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

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

The Longbrake Letter*

Bill Longbrake

March, 2013

I. Growth Breakout? Or, False Positives?

Stock prices are posting new highs on a regular basis. Employment is improving more rapidly than expected with the unemployment rate hitting a new post-Great Recession low of 7.7% in February. Manufacturing has accelerated in spite of a stronger dollar. Businesses and consumers are a bit more optimistic. In the face of tax increases, consumer spending is holding up surprising well. Housing prices are rising at an accelerating rate.

After four years of feeble recovery, in the words of Goldman Sachs, "Are We Already over the Hump?"

What about all the gloom and doom about the consequences of higher taxes and automatic across-the-board federal spending cuts (sequestration)?

Experience strongly indicates that it is too early to conclude that the recovery is gathering momentum. Data reports lag events and are often revised. Tax increases have only been in place for two months and the sequester became effective at the beginning of March and probably won't have much impact until April. It is generally agreed that the negative impact of fiscal policy will amount to about 2.0% of real GDP in 2013. This is significant. For the economy to gain momentum at this juncture requires growth in other sectors of the economy to be great enough to offset negative fiscal policy. That seems to be a very tall order.

Lakshman Achuthan of the Economic Cycle Research Institute (ECRI) believes the U.S. is entering a recession. He points out that key data have

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

been weakening since the middle of last year. Real GDP growth and production have been slowing. Courtesy of austere fiscal policy, consumption is about to slow significantly. And, growth in corporate profits has disappeared.

Supportive of ECRI's pessimism is the Chicago Fed National Activity index, which posted a negative value in January for the first time since October. This measure implies that growth is below trend, but it is not negative.

What seems most probable is that 2013 will be a year of slow growth in the U.S. with improving momentum as the year progresses and the near-term negative impact of higher federal taxes and reduced spending unwinds. The trend in global economic activity should be moderately supportive of growth.

However, 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. North Korea just annulled the 1953 armistice and has threatened to attack a South Korean island. Although some might dismiss this as "posturing", foreign policy analysts are worried and U.S. military planners are beefing up missile defense systems.

In the longer run, significant challenges face the U.S. economy, but whether and how they are resolved will have little impact on the economy in 2013.

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 began to explore the issue of the U.S. potential real rate of GDP growth in my ***December Longbrake Letter*** and developed this topic in the ***January*** and ***February Letters***. In this month's letter I continue this development with a more in depth examination in Section II of what drives productivity and whether assumptions embedded in forecasts that productivity will return to its long-run trend are merited.

In this month's letter, Section III 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 IV and V. Housing and the possibility of a new price bubble is discussed in Section VI. Fiscal and monetary policies are the subject matter of Sections VII and VIII. Section IX explores global linkages, the impact of individual country monetary and fiscal policies and the evolution of so-called currency wars through which individual countries vie for competitive advantage by debasing their currencies. This month's letter concludes with a brief update on developments in Japan, Europe and China.

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.

II. Potential Structural GDP Real Rate of Growth

Let me begin this update about the potential structural GDP real growth with a reprise from earlier letters. Potential growth depends on growth in the ***labor supply*** and ***productivity*** (the efficiency of the utilization of labor and capital).

1. Labor Supply Growth

Labor supply growth depends in the first order on population growth. However, labor supply growth is affected by the portion of the population eligible to participate in the labor force. Many who are eligible to work choose not to do so. The percentage of those eligible to work, who either are employed or are seeking employment, is referred to as the ***labor force participation rate***. The labor force participation rate can change over time because of changes in the demographic composition of the population, such as the aging of the baby boomers; because of changes in cultural patterns, such as greater participation of women or delayed entry because of increases in the number of people pursuing higher education; or because of the ease of getting a job — the discouraged worker effect.

Labor supply also depends on the length of the workweek as well as the number of workers. Thus, the best way of measuring labor supply growth is in terms of aggregate hours worked. Over a long period of time the length of the workweek has declined. However, in recent years it appears to have stabilized at about 34.5 hours. While this number of hours may strike the reader as low because we are accustomed to 40-hour workweeks, this measure incorporates the impact of part-time workers, which have grown over time as a proportion of the labor force.

Labor supply is measured as total hours worked by nonfarm workers, which is reported on a quarterly basis by the Bureau of Labor Statistics (BLS). Importantly, this measure of labor supply is consistent with the measure of nonfarm worker productivity.

