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

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The Longbrake Letter*

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I. Economy Slows In U.S.; Recession Worsens in Europe

First quarter GDP growth in the U.S. is likely to be at least 3.5% after the fourth quarter's paltry 0.4%. ***But, this is old news.***

Market optimism built on stronger economic news during January and February and the potential consequences of a negative 2% fiscal policy shock to GDP were largely ignored. However, as March data are released, there is a clear softening trend. This was punctuated by the March payroll data which revealed that only 88,000 jobs were added in March, the lowest monthly total since the 87,000 increase in June 2012.

In Europe the latest crisis — this time in Cyprus — has come and gone without spooking markets. However, data reports on balance continue to fall short of expectations, extending out the timeframe for recovery in Europe's economy.

History may well record that the Cyprus crisis marked the beginning of the end for the euro and the Eurozone(EZ), as currently constituted. But, the unraveling process is likely to proceed slowly and take many months.

Looking back, the violent end of the housing bubble in the U.S. was clear to some three to four years prior to the Lehman-inspired financial panic in the fall of 2008. Those who foresaw the onset of the Great Recession were eventually proven right, but their prognostications of impending doom where premature and swamped for an extended period of time by positive feedbacks spurred by the housing mania.

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

Now, there is certainly no mania in Europe, but there is strong belief that policymakers will muddle through and that the euro will survive. Such complacency has been facilitated by the actions of the European Central Bank (ECB) in its role as lender of last resort. Panics occur only when there is a stampede for the exits to avoid realizing losses. Providing unlimited liquidity defuses the potential for a panic, but ample liquidity does not address fundamental structural problems. Indeed, the actions of the ECB, by creating a semblance of normalcy, appear to be having the perverse effect of deferring hard decision making needed to remedy structural problems. In the meantime, many fundamental problems remain unaddressed.

Financial system and macroeconomic belt-tightening policies intended to "fix" the problems in Europe have resulted in recessions in most countries. Policymakers had hoped that recessions would be transitory to be followed by renewed growth as imbalances were eliminated.

Hope that European economies will turn the corner soon is still the prevalent view, but it flies in the face of emerging data reports and rigorous analysis. In part this hope is based on the uncritical belief that policymakers will "do whatever it takes" and in part it is based on the assumption that Germany desperately needs the euro to sustain its economic model and, therefore, ultimately will bite the bullet and backstop banking and sovereign losses. The assumption of a "German rescue" is based on the calculus that the costs to Germany over the long run of an EZ break up will be far dearer than the costs of devoting substantial quantities of financial resources to recapitalizing banks, including their own, and mutualizing sovereign debt. Either way the costs to Germany will be substantial. Assuming that Germany will do whatever it takes to sustain the viability of the euro is hardly a certainty, even if the calculus points in that direction, which is not obvious. Political feasibility will loom large. The time of testing may come sooner than later as the French economy heads toward crisis. But, the German elections in the fall are likely to occur before that occurs.

Europe. The slow unraveling of the European Project is progressing. Economies are weakening. And, as that occurs, social unrest is building inexorably, which with the passage of time is fostering political instability. Healing is not occurring. The disease is spreading. More crises and darker days are ahead for the euro, EZ and European Union.

Europe's "Slow March to Disaster" is examined in Section V. of this month's letter.

U.S. What seems most probable in the U.S. is that 2013 will be a year of slow growth with weakness in the middle of the year followed by improving growth toward the end of the year as the negative near-term impacts of higher federal taxes and reduced spending unwind. The trend in global economic activity should be moderately supportive of growth, unless Europe's problems escalate more quickly.

In this month's letter, Section VI. includes a summary of the 2013 economic outlook and prospects for real GDP growth. This is followed by a discussion of U.S. employment trends and personal income and consumption in Sections VII. and VIII. Fiscal and monetary policies are the subject matter of Sections IX and X.

Risks to the Outlook. When growth is weak, it wouldn't take much to push it down or even trigger recession. With the exception of natural disasters, most potential downside risks can be identified, but whether or when they might erupt and impact the economy is impossible to forecast unless you believe in soothsayers.

In December I listed six risks. The status of each risk is summarized in the Appendix at the end of this month's letter. To these six must be added a new one involving the growing possibility of hostilities on the Korean peninsula. Foreign policy analysts are worried and U.S. military planners are beefing up missile defense systems.

In the ***Appendix***, which summarizes prospects for key issues for 2013 and beyond, which I outlined in the ***December Longbrake Letter***, I have updated comments to reflect recent developments. As the year unfolds I will add additional comments which will enable the reader of this letter to follow how actual events are tracking or diverging from what I expected at the beginning of the year.

This month's letter concludes with a brief update on developments in Japan and China in **Sections XI.** and **XII.**

II. Is U.S. Policy Depressing Potential Growth?

Significant challenges face the U.S. economy in the longer run. Some of the more prominent challenges include climate change, growing income inequality, aging of the baby boomers and long-term affordability of entitlement programs, excessive debt leverage and federal budget deficits, slowing private and public investment, unwinding unprecedented monetary stimulus, and capture of political processes by the financial elite ("crony capitalism"). Whether and how we address these challenges will have relatively little impact on the economy in 2013. But, they will reshape the U.S. economy significantly in the future. Policies chosen or not chosen in coming months will have material effects, for better or worse, on future American culture and economic well-being.

David A. Stockman in his recently released book ***The Great Deformation: A Corruption of Capitalism in America*** presents an especially gloomy and discouraging commentary about the future and, thanks to the disastrous loose-money policies of the Federal Reserve, Stockman forecasts a cataclysmic collapse of financial markets when the Fed-created financial bubble inevitably collapses. Because Stockman's rant is couched deliberately in hyperbolic language, it is easy to dismiss his commentary as the ravings of a lunatic. Certainly, his warnings have been met with a collective gigantic yawn by Wall Street. Although I believe that many of Stockman's premises are fundamentally flawed, the issues he discusses are real and serious and deserve studied consideration. I examine Stockman's views in **Section III.**

In my view, perhaps the single greatest challenge facing the U.S. economy over the longer run is the ***trend in potential structural real GDP growth, which has plummeted in recent years, largely due to a decline in productivity, but also partially due to slowing population growth.***

While most economists expect productivity to be near the long-term historical average in coming years, this expectation seems to be more one of simplistic extrapolation of past experience than one of critical analysis. A sustained decline in productivity growth, should it occur, is important because it would result in slower growth in potential GDP. ***Slower growth in potential GDP means it will be harder and take longer to reduce***

the burden of federal debt, it will make it harder to finance social programs and it could exacerbate the problem of growing income inequality.

Better focused government policies, which encourage private sector investment and target direct government investment in infrastructure, research and education, have the potential to lift productivity significantly over time. Such policies generally have much higher multipliers than the kinds of transfer payments that have predominantly comprised fiscal policy in recent years. But such policies also take longer to produce results.

My point is that government policy should not be focused exclusively on increasing consumption spending and reducing unemployment. It also needs to focus on lifting the structural potential real rate of GDP growth. Effective policy would have the dual benefits of raising the rate of growth, thus reducing the debt burden more rapidly, but very importantly it would raise the standard of living for Americans to a greater extent.

I have explored the issue of the U.S. potential real rate of GDP growth in my ***December***, ***January***, ***February*** and ***March Longbrake Letters***. In this month's letter I continue this development with additional comments in ***Section IV.*** about what drives productivity and whether assumptions embedded in forecasts that productivity will return to its long-run trend are merited.

III. "The Great Deformation: A Corruption of Capitalism in America" — David A. Stockman

David Stockman's new book has received a lot of attention. He fervently believes that America has been ill-served by a plethora of villains whose interventions in the economy have relegated the country to an "end-stage metastasis." He asserts that the nation "is broke — fiscally, morally, intellectually." This message is hammered home over and over again in his 700-page tome. Now, I must admit I did not read every page. Thankfully, Stockman summarized his key points in an op-ed piece published in the *New*

York Times.[1]

While there are some valid observations, much of Stockman's criticisms and conclusions are based on his personal belief that economic systems self-correct, but when humans intervene to assist correction they inevitably screw things up. A careful study of history and economic theory unambiguously refutes the belief that systems are self-correcting. Much of what Stockman has to say is based on faulty understanding of economics and economic history. In a moment, I'll examine some of his assertions.

Jared Bernstein, senior fellow with the Center on Budget and Policy Priorities, wrote a scathing review for *Foreign Policy* magazine. The article is titled: "David Stockman's Dystopia: Why Reagan's former budget chief is like a crazy person howling in the wind. Let's ignore him."[2] Bernstein concluded his review with the following: "*It's like hearing a crazy person on a street corner ranting against whatever: They invariably stumble on some profound and piercing insights but it's mostly dark nonsense, and instinctually, we keep our heads down and move on.*"

Let me examine some of Stockman's assertions.

- ***Sooner or later — within a few years, I predict — this latest Wall Street bubble, inflated by an egregious flood of phony money from the Federal Reserve rather than real economic gains, will explode, too.***

This statement reflects Stockman's belief that intervention will make matters worse. There is genuine debate about whether the Fed's quantitative easing policy will help accelerate recovery and whether it will lead to future problems. However, there is no evidence to date that the Fed's policy has led to unreasonable and unsustainable stock valuations.

Stock prices depend primarily on two things — corporate earnings and the discount rate. Corporate earnings are extremely strong currently and have been for some time. Strong corporate earnings are not a product of quantitative easing except for the reduction in interest expense made possible through refinancing debt at low interest rates. High and stable

[1] David A. Stockman. "State-Wrecked: The Corruption of Capitalism in America". *New York Times*, March 30, 2013.

[2] Jared Bernstein. "David Stockman's Dystopia". *Foreign Policy,* April 8, 2013.

earnings justify high valuations. The discount rate currently is very low and this supports higher valuations. The low discount rate, in part, stems from quantitative easing which has depressed real rates. But, based on historical relationships, the market is not discounting stock prices at the depressed rate engineered by the Fed. The equity risk premium, which is added to the risk free rate, to obtain the discount rate for stocks is unusually high. All of this tells me that stocks are not overvalued and that there is no bubble.

- ***The federal government and its central-bank sidekick, the Fed, have now succumbed to overload, overreach and outside capture by powerful interests. The modern Keynesian state is broke, paralyzed and mired in empty ritual incantations about stimulating "demand," even as it fosters a mutant crony capitalism that periodically lavishes the top 1 percent with speculative windfalls.***

There are two thoughts expressed in this assertion. I have some sympathy with the thought about crony capitalism. But, I think Stockman does not understand how economic stabilization policies work because it involves economic intervention, which he rejects.

Crony capitalism involves capture of the political elite by the financial elite. The mega bailouts during the Great Recession and lack of any serious prosecutions of highly placed financial executives are suggestive of the validity of the capture argument. Ever growing income inequality is a serious problem that many thoughtful people are fretting about. We know that inclusive societies are more successful than exclusive societies. Growing income inequality is an indicator of a society that is becoming progressively more exclusive.

As to Keynesian economics, the historical record is clear. Economic systems sometimes do not self-correct. The purpose of unemployment insurance, tax cuts and government spending increases is to restore confidence and prevent the economy from getting caught in a self-feeding negative downward debt-deflation spiral.

- ***The state-wreck originated in 1933, when Franklin D. Roosevelt opted for fiat money (currency not fundamentally***

backed by gold), economic nationalism and capitalist cartels in agriculture and industry.

Stockman would have us return to the gold standard, probably because that system automatically forced economic corrections without relying on any kind of human intervention. Again, economic theory and careful study of economic history indicate beyond a shadow of doubt that the gold standard led to disastrous consequences. Stockman seems to have forgotten about fascism. Certainly, any system involving human intervention such as a fiat money system is subject to human error, but it does not logically follow that rules-based systems are better.

- ***What became known as the "Greenspan put" — the implicit assumption that the Fed would step in if asset prices dropped was reinforced by the Fed's unforgivable 1998 bailout of the hedge fund Long-Term Capital Management.***

Bailouts in times of financial and economic crisis are necessary to forestall contagion and the potential unraveling of the entire system as fear of losses and distrust spread at lightning speed. Yet, knowledge that bailouts will occur spawns moral hazard. Moral hazard leads to unreasonable risk taking. This is a real issue and one that is front and center currently in the debate over how to deal with "too big to fail" financial institutions. However, when the disaster occurs it is not time to stand aside, as Stockman advocates, and let matters take their own course. Policy needs to focus on doing what might be possible to prevent disasters from occurring and to prevent moral hazard from driving unreasonably risky financial and economic behaviors.

- ***Republicans' utter abandonment of the balanced-budget policies of Calvin Coolidge allowed George W. Bush to dive into the deep end, bankrupting the nation through two misbegotten and unfinanced wars, a giant expansion of Medicare and a tax-cutting spree for the wealthy that turned K Street lobbyists into the de facto office of national tax policy.***

Wow!

It is hard to disagree with Stockman's commentary about the fiscal irresponsibility of the Bush Administration.

Paul Ryan has restored the Republican balanced budget creed with the passage by the House of Representatives of a budget that is balanced by 2023. But, prudent fiscal policy does not require budgets to be balanced. Prudent fiscal policy dictates that the public-debt-to-GDP ratio should fluctuate around a reasonable value over time. This means that as GDP grows public debt can also grow at the same rate without changing the ratio. In other words, deficits are not bad. Deficits become bad when they are too large or when they finance unproductive activity. In my view, the country would have been better off in the long run if there had been less debt-financed transfer payments and more debt-financed investments.

One of the purposes of fiscal policy is to stabilize economic activity. Deficits should be permitted to grow during recessions and should diminish when the economy is strong. The important point is not to let the public-debt-to-GDP ratio to drift up over time. George W. Bush's sin was that his policies drove the ratio up when the economy was strong.

There is more that I could critique, but this letter is much too long already. Time to move on.

IV. Potential Structural GDP Real Rate of Growth — Additional Thoughts About Productivity

In recent letters I have explained how potential real GDP growth depends on growth in the ***labor supply*** and ***productivity***.

1. Labor Supply and Productivity Growth

Labor supply is typically measured as total hours worked by nonfarm workers. I estimate the trend labor supply growth rate will average about 0.71% annually between 2018 and 2023, which is substantially lower than the 1.25% average annual growth rate between 1955 and 2012. Slower labor supply growth is a direct outcome of declining fertility rates. It is an indisputable fact that the number of births per woman declines as societies grow wealthier

and become less dependent upon agriculture for employment. ***This development, alone, means that potential real GDP growth will be lower in coming years than it has been in the past.***

It should be noted that the Congressional Budget Office (CBO) estimates that the trend labor supply growth will average a somewhat lower 0.50% annually over the 2013-23 period. If this proves to be more accurate than my expectation of 0.71%, potential real GDP growth will be lower yet.

Productivity growth involves gains in output relative to labor and capital inputs. Estimates of productivity can either be derived by calculating the difference between total real GDP growth and labor supply growth or by estimating and summing the contributions of each factor of production — labor and capital. The bottom up methodology consists of three components: (1) growth in capital intensity, (2) labor demographic composition and quality, and (3) total factor productivity. Total factor productivity is not a separate factor of production. However, it is a construct embraced by economists and reported by BLS that captures the interaction between the labor and capital factors and incorporates productivity effects that are otherwise not directly measureable.

Labor supply growth depends upon population demographics and labor participation rates, both of which can be forecast with a relatively high degree of precision. Because population growth and participation are both slowing, the potential rate of real GDP growth will be slower in the future.

However, ***productivity growth*** has been highly variable over time and is difficult to forecast. As can be seen in **Table 1**, productivity growth averaged 2.76% from 1955 to 1973, fell to 1.42% from 1974 to 1997, rebounded to 3.38% from 1998 to 2004 and then receded to 1.53% from 2005 to 2012.

2. Factors Affecting Nonfarm Productivity Growth

Clearly, the historical record indicates that productivity growth varies considerably over time. This makes forecasting future productivity and, therefore, the potential real rate of GDP growth, very difficult. This is important because if productivity growth has slowed to a much lower level than the historical average, approximating the dismal 2005-2012 average of 1.53%, slow growth in real GDP could close the output gap much more quickly

Table 1
Comparison of Long-Run Trend Productivity Growth Forecasts

Forecaster	Period	Productivity Estimate
Actual		
	1950-1973	**2.76%**
	1974-1997	**1.42%**
	1998-2004	**3.38%**
	2005-2012	**1.53%**
	1889-2012	**2.25%**
Projections		
CBO (1/2012)	2013-2023	**2.1%**
President's Economic Report (2/2012)	2011-2022	**2.3%**
Kahn & Rich (12/2012)	2013-2017	**1.8%**
Professional Forecasters (Q1 2012)	2012-2021	**1.85%**
GS (growth method) (1/2013)	2012-2017	**2.1%**
GS (cross-country method) (1/2013)	2012-2016	**1.9%**
Byrne-Oliner-Sichel (3/2013)	Trend-Baseline	**1.8%**
Byrne-Oliner-Sichel (3/2013)	Trend-Alternative	**2.5%**
Bill's Projections		
Bill Slow Growth (3/2013)	2013-2017	**1.00%**
Bill Slow Growth (3/2013)	2018-2023	**1.52%**
Bill Slow Growth (3/2013)	Long-Term Trend	**1.79%**
Bill Strong Growth (3/2013)	2013-2017	**1.49%**
Bill Strong Growth (3/2013)	2018-2023	**2.01%**
Bill Strong Growth (3/2013)	Long-Term Trend	**2.36%**

than most expect. This possibility has implications for the conduct of monetary policy. Also, slower productivity growth and slower real GDP growth unambiguously will result in slower improvement in the standard of living.

There are two sets of factors that influence the rate of productivity growth.

Innovation. Bursts in technological innovation tend to raise productivity growth for a period of time until innovation benefits are distributed throughout the economy. A surge in manufacturing productivity and massive investment in public infrastructure, such as the interstate highway system and the space program, in the 1950's and the 1960's were principal factors in the extended period of high productivity from 1955 to the middle of 1973. Productivity surged again from the middle of 1997 to the middle of 2004, driven by the dot.com and fiber optic booms.

