ✓ Extends sequester for fiscal years 2022 and 2023 for specified mandatory programs.
 - ✓ Increases new (not existing) federal employee contributions to their pensions from 3.1 percent to 4.4 percent.
 - ✓ Slows growth in military retirement pension benefits to CPI minus 1 percent for retirees under the age of 62.
 - ✓ Raises PBGC (Pension Benefit Guarantee Corporation) fees for guaranteeing private pensions.
 - ✓ Increases TSA fees for airline passengers to \$5.60 for all flights.
 - ✓ Includes several program integrity (fraud abuse) and efficiency provisions.
 - ✓ Repeals certain natural resource programs and changes or caps others.
 - ✓ Reduces the maximum fee that guaranty agencies may collect from borrowers who default on student loans.
- In addition to omitting extension of emergency unemployment benefits, the compromise did not address the farm bill, which is scheduled to expire at the end of 2013.

2. Debt Ceiling

Congress has suspended the federal debt ceiling until February 7, 2014. That means that the U.S. Treasury can borrow as much as it needs until then, but it has no authority to over borrow and stockpile cash. A new debt ceiling will commence instantaneously on February 7, 2014 at whatever debt level exists on that date. Past experience suggests that Congress will take its time and debate attaching various fiscal initiatives to a debt ceiling increase. Thus, it seems likely that Congress will not pass debt ceiling legislation until the U.S. Treasury has exhausted all available methods to continue financing operations. That is not likely to occur until sometime between mid-March and May. While this will create policy uncertainty, which is not market friendly, the recent budget compromise probably will cause the market to assume that Congress will reach agreement, thus limiting potential negative effects of policy uncertainty.

3. Congressional Budget Office Long-Term Budget Outlook

In October, CBO released an update of its long-term budget outlook which extends 75 years to 2088. The public debt to GDP ratio falls from its current level of 71% to about 68% by 2018, but then reverses course, rising to 71% in 2023, 93% in 2035, 129% in 2050 and 233% in 2085. Annual budget deficits rise from 2.1% of GDP in 2015 to 3.3% in 2023, to 6.1% in 2035, 7.8% in 2050 and 13.5% by 2085.

The problem is due entirely to the entitlement programs of Social Security, Medicare and Medicaid. With sequestration assumed, there is little left to squeeze out of discretionary spending. Of course, cutting entitlement expenditures is not the sole solution to the problem of exploding debt. Tax increases and tax reform could also be part of the solution.

However, now that the budget has been extended for the next two years, it is highly unlikely that Congress will make any serious effort to address budget issues until after the next presidential election in 2016.

4. State and Local Government

State and local government spending accounts for 11.0 percent of real GDP. Prior to the onset of the Great Recession it accounted for 12.3 percent of real GDP and in 1999, when the Bureau of Economic Analysis first reported state and local spending separately, state and local spending accounted for 13.7 percent. State and local expenditures were about \$100 billion less in the third quarter of 2013 than in the fourth quarter of 2007, but have now increased modestly for two quarters. Also, state and local employment is growing after contracting for the last several years.

While state and local government spending growth no longer will be a negative drag on real GDP growth, the costs of funding social programs and underfunded pension plans and citizen resistance to higher taxes are likely to depress the rate of growth below the overall real rate of growth of GDP. In the nine years leading up to 2008, real state and local spending grew 1.37 percent annually. Spending may grow a bit faster than that over the next three years as typically occurs during the initial phase of recovery (GS forecasts real growth of 1.4, 1.7 and 1.9 percent in 2014, 2015, and 2016), but longer term, it is hard to see what would drive state and local spending

growth higher than the pre-Great Recession real growth rate of 1.4 percent.

XI. Europe

Optimism permeates markets as we enter 2014 and the European Union (EU) collectively emerges from recession. However, the disparities in economic performance among the EU member countries are substantial. For long-term survival of the EU, such disparities must diminish. That requires creating governance and fiscal structures that provide for greater integration. It also would require the strongest economy — Germany — to modify its current export-driven economic model. While there has been a lot of talk about what is needed, little of substance has taken place and there is little reason to expect further action of consequence to occur.