2. Productivity Growth

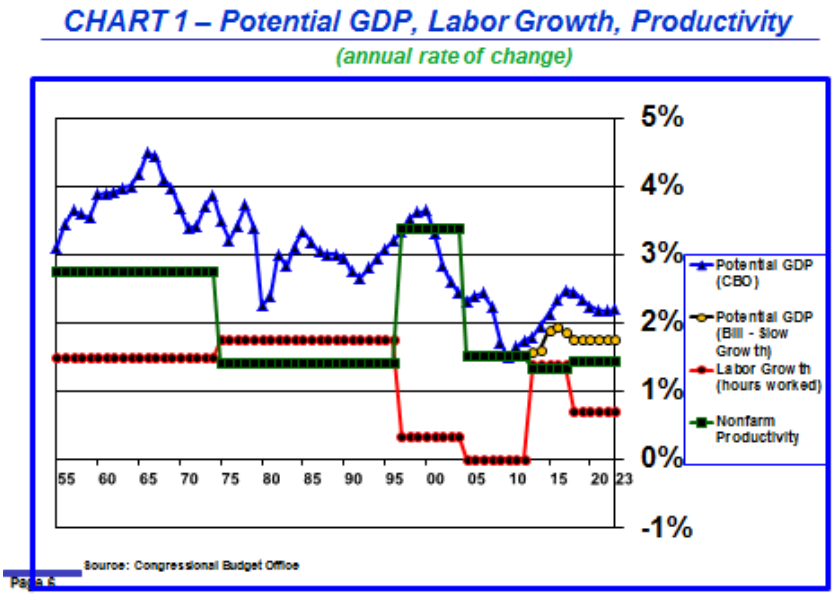
Productivity growth involves gains in output relative to labor and capital inputs. Measurement of productivity, however, is not easy. Estimates can either be derived by calculating the difference between total real GDP growth and labor supply growth or by estimating and summing the contributions of each 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.

Although there are various measures of productivity, nonfarm productivity is generally considered to be the most representative measure. However, it is not a comprehensive measure as it does not include government workers who in the national income accounts are arbitrarily assumed to have zero productivity.

Even though nonfarm worker productivity is not a comprehensive measure, it is useful to focus on this measure for two reasons. First, BLS has provided comprehensive data for this measure for 65 years. Second, nonfarm workers currently account for about 93.5% of total workers (ratio of nonfarm workers from the BLS's payroll report to total workers from the BLS's household employment survey).[1]

Chart 1 shows potential real GDP growth, labor supply (nonfarm hours

[1]The ratio of nonfarm workers to total workers from the household survey has risen over the last 65 years. It was about 85% in 1965 and 94% in 2012 and averaged 92% over the period 1965 to 2012. One could use this ratio to derive the productivity of workers other than nonfarm workers. This results in a productivity growth rate close to zero, which primarily reflects the accounting convention of assigning government workers a zero productivity rate.



worked), and nonfarm productivity growth rates from 1955 to 2012 with projections to 2023. Potential GDP growth rates are calculated by the Congressional Budget Office (CBO). Nonfarm labor supply and productivity rates from 1955 to 2012 are actual values — these growth rates have been averaged over longer time periods (1955-73, 1974-1997, 1998-2004, 2005-2012) to diminish short-term variations caused by the business cycle and other factors.

3. Measurement of Labor Supply Growth

Zero nonfarm labor supply growth from 2005 to 2012 reflects the collapse in the labor market following the Great Recession. Labor supply growth is projected to rebound from 2013 to 2023, but the growth rates during this period will be boosted above the long-term trend level during the initial part of this period by a declining unemployment rate and reentry of discouraged workers into the workforce. Adjusting for these temporary favorable effects, I estimate the trend labor supply growth rate will average about 0.71% annually between 2018 and 2023. I do not expect the average length of the

workweek to change between 2012 and 2023. Population should continue to grow about 1.0% annually, but labor supply will grow more slowly because of a persistent decline in the participation rate, primarily due to the aging of the baby boom generation.

It should be noted that CBO expects stable trend labor supply growth (omits cyclical factors) to average a somewhat lower 0.50% annually over the 2013-23 period.