Academic economists have been debating whether there has been a permanent slowdown in technological innovation. Tyler Cohen argues that the easy technology-based innovations have already been adopted.[3] Robert Gordon in a recent article argues that the information technology revolution has largely run its course and its impact on boosting productivity from 1997 to 2004 was a temporary phenomenon.[4]

In a recent paper published by the American Enterprise Institute, David M. Byrne of the Federal Reserve Board, Stephen D. Oliner of the American Enterprise Institute and UCLA, and Daniel E. Sichel of Wellesley College (Byrne-Oliner-Sichel) conclude that since 2004 information technology "... has continued to make a significant contribution to labor productivity growth in the United States, although it is no longer providing the boost it did during the productivity resurgence from 1995 to 2004."[5] Using a growth accounting bottom-up methodology, Byrne-Oliner-Sichel estimate that long-term trend nonfarm productivity is currently 1.8% (see **Table 1**). A somewhat faster pace of improvement in information technology boosts trend productivity growth to 2.5% in their alternative scenario.

Investment Financing. However, bursts in innovation do not automatically lead to higher productivity unless private and public investment is marshaled to finance deployment of the new capabilities. As I will show below and as is summarized in **Table 1**, realization of the Byrne-Oliner-Sichel baseline or alternative productivity trend growth rates will depend on private and government investment spending.

[3]Tyler Cohen. *The Great Stagnation: How America Ate All the Low-Hanging Fruit of Modern History, Got Sick, and Will (Eventually) Feel Better Again.* Dutton, 2011.

[4]Robert J. Gordon. "U.S. Productivity Growth: The Slowdown Has Returned After a Temporary Revival." *International Productivity Monitor,* no. 25, Spring 2013.

[5]David M. Byrne, Stephen D. Oliner and Daniel E. Sichel. "Is the Information Technology Revolution Over?" AEI Economic Policy Working Paper 2013-02, March 27, 2013.

As can be seen in **Table 2**, government investment spending was stronger

Table 2
Productivity Growth, Labor Supply Growth and Real Rates of Private and Government Investment Growth

Period	Productivity	Labor Supply Growth*	Private Investment Growth*	Government Investment Growth*	Potential GDP Growth
1954:4-1973:2	2.76%	1.50%	6.22%	2.05%	3.80%
1973:3-1997:2	1.42%	1.76%	4.24%	2.03%	3.10%
1997:3-2004:2	3.38%	.34%	4.66%	2.88%	3.29%
2004:3-2012:4	1.53%	.01%	.50%	0.66%	2.03%
1954:4-2012:4	2.10%	1.25%	4.39%	1.94%	3.19%
Forecast — Slow Growth					
2013:1-2017:4	1.00%	1.42%	4.06%	-.27%	1.56%
2018:1-2023:4	1.52%	.71%	2.09%	2.02%	1.78%
2013:1-2023:4	1.30%	1.03%	3.00%	0.98%	1.71%
Stable Trend	1.79%	.71%	2.25%	2.00%	2.09%
Forecast — Strong Growth					
2013:1-2017:4	1.49%	1.60%	5.36%	.66%	1.84%
2018:1-2023:4	2.01%	.71%	2.87%	2.42%	2.19%
2013:1-2023:4	1.77%	1.12%	4.00%	1.62%	2.03%
Stable Trend	2.36%	.71%	4.25%	2.00%	2.47%

*Changes in productivity lag changes in labor supply, private investment and government investment growth by 2.1, 4.4 and 7.4 quarters, respectively.

from 1954 to 1973 and 1997 to 2004 than in other periods. The same is true for private investment spending.

Private investment spending collapsed after 2004, well before the financial crisis of 2008-09.

Growth in the real net private capital stock over the last five years has averaged 1.2% annually, which is the weakest in the last 60 years. Manufacturing capacity is no higher than it was in 2006.

Janet Yellen, Vice Chair of the Board of Governors of the Federal Reserve, in a speech delivered on March 4, 2013 at the 2013 National Association for Business Economics Policy Conference, said: "***... the slow recovery has depressed the pace of capital accumulation, and it***

may also have hindered new business formation and innovation, developments that would have an adverse effect on structural productivity."

In other words, when demand is weak incentives to invest diminish. The Great Recession resulted in an unusually large output gap, which peaked at 7.5% in the third quarter of 2009. Recovery in aggregate demand has been excruciatingly slow. As measured by CBO, the output gap was still at an extraordinarily high level of 5.8% in the fourth quarter of 2012.

Ordinarily, as aggregate demand gradually strengthens, private investment spending should accelerate. However, credit constraints stemming from the Dodd-Frank legislation, more conservative underwriting and stricter supervision are likely to act as inhibitors to acceleration in private investment spending as recovery proceeds.

Add to these negative forces one more — ***uncertainty***. If uncertainty has increased, which many believe to be the case, then investors will require a higher expected real rate of return to compensate for the added risk. This implies that investment opportunities with lower expected real rates of return and higher levels of outcome uncertainty will not be undertaken. In the aggregate this would lead to lower private investment spending which appears to be supported by the data.

3. Statistical Analysis of the Impact of Labor Supply and Investment Spending on Nonfarm Productivity

Statistical regression analysis indicates that about 78% of the variation in productivity between 1985 and 2012 can be explained by three variables: variations in labor supply growth, as measured by hours worked; the rate of growth in gross private investment spending, as measured by the Bureau of Economic Analysis' (BEA) national income accounts; and the rate of growth in gross government investment and consumption spending, as measured by the BEA. The equation is:

> ***Productivity = -1.01 (growth in hours worked) + .36 (gross private investment growth) + .41 (government investment and consumption)***

This equation was estimated using data from 1985 to 2012 and has an R of .78. Coefficients of all three variables have the expected signs and are highly significant. When this equation is applied to the time period from 1955 to 1985, it forecasts actual productivity for 120 quarters very accurately with an average prediction error of only 1.6 basis points, or less than 1%.

Growth in hours worked coefficient = -1.01.

This coefficient indicates that when the rate of growth in the labor supply increases by 1 percentage point, productivity declines by 1.01 percentage points. It takes approximately two quarters for a change in the rate of growth in the labor supply to impact productivity.

There are two phenomena that cause this result. The more important one is the effect of oscillations in the business cycle. In the late stages of recession and early stages of recovery, employers economize on labor, thus driving up measured productivity. During the mature and late phases of economic expansion increased labor supply growth is boosted by inclusion of more marginal workers. This lowers the measured productivity rate. The second factor has to do with demographic trends. For example, when the baby boom generation came of working age in the 1970s more rapid growth occurred in the labor supply. But these workers were less experienced with the effect that productivity slowed down.

The aging of the labor force and slowing growth should have the opposite effect in coming years.

Gross private investment growth coefficient = .36.

This coefficient measures the impact of the rate of growth in "gross private domestic investment" on productivity. Not surprisingly, a 1 percentage point increase in the rate of investment growth results in a .36 percentage point increase in productivity, but it takes an average of 4.4 quarters between the time investment growth increases and productivity fully responds.

Government investment and consumption spending coefficient = .41. Ideally, this measure should include only government investment spending; however, the BEA reports only a single number which combines both investment and consumption. Like gross private investment, this measure is also gross.

Note that it does not include government transfer payments. It also combines federal, state and local data. State and local spending accounts for approximately 60% of the total.

The impact of government investment and consumption spending on productivity is not materially different from the impact of gross private investment spending. A 1 percentage point change in the growth rate leads to a .41 percentage point change in productivity within 7.4 quarters.

There is a very small negative correlation between gross private investment growth and government investment and consumption spending growth. This means that there is a small substitution effect between the two categories over the economic cycle.

4. Prospects for Nonfarm Productivity Growth 2013-2023

Using the statistical relationship between public and private investment spending and productivity and assumptions about labor supply growth, I have constructed two possible scenarios — "**Slow Growth**" and "**Strong Growth**". Assumed values for the key variables are shown in **Table 2**.

Both scenarios start from the current situation of a very large output gap and then progress to a long-term stable trend.

During **2013-2017**, as shown in **Table 2**, economic activity is recovering and the output gap is closing. Employment growth exceeds its long run potential growth as the unemployment rate falls. Private investment spending growth, which was depressed during and immediately following the Great Recession, rebounds at above long-term trend rates. However, government investment is depressed for policy reasons.

Then, during **2018-2023** employment growth settles into its long-term trend level, private investment growth slows, but government spending growth improves as the near-term negative impacts of fiscal policy dissipate.

Also shown in **Table 2** are productivity estimates for **stable trend** values of employment growth, private investment spending growth and government investment spending growth. The key difference between the "**Slow Growth**" and "**Strong Growth**" scenarios is that private investment spending growth is assumed to stabilize at a low 2.25% annual rate in the

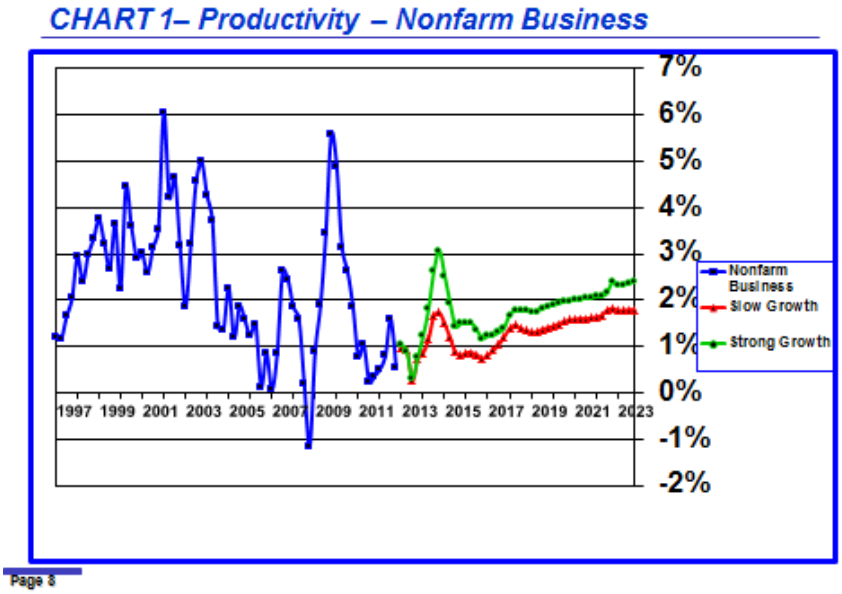
"**Slow Growth**" scenario compared to a long-term trend level of approximately 4.25% in the **"Strong Growth**" scenario. In both scenarios, government investment spending growth stabilizes at its long-term average of 2.00%.

Thus, the key difference between the "**Slow Growth**" and "**Strong Growth**" scenarios is the assumption of how fast private investment spending grows. Future private investment spending will depend on the strength of technological innovation in the first order. But realization of productivity gains from innovation will turn upon the extent to which private investors are willing to provide financing. That willingness will depend upon expected returns to capital and the ease of deploying investment funding. High levels of uncertainty about the "rules of the game", namely government policies and regulation, and high levels of uncertainty about future economic growth dampen willingness to invest. It is for these reasons that the more pessimistic "**Slow Growth**" scenario is very plausible.

If aggregate demand grows slowly in the future because of slow progress in increasing employment and incomes, private investment will grow more slowly — a negative reinforcing circularity in which weaker aggregate demand leads to slower growth in private investment, which depresses productivity growth, which reduces growth in aggregate demand, and so on. It would seem that the only way to break this negative feedback loop would be for policy to boost private and public investment. There is little of substance under consideration that would attempt to accomplish such an objective as members of Congress continue to worry more about reducing the deficit than about boosting growth.

Chart 1 shows forecasts for productivity between 2013 and 2023 for the "***Slow Growth***" and "***Strong Growth***" scenarios. Throughout this period, CBO assumes productivity will average 2.1%. As indicated in **Table 2**, productivity averages 1.30% over the next ten years in the "***Slow Growth***" scenario, but its stable trend level is 1.79% by 2023. Average productivity over the 2013-2023 period in the "***Strong Growth***" scenario is 1.77% and the stable trend level is 2.36% in 2023.

Thus, ***while CBO's 2.1% productivity growth assumption may be reasonable and realistic in the long run, it does not appear to be reasonable in the short run***.



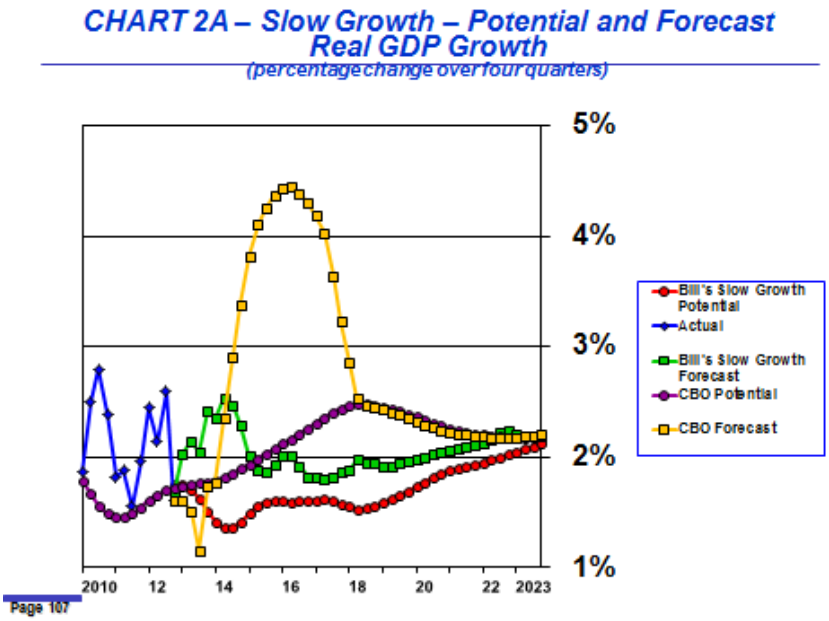
5. Potential Real GDP Growth

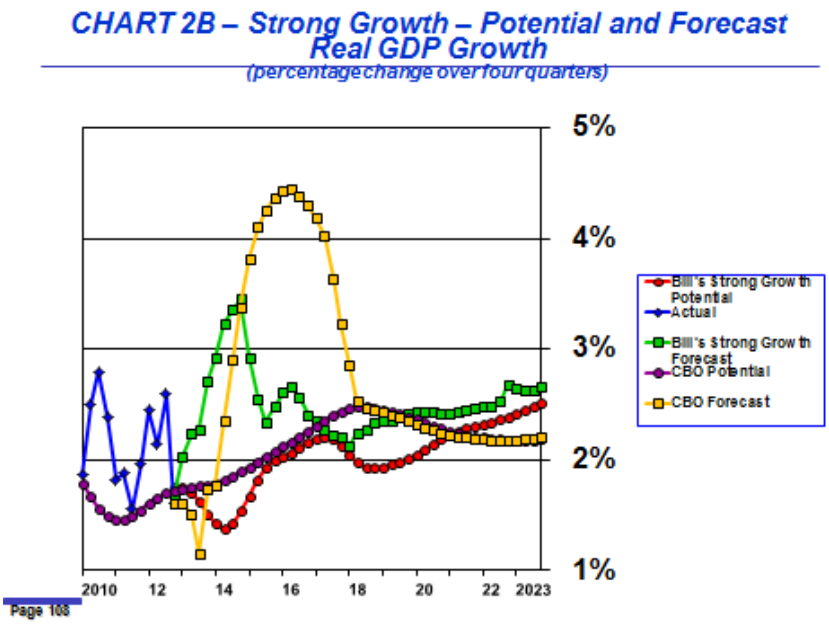
To reiterate, productivity and labor supply growth determine real GDP growth potential. The level of future potential real GDP growth depends to a large extent on productivity growth because labor supply growth should be relatively stable.

Charts 2A and **2B** show ***potential real GDP growth*** for 2013-23 (CBOpurple circles and Billred circles) and ***forecast GDP growth*** for 2013-23 (CBOgold squares and Billgreen squares). **Chart 2A** shows Bill's ***"Slow Growth"*** scenario and **Chart 2B** shows Bill's ***"Strong Growth"*** scenario.

Potential GDP growth currently is weak. Based upon CBO's current law analysis, potential growth strengthens gradually from 1.7% currently to 2.5% by 2018 and then slows to 2.2% by 2023.

Potential real GDP growth decelerates in my "***Slow Growth***" scenario (**Chart 2A**) from 1.7% currently to 1.4% in 2014, primarily because of the negative impact of government spending reductions on productivity.





Thereafter, potential GDP growth gradually rises to 2.1% by 2023.

Potential GDP growth also decelerates in my "***Strong Growth***" scenario (**Chart 2B**) from 1.7% to 1.4% in 2014. But after that potential growth rises to 2.5% by 2023, which is above CBO's projection. The reason for the better performance of potential real GDP growth in my "***Strong Growth***" scenario is because both private and government investment spending growth is assumed to return to long-term historical averages.

My range of long-term stable potential real GDP growth of 2.1% to 2.5% is consistent with the FOMC's long-term range of 2.3% to 2.5%.