Take, for example, the banking union. To be fully effective a banking union needs uniform supervision, deposit insurance, and a credible resolution mechanism. Only the first of these is in the process of implementation and it could have negative consequences during 2014. The European Central Bank (ECB) will be conducting rigorous stress tests of the banks it is now charged with supervising. Many expect that the ECB will determine that some of the banks are inadequately capitalized. That would likely set in motion another round of credit stringency as the affected banks try to shrink their balance sheets. Credit conditions are already very tight. Unlike the U.S. where much of business lending is provided by the capital markets, European banks are by far the dominant providers of credit. It will be hard to accelerate economic growth as long as credit conditions are extremely tight.

There is implied deposit insurance of euro100,000 in the EU but, unlike the U.S. FDIC, there is no EU equivalent and thus there are no uniform standards governing deposit insurance. This creates ambiguity and will prompt massive transfers of deposits out of a bank at the first hint of serious trouble. Remember that a feature of the euro is that deposits denominated in the euro may be moved without restriction to any bank domiciled in an EU member country.

There is a working draft of an approach to resolution but no institution exists to implement it. Troublesome, however, is that the approach relies on

a “bail-in” of uninsured creditors. This approach assures that depositors will act first and ask questions later whenever there is doubt about the solvency of a bank. It is a recipe for bank runs. Again, the U.S. is a model for how deposit insurance and bank resolution can be handled within a bail-in policy framework without destabilizing the financial system. So far members of the EU have been unable or perhaps, more accurately, unwilling to agree on giving up sovereignty to establish the necessary institutional entities.

The absence of a fiscal transfer mechanism along with the common currency means that the only available economic adjustment mechanism is fiscal austerity and repression of wages. But these mechanisms depress economic activity and eventually breed social unrest and fuel political instability.

Germany’s export model has resulted in large trade surpluses. This is good for German workers because it creates jobs and economic growth. It is not good for other countries because they end up running balance of payments deficits and losing jobs. A related development is that Germany’s strong economy has resulted in a very strong euro, which makes it more difficult for weaker European economies to compete globally. To date Germany has shown little evidence that it understands that its economic policies, while strengthening Germany, are weakening the EU. And, even if its policymakers and politicians did understand, it is unclear that the German electorate would countenance significant policy changes.

Europe may well muddle through 2014 with modest growth. But, the risks of setbacks remain high. Fragmentation of the EU is still in process and promises to worsen.

1. United Kingdom

Economic recovery is gaining momentum in the U.K. Estimates of U.K. real GDP growth in 2014 range between 1.9 and 2.5 percent. But, there is increasing concern that the good news is simply the result of housing and debt bubbles, which will turn out to be unsustainable in the long run. The cynical interpretation is that Chancellor George Osborne intentionally launched a bubble in housing prices with his “Help to Buy” plan, which entails government guarantees of housing lending at 20 to 1 leverage ratios, to ensure strong economic growth going into the next parliamentary election, which must be held not later than May 2015.

Unemployment has been falling and that is viewed as good news. However, this has not come without significant costs. The U.K.'s real GDP is still 2.5 percent below the pre-2008 level, but employment is 300,000 higher. This means that worker productivity has fallen a lot. Hourly wages have not kept up with inflation and average hours worked have fallen, which means that real spendable income is sharply lower.

Put these two developments together and the conclusion is that current economic growth is credit fueled rather than income fueled. It could go on for a while just as most bubbles do, but it is not likely to end well.

2. Germany

Germany enacted significant economic reforms between 2003 and 2005 based on Gerhard Schroeder's Agenda 2010. At the time Germany's economy was sputtering and Germany was sometimes referred to as "the sick man of Europe."

Agenda 2010 entailed large cuts in corporate income tax rates; reductions in public medical insurance, pensions, and unemployment insurance; and significant labor market reforms, which prioritized employment over high wage rates.

Nearly ten years later Germany is an economic powerhouse with low unemployment and reasonable growth, given the extensive difficulties in the rest of the Eurozone. Germany also has transformed its balance of payments from chronic deficits to enormous surpluses. This development stemmed directly from the Agenda 2010 reforms which embedded a substantial competitive advantage in the German economy which was amplified by its participation in the Eurozone and the shared common currency.