4. Measurement of Nonfarm Productivity Growth

Although nonfarm productivity growth averaged 2.10% between 1955 and 2012, there have been extended periods of higher and lower rates. As can be seen in **Table 1**, productivity growth averaged 2.76% from 1955 to 1973,

Table 1
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%	1.41%	5.63%	2.98%	3.80%
1973:3-1997:2	1.42%	1.76%	4.28%	1.93%	3.10%
1997:3-2004:2	3.38%	.52%	5.56%	2.39%	3.29%
2004:3-2012:4	1.53%	-.06%	.23%	1.26%	2.03%
1954:4-2012:4	2.10%	1.23%	4.28%	2.23%	3.19%
Forecast — Slow Growth					
2013:1-2017:4	1.34%	1.41%	4.22%	.67%	1.78%
2018:1-2023:4	1.45%	.75%	1.64%	1.62%	1.78%
2013:1-2023:4	1.40%	1.05%	2.80%	1.20%	1.78%
Forecast — Strong Growth					
2013:1-2017:4	1.58%	1.58%	5.00%	1.02% 1.89%	
2018:1-2023:4	1.96%	.77%	2.64%	2.11%	2.05%
2013:1-2023:4	1.78%	1.13%	3.70%	1.63%	1.98%

*Changes in productivity lag changes in labor supply, private investment and government investment growth by 2.0, 4.3 and 6.1 quarters, respectively. Note that data in **Chart 1** are not adjusted for these lags.

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.

1954:4 to 1973:2. 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. It should be noted that government investment spending was stronger during this time period than it has been more recently. Private investment growth was much stronger during this period than it has been in more recent years.

1973:3 to 1997:2. By the middle of 1973 the forces which had driven strong productivity gains were abating. The rate of growth in private investment spending dropped by about one-quarter and the rate of growth in government investment dropped by approximately one-third. In addition, the entry of less skilled baby boomers into the labor force contributed to depressing productivity growth until the middle of 1997.

1997:3 to 2004:2 — Tech Boom. Then, productivity surged once again from the middle of 1997 to the middle of 2004, driven by the dot.com and fiber optic booms and the related strong increase in private investment spending growth. Government investment spending growth also rose. Labor supply growth slowed and baby boomers moved into more productive years. All of these factors combined to produce extremely strong productivity gains during this period.

2004:3 to 2012:4. Unfortunately, the investment boom of the late 1990's and early 2000's included many unproductive projects which were financed by an explosion of debt financing. A shake out became inevitable. But, as we know all too well, the collapse of the dot-com bubble did not end debt leveraging. Excessive debt financing shifted into home mortgages and a variety of exotic derivative financial instruments as Wall Street turned into a giant trading casino. Investments in housing and financial engineering proved to have limited productivity potential and the average annual productivity growth rate after mid-2004 fell to 1.53%, little better than the period from 1974 to 1997.

Unlike the 1973:3 to 1997:2 period of low productivity, which was driven by a surge in labor supply growth consisting of less skilled younger workers, low productivity in this period was the result of a collapse in investment spending — particularly private, but also government.

Prospects — 2013:1 to 2023:4 — Slow Growth. CBO expects productivity to return to its long-term average of 2.1% over the next eleven years. This seems overly optimistic when consideration is given to prospects for the key drivers of productivity, particularly private and government investment growth.

During the next five years a return to a rate of growth in private investment similar to the long-term average appears quite reasonable as the housing market recovers and a slowly strengthening economy leads to an escalation in business investment spending. But once the output gap has been reduced substantially a return to a lower private investment growth seems plausible. Slow recovery in aggregate demand, a slowing population growth rate and increasing income and wealth inequality, as the preponderance of productivity gains continue to accrue to the top 1% to 5% of the population, are all possible reasons.

While a slower rate of private investment growth is somewhat speculative, slower government investment growth in an era of austerity seems probable. Real federal, state and local government investment spending has decreased for nine consecutive quarters and is likely to continue doing so for several more quarters. While a strong case can be made (see ***August 2012 Longbrake Letter***) for increased government investment spending during a period when the output gap is large, the probability of this occurring is nil. Balanced budget requirements and slower growth in revenues have forced state and local governments to pull back. And, at the federal level discussion and policy action has focused entirely on deficit reduction. The automatic spending cuts (sequester) will hit federal government investment spending particularly hard. As will be discussed below, government investment spending growth has a significant impact on productivity.

Prospects — 2013:1 to 2023:4 — Strong Growth. The bottom panel in **Table 1** shows the effect on potential productivity if both private and government investment growth are stronger in coming years. Annual projected productivity improves from 1.40% to 1.78% and is 1.96% by the second half of the period.