6. Forecast Real GDP Growth

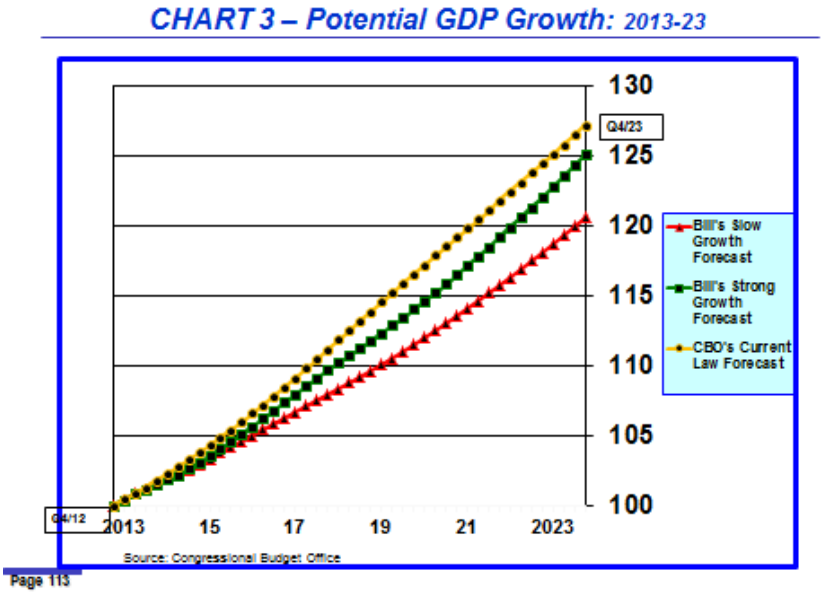
CBO's current law analysis indicates that the impact of tax increases and spending cuts will reduce GDP growth sharply in 2013. CBO's projection is considerably more pessimistic in the short run than my forecasts or those of others.

However, once the fiscal shock has been absorbed, CBO forecasts that GDP growth will rebound strongly and the output gap will close completely by early 2017. This is a more optimistic longer-term outcome than I and some others, like Goldman Sachs and B of A/Merrill Lynch, expect.

In both my "**Slow Growth**" (**Chart 2A**) and "**Strong Growth**" (**Chart 2B**) scenarios, forecast GDP growths accelerates over 2013 and 2014, slows from 2015 to 2017 and then reaccelerates, reaching 2.4% in 2023 in the "**Slow Growth**" scenario and 2.6% in the "**Strong Growth**" scenario. This progression results from fluctuations in productivity growth, which in turn depends on assumptions about private and public investment spending growth. (See **Section IV. 4.**)

7. Comparisons of Cumulative Potential GDP Growth — CBO, "Slow Growth" and "Strong Growth" Scenarios

Chart 3 compares the cumulative change in potential GDP from 2013 to 2023 for the CBO "***Current Law***" scenario and my "***Slow Growth***" and "***Strong Growth***" scenarios. CBO's 2012 fourth quarter potential real GDP estimate serves as the index base and is assigned a value of 100.

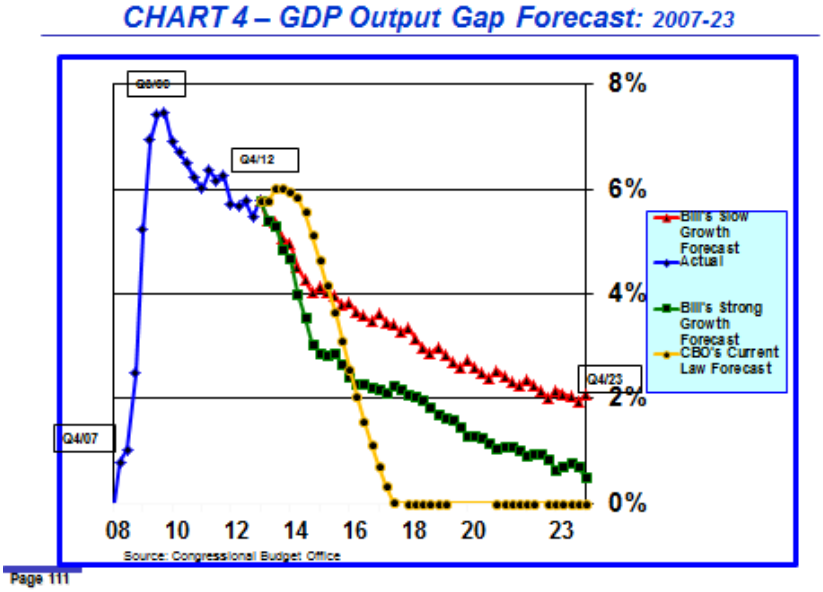


Over the ten-year period potential real GDP growth is 1.6% lower in my "***Strong Growth***" scenario and 5.2% lower in the "***Slow Growth***" scenario than in CBO's "***Current Law***" scenario. Although these are not large differences, federal public-debt-to-GDP ratios would be higher by 2023 by at least these amounts and probably more since slower GDP growth would result in slower revenue growth and potentially higher spending.

8. GDP Output Gap

Forecast real GDP growth also varies with productivity growth. Importantly, higher productivity growth boosts forecast real GDP growth more than it raises potential real GDP growth. Thus, higher productivity rates, in addition to increasing the standard of living, also shrink the output gap more rapidly. As can be seen in **Chart 4**, the output gap is approximately 0.5% in 2023 in my "***Strong Growth***" scenario and is 2.1% in my "***Slow Growth***" scenario.

My principal conclusion is that the potential structural GDP



real rate of growth is likely to be lower over the next several years than most expect. To the extent that occurs, there are several implications — all negative. For example, to name a few of the more important ones, employment will recover more slowly, inflation will be lower for longer, wage gains will be more limited, interest rates will remain at the zero bound for longer, the budget deficit will remain higher and the public-debt-to-GDP ratio will be a more intractable problem.

Needless to say, based upon my analysis, I do not believe CBO's forecast that the output gap closes by 2017 is reasonable for two reasons. First, CBO assumes very high rates of GDP growth in 2014, 2015 and 2016. Second, high rates of GDP growth can only occur if unemployment drops rapidly, but CBO's unemployment forecast is at the pessimistic end of the spectrum. This apparent inconsistency could be explained by assuming that a surge in investment spending occurs. But, if that were to happen it would lead to a further inconsistency. A surge in investment spending would increase productivity, which as we have seen, would boost the potential real GDP growth rate. While this would be a good outcome, CBO's measured GDP output gap should not fall to zero by 2017.

V. Europe — Slow March to Disaster

Most analysts expect the European Union (EU) and the Eurozone (EZ) to return to growth by the second half of 2013. This belief appears to be based upon the quiet that has prevailed in financial markets since last August when president of the European Central Bank (ECB), Mario Draghi, announced that the ECB would "do whatever it takes" to preserve the euro. It is also based on modest improvements in economic performance in northern EU countries with the exceptions of France and the Netherlands.

I think this expectation will turn out to be optimistic. As I have mentioned repeatedly, European policy makers have been effective in stabilizing financial markets through a variety of initiatives, but none of these has addressed effectively fundamental political and economic reforms which are necessary in the long run to assure the viability of the EU and the common currency, the euro, used in EZ countries. And, as feared, stabilization of financial markets since last August has reduced the sense of urgency on the part of policymakers to pursue essential reforms.

Political risks are rising. The outcome of the recent Italian election in which the populist Five Stars party garnered 25% of the vote made that risk abundantly clear. Nearly two months after the Italian election a new Italian government has yet to be formed. When one is formed it is expected to be weak and new elections are expected within a year.

Cyprus was bailed out and bailed in. Although the market reaction subsequent to this crisis has been muted, details of the resolution sowed poisonous seeds that are likely to come back to haunt policymakers in the future.

Next up for bailout and, perhaps, bail-in is Slovenia.

Euro-skeptic parties, while still far distant from obtaining real political power, are growing in many EU countries. The slow unraveling of the European Project is continuing. A majority of Italians voted for euro-skeptic parties. In Greece, polls indicate that the euro-skeptic party, Syriza, which is not part of the current governing coalition, commands a majority of popular support. A new political party, Alternative for Germany, has formed in Germany. This party is a collection of elites and not populists, as in other EU countries. Alternative for Germany's principal policy position is

to terminate the European currency union. Polls indicate that as much as 25% of the German electorate is sympathetic to the new party's policy position, but whether that will translate into a significant number of votes in the September German parliamentary elections remains to be seen.

Social unrest continues to escalate in peripheral countries like Portugal and Greece.

1. Current Economic Situation

Recent data tell a story of a struggling economy — one that generally is not getting worse, but isn't signaling the kind of turn around that most expect. Confidence fell more than expected in February, implying that economic recovery is falling short of expectations. Retail sales year-over-year, as of February, were down -1.4%. While this was an improvement from January's -1.9% it was worse than the expectation of -1.2%. Industrial production rose 0.4% in February; however, January data was revised down from -0.4% to -0.6%. Year over year, industrial production fell -3.1% in February compared to -2.4% in January. The March composite purchasing managers index fell to 46.5 in March from 47.9 in February. A value below 50 means that industrial production is contracting. Auto sales continued to decline in March and are down approximately 30% from post-Great Recession highs.

As might be expected, economic performance in peripheral countries generally is worsening. Greece's industrial production continues to decline and is now 40% below the pre-Great Recession level. Spain's industrial production is down -6.5% over the last year and retail sales have fallen -7.8%.

Data reports in Germany and France were both weaker than expected in March. Germany's purchasing managers index slipped to 48.9 from 50.3 in February, suggesting that the incipient German economic recovery may be stalling. In France, the economic situation continues to deteriorate. The composite purchasing managers index, which includes both manufacturing and services, fell to 42.1 in March from 43.1 in February.

Optimism about Europe's ability to emerge from recession has been based on two considerations. First, slowly improving global growth will be positive for European exports. Recent evidence indicates that global

growth is not improving but is trending at 2012 levels, but with growing downside risks. However, because of aggressively easy monetary policy in the U.S. and now in Japan, the value of the euro is appreciating. If this appreciation is not contained or reversed it will negatively impact European exports. Germany's manufacturing-export-based economy is particularly vulnerable to an extended strengthening of the euro. The ECB does not appear inclined to engage in policies, specifically quantitative easing, aimed at decreasing the value of the euro. At best these developments will delay Europe's emergence from recession; at worst they will contribute to deepening and extending the recession.

Second, there is a presumption that the banking and sovereign debt crises are slowly being resolved. As the recent events in Cyprus clearly demonstrate, this presumption is not soundly based. Abatement of turmoil in financial markets is not an indicator that the underlying problems have been addressed and resolved. Provision of unlimited amounts of liquidity, which is what the principal remedy has been to date, can treat the symptoms but cannot cure the disease. The disease is deeply rooted in balance of payments mismatches among members of the EU and EZ, differences in competitiveness among countries and the absence of effective economic and political governance mechanisms. Can Europe emerge from recession when these fundamental problems remain unresolved? Perhaps, but a return to normal growth seems to be a real stretch of the imagination. The European financial system remains deeply dysfunctional and like the Japanese financial system of the 1990's will not be in a position anytime soon to facilitate the kind of credit creation essential to promote economic growth.

2. Reasons Why the European Project As Currently Structured Is Fatally Flawed

There are many reasons why it is likely that the European Project will eventually fail. In my opinion the two most important reasons are crippling design flaws in the governance structure of the EU and Germany's economic policies.

Incomplete Political and Economic Integration. The U.S. federal/state system and constitution, which have been the foundation of U.S. economic success and ascendancy for over two centuries, rightly provide a model of the governance structures required for a successful and durable

union. The European Union has some of the necessary governance structures, but lacks others.

Essential governance components include political union, economic integration, fiscal consolidation and a common currency. The EZ has a common currency, but the remainder of the governance structures, which extend to all EU countries, do not strike the necessary balance for long-term success between central authority and individual country sovereign prerogatives.

For example, all EU member countries must agree to a treaty change before it becomes effective. The U.S. constitution only requires of the states to ratify amendments.

There is no ability for the EU to tax citizens of member countries directly and there is no provision for fiscal transfers from countries with strong economies to countries with weak economies except through onerous bailout agreements complete with intrusive, and often counterproductive, conditions. Fiscal transfers are essential to address differentials in economic performance. Such transfers occur automatically in the U.S. with virtually no notice.

While there is ample tension between the federal and state governments in the U.S., the ability of the federal government to forge national policies and to enforce them is clear. The EU does have a limited ability to forge common policies and to enforce them. However, the EU's sway does not extend to any significant degree to matters of finance and commerce, which is partly why the financial and economic situations spun out of control in Ireland and Cyprus.

The European Project will remain fundamentally flawed until its governance structures are modified to align to a greater extent with those that have made the American union successful. It is not mysterious as to what needs to be done. Doing it, however, given the strong allegiance to individual country sovereignty, has a probability close to zero. At best one can hope for a few modifications, such as forging a banking union or agreeing to mutualization of sovereign debt, which might be sufficient. But important as these modifications are, there is no assurance, even if enacted, that they would be sufficient in the long run.

Germany's Economic Model. While the rest of Europe struggles economically, Germany is enjoying low unemployment. Germany's success

is rooted in reforms it undertook in the 1990s following the union of East and West Germany which improved competitiveness tremendously. But, success is also the result of Germany's intentional policy to emphasis manufacturing and exports. Its competitiveness and prowess in manufacturing have resulted in the creation of jobs and large trade surpluses. I explain in detail in **Section XI 3.** why Germany's economic strategy and success are a cause of economic problems in other members of the EZ.

Suffice it to say that because Germany is a net exporter, other EZ countries are forced to be net importers. This shifts jobs from those countries to Germany. Were it not for the common currency, such imbalances would melt away over time through adjustment in currency exchange rates. This is not possible in the EZ. Thus, adjustment can only occur through internal devaluation which entails eliminating competitive disadvantages with Germany by driving down labor costs, among other things. Germany could assist the adjustment process by permitting its labor costs to rise, but, of course, this is not part of Germany's policy agenda because it would unleash the inflation boogeyman, which is anathema to the German public.

Germany has forced internal devaluation in EZ members by mandating fiscal austerity. This is enforced directly through bailout agreements but also indirectly through the Fiscal Pact which establishes budget deficit targets with enforcement to be carried out through the European Commission. Unfortunately, as well intentioned and as fiscally prudent as these policies might appear to be, in practice they have been a disaster. That is because fiscal multipliers in weak economies have turned out to be greater than one. What that means is that tax increases and spending cuts intended to reduce the public-debt-to-GDP ratio actually end up raising it because economic activity falls too much.

With a German election pending in a few months, political considerations dictate no change in German policy.

Bank Solvency and Inability to Forge a Banking Union. One of the features of the EU is free and uninhibited capital flows. This is an essential governance component for successful union, but unfortunately its operation is deeply flawed because of the absence of a banking union.

An effective banking union has three components. First it has a common set of rules and a single supervisor. Second, it has a universal deposit

insurance system. Third, it has a centralized resolution facility to manage failures of individual financial institutions. All three components exist in the U.S. The only component that exists in the EU today is a common set of rules and even that is limited primarily to capital and liquidity requirements. Other rules, for example those governing the granting of credit, are left to the determination of individual countries. This absence of unified rules and oversight contributed to the unsustainable financial imbalances that built up in Ireland and Cyprus.

Reluctantly, EU members agreed to a common bank supervisor, which is to be the ECB. But, the scope of this decision was limited in two ways by Germany. First, Germany gained acceptance of EU members to limit unified supervision to the 150 largest financial institutions. Second, more recently Germany convinced EU members that the next time treaty revisions are considered, one of the revisions should be a clear separation of the ECB's monetary and supervisory responsibilities. While such a clarification appears to be reasonable, many view this development as a German tactic for delaying implementation.

Importantly, integration of bank supervision remains a concept and implementation is still sometime in the future. Deposit insurance and resolution remain totally unaddressed.

There is implied deposit insurance for the first euro100,000 of bank deposits. This implied guarantee was violated in the initial Cyprus bailout proposal. The subsequent proposal restored the implicit guarantee but also forced conversion of "uninsured" deposits into equity which is estimated will result in at least a 50% to 60% loss.

Now ponder this. If you can move euros freely to any financial institution in any EU member country and there is doubt that your deposits are guaranteed, why would you keep them in financial institutions that are perceived as weak or that are located in EU countries that are potential candidates for bailouts replete with conditionality. The Cyprus solution is extremely dangerous because knowledgeable depositors will move their funds to safer places at the first hint of trouble. This is the stuff of contagion. The potential for contagion can only be stopped through a banking union that covers all financial institutions and provides for deposit insurance and resolution.

So, since the risk of contagion is so obvious, why hasn't a banking union

been embraced? It is because significant unrealized banking losses already exist and these losses are likely to get worse as recessions progress in many EU countries. Losses eventually will have to be realized. The question is one of who will bear the burden — individuals, sovereign nations, or the EU collectively? Germany has made its view clear that the burden should not fall on the union collectively. That is because a large portion of the losses would ultimately end up being borne by German taxpayers. Again, such an outcome is unacceptable politically.

Unwillingness to Forge a Fiscal Union and Mutualize Sovereign Debt. As just mentioned, losses must be borne by someone. When individual institutions fail, the losses are borne by the creditors. But, because this usually triggers panic and a meltdown in the financial system, nations generally step in and bailout creditors. This solution works only as long as the nation itself remains solvent. If the obligations of bailing out creditors become too great as it has in Greece, Ireland, Portugal and Cyprus, either the nation must declare bankruptcy or it must be bailed out by others.

As we know, the solution to date to avert bankruptcy of individual EU members has been to provide bailout loans with conditions that ostensibly are intended to return those nations to solvency over time. We also know that these policies not only are not working but they are making matters worse and spreading economic decline to other EU nations.

Issuance of euro bonds would spread losses to all EU member countries, which collectively are in a position to backstop individual country insolvencies. But this means that strong EU countries would end up paying for the sins of weak countries. To date this solution has been unacceptable but may be required nonetheless in time to preserve or extend the life of the EU and EZ.

Cultural and Language Differences and Limitations on Population Mobility. Although the Schengen Agreement among EU members mandates the free movement of people with EU citizenship, cultural and language differences limit population mobility. In the U.S. when a particular geographic area is afflicted by an economic downturn many people leave the area to seek employment opportunities in regions with stronger economies. Language and cultural differences make labor mobility stickier in the EU. As a result, it takes longer for depressed areas to recover.

Aging and Declining Population Growth and Low Potential GDP Growth. Most EU countries either have low population growth or negative population growth. As I described in **Sections II.** and **IV.** above, population growth is a critical component of potential GDP growth. When population growth is negligible, potential GDP growth depends entirely on productivity gains. But, productivity growth has collapsed in EU countries since the onset of the Great Recession.

Potential GDP growth is important because the higher it is the easier it is to grow out of a sovereign debt problem.