Unfortunately, Germany's success has contributed to weakness in some other European countries. Ordinarily, a growing competitive advantage would cause the value of the country's currency to rise and that would increase the price of its exports offsetting the competitive advantage. But this cannot occur completely when the currency is shared with countries with less competitive economies. Consequently, Germany's trade surplus not only was large but it grew over time.

One country's trade surplus must be offset by trade deficits in other countries. By running a consistent trade surplus, Germany transfers production and jobs from deficit countries to Germany. That was good for German growth and German employment but hurt growth and employment in deficit countries.

Germany could have reduced its competitive advantage by using fiscal policy to stimulate consumer spending. This would have resulted in moderate increases in inflation and somewhat higher wage increases, which would have lowered Germany's competitive advantage.

But, Germany did the opposite. Having engaged in belt tightening to become more competitive and then benefiting, the German public felt that austerity was not just a matter for German workers to endure but that the government should live within its means as well. This meant that German fiscal policy was tight when it should have been easy. This, unfortunately, fed the beast and the competitiveness gap grew larger.

In a recent U.S. Treasury Department report on foreign economic and currency policies, Germany was sharply criticized for its huge balance of payments surplus which the report cited as creating "... a deflationary bias for the euro area, as well as for the world economy."

It has been German policy to demand that members of the Eurozone reduce budget deficits. In Germany austerity policy works because of its economic model and its competitiveness. However, in less competitive countries austerity depresses economic activity, engenders recession and, in the case of Greece, an ugly depression.

Germany could transfer some of its accumulated wealth to other Eurozone countries through fiscal transfer or by agreeing to replace sovereign country debt with Eurobonds. But Germany has adamantly opposed such proposals.

Unfortunately, rebalancing of the Eurozone economies cannot occur until Germany adjusts its economic model. It looks like the new German coalition government will take some steps to stimulate the German economy, including raising the minimum wage, cutting the retirement age for certain workers to receive pension benefits, increased infrastructure spending, and some other initiatives. The total package amounts to euro23 billion of additional spending through 2017, or about 0.2 percent of GDP per year for four

years. While these fiscal initiatives will have a modest impact on reducing Germany's competitiveness, much more significant change is necessary and this Germany refuses to do. Thus, the integrity of the EU will probably continue to erode slowly and its long-term survival is in doubt.

What we have learned over the last two years is that the promise of liquidity by the ECB has taken investor risk off the table. This means that financial markets will probably not be the catalyst for forcing rebalancing. Rebalancing will eventually occur, but it may take a very long time to unfold. The catalyst most likely will be slowly escalating social unrest in economies with high unemployment rates and the gravitation over time of voters to political parties on the right and the left that do not have a stake in the preservation of the EU.

3. France

France has emerged, just barely, from recession, but the IMF projects only 1.0 percent real GDP growth in 2014 with gradual improvement in following years. France's public-debt-to-GDP ratio will rise to 95 percent in 2014 and then will gradually fall. This is the Goldilocks scenario. Slower real GDP growth or higher interest rates would quickly derail this scenario. The debt situation is fragile because about two-thirds of France's public debt is held by non-resident investors. For the time being the IMF's projections appear to be reasonable.

On November 12, 2013, the Organization for Economic Cooperation and Development (OECD) issued a report in which it concluded that France lags other European countries in adopting reforms to improve its competitiveness. In fact, the competitiveness gap between France and Germany continues to widen. This is not a sustainable situation and will lead to trouble if not reversed.

Although France may muddle through its economic and financial challenges, the political situation is changing with Marie Le Pen's National Front gaining ground. The latest national polls show President Hollande's Socialist party in third place with 19 percent, the center-right UMP party with 22 percent, and the National Front party leading with 24 percent. If the National Front party continues to gain momentum, it could do very well in the May 2013 European parliament elections. The National Front has carved

out messages that are resonating. It is highly critical of France's banks and global capitalism. It espouses strong French nationalism and is highly critical of the European Commission (EC). It defends France's expansive social welfare system and rejects austerity. The National Front wants to hold a referendum on EU membership and has proposed exiting the EU in tandem with Italy and Spain. This probably would be very attractive to Italian and Spanish voters, given the condition of their economies, but French voter receptivity is another matter. Obviously, such a development would not be in Germany's interests.