It is clear that investment spending — both private and government — must return to historical averages for CBO's assumption of 2.1% productivity growth to be realized. While this is possible, the risks of lower productivity in coming years than what CBO expects seem high to me. This pessimism is reinforced by a dismal statistic — U.S. public infrastructure investment is 2.4% of GDP, approximately half of what it was 50 years ago and half the current level in Europe. In recent years, private investment has been held back by weak aggregate demand.

If aggregate demand grows more slowly in the future as seems probable, private investment will also 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 worry more about the deficit than about boosting growth.

5. Statistical Analysis of 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 = .999 - .977 (growth in hours worked) + .347 (gross private investment growth) + .380 (government investment and consumption)

This equation was estimated using data from 1985 to 2012 and has an R^2 of .78. Coefficients of all three variables have the expected signs and are highly significant.

Components of this equation can be interpreted as follows:

Constant term = .999. This measures the long-term average productivity rate when values for the other three variables are zero. Of course, growth in all of the other variables should be positive over long periods of time, thus the constant term can be considered to be a floor rate of productivity.

Growth in hours worked coefficient = -.977. This coefficient indicates that when the rate of growth in the labor supply increases by 1 percentage point, productivity declines by .98 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 = .347. 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 .35 percentage point increase in productivity, but it takes an average of 4.3 quarters between the time investment growth increases and productivity fully responds.

Government investment and consumption spending coefficient = .380. 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 .38 percentage point change in productivity within 6.1 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.

6. Simulations of Productivity Rates

Table 2, shows productivity rates based on the statistical analysis for various assumptions about labor supply growth, gross private investment growth and government investment and spending growth. The simulated productivity rates are point estimates rather than averages over a period of time. In a statistical framework these point estimates are the expected value of a distribution of rates.

The first line of **Table 2** shows that the point estimate for productivity is 2.13% given the 1995-2012 averages for labor supply, private investment and government investment growth. CBO's productivity estimate for 2013-23 is 2.10%, not materially different from the long-term average.

Four sets of simulations are shown in the remainder of **Table 2** — Bill's "***Slow Growth***" and "***Strong Growth***" scenarios and two other sets to shown the impact of variations in the growth rates of private and government investment combined with an assumption that the long-run stable rate of labor supply growth is .71%.

As discussed in Section II. 4 above, CBO's projection that productivity will average 2.1% over the entire 2013-23 period seems optimistic. The simulations indicate that attaining that rate would require a combination of private investment growth of 3.5% and government investment growth of 1.50% **or** private investment growth of 3.0% and government investment growth of 2.0%. However, once the output gap has been reduced substan-

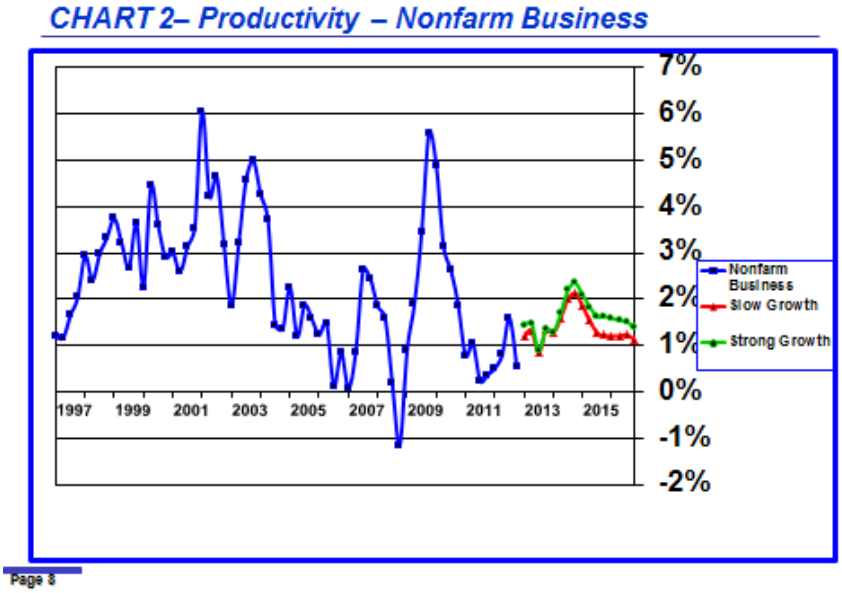
Table 2
Simulations of Productivity Depending Upon Labor Supply, Private Investment and Government Investment Growth Rates