In addition to the low potential GDP growth posed by limited or negative population growth, an aging population stresses social welfare pension and health systems. EU nations collectively have extensive social safety nets which will result over time in increasing amounts of government expenditures. At the same time, as work forces shrink, revenues will also shrink. Declining and aging populations inherently create potential budget deficits in nations with extensive social welfare programs.

This problem is one that is gathering momentum gradually. While not an immediate consideration, it will make policy resolution more difficult.

High Levels of Sovereign Debt. While I have argued that sovereign debt is not bad in and of itself, too much of it relative to the size of a nation's economy creates enormous risks. The EU has established a 60% target maximum for the sovereign-debt-to-GDP ratio. This appears to be a reasonable upper bound to avoid the potential for insolvency risks to become significant. Unfortunately, most EU members have higher ratios. And, even when they have lower ratios, as was the case for Ireland and Cyprus, the need to backstop the financial system resulted in an immediate and substantial escalation in their debt ratios to levels greatly in excess of 60%.

It would seem that the solution to high debt ratios is fiscal austerity and that is the policy that the EU is pursuing. But, when economies are already weak, we have seen that austerity depresses economies and results in rising rather than falling debt ratios. The alternative solution of growing out of the problem is limited by population dynamics and poor productivity.

Unfortunately, the more probable solution longer term is restructuring of sovereign debt through bankruptcy or other means. This requires forcing creditors to absorb losses. Since Germany is the largest creditor in the EU,

it would be the largest loser.

Write down of sovereign debt either directly or through the issuance of euro bonds appears to be inevitable. Write down has already occurred in the case of Greece, but in a way that permitted Greece to remain a member of the EU. However, the consequences for Greece of this particular solution have been disastrous. If write downs in the value of sovereign debt occur for other nations, such as Cyprus, it seems probable that they will be accompanied by exit of that country from the EU.

3. Where Are the EU and EZ headed?

When I review the fundamental flaws inherent in the EU and EZ governance structures and consider demographic trends and political constraints, I am hard pressed to see an outcome that preserves the EU and EZ in their current forms. But European political elites are committed to the European Project and will continue to struggle to preserve it. This means that the unraveling process is likely to be an extended affair. However, deterioration is proceeding and damage is accumulating. Social unrest is building and legitimacy of the ruling political elite is slowly eroding. In short, the crisis is far from over. Indeed, more and worse episodes are ahead.

Next up for bailout is Slovenia. Like Cyprus it is a small country. It will be interesting to see what kind of patchwork resolution is stitched together.

Matters are worsening rapidly in France. Within the next two years France is likely to hit the wall and will require some kind of financial assistance. Because France and Germany are the heart of the EU and their alliance has been critical to avoiding a repeat of the European disasters that transpired between 1870 and 1945, a way will be found to deal with the coming French crisis, but the rest of the EU may not survive this climactic event.

I will have more to ruminate about the EU's march toward disaster in coming letters.

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

As explained in Sections II. and IV., over the long run slower population growth and reduced productivity gains have combined to reduce the inflation-adjusted growth rate in potential aggregate demand.

But in the short run weak GDP growth and the large gap between actual and potential GDP is a direct consequence of a very weak labor market. Monetary and fiscal policy responses focused initially on attempting to boost aggregate demand. But, more recently, while monetary policy has maintained this focus, fiscal policy has shifted to corralling the federal public-debt-to-GDP ratio, and this works to reduce aggregate demand, at least in the short run.

This shift in fiscal policy threatens to slow economic recovery. The negative effects of fiscal policy will peak during 2013 at about 2.0% of GDP and then diminish to 0.5% in 2014. Thus, overall growth is likely to be weak during 2013, minimal progress will occur in reducing the GDP output gap, and the unemployment rate is likely to edge down only gradually.

However, the good news is that the odds of recession, barring a significant economic shock, appear to be low.

1. 2012 Q4 GDP — Final Estimate

As can be seen in **Table 3**, real GDP growth was a very disappointing 0.37% in BEA's "Final Estimate" for the fourth quarter of 2012. However, there were several anomalies within individual categories that masked a higher underlying trend growth rate.

As I explained in the ***February Longbrake Letter,*** fourth quarter numbers for nonresidential private investment, inventories, and government were unusual.

Nonresidential private investment was far more positive than expected. The "Final" revision was even more positive, increasing the contribution to fourth quarter real GDP growth from 0.83% to 1.28%. Growth in both components — structures and equipment/software — was well above long-term trend levels. It appears that fourth quarter growth was boosted

Table 3
2012 Quarterly GDP Growth

	Fourth Quarter Advance Estimate	Fourth Quarter Preliminary Estimate	Fourth Quarter Final Estimate	Third Quarter	Second Quarter	First Quarter
Personal Consumption	1.52%	1.47%	1.28%	1.12%	1.06%	1.72%
Private Investment						
Nonresidential	.83%	.96%	1.28%	-.19%	.36%	.74%
Residential	.36%	.40%	.41%	.31%	.19%	.43%
Inventories	-1.27%	-1.55%	-1.52%	.73%	-.46%	-.39%
Net Exports	-.25%	.24%	.33%	.38%	.23%	.06%
Government	-1.33%	-1.38%	-1.41%	.75%	-.14%	-.60%
Total	**-.14%**	**.14%**	**.37%**	**3.07%**	**1.25%**	**1.96%**
Final Dom. Sales	**1.13%**	**1.69%**	**1.89%**	**2.34%**	**1.71%**	**2.35%**

by tax-avoidance spending to take advantage of preferential policies due to expire at the end of 2012.

Trade, which subtracted -0.24% from GDP in the "Advance" estimate, was revised to show a positive 0.33% contribution in the "Final" estimate. This upward revision resulted in a favorable contribution from trade comparable to that experienced in the third quarter.

The two negative contributors to GDP in the "Advance" estimate — ***inventories*** and ***government expenditures*** — were somewhat worse in the "Final" estimate.

Personal consumption expenditures, which account for 71% of real GDP, were revised downward to an annual rate of 1.28%. This is consistent with an underlying real GDP growth rate of about 1.81%, consistent with CBO's current estimated potential growth rate of 1.75%.

Final domestic sales, which nets out the impact of volatile fluctuations in inventories, rose to 1.89% which was more consistent with data reported in prior quarters.

2. 2012 GDP Growth Compared to 2010 and 2011

Table 4 compares growth in components of GDP for 2012 with 2010 and

Table 4
2010, 2011and 2012 GDP Growth

	Annual Change			Pot.	Change Q4 to Q4		
	2012	**2011**	**2010**	**GDP**	**2012**	**2011**	**2010**
Personal Consumption	1.32%	1.79%	1.28%	**1.56%**	1.24%	1.33%	1.99%
Private Investment							
Nonresidential	.80%	.80%	.07%	**.23%**	.56%	.98%	.71%
Residential	.27%	-.03%	-.09%	**.06%**	.36%	.09%	-.15%
Inventories	.14%	-.14%	1.52%	**.01%**	-.41%	.19%	.63%
Net Exports	.04%	.07%	-.52%	**-.08%**	.24%	.00%	-.54%
Government	-.34%	-.67%	.14%	**.42%**	-.32%	-.62%	-.26%
Total	**2.23%**	**1.81%**	**2.39%**	**2.20%**	**1.67%**	**1.97%**	**2.39%**
Final Dom. Sales	**2.09%**	**1.95%**	**.87%**	**2.19%**	**2.08%**	**1.78%**	**1.76%**
Final Sales - Govt.	**2.43%**	**2.62%**	**.73%**	**1.77%**	**2.40%**	**2.40%**	**2.02%**

2011. The left hand panel compares average changes from one year to the next, while the right hand panel shows the change from the fourth quarter of one year to the fourth quarter of the next year. The middle column in **Table 4** shows what the contribution of each component to growth would be if that component remained a constant share of GDP and real GDP growth was 2.2%.

Both methods of measuring GDP growth indicate that the underlying growth rate in real final domestic sales during 2012 was 2.1%. Quarterly fluctuations in inventories can skew the reported real GDP rate of growth and when that occurs, as it did in 2012, the different measurement methodologies obscure the underlying real GDP growth rate.

3. GDP Forecasts for 2013 Q1 and Q2

Real GDP growth in the first quarter of 2013 is likely to be relatively strong for several reasons. First, the negative fourth quarter anomalies in inventories and government will reverse and will result in an above average positive

contribution to growth. Second, data reports indicate that rebuilding activities in the wake of Hurricane Sandy will provide a temporary boost to growth. Third, it appears that some of the outsized gains in income in November and December that occurred in anticipation of higher tax rates in 2013 were spent in January and February. Fourth, income and saving data for January and February indicate that households maintained spending levels by reducing saving to offset spending power lost due to higher taxes.

Manufacturing, employment, auto and retail sales data reports for January and February were much better than expected. Reflecting these reports, the Chicago Fed's National Activity index rose to .44 in February from -.49 in January, but the three-month moving average declined to .09 from .28. A zero value for this index over a three-month average indicates that growth is at about its long-term stable trend rate. A value of -.70 over a three month average typically indicates that the economy is in recession.

However, March reports have disappointed. For example, employment growth was much weaker than expected, manufacturing and non-manufacturing momentum slowed (although the Markit U.S. Manufacturing PMI improved slightly in March), small business sentiment decreased and retail sales declined.

Renewed weakness should not be surprising. It is consistent with the powerful negative impulse of higher taxes and reduced government spending. Slower growth is likely for the next six months. But the probability of recession remains low. However, the economy remains fragile. This means that the margin between slow growth and recession is narrow. A significant negative shock could tip matters toward recession.

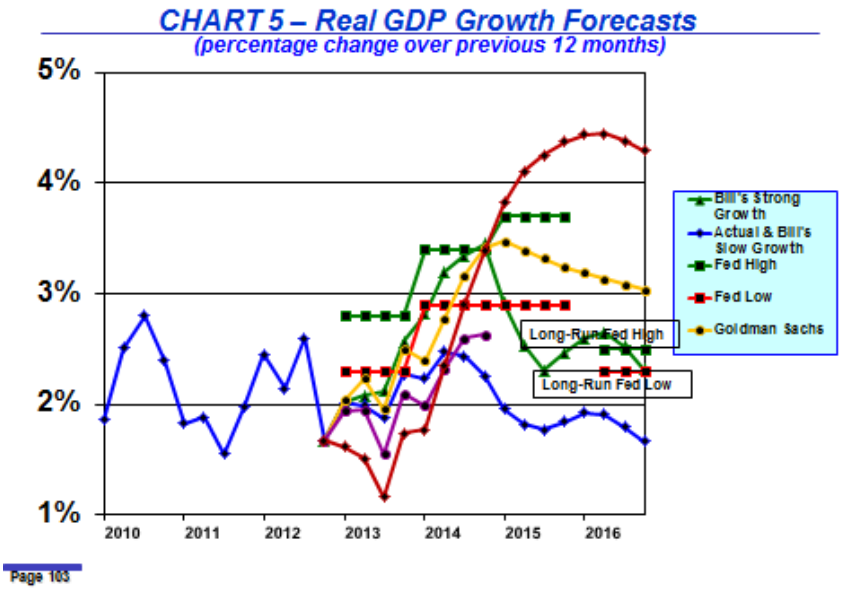
First Quarter Forecasts. B of A expects first quarter growth to be 3.6%. GS also estimates growth will be 3.0%. Most other forecasts are in the vicinity of 3.5%.

Second Quarter Forecasts. However, B of A still expects growth to slow materially in the second quarter to 1.3% as the full effects of tax increases and reductions in government spending take hold. GS also expects slower growth in the second quarter, but has a less pessimistic estimate of 2.0%.

4. GDP Forecasts for All of 2013

Most forecasters expect growth in 2013 to slow in the middle of the year and then pick up toward the end of the year.

Chart 5 shows GDP forecasts/projections for 2013 through 2016.



B of A is forecasting GDP growth in 2013 from fourth quarter to fourth quarter to be 2.1%. GS expects 2.5% growth.

The Federal Open Market Committee (FOMC), which has consistently been too optimistic, at its March meeting lowered the top end of the range for its 2013 GDP projections from 3.0% to 2.8%. The lower bound was unchanged at 2.3%.

Bill's "***Slow Growth***" forecast projects 2013 GDP growth of 2.3%. Bill's "***Strong Growth***" forecast projects 2.6% growth.

5. GDP Forecasts for 2014 and Beyond — Importance of Investment

Most forecasters expect GDP growth to accelerate in 2014 and 2015 as the negative fiscal drag diminishes and unemployment gradually declines. As explained in Sections II. and IV., my longer-term forecasts are depressed by slow productivity growth which is caused primarily by weak private and public investment growth.

Both B of A and GS forecast strong residential investment growth as the housing market continues its recovery. Real residential investment peaked at $783.5 billion in the fourth quarter of 2005, fell to $322.2 billion in the first quarter of 2011 and has since increased to $386.2 billion in the fourth quarter of 2012. While the previous peak was driven by bubble speculation, there is still substantial room for residential investment to increase in coming quarters. GS expects residential investment to increase at double digit rates rising to $522.6 billion by the end of 2014 and $674.3 billion by the end of 2016. B of A is somewhat more optimistic, but only provides a forecast through the end of 2014$579.0 billion.

GS's and B of A's residential investment growth forecasts appear to be reasonable. However, their forecasts for nonresidential investment, which is more than four times larger than residential investment, appear to be extraordinarily optimistic compared to historical trends and recent weakness. Nonresidential investment peaked at $1,592.3 billion in the fourth quarter of 2007, 11.9% of GDP (an all-time high since 1996 when the data began to be reported separately) and was $1,522.4 billion in the fourth quarter of 2012 — 11.1% of GDP. GS's forecast for nonresidential investment rises to 13.1% of GDP by the end of 2016, which I do not believe is credible. If anything, nonresidential investment spending, given the size of the output gap, is likely to have difficulty rising to its previous peak of 11.9%.

GS argues that 8% to 9% annual real growth in nonresidential investment from 2013 through 2015 is likely because of high corporate profit margins, high real rates of return relative to cheap funding, easier access to credit and declining policy uncertainty. If GS's view is correct, nonresidential investment growth at its forecast levels would add approximately 1% to real GDP growth in each of the next three years.

GS does acknowledge that weak aggregate demand is a headwind. Invest-

ment conditions may be very attractive financially but if demand is absent, will companies proceed with investments? Other research suggests that the answer is "No". Of course, we will know the real answer in time. If GS turns out to be more right than wrong, this would be good news as productivity would improve at a faster rate and the output gap would decline sooner.

My sense is that GS's nonresidential investment assumptions provide an optimistic upward bias to its real GDP forecasts, which fall within the FOMC's projected range for real GDP growth in 2014 and 2015.

B of A has equally optimistic investment assumptions but its real GDP forecast for 2014 is 2.6% compared to 3.4% for GS and an FOMC projection range of 2.9 to 3.4%. My "**Slow Growth**" scenario forecast is 2.3%, but the "**Strong Growth**" scenario forecast is 3.4%, which is the same as GS's forecast and the top end of the FOMC's projection range.

Following a consistent historical pattern, the FOMC's GDP growth projections remain on the optimistic end of the spectrum. The FOMC reduced its projections by 0.1% in 2014 and 2015 (see **Table 6** below).

6. Manufacturing

U.S. manufacturing has been a bright spot in an otherwise disappointing recovery. Industrial production has grown twice as fast as the rest of the economy since the recovery from the Great Recession began in the third quarter of 2009.

This sector has performed especially well for two reasons. First, the decline in the value of the dollar over the last several years on a trade-weighted basis has improved the competitiveness of U.S. exports. But perhaps more importantly, U.S. manufacturers have improved their global competiveness to a substantial degree. For example, unit labor costs in the U.S. have fallen 23% relative to those in Germany since 1992 with most of the improvement occurring over the last three years. U.S. manufacturing also is benefitting increasingly from sharply lower energy costs, particularly costs of natural gas which are about one-third of the global average.

Recent strength in manufacturing has contributed to a reduction in the trade deficit as a percentage of nominal GDP from a peak of 5.7% in August

2006 to 3.3% in March 2013. Over this same time period U.S. exports of goods have increased from 7.3% of nominal GDP to 9.8%.

But, as good as this news is, it is not a game changer. U.S. manufacturing accounts for only 11.6% of GDP. This means that strong growth in this sector is adding only 0.2% to 0.4% to overall real GDP growth.

VII. Employment

March's employment report fell well short of expectations even though the unemployment rate fell to a post-Great Recession low.

1. Payroll Report

Employers added 88,000 jobs in March, the lowest monthly amount since June 2012. Revisions to January and February jobs added 61,000 jobs resulting in a net increase of 149,000. The 12-month rate of growth edged down from 1.52% in February to 1.43% in March. Payroll growth is clearly in a decelerating trend having peaked at 1.85% annual growth in February 2012. Monthly payroll employment growth is likely to remain near 100,000 for another couple of months until the initial impact of federal spending cuts wash through the economy.

2. Household Jobs Report

While the payroll report for March was disappointing, the household jobs report was a disaster. Jobs decreased by 206,000. Worse yet, the labor force shrank by 496,000 after falling 130,000 in February.

The 12-month rate of growth in household jobs declined to .89%, also continuing a decelerating trend since the growth rate peaked at 2.18% in June 2012. The household survey is subject to large sampling errors and, therefore, is more volatile than the payroll survey. However, over longer periods of time the growth rates from both surveys are similar.