4. Italy

While much of the rest of Europe has emerged from recession, Italy has not. Italy's unemployment rate rose to 12.5 percent in September and is expected to rise to 13.0 percent before topping out. Even though interest rates have fallen on Italian sovereign debt, negligible growth in nominal Italian GDP means that its ratio of public-debt-to-GDP continues to rise. This relationship is not likely to reverse any time soon. The implication is that either recession will continue or there will be almost negligible positive growth and the unemployment rate will remain stuck at a very high level and could increase more than expected.

Italy's political coalition is fragile and social unrest continues to build. To add to the Five Star Movement's unexpectedly strong showing in the last election, a new popular movement, the Pitchforks Movement, has evolved quickly from a protest group in Sicily to one that was able to stage significant anti-austerity protest rallies of farmers and truck drives in Rome, Venice, and Turin on December 14. The Pitchforks Movement is critical of Italian politicians, austerity, and the European Union. It is also opposed to taxes. Its goal is resignation of the current national government and new elections.

What is happening in Italy is indicative of what is happening elsewhere in Europe. Support for mainstream governing parties is eroding. High unemployment is fostering increasing social unrest which traditional institutions, including political parties and trade unions, have been unable to channel. While the Pitchforks Movement may flame out as quickly as it came to prominence, its rapid rise is indicative of growing discontent.

5. Spain

Spain's GDP grew 0.1 percent in the third quarter after contracting by a similar amount in the second quarter. Some might argue that the worst is past, but favorable net exports, primarily the consequence of plummeting imports, more than offset continued deterioration in domestic demand. The official European Union forecast is that Spain's GDP will expand 0.5 percent in 2014. Risks are heavily weighted to the downside, however. Small and mid-sized businesses in Spain are suffering severely from unrelenting tightening of credit.

Domestic inflation eked out a year over year gain of just 0.1 percent in the third quarter and was 0.0 percent in October. Deflation is a strong possibility in coming months. The unemployment rate has risen to 26.6 percent.

As is the case in Italy, interest rates have fallen but the public-debt-to-GDP ratio continues to rise.

In spite of the recapitalization of many Spanish banks, a practice of pretend and extend by refinancing housing loans has hidden embedded losses. Recapitalization was accompanied by stricter valuation standards. As a result mortgage delinquencies have been rising rapidly. According to a recent report, Spain's six largest banks have refinanced euro50.8 billion in home mortgages since December 2012. Over the same period doubtful loans have risen from 36 percent to 46 percent of refinanced loans.

As in Italy, support of two centrist political parties is eroding. Polls indicate that they command support from 57 percent of the Spanish electorate compared to 73 percent in 2011 when the last election was held.

6. Greece

Greece's unemployment rate was 27.4 percent in September. Industrial production has collapsed 33 percent since 2007. Wages have declined about 10 percent over the last two years. Consumer prices in November were 2.9 percent below a year earlier as deep deflation has taken hold. Another small decline in Greece's real GDP is forecast for 2014.

While Greece's borrowing rate is down to 8.5 percent, rapidly declining nominal GDP, courtesy of ongoing recession and deflation, is causing the public-debt-to-GDP ratio to explode. This is a disaster scenario.

Greece has a financing gap of euro10.9 billion in 2014 and 2015. While this gap can be funded through further austerity measures, it would merely exacerbate the vicious debt-deflation circle that is slowly destroying the Greek economy. Ultimately, the ECB and EU will likely be forced to write down the value of their holdings of Greek sovereign debt, which is something that in previous bailouts was restricted to private sector investors, but there are few private sector investors remaining. B of A estimates that Greece eventually will need euro100 billion in debt relief.