	Labor Supply	Private Investment	Government Investment	Productivity
1955-2012	1.23%	4.28%	2.23%	2.13%
			CBO 2013-23 Productivity Estimate	2.10%
Slow Growth Scenario				
Slow: 2013-17	1.41%	4.22%	.67%	1.34%
Slow: 2018-23	.75%	1.64%	1.62%	1.45%
Slow: 2013-23	1.05%	2.80%	1.20%	1.40%
Strong Growth Scenario				
Strong: 2013-17	1.58%	5.00%	1.03%	1.59%
Strong: 2018-23	.77%	2.64%	2.11%	1.96%
Strong: 2013-23	1.13%	3.70%	1.63%	1.80%
Private Investment Varies				
	71%	2.50%	1.50%	1.74%
		3.00%		1.91%
		3.50%		2.09%
		4.00%		2.26%
Government Investment Varies				
	.71%	3.00%	1.00%	1.72%
			1.50%	1.91%
			2.00%	2.10%
			2.50%	2.29%

*Changes in productivity lag changes in labor supply, private investment and government investment growth by 2.0, 4.3 and 6.1 quarters, respectively. Note that data in **Chart 1** are not adjusted for these lags.

tially, attainment of a 2.1% productivity rate by the end of the 2013-23 period appears to be feasible.

Chart 2 shows forecasts for productivity between 2013 and 2017 for

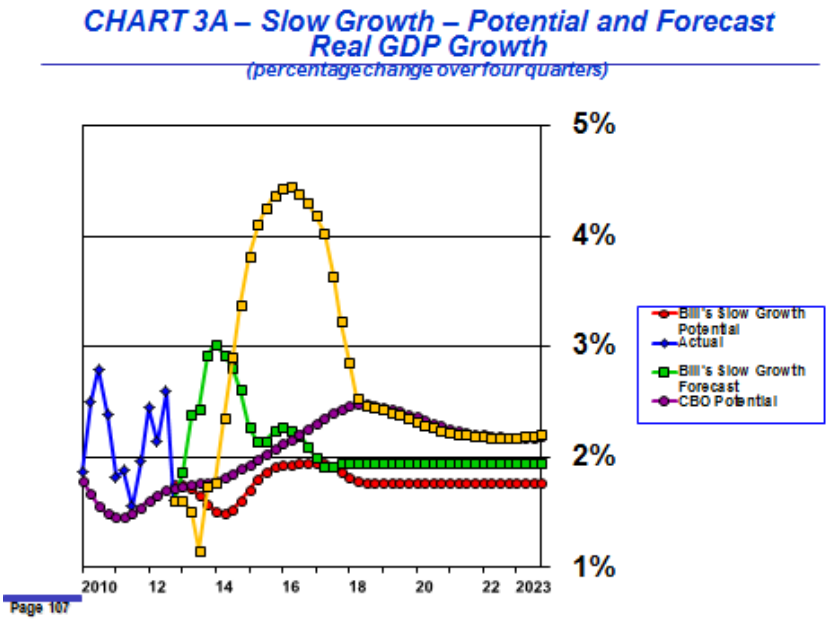


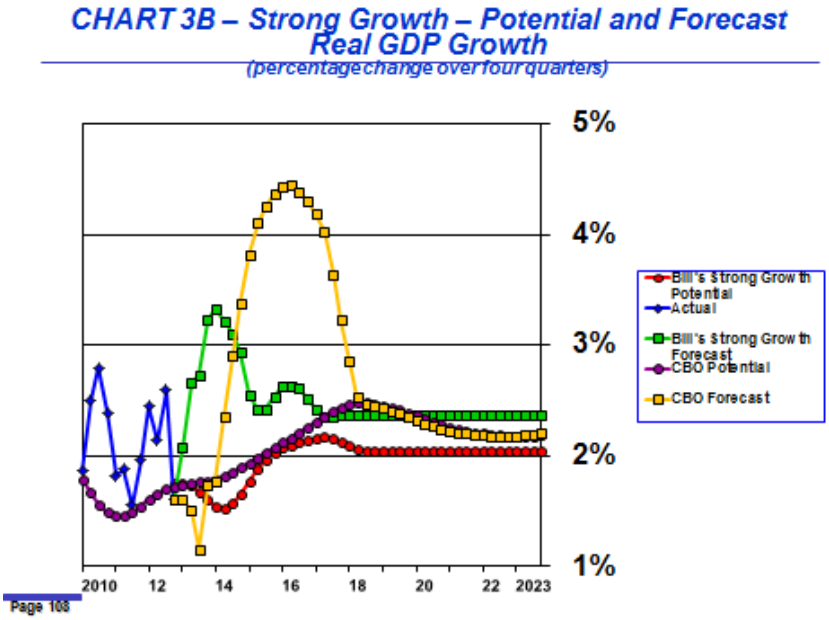
the "***Slow Growth***" and "***Strong Growth***" scenarios. Throughout this period, CBO assumes productivity will average 2.1%.