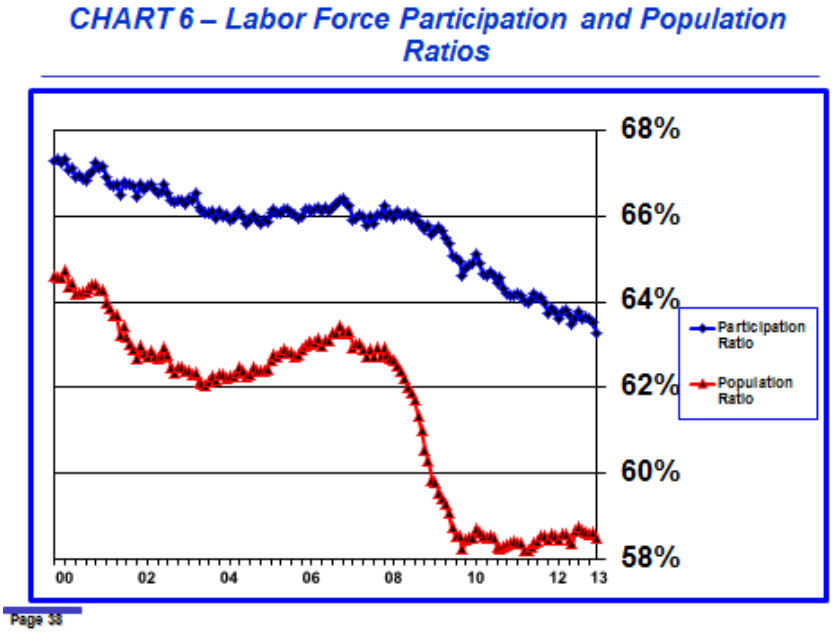
Average weekly hours worked increased from 34.5 to 34.6. This was a

favorable development and takes a bit of the sting out of the terrible decline in household jobs and the size of the labor force. Nonetheless, hours worked have average 34.45 monthly over the last year had touched 34.6 once before in February 2012.

3. Population Ratio and Labor Force Participation Ratio

Declining numbers of workers who report they are in the labor force or slower growth in the labor force than growth in the number of household survey jobs is a very negative development when the unemployment rate is high. Simply put, this phenomenon strongly implies that many eligible workers are dropping out of the labor force because they can't find jobs.

Chart 6 shows two standard measures of the strength of the labor mar-



ket. The **population ratio** measures the number of workers who report they have jobs as a percentage of the total number of people in the population who are eligible to work. The **participation ratio** measures the number of workers who would have a job or would like to have a job as a

percentage of people in the population who are eligible to work. 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.

When the Great Recession hit, the population ratio plummeted from 62.9% in December 2007 to 58.2% in December 2009. What is interesting is that the population ratio has never recovered. It was 58.5% in March 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 over the last 39 months. Or putting this differently, jobs lost during and just following the Great Recession have not been recovered.

But, the participation rate has declined steadily throughout the recovery and reached a new low of 63.3% in March 2013, which is the lowest this measure has been since September 1978.

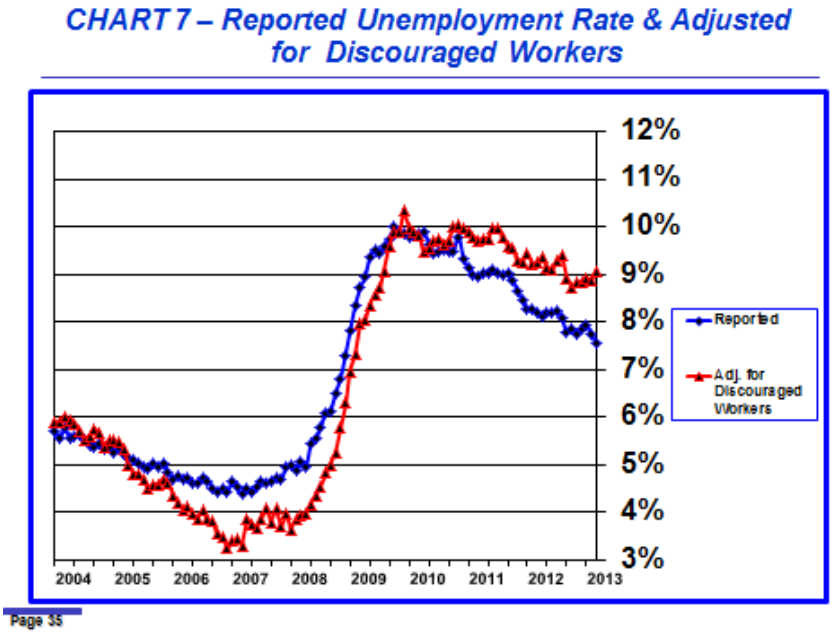
Putting this together, ***the unemployment rate is falling, not because unemployed workers are finding jobs, but because they are dropping out of looking for jobs***.

4. Discouraged Workers or Structural Unemployment?

What then is important from a policy standpoint is whether workers who are dropping out of looking for jobs 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.

This issue is important because it bears on implementation of monetary policy. 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 would take longer for the unemployment rate to fall to policy target of 6.5%.

To date the preponderance of the analysis supports the expectation that many discouraged workers will re-enter the labor force as labor market conditions improve. My analysis of this phenomenon is shown in **Chart 7**. Over the business cycle there is a systematic pattern in labor force participation. When times are good some marginal workers join the labor force



and when times are difficult some marginal workers drop out.

In March 2013, there were approximately 2.3 million discouraged workers who were not counted as unemployed. If the 2.3 million discouraged workers were counted, the unemployment rate would have been 9.06% rather than 7.57%. A recent Federal Reserve Bank of San Francisco Economic Letter, published before the latest decline in the participation rate, suggested that as many as 2.1 million discouraged workers could re-enter the labor force as the labor market strengthens.[6]

However, other employment measures suggest that the labor market is tightening gradually. For example, the number of job openings is rising. Over the last 12 months, the number of job openings has increased 11.3% while the number of hirings has declined by 1.6%. This implies that those dropping out of the labor force simply don't have the skills necessary for an increasing number of available jobs. Other indicia of a tighter labor market include a decline in layoffs, down 8.3%, and an increase in voluntary quits,

[6]Mary Daly, Early Elias, Bart Hobijn, and Oscar Jorda. "Will the Jobless Rate Drop Take a Break?", FRBSF Economic Letter 2012-37, December 17, 2012.

up 7.3%.

5. Unemployment Rate

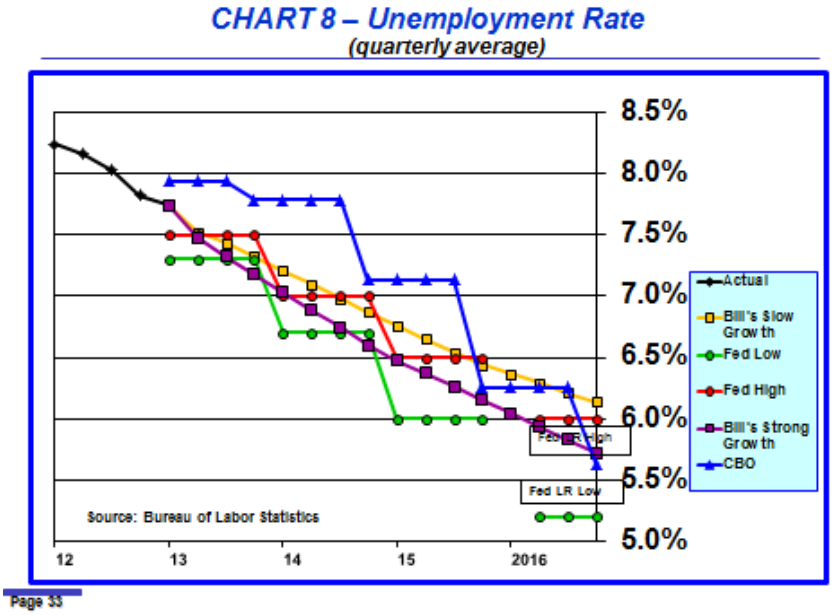
Because the Federal Open Market Committee (FOMC) has now linked monetary policy explicitly to the unemployment rate, it is important to track this data point and various forecasts of when the unemployment rate is expected to cross below 6.5%, which is the FOMC's threshold for raising the federal funds rate. As noted above the recent dynamics of the labor market make forecasting the timing of this event extremely difficult.

According to BLS, the number of unemployed workers decreased 290,000 in March after decreasing 300,000 in February. The sharp drop in the number of unemployed workers over the last two months may stem, at least in part, from the progressive expiration of extended unemployment benefits.

The unemployment rate fell to 7.57% a new post-Great Recession low. Over the last year since February 2012 unemployment has decreased 944,000 and the unemployment rate has decreased from 8.20% to 7.57%.

Chart 8 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 reduced that ranges for the unemployment rate for 2013 and 2014 at the March meeting which essentially reflected the somewhat faster decline in the unemployment rate recently. However, these adjustments did not alter the early 2015 date for reaching the 6.5% target level. The FOMC's long-run noninflationary rate of unemployment (structural unemployment rate), achieved sometime after 2015, falls between 5.2% and 6.0% (shown on the right hand side of **Chart 8**.

I have included unemployment rate forecasts for both my "***Slow Growth***" (yellow line and squares) and "***Strong Growth***" (purple line and squares) scenarios. The "***Slow Growth***" unemployment rate projection generally tracks the upper end of the FOMC's range and the "***Strong Growth***" unemployment rate tracks the middle of the FOMC's range. The unemployment rate forecast in the "***Strong Growth***" scenario reaches the 6.5% threshold in early 2015 which is consistent with the FOMC's projection range. However, the unemployment rate in the "***Slow Growth***" scenario does not reach 6.5% until late 2015.



CBO's unemployment rate forecast is also shown in **Chart 8** (blue line and triangles). The unemployment rate barely budges in 2013 and 2014 but then falls quickly and hits 6.5% by mid-2015. GS expects the unemployment rate to reach 6.5% at the end of 2015 and expects that the FOMC will not raise the federal funds rate until early 2016.

6. Other Labor Market Indicators

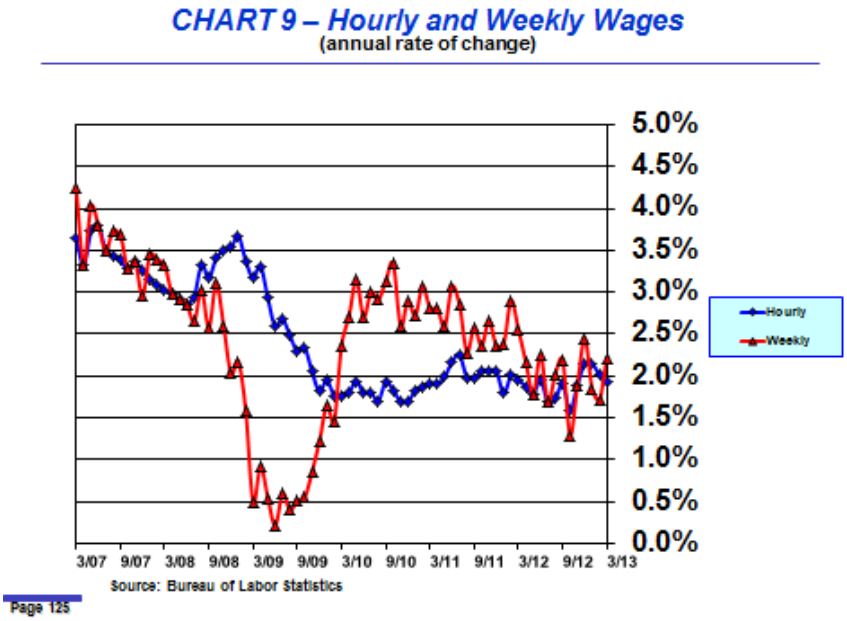
It should be apparent from the commentary above that the unemployment rate does not tell the entire story about the condition of the labor market. The FOMC recognizes this and has been very explicit in stating that it will review and consider a large number of labor market indicators in determining when to begin raising the federal funds rate. The FOMC's "green book" includes 24 different weekly and monthly measures which cover unemployment, employment, layoffs, hiring and various surveys.

GS has constructed a statistical measure using these measures, which it refers to as the "Labor Market Tracker". The Tracker is scaled to monthly

payroll job data to make it easy to interpret relative to a well-known labor market indicator. The Tracker and the change in monthly payrolls track each other quite well over time, but deviations between the two measures occur from time to time. In recent months the Tracker undershot monthly payroll increases, implying that the labor market was somewhat weaker than the monthly payrolls increases suggested. Thus, the weak March payroll number was not a surprise as it contribute to restoring a better alignment between observed payroll employment growth and the Tracker.

7. Growth in Wages

Growth in hourly wages has stabilized near 2.0% (see **Chart 9**). This is



probably good news because the large output gap and high unemployment rate apparently is not putting downward pressure on wage rates. This suggests, but does not guarantee, that when the labor market begins to tighten, wage rate growth will accelerate.

Average hours worked has stabilized at about 34.45 over the last year,

which means that both hourly and weekly wages are growing at similar rates. This is a sign of labor market stability. Wages do not yet show any evidence of a tightening labor market.

VIII. Consumer Income and Spending

Policy gyrations are wreaking havoc with personal income, consumption expenditures and saving data. The data over the last few months have been especially volatile with frequent large revisions. These developments make it harder than usual to assess trends in household income and spending and their implications for broader economic activity.

For example, markets reacted favorably to Bureau of Economic Analysis' February disposable income and spending report because it revealed strong increases in both income and consumption compared to January — 13% annual rate of growth in disposable income and 8% annual rate of growth in spending. However, the month-to-month volatility in the data and frequent large revisions make month-to-month comparisons pretty meaningless. Thus, I prefer to look at trends in these measures over much longer time periods.

1. Personal Income, Disposable Income and Spending

Table 5 shows the annual results for 2011 and 2012 and the 12 months from March 2012 through February 2013. What immediately stands out is the near doubling in nominal personal income growth from 3.64% in 2011 to 7.08% in 2012. The contrast between 2011 and 2012 is even more dramatic for disposable income growth which increased to 6.97% in 2012 from 2.46% in 2011.

Income was inflated during 2012 by policy and timing. Income in January 2012 was boosted by bonus and incentive payments. Impending tax rate increases led these same sources of income to be accelerated into November and December of 2012 to avoid higher tax rates in 2013. In addition, distribution of dividends and other sources of income were accelerated to November and December.

Table 5
Change in Personal Income and Its Disposition for 2011, 2012 and 12 Months Ending February 2013
(in billions of dollars)

	Nominal 2011	**Annual Pct. Change**	**Nominal 2012**	**Annual Pct. Change**	**Nominal Feb 12 to Feb 13**	**Pct. Change Feb 12 to Feb 13**
Personal Income	**$458.1**	**3.64%**	**$923.3**	**7.08%**	**$350.5**	**2.65%**
Compensation	269.2	3.34%	390.9	4.69%	238.9	2.81%
Proprietors' Inc.	21.0	1.83%	62.3	5.33%	65.6	5.52%
Rental Income	70.7	19.50%	49.2	11.35%	56.5	12.69%
Asset Income	25.9	1.56%	376.8	22.32%	62.5	3.69%
Government Transfers	4.3	0.19%	87.3	3.75%	81.9	3.49%
Less: ***Personal Taxes***	-112.7	5.05%	-156.9	6.69%	-239.8	10.01%
Disposable Income	**278.5**	**2.46%**	**809.7**	**6.97%**	**265.6**	**2.25%**
Less: ***Consumption***	**435.8**	**4.04%**	**387.6**	**3.56%**	**366.1**	**3.32%**
Personal Saving	**-157.4**	**-28.63%**	**411.3**	**104.84%**	**-104.5**	**-25.16%**
Personal Saving Rate	**4.24%**		**3.91%**			**3.73%**

Personal income fell $513 billion from December to January (-3.7%) and disposable income declined $491 billion (-4.0%). Most of this decline reversed extraordinary increases that occurred in November and December. But some of the income decline in January also included income that normally would have been paid in January, but was paid in December, which explains why income bounced back strongly in February. Focusing on the 12 months ending with February 2013 eliminates most of these timing anomalies.

Personal income rose 2.65% over the 12 months ending in February 2013 and disposable income rose 2.25%. The impact of the payroll tax rate increase from 4.2% to 6.2% is clearly visible in the 10.01% increase in personal taxes over the same 12-month period. The saving rate plummeted from 6.5% in December to 2.6% in February.

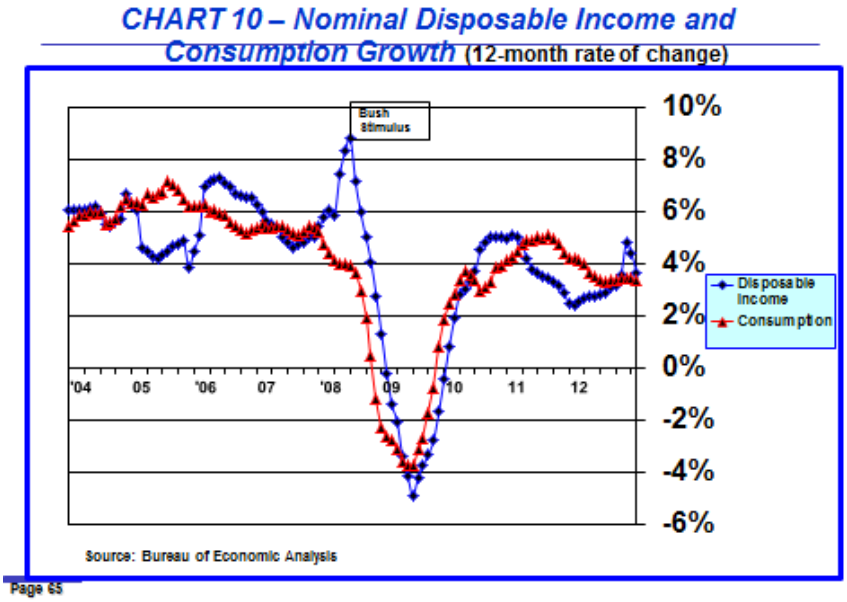
Not much insight can be derived in terms of trends from the rest of the data.

2. Consumption

There is no discernible evidence that consumption spending was affected by income timing. When the data are viewed on a year over year basis in **Table 5,** the rate of growth in consumption spending has slowed from 4.04% in 2011 to 3.56% in 2012 and 3.32% in the most recent 12 months, which includes 10 months in 2012. Revisions may change this apparent trend but it remains likely that weak consumption growth tells the real story. Without special factors, income growth is weak and consumers don't appear to have spent much of the one-time extra income. Indeed, since the beginning of 2013 consumption spending growth, even though weakening slightly, still exceeds income growth which means consumers are reducing the amount set aside for saving to sustain current consumption levels.