Greece's current coalition government holds only a three-seat majority. New elections are not in the offing soon unless the coalition falls apart. However, the European parliamentary elections in May 2014 could lead to an overwhelming defeat of the two coalition parties and catalyze a collapse of the government. There is a reasonable chance that if new elections were held, Syriza would win. It has called for Greece's exit from the EU.

7. Summary

So, if you thought all is well in Europe and things are getting better, that is hardly the case in several key countries. Europe may well limp through 2014 with feeble economic growth and it may avoid political turmoil. However, the fundamental problems that are tearing the EU apart have not been addressed. Unlimited liquidity from the ECB can hold things together for a while longer, but it is not a lasting solution.

XII. China

China's new leadership is moving forcefully in many ways — corruption, economic reforms, housing policy, and foreign policy.

1. Economic Reforms

It is generally agreed that the program of economic reforms approved by the third plenum in November is bold and far reaching. Generally, the policy focus will shift from demand management of recent years to supply-side reforms.

Three general strategies are already emerging. The first strategy is reform of Chinese governance, such as shifting the activities of government agencies from direct intervention in markets to guiding macroeconomic policy, regulating market activity, and delivering public services. These are customary government functions in market-based economies. In time this should reduce local government direct management of investment spending, which has frequently resulted in inefficient projects, excess capacity, and bad loans.

Second, the reforms emphasize the importance of market forces and reduce the role of government intervention. Market forces henceforward are to play a “decisive” role. What this means is that governments’ ability to manage prices and allocate resources will diminish. Bureaucratic impediments to establishing new businesses will be reduced or eliminated. Restrictions on private investment will be eased. Limitations on the movement of goods between provinces will be removed.

Third, President Xi Jinping is centralizing power to remove obstacles to implementation of reforms (see discussion in section on “Corruption” below). Two new organizations have been created to resolve intragovernmental disputes which in the past have impeded implementation of reforms. One is a national security agency, patterned after the U.S. National Security Council, which will coordinate the activities of various government agencies covering intelligence and military and foreign affairs. The other new organization is a “leading group” on reform. Both organizations will report directly to Xi. The purpose of these two organizations is to cut through bureaucratic obstacles and expedite implementation of reforms.

The broad plan of reform is referred to as the 3-8-3 plan.

There are three sets of reform objectives covering opening up market competition, transforming the role of government, and improving the management of companies with the overarching goal of reducing the govern-

ment's role in directing economic activity.

These objectives are to be achieved through eight policy initiatives — cutting administrative red tape; promoting competition; reforming land tenure and residence laws; restructuring finance by gradually liberalizing interest rates and exchange rates; strengthening the fiscal and taxation system; reforming state owned enterprises; promoting innovation; and developing the service sector.

There are three expected outcomes: directing more benefits of economic growth to rural communities and farmers; increasing efficiency and the quality of investment by expanding market mechanisms and competition; and creating a basic social safety net, increasing consumption, and helping rebalance the economy through fiscal reforms.

State owned enterprises will come under increased pressure to operate efficiently and to achieve acceptable rates of return on investment. They will be subjected to tighter regulation and forced to compete with private firms. Increased competition will be achieved by putting state owned enterprises and privately owned companies on an equal footing and by increasing private and foreign investment in industries and sectors of the economy previously reserved for state owned enterprises.

Indeed — the reform program is bold. But it is not a capitulation to the west's version of a market economy. China believes that economic success is not dependent upon private ownership but effective competition.

In the long run success of the reforms will depend upon effective implementation. First, China will have to figure out how to restructure its economy to reduce its dependence on manufacturing, infrastructure investment, and exports. Second, China needs to get runaway credit growth under control and avert speculative bubbles. Third, China will have to manage an orderly transition to a lower rate of economic growth.

2. Corruption

In October President Xi Jinping established an organization reporting directly to himself to investigate corruption among highly placed government officials. Recently Xi authorized an investigation of Zhou Yougkang, a for-

mer Politburo Standing Committee member who served as China's chief of security under President Hu Jintao. Zhou presides over a large patronage network linked to the oil industry. Many of Zhou's colleagues are also under investigation.