7. Potential Real GDP Growth

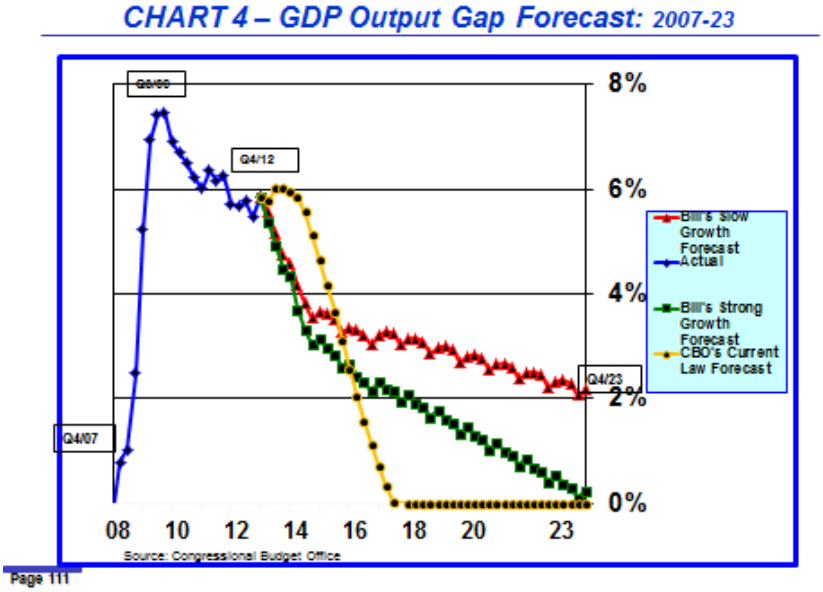
Charts 3a and **3b** show ***potential real GDP growth*** for 2013-23 (CBO — purple circles and Bill — red circles) and ***forecast GDP growth*** for 2013-23 (CBO — gold squares and Bill — green squares). **Chart 3A** also shows Bill's "***Slow Growth***" scenario and **Chart 3B** shows Bill's "***Strong 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. Like CBO, my analysis indicates that the current very large output gap is depressing productivity growth and therefore potential real GDP growth. But, because the output gap closes more slowly in both the "***Slow Growth***" and "***Strong Growth***" scenarios





(see **Chart 4**) compared to CBO's analysis, this results in potential GDP



growth being lower in both of my scenarios.

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 most others.

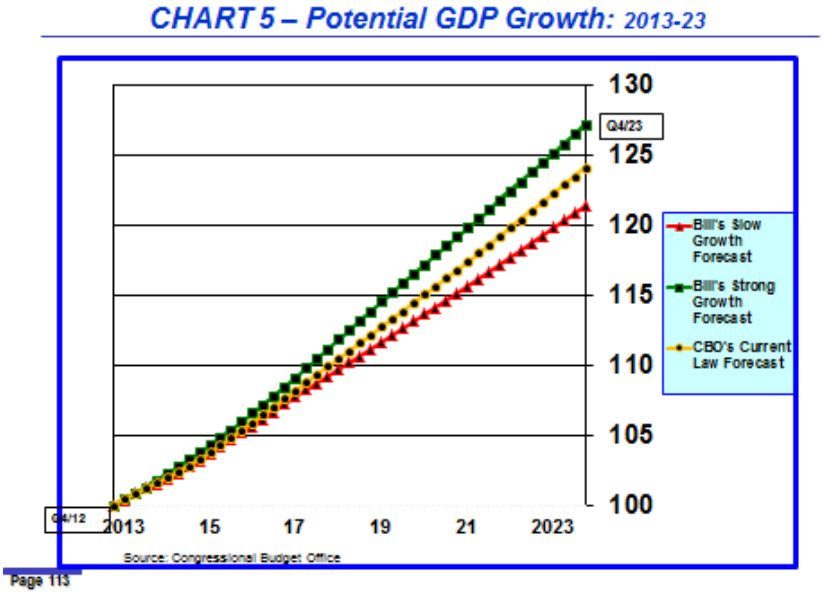
However, once the fiscal shock has been absorbed, CBO forecasts that GDP growth will rebound strongly and the output gap will close completely by early 2017. This is a more optimistic longer-term outcome than I and some others, like Goldman Sachs and B of A/Merrill Lynch, expect. The output gap does not close in my "***Strong Growth***" scenario until 2023 and is still approximately 2% in my "***Slow Growth***" scenario in 2023.