3. Disposable Income and Spending

Chart 10 shows the nominal rate of growth in disposable income and con-



sumer spending from 2006 to the present. Growth rates are calculated as

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

The annual rate of growth in disposable income began slowing in early 2011 and declined from 5.1% in February 2011 to 2.4% in February 2012, but then rose to 3.2% in October 2012, surged to 4.8% in December, and fell back to 3.7% in February.

Chart 10 shows that growth in consumer spending after peaking at 5.1% in September 2011, subsequently slowed to about 3.4% and has stabilized at that level over the last eight months.

4. Outlook — Effect of Increases in Tax Rates

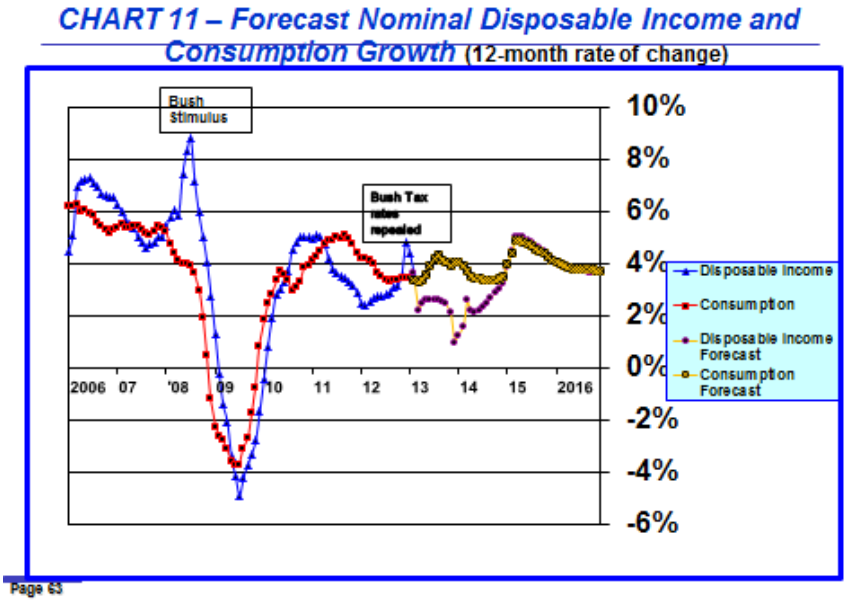
Over the next few months consumer disposable income growth will continue to slow. This trend is not in doubt because of the 12-month moving average calculation method . However, there is less certainty about how higher taxes will affect consumer spending since consumers have the choice to try to maintain spending by dipping into savings or simply to maintain savings by cutting spending. The result is likely to lie somewhere in the middle, but the question is where. The extent of any pullback in consumer spending will affect real GDP growth and the speed with which labor market conditions improve. A survey conducted by Bankrate.com found that 30% of consumers have cut back spending because of increased taxes. This percentage may rise in coming months.

Increases in federal personal taxes during 2013 will amount to approximately $200 billion or about 1.66% of nominal consumer disposable income. If all the decline in disposable income is made up by dipping into savings, the saving rate would drop to about 2.00% in 2013 from 3.91% in 2012. If nothing else changed, nominal spending growth would continue at the 2012 level of 3.6% and real spending growth would be 2.1%, if the PCE deflator were 1.5%. This involves a lot of assumptions, but the point of this exercise is to provide a basis for understanding B of A's and GS's estimates of tax increases on **real** consumer spending in 2013.

B of A recently raised its forecast and expects real consumer spending to grow at annual rates of 2.2% in the first quarter, 1.7% in the second

quarter and 1.75% during the second half of 2013. GS expects real consumer spending to grow at an annual rate of 2.3% in the first quarter, 2.0% in the second quarter and 2.0% in the second half.

Chart 11 shows my forecast for growth in nominal consumer disposable



income and consumption through 2016. All-in-all the story **Chart 11** tells is not a strong one. It is a story that is consistent with low labor supply growth, paltry productivity gains, low inflation and meager increases in wages and salaries.

5. Wealth Effect

There has been some speculation that the recent rises in stock and housing prices will result in a positive wealth effect on consumer spending. GS estimates that recent increases in household wealth could raise real consumer spending by about 0.5% and real GDP growth by approximately 0.35% in 2013. My statistical analysis corroborates GS's 0.5% wealth-driven real spending gains in 2013, but this result is entirely due to increases in stock

prices. My analysis indicates that the lagged effects of past housing price declines will have a small negative wealth effect on consumer spending in 2013. B of A believes that housing prices increases will add 0.1% to real consumer spending in 2013.

6. Consumer Confidence

Various measures of consumer confidence are sending mixed messages. On the positive side, the Rasmussen measure of consumer confidence has been rising recently and was at a post-Great Recession high as of April 3, 2013. The University of Michigan consumer sentiment rose slightly in March to its highest level in four months. However, other measures including the Bloomberg Consumer Comfort index, the Conference Board Consumer Confidence measure, the IBD/TIPP sentiment index and the RBC-IPSOS index all declined in March.

Mixed results imply no significant directional change in consumer spending in coming months.

IX. Fiscal Policy

There are significant long-run fiscal policy differences between Democrats and Republicans and little common ground exists for forging compromise. However, now that tax increases and automatic spending cuts (the sequester) have become effective, the urgency of resolving longer-term policy issues and the threat stalemate poses to the U.S. economy have receded. That is because the policies now in place assure a substantial reduction in near-term budget deficits and stabilization of the public-debt-to-GDP ratio.

Posturing and rhetoric continue but neither political party is threatening to shut down the government or to permit default on government debt if its policy preferences aren't adopted. What this means is that short-term requirements, such as raising the debt ceiling, will get done without a cliff-hanging crisis that spooks markets and scares consumers. But, longer term issues of tax reform and entitlements, while much discussed, will probably not be addressed in legislation to any significant extent this year.

1. Automatic Spending Cuts (Sequester)

Budget Control Act. $1.2 trillion in spending cuts over the next nine years were mandated by the Budget Control Act, which Congress passed in 2011. Entitlement programs are exempt, which means the sequester impacts only defense and domestic spending programs and reimbursements rates for Medicare providers. Implementation was deferred until January 1, 2013 and was further delayed for two months when Congress extended most of the Bush tax rate cuts permanently at the beginning of the year.

When Congress adopted a continuing resolution in late March to extend budget spending authority through the end of fiscal year 2013, it simultaneously passed some appropriations legislation. The legislation does not change the aggregate impact of the sequester but provides greater flexibility, particular for defense spending, to identify where the cuts are taken. Specifically, the legislation enabled the Department of Defense to reduce the number of furlough days for civilian employees from 22 to 14.

Macro-Economic Impact. So, at least for the next few months and probably longer we are about to find out how forced spending cuts will impact the economy. We know that the impact will be approximately equal to 0.6% of real GDP over the course of 2013 with the preponderance of the impact concentrated in the second and third quarters.

Employment impacts on government workers will be limited sense most of the spending cuts will be achieved through furloughs. Government contractors are likely to experience greater job losses.

We also know that defense spending will be cut by approximately 9% and this will impact defense contractors especially hard. What we do not know is how the cuts will ripple through the economy and what the secondary and tertiary effects will be.

Public Reaction. So far, forecasters and financial markets are not overly worried about the consequences of mandatory spending cuts. Public reaction so far has been negligible, primarily because no tangible consequences are visible yet. This is probably because the consequences are theoretical at this early juncture rather than personalized.

Assessment. Analysts expect automatic across-the-board spending

cuts to have significant adverse impacts on employment and GDP as the year progresses. However, at the moment markets are rather blas and there is complacency about potential downside risks. Perhaps positive momentum in the private sector will dampen the negative impact of the sequester. Perhaps the assumed multiplier effects are too pessimistic. We can be hopeful. But***, if CBO's analysis turns out to be close to the mark, then the economy will soften more than expected in the second and third quarters. And, if that occurs, market optimism will be a casualty***.

2. Fiscal Year 2014 Budget

Both the House and the Senate have passed fiscal year 2014 budgets. Not surprisingly, there is little common ground in the details other than both seek to reduce the deficit. But, from a procedural standpoint, it is now possible to form a conference committee to piece together a single budget. However, no action has occurred yet.

Ryan Budget. The House passed the budget prepared by Budget Committee Chairman Paul Ryan (R-WI) which specifies that the budget be balanced by 2023. The public-debt-to-GDP ratio would shrink from 76% at the end of the current fiscal year to less than 55% by the end of fiscal year 2023. Thy Ryan budget includes substantial reductions in health care entitlement programs, especially Medicaid, as well as significant cuts in discretionary and mandatory spending. Total spending reductions would be approximately $4.6 trillion over ten years. In line with Republican policy, Ryan's budget is revenue-neutral, but does include tax reform proposals.

Murray Budget. The Senate by a vote of 50 to 49 with four Democrats voting no passed its first budget in four years in late March. The budget was prepared by Senate Budget Committee Chairman Patty Murray (D-WA). It would reduce the deficit by $1.85 trillion over ten years and lower the public-debt-to-GDP ratio to approximately 70% by the end of fiscal year 2023. The $1.85 trillion in deficit reduction comes from $975 billion in revenue increases and $875 billion in spending cuts net of an additional $100 billion in spending for jobs programs. Increased tax revenues would result from tax reform primarily by reducing tax breaks for corporations and high-income individuals. Spending cuts are spread over health care, defense, domestic spending and lower interest on the federal debt. Consistent with Democratic Party orthodoxy, no reforms are proposed for entitlement programs.

President Obama's Budget

President Obama forwarded the Administration's proposed budget to Congress on April 10, 2013. The proposal purports to reduce the budget deficit by $1.8 trillion over ten years. It includes significant tax increases, as well as spending cuts and would repeal the $1.0 trillion sequester.

Budget savings claims are hard to evaluate without establishing a baseline for comparison purposes. According to an analysis conducted by the Committee for a Responsible Federal Budget (CRFB), President Obama's budget cuts the deficit over ten years by approximately $1.3 trillion compared to CBO's current law scenario. CFRB believes the president's budget would reduce the public-debt-to-GDP ratio from 76% in 2013 to 73% in 2023.

Table 6 was prepared by CFRB and attempts to compare the House,

Table 6
Savings in House, Senate and President's Budgets
(2014-2023, billions of $)

Savings Category	President's	House	Senate
Health	$152	**$2,722**	$137
Mandatory	$22	**$962**	$76
Discretionary	$174	$249	$382
Chained CPI	**$230**	$0	$0
Revenue	**$746**	$0	**$811**
Sequester	**-$1,018**	$0	-$995
War and Hurricane Sandy Drawdowns	$1,036	$931	$1,268
Jobs Spending	**-$216**	$0	**-$100**
SUBTOTAL	**$1,126**	**$4,864**	**$1,579**
Interest Savings	$180	$869	$195
TOTAL	**$1,306**	**$5,733**	**$1,774**
Debt to GDP in 2023	73%	55%	70%
Revenue to GDP	20.0%	19.0%	19.8%
Expenditures to GDP	21.7%	19.1%	21.9%

Senate and President Obama's budget using CBO's current law as the baseline. All three budgets cover ten years from 2014 through 2023.

Health. The House budget includes substantial reform of Medicare and Social Security. The President's and Senate budget only deal with reducing provider payments.

Mandatory. The House budget states a goal for spending reductions but does not identify much in the way of specific cuts.

Chained CPI. The chained CPI is based on a basket of flexible current spending composition weights rather than fixed weights. BLS has been calculating the chained CPI index since 2000. It is rising much less rapidly, primarily because households continually shift the mix of purchases and are quite successful in shifting purchases to cheaper alternatives. The impacts of implementing the chained CPI would be split about equally between revenue increases and spending reductions. Although the House budget does not include this proposal, comments from Speaker Boehner strongly suggest that Republicans will accept the President's proposal.

Revenue. The Obama budget caps individual deductions at a 28% tax rate; increases tobacco excise taxes and implements the Buffet Rule to establish a minimum tax rate on wealthy individuals. The House budget has no revenue increases. Expert opinion is that the House view is likely to prevail and that there will be no further tax increases except those trigger by the chained CPI.

Sequester. Both the President's and Senate budgets repeal the sequester. This is unlikely to occur unless the President and Senate agreed to substantial mandatory and discretionary spending cuts, which unlikely.

Jobs Spending. Both the President's and Senate budget propose additional spending for jobs. The increase in the tobacco tax is linked to this item in the President's budget.

With the House and Senate budgets so far apart, it will be interesting to see what happens in coming months. Resolution may be tied to increasing the debt ceiling, but both Republicans and Democrats appear to be reluctant to use the debt ceiling in a game of chicken.

3. Debt Ceiling

On May 18, 2013 the debt ceiling, which was temporarily suspended, goes back into effect at whatever ever debt level is outstanding on that date. The estimate currently is $16.8 trillion. Effective on that date the Treasury will be unable to extend any net new debt until Congress raises the debt ceiling.

As in the past, the Treasury will be able to extend the day of reckoning until sometime in August.

It seems likely that the debt ceiling will be raised in conjunction with either the adoption of the fiscal year 2014 budget or yet another continuing resolution. There seems to be little appetite on either side of the aisle for engaging in brinksmanship over the debt ceiling. However, Speaker Boehner may demand spending cuts over the next ten years equal to the amount of the increase in the debt ceiling. But, because Republicans do not appear to be interested in engaging in a cliffhanger as they did in the summer of 2011, it's difficult to speculate whether Boehner will pursue such a bargaining position aggressively.

When people do the math, the debt ceiling may not need to be raised by a great deal. That is because the deficit is falling rapidly. So far in fiscal 2013, the deficit has amounted to $600 billion and is on track to end the fiscal year at $870 billion or less. In fiscal years 2014 and 2015 the deficit is projected to be $650 billion and $500 billion or less, respectively. The sum of the remaining deficit in 2013 and the projected deficits for 2014 and 2015 is approximately $1.4 trillion, which is not much different from the estimated deficit reduction in President Obama's budget and less than the deficit reduction in the Senate budget.

X. Monetary Policy

There are two sets of monetary policy issues market participants are pondering. The first has to do with ***quantitative easing*** (large scale asset purchases) and how long and in what amounts the FOMC will continue to purchase U.S. Treasury securities and Government Sponsored Enterprise guaranteed mortgage backed securities. The second has to do with how long the FOMC will maintain a "***zero-interest-rate policy***" (ZIRP) for the

federal funds rate.

1. Policy Intent and Expected Benefits

Both large scale asset purchases and ZIRP are intended to lower longer-term interest rates. Lower long-term interest rates are expected to stimulate aggregate demand in an economy still struggling to establish sustainable growth momentum.

Quantitative easing works to stimulate the economy by changing the supply/demand dynamics of longer-term securities to reduce both their nominal and inflation-adjusted (real) yields. Lower rates promote investment and create wealth by driving up financial asset prices. Both contribute to raising aggregate demand. ZIRP has the same impact but works through market participant expectations by extending the timeframe for future increases in interest rates.

Easy monetary policy is especially important at the moment because of the negative impact on the economy of higher taxes and automatic spending cuts. As the negative impact of fiscal policy abates later on in 2013 and, if the economy regains forward momentum, the need for an aggressively easy monetary policy should diminish.

Because the FOMC has not established time-dated guidelines, market participants are debating not just when quantitative easing will end but also when and by how much the FOMC will scale back large scale asset purchases before ending them.

There is also debate about whether the benefits of quantitative easing are substantive and whether there could be significant longer run consequences.

2. Quantitative Easing — Large Scale Asset Purchases

Minutes of the March FOMC meeting clarified member views about the timing of scaling back and ultimately terminating asset purchases. Of course, timing is conditional upon the performance of the economy, but the minutes made it clear that reductions in purchases and then cessation of purchases will occur well before the target 6.5% unemployment rate is reached.

In "Fed-speak", "a few members" favored reduction in the pace of purchases beginning in the middle of 2013, while "several others" thought that it would be appropriate to begin scaling back later in the year. Collectively, these two groups probably represent a voting majority of the committee. This suggests that unless the economy falters in coming months, a likely date to begin scaling back purchases would occur at the September FOMC meeting. This timing is about one quarter sooner than the market has been expecting.

However, actual timing will depend principally on what happens to employment in coming months. In that regard, March's weak employment report, which was released after the FOMC meeting, if followed by further employment weakness in coming months, points to a deferral of a change in quantitative easing policy until later in the year or even next year.

Even though the minutes suggested an earlier start to phasing out quantitative easing than the market was expecting, the weak employment report pretty much neutralized the impact of the minutes. In other words, the market expects the FOMC to continue purchases at current levels through the end of the year. B of A is very explicit in its view. It expects the FOMC to continue purchases at the current rate through March 2014 and then phase out purchases over the remainder of 2014. If B of A's analysis is on the mark, either there won't be much time separation between the end of quantitative easing and the first hike in the federal funds rate or the first federal funds rate hike will occur much later than the first quarter of 2015.

Corroborating a comment Chairman Bernanke made during the press conference following the FOMC meeting, the minutes also made it clear that purchases could be increased, if the economy slows more than expected. Again, the key policy variables to watch are various measures of the health of the labor market.

3. Large Scale Asset Purchases — Potential Risks

In the ***March Longbrake Letter***, I discussed several potential risks posed by large scale asset purchases. Below are a few additional comments.

Market Liquidity. A consideration influencing quantitative easing policy is the potential to disrupt markets, if purchases are maintained at the

current level for too long.

There is already some evidence of distortion in the mortgage backed securities market. Purchases have depressed secondary market mortgage rates more than primary rates. Thus, although home borrowers have benefited from lower rates, the full extent of the impact of securities purchases on rates has not been passed through entirely to borrowers. This resulted in a profits boon for large mortgage originators during 2012.