While there is probably a genuine focus on rooting out corruption which will be popular with the Chinese populace, it also enables Xi to consolidate his own power and remove opposition to implementation or economic reforms that will reduce the sway of state owned enterprises and other state institutions.

3. Social Stability

It is axiomatic that as a nation develops economically and as more of its population accumulates discretionary spending power, individuals increasingly demand freedoms.

China's rapid economic progress has lifted millions out of poverty. Millions more are being added to a rapidly growing middle class. OECD data document that income inequality has declined as China's wealth has grown. Household income growth is an essential development to facilitate China's transformation from economic growth dependent upon capital investment and trade to one that is driven primarily by domestic consumption.

While most would view the decrease in income inequality as a welcome and positive development, it does necessarily mean it will lessen the tensions in Chinese society that threaten political stability. That is because improved economic equality does not translate to improved political equality. The key to political power is membership in the Communist Party. Without that, education, income, and wealth count for little.

China's decline in income inequality actually is not what typically happens as a country develops economically. A deeper look at what is happening in China's labor market provides an explanation for China's divergence from the customary pattern of increasing income inequality as a nation develops economically. China's education policy in recent years has pushed millions into obtaining university educations. The number of college graduates has grown from 1 million in 2000 to 6 million in 2012. The data show that this has resulted in a shortage of blue collar workers and a surplus of educated

white collar workers. In response, wages of blue collar workers are rising rapidly while those for white collar workers are rising less rapidly. In the aggregate, this phenomenon is causing the decline in income inequality.

But, we also know from history that unemployed college graduates in abundance can be the source of potentially significant social agitation. If China can develop more white-collar jobs quickly to absorb the excess supply, it will be a source of substantial strength in propelling rapid economic growth. But, if the job gap remains large, the risks of significant social unrest will escalate.

4. China's Evolving Foreign Policy

On November 23, 2013, China declared a new air defense identification zone (ADIZ) that covers a huge area of the East China Sea, including the Senkaku islands claimed by Japan. The importance of an ADIZ is that China now is claiming the right to monitor foreign air traffic and is requiring flight plans to be filed.

While China's leadership asserted that establishment of the ADIZ was consistent with standard international practice, Japan and the U.S. view it as an aggressive action. China acted unilaterally without consultation. By doing so, China signaled that it intends to pursue its economic, political, and military interests aggressively. It constitutes a direct challenge to Japan's economic and political standing among East and Southeastern Asian countries and to the U.S.'s military and economic influence in the region. China's ADIZ requirements actually go beyond standard international practice. It is requiring all foreign aircraft entering the ADIZ to submit flight plans or risk facing "emergency defensive measures." More typically a country requests, but does not require, filing of flight plans. Also, the threat of defensive measures is not customary.

Though establishment of the ADIZ is largely symbolic and does not immediately pose a significant threat to international stability, it should be interpreted as a provocative statement by the Chinese leadership that it intends to restore China's historical position as a great power. This development should be understood as complementary to the economic and market reforms that will be implemented over the next few years. The intent of those reforms is to enable China to continue to grow rapidly and to amass

the economic power that enables it to expand its regional political influence and dominance.

XIII. Japan

Japan has embarked upon a bold experiment to defeat embedded deflation, lift the real rate of economic growth, and maintain Japan's economic and political power in the face of the growing challenge that China's rise poses.

1. Three Arrows Policy

To accomplish these goals, Prime Minister Shinzo Abe established his three arrows policy. The first arrow involves massive monetary policy easing, the second arrow entails infrastructure investment spending, and the third, and most critical arrow, includes significant economic reforms intended to increase labor force participation and boost productivity and competitiveness. Collectively, the policy was intended not only to change economic dynamics it was also intended to change expectations about demand and inflation so that Japanese consumers and companies would act in anticipation of greater demand and higher inflation and in so doing help to achieve the desired outcomes.

2. Japan's Economic Challenges Are Formidable

The growth rate in real GDP peaked in Japan more than two decades ago. As growth slowed deflation took hold in 1994 and since then has become deeply entrenched. Consumer prices have declined 20% over the last 20 years.