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.

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

Chart 5 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 2.4% lower in my "***Strong Growth***" scenario and 4.6% 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.

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

As explained in Section II, 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 response 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.

This shift in fiscal policy threatens economic recovery, which has been relatively weak. The negative effects of fiscal policy will peak during 2013 and then diminish. Currently, it appears that recovery in the private sector has sufficient momentum to absorb the latest negative fiscal shock. Certainly, many incoming data reports have been better than expected. Nevertheless, 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 notwithstanding ECRI's worries.

1. 2012 Q4 GDP — Preliminary Estimate

As can be seen in **Table 3**, real GDP growth was 0.14% in BEA's "Preliminary Estimate" for the fourth quarter of 2012, a modest improvement from -0.14% in the "Advance Estimate".

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

Nonresidential private investment was far more positive than expected. The "Preliminary" revision was even more positive, increasing the contribution to fourth quarter real GDP growth from 0.83% to 0.96%.

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%		1.12%	1.06%	1.72%
Private Investment						
Nonresidential	.83%	.96%		-.19%	.36%	.74%
Residential	.36%	.40%		.31%	.19%	.43%
Inventories	-1.27%	-1.55%		.73%	-.46%	-.39%
Net Exports	-.25%	.24%		.38%	.23%	.06%
Government	-1.33%	-1.38%		.75%	-.14%	-.60%
Total	**-.14%**	**.14%**		**3.07%**	**1.25%**	**1.96%**
Final Dom. Sales	**1.13%**	**1.69%**		**2.34%**	**1.71%**	**2.35%**

Trade, which subtracted -0.24% from GDP in the "Advance" estimate, was revised to show a positive 0.25% contribution in the "Preliminary" estimate.

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

Personal consumption expenditures, which account for 71% of real GDP, were revised downward slightly to an annual rate of 1.47%. This is consistent with an underlying real GDP growth rate of about 2.07%, slightly above CBO's current estimated potential growth rate of 1.75%, and it was still a marked improvement over the weak growth in personal consumer expenditures in the second and third quarters of 2012.

2. GDP Forecasts for 2013 Q1 and Q2

Recent data, namely the February manufacturing, employment, auto and retail sales reports, have been much better than expected. Consumer sentiment has improved — the Michigan consumer sentiment index improved from 73.8 in January to 77.6 in February, although, just to confuse matters, the IBD/TIPP economic optimism index fell from 47.3 in February to 42.8

in March, registering its lowest level since December 2011 (values of this index below 50 indicate pessimism outweighs optimism).

Recent data reports do not indicate that first quarter real GDP growth will be as weak as forecast earlier.

There are three possible explanations for the stronger data reports. First, consumers may not yet have realized the full impact of higher taxes on their ability to maintain spending. If this is a correct view, March and April reports should be much weaker. Second, consumers may fully realize the impact of higher taxes but are willing nonetheless to maintain spending by dipping into savings. Arguments supporting this reasoning include improving consumer confidence, rising stock prices and rising home prices and, possibly, improvements in various sources of income including wages. In other words, increased optimism about the future is sufficient for consumers to discount the negative impact of higher taxes. Third, the data are preliminary and much of the good news may be revised away in the future.

It will take another couple of months of reports to determine whether the emerging positive trend is real and sustainable. But, optimism tends to be self-feeding and to the extent that optimism is gradually rising, this implies a somewhat more positive outlook may well be merited.

There are some other factors that are likely to boost first quarter GDP growth. Because of the inventory and government spending anomalies in the fourth quarter real GDP data it is reasonable to expect both components to reverse sign and contribute to real GDP growth in the first quarter. In fact, inventory building should add about 1.3% to first quarter GDP growth. There should also be some modest benefit from rebuilding activities stemming from Hurricane Sandy and this expectation is consistent with strong growth in building materials in the February retail sales report.

Consumer spending will be a key determinant of the strength of first quarter GDP growth. Consumer spending was a little weaker in January but February retail sales were much stronger than expected and January retail sales were revised higher. As expected, disposable income nosedived in January due to higher tax rates and particularly due to the elimination of the 2% payroll tax-cut holiday. Disposable income declined 4.0% in January from December and was only 1.8% above the level in January 2012.