In addition, Federal Reserve securities purchases reduce private market liquidity. To date this has not been a serious problem but anecdotal commentary suggests that continued purchase of agency guaranteed mortgage backed securities for an extended period of time could impair the functioning of the TBA (to be announced) mortgage securities market. TBA mortgage securities are an important tool for managing interest-rate risk. Less liquidity in the TBA market likely would lead to higher spreads on those securities relative to Treasury securities.

Systemic Risk. A clear objective of quantitative easing is to reduce long-term rates with the intent of stimulating investment in riskier ventures and wealth-induced spending. But the other side of the coin, as real long-term rates fall to levels that do not cover inflation (negative real rates of return), is whether negative real rates might lead to investor behaviors that create systemic risk.

According to B of A, there is little evidence that businesses are using access to cheap funding to pursue riskier ventures. What has been happening, however, is massive debt refinancing which enhances profitability. While bank loans to businesses have begun to rise, which is a normal phenomenon in a recovering economy, the business debt to nominal GDP ratio has edged up only a little to 80.1% in the fourth quarter of 2012 and remains well below the peak level of 83.5% reached in the first quarter of 2009. And, households continue to reduce debt leverage, even as household wealth rises.

Growth. Although quantitative easing is intended to raise growth by stimulating aggregate demand and fostering investment, could this policy have the perverse consequence over time of doing the opposite? According to GK Research, returns on approximately 75% of global financial assets currently do not cover inflation. In other words, investors in those assets are experiencing inflation-adjusted losses over time. GK Research poses the

following question: "*... can the world today afford the real capital destruction central banks are engineering through negative real rates? Could the negative real interest rate policies, by destroying capital, guarantee the world a period of sub-par investment growth, sub-par productivity growth, and sub-par economic growth instead?*" Chillingly, GK Research points out that that is exactly what transpired in Japan over the last two decades.

4. Zero-Interest-Rate Policy — FOMC Guidelines for Raising the Federal Funds Rate

In December the FOMC adopted explicit inflation and unemployment rate guidelines for ending its "zero-interest-rate policy".

Policy Guidance. "*In particular, the Committee decided to keep the target range for the federal funds rate at 0 to percent and currently anticipates that this exceptionally low range for the federal funds rate will be appropriate* ***at least as long as the unemployment rate remains above 6-1/2 percent, inflation between one and two years ahead is projected to be no more than a half percentage point above the Committee's 2 percent longer-run goal****, and longer-term inflation expectations continue to be well anchored.*"

Needless to say this event-based guidance leaves open to interpretation the approximate date when the FOMC is likely to begin raising the federal funds rate. But guidance can be derived from the FOMC's projections for the unemployment rate and inflation, which were updated at the March FOMC meeting (see **Table 7**).

Inflation Guideline. FOMC projections for both the total and core measures of PCE inflation for 2013, 2014 and 2015 remain below its long-term target of 2.0% and are substantially below the ZIRP guideline of 2.5%. Inflation projections were lowered for 2013 but were largely unchanged for 2014 and 2015. It is clear that inflation is not an FOMC concern.

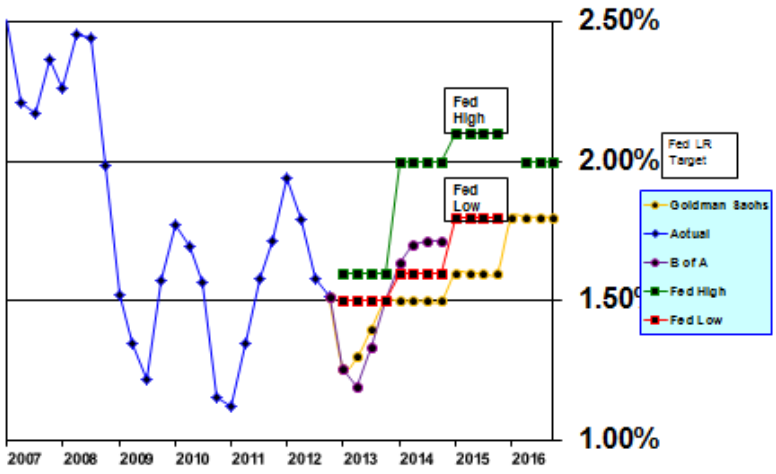
Chart 12 shows the FOMC's core PCE inflation projection range. Also shown are forecasts prepared by B of A and GS.

Both GS and B of A forecast core PCE inflation to decline in early 2013 well below the lower end of the FOMC's projection range, although by the

Table 7
Economic Projections of Federal Reserve Board Members
And Federal Reserve Bank Presidents, March 2013

Variable		Central Tendency				
		2012	2013	2014	2015	Longer Run
Real GDP %	*Mar*		*2.3 - 2.8*	*2.9 - 3.4*	*2.9 - 3.7*	*2.3 - 2.5*
	Dec	1.7 - 1.8	2.3 - 3.0	3.0 - 3.5	3.0 - 3.7	2.3 - 2.5
	Sept	1.7 - 2.0	2.5 - 3.0	3.0 - 3.8	3.0 - 3.8	2.3 - 2.5
Unemp. Rate %	*Mar*		*7.3 - 7.5*	*6.7 - 7.0*	*6.0 - 6.5*	*5.2 - 6.0*
	Dec	7.8 - 7.9	7.4 - 7.7	6.8 - 7.3	6.0 - 6.6	5.2 - 6.0
	Sept	8.0 - 8.2	7.6 - 7.9	6.7 - 7.3	6.0 - 6.8	5.2 - 6.0
PCE Inflation %	*Mar*		*1.3 - 1.7*	*1.5 - 2.0*	*1.7 - 2.0*	*2.0*
	Dec	1.6 - 1.7	1.3 - 2.0	1.5 - 2.0	1.7 - 2.0	2.0
	Sept	1.7 - 1.8	1.6 - 2.0	1.6 - 2.0	1.8 - 2.0	2.0
Core PCE %	*Mar*		*1.5 - 1.6*	*1.6 - 2.0*	*1.8 - 2.1*	
	Dec	1.6 - 1.7	1.6 - 1.9	1.6 - 2.0	1.8 - 2.0	
	Sept	1.7 - 1.9	1.7 - 2.0	1.8 - 2.0	1.9 - 2.0	

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



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end of 2013, both B of A and GS expect core PCE inflation to be about the same as the lower bound of the FOMC's projections. Thereafter both B of A and GS forecast core PCE inflation to rise, but GS's estimate never exceeds the bottom end of the FOMC's projection range, while B of A's estimate climbs to just shy of the mid-point of the FOMC's range in 2014.

What is important is that none of these forecasts, including the FOMC's projections, results in PCE inflation rising above 2.0% for the next four years.

Given the amount of slack in the economy and the very slow recovery, most inflation models based on historical data have forecast lower inflation rates than have materialized. That actual experience has resulted in higher inflation must be considered to be a favorable development. Near zero inflation or even deflation would weigh heavily on debtors and would risk triggering a negative debt-deflation circle with the kinds of negative consequences that have persisted in Japan for the past two decades. A plausible explanation for why inflation has not fallen more in the U.S. is that the Federal Reserve has been successful in anchoring inflation expectations. Usually we think of anchoring as meaning that the Fed will not allow inflation to go up. But, in current circumstances anchoring can mean not letting inflation go down. Because expectations lead to behavioral responses, anchoring expectations stabilizes inflation near current levels.

Nonetheless, measures of inflation have been drifting down. Over coming months, downward pressures on inflation will continue to outweigh upward pressures for the following reasons. First, growth is likely to slow in the U.S. in the second and third quarters. Second, Europe's recession shows no signs of abating and China's growth is poised to slow somewhat. Third, aggressive reflation in Japan will have deflationary repercussions in other countries, particularly China and Germany. Fourth, commodity prices have been stable for two years and are showing signs of declining going forward. That would be a signal that global growth is slowing.

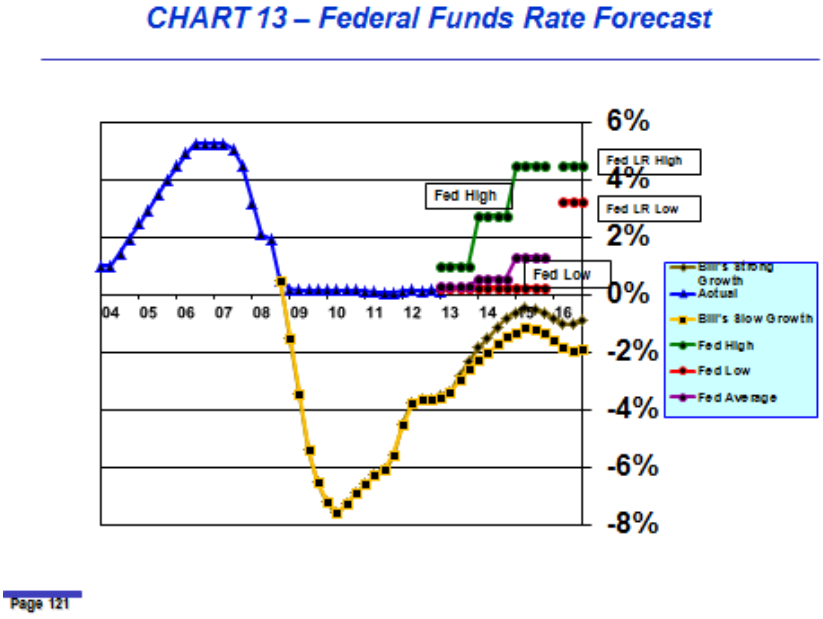
Thus, while deflation in the U.S. is not likely because of anchored inflationary expectations, the risks are tilted in the direction that core PCE inflation over the next couple of years will be at or less than the lower bound of the FOMC's projection range.

Unemployment Guideline. The FOMC lowered its unemployment

rate projections slightly for 2013 and 2014. But, as was shown in **Chart 8** above, the FOMC's unemployment rate projections do not penetrate the 6.5% guideline until early in 2015. CBO has a similar expectation. The unemployment rate does not reach 6.5% in GS's forecast until the first quarter of 2016. The unemployment rate falls below 6.5% in the fourth quarter of 2015 in my "Slow Growth" scenario but reaches that level during the first quarter of 2015 in my "Strong Growth" scenario.

5. Federal Funds Rate

Chart 13 shows the FOMC's high and low projections for the federal funds



rate for 2013, 2014 and 2015. The FOMC central tendency range is derived by excluding the three highest and the three lowest projections. The purple line (circles) is the average of projections for the 19 FOMC members (7 governors and 12 presidents).

My "***Slow Growth***" and "***Strong Growth***" forecasts are shown by the yellow line (squares) and brown line (diamonds). My forecasts indicate that

the federal funds rate is not likely to increase at all until after 2016, which is inconsistent with FOMC guidance and my forecast that the unemployment rate should fall below 6.5% sometime during 2015.

XI. Japan's Aggressive Reflation Policies Pose Significant Global Risks, Especially for Europe — Currency Wars

Japan's recent change in government has resulted in the adoption of an aggressive policy agenda intended to end Japan's two-decade long deflation. Financial markets have responded enthusiastically. But some are worrying about potential consequences of Japan's policies for other countries.

1. Global Economic Linkages

To put this combination of enthusiasm and worry into context requires an understanding of how the application of monetary and fiscal policies in a country impacts economic activity in other countries. Usually, we don't pay much attention to the global consequences of an individual country's policy mix. This is an oversimplification, of course, because there are significant cross border trading and financial relationships.

In addition to trade in goods and services, flows of financial assets cross borders, and these flows link global financial markets. This means that policy impacts on financial markets in one country will be transmitted to financial markets in other countries.

2. It's A Zero-Sum Game

In a global setting, if one country exports more than it imports, one or more other countries must import more than it exports. The total of all imports and exports across all countries must sum to zero. As a matter of policy, countries prefer to be net exporters because it creates jobs in the country that otherwise wouldn't exist if its exports equaled its imports. And, woe

to the country that is a net importer because it is saddled with the burden of exporting jobs to other countries.

3. Role of A Country's Currency

Within a country its currency facilitates economic activity. But, in an open global economy involving trading among countries, the exchange rate at which one currency is converted into another is a pricing mechanism which will, if unimpeded, lead to rectification over time of trade imbalances. The currency of a country that is a net importer, such as the U.S., will decline in value over time relative to the value of the currencies of other countries. As the currency declines in value, exports become relatively cheaper to other countries and imports become more expensive to U.S. consumers. The result is that the net import trade imbalance shrinks and might disappear altogether. Conversely, the currencies of net exporter nations will tend to appreciate over time and the trade surpluses in those countries will shrink.

One might wonder why, given all of Europe's problems, the euro's value has held up so well and has been rising recently. The anchor country of the Eurozone (EZ) is Germany and its economy is intentionally structured to be a net exporter. German government policy vigorously supports a net export balance of trade because it creates jobs, helps keep the unemployment rate low and underpins social and political stability. The flaw, however, is that the EZ is full of net importing countries which need a weaker euro to help them balance their economies. But Germany dominates and thus the euro appreciates.

I have said it before and will say it again. Much of the EZ's economic tribulations can be traced directly to two German inspired policies, which, of course, are beneficial to Germany. The first is Germany's reliance on a net export economy and its unwillingness to modify it. If Germany had its own currency, it would appreciate in value relative to the currencies of other EZ countries. But, the common currency makes this impossible. The second policy is Germany's insistence of fiscal prudence on the part of all European Union (EU) member countries which means adhering to arbitrary government deficit targets and forcing fiscal austerity in an attempt to comply with those targets. As I explain further below, fiscal austerity eliminates a vital tool for helping stabilize and rekindle aggregate demand in member countries with weak economies.

4. Governments Use Policy Levers to Counter Economic Slack

Since 2008 most developed economies have experienced a collapse in aggregate demand and an increase in unemployment. Each has been struggling to boost aggregate demand and close its output gap by pursuing easy monetary and fiscal policies intended to increase aggregate demand.

Monetary Policy. Easy monetary policy reduces interest rates and stimulates investment by lowering the cost of capital and boosts spending on interest-sensitive consumer durables, such as homes and cars, by lowering the cost of financing. Normally, easy monetary policy is implemented by reducing the short-term rate of interest. But when the short-term rate hits zero, as it has in most developed economies, the pursuit of easy monetary policy moves on to central bank purchase of longer-term debt with the intent to reduce long-term interest rates and encourage greater risk taking.

Fiscal Policy. Easy fiscal policy involves a combination of lower taxes and higher government spending. This depresses government revenues, which have already fallen due to a decline in economic activity. It also raises expenditures. The result is a large budget deficit.

If aggregate demand is slow in responding and easy fiscal policy continues to be pursued aggressively, it can result in a substantial increase in the public-debt-to-GDP ratio. At some level the public-debt-to-GDP ratio becomes large enough to trigger market worries about the potential for a government to service the cumulating debt and prompts fears about potential default. When this occurs, interest rates on government debt rise and this contributes to an even more rapid increase in the public-debt-to-GDP ratio.

What we have experienced in some countries when government debt becomes outsized are political pressures to rein in government deficits. This results in transforming fiscal policy from stimulus to austerity. Austerity has appeal in the sense that it seems to be the responsible thing to do to live within one's means. When austerity is imposed, as it has been in the U.K. and Europe, it leaves the entirety of the job of stimulating aggregate demand to monetary policy. While it was understood that the withdrawal of fiscal stimulus would slow the progress in reducing the output gap, it was believed by many that the greater evil was the threat of default and toleration of a slower and longer period of healing was required to avoid such

a dire outcome.

Unfortunately, what we are learning is that when austerity is substantial and considerable slack exists in an economy the fiscal multipliers are much greater than when little slack exists in the economy. This results in depressing economic activity further and reducing tax revenues with the outcome that the public-debt-to-GDP ratio rises further. This is the worst possible outcome. Unemployment climbs, government finances become more, rather than less, precarious, social unrest builds and political instability emerges. One only has to look at events in Europe to see how a policy of rigid austerity and limited monetary easing — Europe has not yet engaged in quantitative easing as has the U.K., the U.S. and now Japan — can end up creating additional problems and fostering a worsening economic outlook.

5. Currency Wars

If one country intentionally weakens its currency, either directly through devaluation, as more likely indirectly by inflating its money supply, which is what quantitative easing accomplishes, and all other countries do nothing, then the exports of that country will be more attractively priced and demand will increase. This will help boost economic activity in the weak currency country and reduce its economic slack.

But, if all countries follow the same policy prescription, the accounting identity assures that no country will gain jobs at the expense of other countries. It is a zero sum game in terms of economic activity. There are no winners.

But there is a consequence. On a global basis the money supplies of all countries that attempt unsuccessfully to weaken their currencies to strengthen their economies will expand. In the longer run, the result should be price inflation. That risk is not evident today because the deflationary forces of substantial economic slack predominate.

At the moment the only developed country which is aggressively pursuing easy monetary and fiscal policies simultaneously is Japan. Fiscal policy is tight in Europe and the U.K. and is becoming much tighter in the U.S. Monetary policy is extraordinarily easy in the U.K. and the U.S., but less so in Europe.

It should be clear that at the current time, Europe is at considerable risk of experiencing further economic deterioration. This is not the consensus view, which expects the economies of most EU and EZ members to begin to grow again later this year. The odds currently weigh against such an outcome. For those odds to improve, the European Central Bank (ECB) will need to adopt a far easier monetary policy. The Germans are adamantly opposed, but ECB president, Mario Draghi, has demonstrated a willingness "to do whatever it takes" to defend the euro. In addition, Europe needs to lighten up on fiscal austerity and sentiment to do just that, as political pressures build in Italy and elsewhere, appears to be increasing.

Thus, my sense is that Europe will find ways to continue stumbling along and that the final day of reckoning for the euro is still a long ways off. But, the problems of the EZ cannot be fixed by conventional policy actions. Those only buy time. The EU can only survive in its current form if German economic policy is modified and European economic and political governance is integrated in ways that facilitate rebalancing. Neither of these remedies seems very probable and the passage of time is probably diminishing what small chance might exist to turn matters around, as political fragmentation gradually spreads throughout the EU and EZ.