Deflation is not the result of flawed policy but rather of an aging and declining population. We are used to thinking about economic issues in the context of a growing population, not a declining population.

When population ages and declines so, too, does aggregate demand. Internal investment opportunities diminish which forces savings to seek in-

vestments in other countries with growth potential. An external investment focus and internal price deflation led to a steady appreciation of the yen.

Japan's labor force shrank at an annual rate of -0.2 percent between 2001 and 2010 and is forecast to shrink at an annual rate of -0.6 percent between 2011 and 2020, which means that deflationary pressures are rising.

As internal demand shrinks, growth can be maintained only by adopting an export strategy. Of course, such a strategy was Japan's way of promoting rapid development in the 1960s, 1970s and 1980s just as it has been China's strategy more recently. But over time the steady appreciation of the yen eroded Japan's trade competitiveness.

To increase aggregate demand, Japan now needs to reinvigorate its historic export strategy. For similar reasons Germany is pursuing a nearly identical strategy.

Promoting an export-oriented economy is a zero-sum game on a global basis. Japan can pursue an export strategy only so long as other countries tacitly accept a net import balance of trade. So far, other nations have accepted the 20 percent depreciation in the yen over the last year without retaliating.

3. Abenomics' Three Arrows

Shinzo Abe determined that letting Japan grow old and accepting low to negligible growth rates and a constantly appreciating yen was not acceptable. Also, based on the limited and relatively ineffective reflation policies over the last 20 years, he realized that any attempt to boost aggregate demand and end deflation would require massive policy intervention. That is what the three arrows policy is all about.

4. First Arrow — Monetary Policy.

The Bank of Japan (BOJ) adopted two monetary policy targets. The first involved abandoning targeting the overnight rate of interest and engaging in massive expansion of the monetary base by purchasing large quantities of securities equal to approximately 16 percent of GDP. By comparison, the

FOMC's quantitative easing, large as it is, is less than half the size.

Second, the BOJ committed to achieve a 2 percent inflation rate within two years. Asset purchases will continue until this objective is achieved.

Almost immediately the value of the yen plunged 20 percent. This had an immediate short-run benefit of boosting the profits of many Japanese companies substantially. Higher profits should make it easier to implement one of the policy initiatives of the third arrow involving raising worker wages. Higher company profits also led to a surge in stock prices which directly resulted in greater optimism as well as creating spendable increases in wealth.

So far so good . . . Another objective of the first arrow was to raise the inflation rate. Measured inflation rose to an annual rate of 0.9 percent in October. This would appear to be progress in the right direction except that the inflation rate was 0.3 percent without the impact of higher energy prices, which are almost entirely the result of the shutdown in nuclear reactors and the huge increase in expensive imported oil. Knowledgeable observers agree that inflation will not rise appreciably until wages do, which is one of the elements of the third arrow.

5. Second Arrow — Fiscal Policy Infrastructure Investment

. Government investment expenditures are not expected to have a large impact, but are believed essential to offset the contractionary impact of the increase in the consumption tax scheduled for April 2014. The tax will raise 8 trillion yen and the stimulus will recycle 5 trillion yen back into the economy. In addition, corporate taxes will be reduced by 1 trillion yen. In the longer run, however, the intent of the tax increase is to reduce the budget deficit. The intent of increasing nominal growth and inflation is to reduce the ratio of public-debt-to-GDP over time. That ratio is one of the highest in the world and is a ticking time bomb. The time bomb has not been triggered because almost all of Japanese debt is held by domestic investors. This strategy is a race against time and depends upon interest rates on the debt remaining very low even as inflation rises. This is a big bet and it is unclear from an economic theory standpoint that the objective is achievable.

6. Third Arrow — Economic Reforms.

There are three elements to the third arrow. The first involves raising worker wages. The object is to boost spending and inflation. The government has established tax breaks for companies that raise wages by 5 percent. Bountiful profits should enable companies to boost wages, but few have done so. Between January and October, base salaries declined -0.6 percent. This result has had a lot to do with hiring more part-time workers at lower wage rates. But, wage rates for full-time workers have been flat. Anecdotal commentary from Japan indicates that many large Japanese companies will pay bonuses but very few are willing to increase base pay rates. This reticence must change or the 2 percent inflation target will never be achieved. Abe's strategy of moral suasion appears to falling on deaf ears.