And, do not forget. If the ECB pursues an easier monetary policy and the EU stretches out the timeframe for meeting fiscal targets, then Europe will be joining the currency wars club. This would put a dent in Japan's reflation policies. And, China, which I discuss in Section XII. below, stands to be impacted negatively by Japan's policies. It is hard to expect China to standby idly as Japan's policies favor its exports relative to China's.

6. Japan's Reflation Strategy

Current Situation. The rate of growth 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.

The direct cause of the deflation is not flawed policy but rather an aging and declining population. We are used to thinking about economic issues in the context of a growing population, not a declining population. It is time that we do so, because fertility rates are dropping in all developed nations

and declining populations are just around the corner in many countries and already exist in a few countries such as Germany and Russia. In this context Japan is the canary in the coal mine because it is the first developed economy to experience the consequences of negative population growth. But, Germany is close behind.

When population ages and declines so, too, does aggregate demand. Internal investment opportunities diminish which forces savings to seek investments in other countries with growth potential. An external investment focus and internal price deflation have led to a steady appreciation of the yen.

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. And it is China's strategy today. But, the steady appreciation of the yen has eroded Japan's trade competiveness. In fact, over the last several months Japan has experienced a trade deficit. This occurred, in part, because of the appreciation in the yen but has been exacerbated in recent months by the need to import expensive energy supplies after nuclear facilities were shutdown. Overall Japan's balance of payments is still positive because net capital flows exceed the trade deficit.

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

Remember that it is a zero-sum game. Japan can pursue an export strategy only so long as other countries tacitly accept a net import balance of trade. The 20% depreciation in the yen since November and potential further depreciation will put passivity to the test, particularly in China and Germany, both of which stand to lose substantial export market share to Japan in coming months.

Policy Response. 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. And, that is exactly what he has initiated. There are three

policy initiatives involving enormous fiscal and monetary stimulus and a moral suasion campaign to encourage the private sector to boost wages and investment.

It was expected that monetary policy under the leadership of recently appointed Bank of Japan (BOJ) president Haruhiko Kuroda would be aggressive but when the new policies were announced they exceeded expectations.

First and foremost the BOJ adopted two targets. The first is to abandon targeting the overnight rate of interest and to increase the monetary base by purchasing large quantities of securities, estimated to be 60 to 70 trillion yen annually, which at current exchange rates is equivalent to about $600 to $700 billion. While this is smaller than the Fed's $1 trillion large scale asset purchase program on an annualized basis, it is much larger relative to the size of Japan's nominal GDP — 16% of GDP compared to about 6.5% in the U.S.

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

In the aftermath of the announcement asset yields plunged. It remains to be seen whether the expansion of the monetary base results in any significant increase in credit extension by Japanese banks. But, this may not be an essential component of the strategy which appears to depend to a greater extent on inflation in the values of financial assets and the depreciation of the yen.

Reasons for Policy Change. The obvious reason for pursuing an aggressive reflation policy appears to be driven by economic considerations, namely to increase aggregate demand and end deflation. An increase in aggregate demand is intended to be driven both internally and externally. From an internal standpoint, there are two considerations. First, an acceleration in aggregate demand should occur as expectations shift from deflation to inflation. Second, aggregate demand should be boosted by the wealth effect as the values of financial assets appreciate. From an external standpoint, a more attractively priced yen will stimulate demand for Japanese exports. Certainly, those are the officially stated objectives.

However, there is another possible set of reasons which has to do with the ascendency of China as an economic power. China's growing economic

clout threatens Japan's political sway, particularly in Asia, and could evolve into Japan becoming dependent upon Chinese policy decisions. Given the historical enmity between the two countries, this is hardly an acceptable outcome for Japan to accept.

Recent developments and Longer-Term Consequences. In addition to the 20% decline in the value of the yen, prices of Japanese financial assets are surging. Bank stock prices are up 70% and real estate stock prices are up 90%. The index of leading indicators is also rising.

B of A expects the 20% devaluation of the yen to lead to zero or slightly positive inflation during 2014. This expectation is based upon trade only and does not include any estimate about the effect on inflation from increased internal aggregate demand stemming from changed expectations or substantial government spending on infrastructure.

Longer run there is uncertainty and disagreement as to how much additional depreciation in the value of the yen the Japanese government will accept. Obviously, further yen depreciation would improve Japan's competitive trade position to an even greater extent. However, at some juncture, the shift in market share from other countries will become sufficiently painful to those countries that retaliation will occur. To date rhetoric has been subdued, which suggests there may be further room for yen depreciation.

In summary, Japan's reflation policy should boost aggregate demand and result in a small amount of inflation. But that policy will not and, in fact, cannot create a higher rate of growth on a sustained basis. The aging and declining Japanese population will prevent this kind of outcome. And since Japan is fundamentally a xenophobic society, it will never embrace an open immigration policy that could counter the economics of population decline. A significant negative consequence of Japan's current policies is a rapid increase in debt. In conjunction with a shrinking population, an eventual return to deflation would likely prove to be disastrous.

Close study and monitoring of developments in Japan will be important because the economics of an aging population and slowing population growth will become increasingly important in the U.S. in coming years. It will also be important to study the global political ramifications of slowing population growth and aging. Demographics is already a significant driver of Europe's current economic and political challenges. And, in spite of China's

rapid growth currently, its one-child policy will result in similar demographic challenges in the not too distant future.

XII. China

It is well understood that China cannot sustain rapid growth through an economic model which relies on massive infrastructure investment and export of manufactured goods. It is also well understood that China needs to develop a robust consumer-driven economic model. The challenge is how to manage the transition. Vested interests within the Communist Party and state-owned enterprises are likely to resist reforms which they perceive will diminish their spheres of influence. But, the emerging middle class, which is beginning to accumulate wealth and discretionary purchasing power, is demanding reforms. The new leadership's challenge is to steer China through both an economic and political transition without creating either an economic or political crisis. Economic transformation is essential to sustaining China's growth, but maintaining the Communist Party's primacy is also an imperative.

President Xi Jinping's and Premier Li Keqiang's list of needed reforms is long. To enable realization of the necessary economic transformation, the overall thrust of reforms must be to increase the efficiency of investment by decreasing the public sector's role and increasing the private sector's role. Needed reforms include:

- ***Political reforms*** that corral entrenched interests of Communist Party elite, which foster corruption, without threatening the Party's overall political power.
- ***Structural reforms*** that boost private-sector growth — deregulating administrative approvals, limiting the preferred competitive position of state-owned enterprises.
- ***Financial reforms*** that enable capital to flow freely to high-return initiatives in the private sector.
- ***Governance reforms*** that ensure that public-sector investments, such as low-income housing, are efficiently designed and implemented.

Up to this point in time it has been relatively easy to manage high rates of growth through policies that allocate cheap credit to state-owned enterprises which engage in infrastructure investment and export manufacturing. However, pursuit of these policies has occurred not without consequences. Growth has relied on extensive debt financing. But, many of the debt-financed projects are relatively inefficient. Opening up competition and eliminating administrative processes that steer credit to preferred entities will lessen the extent of inefficient investments in the future. However, deregulating financial markets too quickly, which means letting interest rates rise and opening up access to credit, will put many of the existing inefficient investments at risk of default. That is the potential stuff of a hard landing, which authorities are committed to avoid at all possible costs. However, if reform moves too slowly, inefficient investments that are over-leveraged with cheap financing will continue to pile up and increase the risks of an eventual hard landing.

Thus, China's policymakers must walk a tightrope. As an example of how tenuous the situation is, consider the property market. There is no question that China needs substantial amounts of housing to accommodate the rapid migration from rural to urban areas. However, housing programs have led to speculative activity in "high-end" properties. In early 2012 policymakers tightened credit and imposed property controls. This was followed quickly by declining property values and slowing investment in real estate. GDP growth also slowed. At the same time downward adjustments in inventories exacerbated matters. In reaction to the greater than expected slowing, policymakers relaxed credit and property controls toward the end of 2012. Almost immediately property prices took off, which was facilitated by rapid credit expansion enabled by "wealth management" financial products. While GDP growth reaccelerated and investor anxieties diminished, these developments ran in opposition to needed longer-term reforms and demonstrated just how dependent the Chinese economy has become on speculative investments and cheap and abundant funding.

In response to the surge in property prices, the State Council recently announced five property control measures. While none of these measures is particularly substantive, the intent is to limit the reemergence of speculative excesses in the property market. In addition, China's banking regulator announced controls on shadow finance which cover wealth management products. As mentioned above, this type of financing, which promises high rates of return, has fueled property speculation.

These developments have made China watchers and investors more wary. That is because credit drives growth in China and, if the credit cycle is peaking, then so is GDP growth. B of A's economists recently downgraded their year-over-year forecasts for China's real GDP growth from 8.3% to 7.9% in the first quarter, from 8.3% to 8.1% in the second quarter and from 8.1% to 8.0% for all of 2013.

China reported on April 15 that first quarter GDP growth fell to 7.7% from 7.9% in the fourth quarter of 2012, which was much weaker than expected.

Year-over-year credit growth grew to 22% in the first quarter from 20% in the fourth quarter of 2012. While the decline in GDP growth "probably" is a good signal that the needed economic transition is proceeding, growth in credit at these high levels is worrisome.

In the long-run a stable and sustainable consumer-driven economy will grow more slowly than the investment driven economy. That would be a good outcome because such an economy would be more stable and less subject to the kinds of excesses and imbalances that end in hard landings. Nonetheless, the prospect of near-term slowing in China's growth, which is once again on the minds of investors, will be treated as a negative development in the short run.

If growth slows during 2013, as looks increasingly possible, it will be a test of the new leadership. A reversal in policy, such as occurred in late-2012, might ease market and internal political pressures but would delay implementation of necessary reforms. Clearly the road ahead for the new leadership team will be very challenging. We should all hope that they are successful at walking the tightrope.

Japan's extremely aggressive reflation policies could weigh heavily on China's GDP growth. Already the yen has depreciated by 20% and further depreciation is possible. This increases the price competitiveness of Japanese exports relative to Chinese exports. It is inevitable that Japanese companies will take market share from Chinese companies. In addition, currency warfare seems likely to exacerbate deteriorating relations between the two countries. Where this all goes remains to be seen, but it is safe to say that Japan's policies will make it more difficult for China's leaders to manage a smooth transition to a consumer-driven economy.

APPENDIX: Outlook — 2013 and Beyond — Summary and Highlights of Key Issues

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

1. **U.S.**

   - ***Q4 real GDP*** growth projections range from 0.5% to 1.8%; tracking estimates based on October and November data are consistent with growth of approximately 1.0%.

     ✓ ***- "Final Estimate" was +0.37%; weaker than expected due to data anomalies.***

   - ***2013 real GDP*** growth projections range from 1.5% to 3.0% but with a preponderance of the forecasts falling in the lower end of the range. The drag from tighter fiscal policy will offset gradual improvement in the household and business sectors. Growth should improve gradually over the course of the year. The balance of risks, particularly U.S. fiscal policy but also global growth, is weighted toward slower GDP growth.

     ✓ ***? It's still too early to know, but forecasters recently have upgraded their 2013 forecasts; however, the jury is still out on just how much higher taxes and spending cuts will weigh on the economy. Growth is anticipated to be 3.5% in the first quarter, but is expected to slow significantly in the second and third quarters.***

   - ***Real GDP output gap*** will remain very high and close little, if at all, during 2013.

     ✓ ***? According to the Congressional Budget Office, the GDP output gap is forecast to increase from 5.9% to 6.0% during 2013; however, most other forecasts expect growth to exceed potential, which would reduce the size of the output gap.***

   - ***Employment*** should grow about 125,000 per month, somewhat more slowly than in 2012.

✓ ***- Data revisions indicate that employment grew 183,-000 monthly in 2012; employment growth probably will be stronger than 125,000 monthly in 2013; over the first three months of 2013 payroll growth has averaged 168,000.***

- ***Unemployment rate*** should edge down to about 7.5%. A lower rate is not very likely unless more discouraged workers exit the labor force.

  ✓ ***+ The unemployment rate has edged down from 7.85% in December to 7.57% in March, but it appears that a substantial number of additional discouraged workers has dropped out of the labor force.***

- ***Consumer disposable income and spending growth*** will remain weak and could decline from 2012 growth rates if employment growth slows and wage and salary increases remain under pressure. Growth will be a lot weaker if Congress permits the payroll tax cut and extended unemployment benefits to expire.

  ✓ ***+ It is really too early to make a call on this one, but both disposable income and spending growth has weakened slightly; retail sales declined in March after rising more than expected in February.***

- ***Household personal saving rate*** will probably continue to decline gradually; however, it could rise if employment and income prospects worsen materially.

  ✓ ***+ The saving rate rose at year end primarily because of acceleration in capital gains realization to avoid higher tax rates in 2013, but the saving rate has been sharply lower in both January and February.***

- ***Export and import*** growth will probably continue to slow gradually due both to slower U.S. growth but also due to deepening recession in Europe.

  ✓ ***+ The 12-month moving average measure of the trade deficit fell from 3.4% of GDP in December to 3.3% in February.***

- ***Manufacturing*** growth will be subdued reflecting recession in Europe and slower growth in the U.S. The order backlog index was a very low 41.0 in November.

✓ ***- Purchasing managers index rose in January and February but fell in March. The January/February improvement appeared to be related to replenishing inventories, which grew abnormally slowly in the fourth quarter.***

- ***Business investment*** spending has slowed sharply because of fiscal cliff concerns and could rebound if there is a satisfactory resolution of major fiscal issues. Capital expenditure plans are cautious based both on concerns about growth and political uncertainty.

  ✓ ***? Business investment growth was very strong in the fourth quarter.***

- ***Housing investment*** is one of the brighter prospects. However, increased activity is likely to be concentrated in multi-family rather than single family. Housing starts are likely to increase 25% in 2013 to approximately one million. Housing prices should rise between 2% and 3%.

  ✓ ***+ Starts averaged 913,500 in January and February, up 17% from 782,000 in 2012.***

- ***Monetary policy*** — the Federal Reserve has committed to purchase $85 billion in securities every month including $40 billion in mortgage backed securities and $45 billion in U.S. Treasury securities.

  ✓ ***+ There is debate about whether the Fed will downsize the amount of monthly purchases during 2013; this could occur as early as September, but the weak March employment report implies purchases will probably not be scaled back until 2014.***

- ***Inflation*** will remain below the Federal Reserve's 2% objective at least through 2015. Concerns about increases in inflation in the long-term are misplaced.

  ✓ ***+ February PCE inflation was 1.3% and core PCE inflation was 1.3%.***

- ***Federal Funds rate*** is not likely to increase before mid-2015 and might not increase until late 2016 or early 2017.

  ✓ ***? Too early to tell, but sometime during 2015 appears most likely at this time.***

- ***Fiscal policy*** will be contractionary in 2013, but will become less of a factor in ensuing years.
  - ✓ ***+ Fiscal policy is likely to be more contractionary during the first half of 2013 than most had expected because Congress permitted automatic spending cuts to take effect as scheduled on March 1st; fiscal policy is now expected to subtract -2.0% from GDP in 2013 and -0.5% in 2014.***
- ***Potential structural rate of real GDP growth*** has declined significantly and could decline further in coming years unless a concerted public initiative is undertaken to invest in education, research and public infrastructure.
  - ✓ ***? Too early to tell, but I remain firm in my conviction.***

2. **Rest of the World**

- ***European financial markets*** are likely to remain relatively calm thanks to the activist role of the European Central Bank.
  - ✓ ***+ To date calm has prevailed but political uncertainty is rising in Italy and Spain; the Cyprus bailout/bail-in was a significant negative development; however, to date markets have downplayed its significance.***
- ***European recession*** is spreading to stronger countries and worsening in peripheral countries.
  - ✓ ***+ Data reports are generally worse than expected.***
- ***European banking union*** will do little to solve deep-seated European and Eurozone structural problems.
  - ✓ ***+ Germany has persuaded other EU members to eventually amend treaties to require a separation of the ECB's monetary and supervisory responsibilities — this move is seen by some as a delaying tactic on the part of Germany.***
-
- European political dysfunction, populism and nationalism will continue to worsen gradually.
  - ✓ ***+ Parties opposed to austerity won more than 50% of the vote and 25% of the vote was captured by the populist Five Star party.***

- ***China*** appears to have achieved a ***soft landing*** and economic activity will strengthen modestly.

  ✓ ***+ Cyclical improvement is forecast, but to a lesser extent than previously.***

- ***China's new leadership*** understands the need to design and implement ***economic reforms*** and avoid repeating a massive infrastructure spending program.

  ✓ ***? Implementation of reforms not expected until second half of 2013.***

- ***Global growth*** is likely to be fairly steady in 2013 but will depend on developments in the U.S. and Europe.

  ✓ ***+ Global growth is now trending at last year's level.***

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

   - ***U.S. fiscal policy*** tightens more than expected.

     ✓ ***+ Automatic spending cuts kicked in on March 1 and are not likely to be modified.***

   - ***Europe's recession*** deepens more than expected; financial market turmoil reemerges; political instability and social unrest rises more than expected threatening survival of the Eurozone.

     ✓ ***? Economic data reports have been uninspiring; political instability and social unrest are not yet serious, but the trend is unfavorable; financial markets remain calm.***

   - ***Chinese*** leaders have difficulty implementing ***economic reforms***; growth slows more than expected.

     ✓ ***? Too early to tell.***

   - ***Global growth*** slows more than expected.

     ✓ ***? The trend in global growth is about the same as last year, but risks appear to be tilted toward slower growth.***

   - Severe and, of course, unexpected ***natural disaster*** occurs.

     ✓ ***? Nothing has happened so far this year.***

   - ***Disruption of Middle East oil supply***, stemming from hostile actions involving Iran and Israel, occurs.

✓ ***? All is quiet for now.***

- ***New North Korea attacks South Korea***, which spokes global financial markets.

  ✓ ***? There has been a lot of saber rattling, but nothing has happened yet.***

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