The second and third elements of the third arrow involve boosting productivity to at least 2.0 percent annually from the recent level of 0.8 percent and stabilizing employment by increasing participation enough to offset the -0.6 percent annual demographic decline. If third arrow policies are successful, nominal GDP would grow 4 percent annually and real GDP would grow 2.0 percent annually.

Productivity could be increased by increasing investment in capital, although Japan's past track record in utilizing capital efficiently is disappointingly poor. Productivity could also be raised by implementing various labor market and production reforms to increase competitive incentives and boost worker productivity. Japan's culture of employment for life is an inhibitor.

Labor force participation could be increased through immigration, which is antithetical to Japanese culture, or encouraging greater involvement of women. The government is attempting to create policy incentives that accomplish the latter.

What Japan needs to do for the third arrow to be effective is to follow Gerhard Schroeder's 2003-2005 supply side economic reform "Agenda" 2010 plan that transformed Germany's competitiveness so effectively that its current success threatens the survival of the Eurozone. After all, the two nations are very similarly situated. Both suffer from a declining labor force. Both have a long tradition and competency in manufacturing to export. Germany's labor markets lacked flexibility then as Japan's do today. The Schroeder plan involved large cuts in corporate tax rates, pensions,

medical insurance, unemployment insurance and extensive labor market reforms with the objective of boosting competitiveness and maintaining low unemployment rather than raising wage rates.

7. Prospects

Abenomics has placed a big bet on turning the Japanese economy around. Elements of the policy make sense. For this reason and based on events of the last few months most are very optimistic that Abenomics will be successful.

However, the odds of success are very low. Depopulation is accelerating and labor force shrinkage will reach an annual rate of decline of -0.8 percent by 2021. The eligible labor force will decline by 40 percent by 2050. By 2050 the proportion of the population over 65 will be 38 percent compared to 24 percent currently. Think about the cost burden of supporting such a large elderly population on a shrinking employment base.

Japan's third arrow policy lacks coherency. As demonstrated by Germany's experience, cohesive and far-reaching supply side reforms can be effective if there is agreement by all constituencies to commit to implementing the reforms and enduring the pain during the time it takes for the reforms to have effect. In addition to there being no coherent overarching plan for supply side reforms in Japan, there is no apparent consensus to support the policies that have been proposed.

If, or when, faith succumbs to reality, the yen will appreciate in value, stock prices will decline and an ugly mood of despair will descend upon Japan. Interest rates could well rise more than offsetting the intended combined benefits of higher inflation, which may be realized, and higher real growth, which likely will not be realized. The extraordinarily large public-debt-to-GDP ratio coupled with an aging population would become very toxic and probably would be unsustainable.

The moment of truth probably is many months in the future. However, perhaps an early warning signal of developing uncertainty is the 9 percentage point decline in Abe's approval rating in December. The fall session of the Japanese legislature ended on December 6, 2013 without enacting any significant third arrow programs. Consumer confidence is also down a

bit. This may be transitory or it may be the start of loss of confidence in Abenomics.

8. A Final Thought

It is unfortunate to end a generally optimistic outlook with such a pessimistic view of Japan's future. Japan is a case study that we need to watch closely and learn from. Many developed nations will eventually experience declining labor forces. We have grown accustomed to growth as a way of life. Much of economic theory is geared to the assumption that growth is always present. As discussed in the opening sections of this month's letter declining growth rates pose real challenges for policymakers. Negative growth rates pose challenges several magnitudes greater. Not all nations can pursue Germany's so-far successful response to a declining population (Germany's population rose a little this year for the first time in seven years because of increased immigration — thank Germany's strong economy, weakness elsewhere in Europe and the Schengen Treaty for that). We can't all have favorable balances of trade and import growth from other nations. The day of reckoning is still a long ways away for the U.S. Historically, the U.S.'s open immigration policies have contributed to growth and should continue to do so.

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