Goldman Sachs (GS) expects consumer spending to grow 1.6% in the

first quarter and 2.0% in the second quarter. B of A, which had been pessimistic, recently increased its forecast dramatically to 2.2% and 1.7% in the first and second quarters, respectively. Given the impact of tax increases on consumer disposable income, GS's and B of A's forecasts imply, at least for the first quarter, a sharp contraction in the consumer saving rate.

Some believe that buoyant stock prices and rising housing prices offer hope that a resurgent wealth effect will bolster consumer spending and that this will help mitigate or even entirely offset the negative drag of higher taxes. While there may be some merit in this theory for wealthier households, lower income households don't have stock portfolios and frequently rent. These lower-income households are also the ones that will experience the largest declines in disposable income from the increase in payroll taxes. According to the University of Michigan consumer confidence survey, income expectations for the year ahead have been dropping steadily since last October, but the decline has been much greater for households earning less than $75,000 annually.

First Quarter Forecasts. B of A expects first quarter growth to be 3.0%. GS also estimates growth will be 2.9%. Both of these forecasts were revised sharply higher in recent days. In late February the consensus expected GDP to grow 2.0% in the first quarter, but in light of recent strong data reports, the consensus estimate is also likely to be revised higher.

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%, which it just revised up from 1.5%. B of A has suggested that its second quarter GDP forecast may need to be revised upwards. As of late February, the consensus expected GDP growth to be 2.2% in the second quarter.

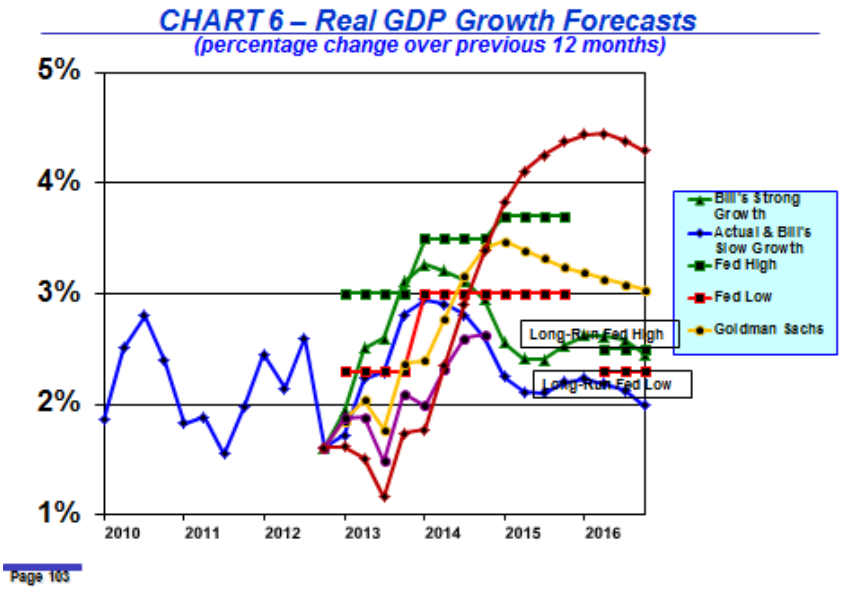
3. GDP Forecasts for All of 2013

Most forecasters expect growth in 2013 to begin slowly and then pick up in the second half. While this remains the consensus view, as mentioned above, actual growth in the first quarter appears to be ahead of most forecasts. While this might imply that the full-year forecast should be raised, this is

not automatically the case. Most full-year forecasts did not incorporate a full-year impact of the federal spending sequester. It is now likely that the sequester will remain in place through the end of the current fiscal year in September. Furthermore, while next year's budget may eliminate the sequester, analysts increasingly expect the aggregate impact of spending cuts to be retained in some fashion.

Lack of congressional action to deal with mandatory spending cuts is due, of course, to political stalemate between Democrats and Republicans. However, if the economy continues to perform at an acceptable level and better than the more dire forecasts, such as CBO's forecast, pressure to roll back or modify these cuts won't build to a sufficient level to force action.

Chart 6 shows GDP forecasts/projections for 2013 through 2016.



B of A recently raised its forecast for GDP growth in 2013 to 2.1% (fourth quarter to fourth quarter). GS expects 2.4% growth. The Bloomberg consensus expects 1.9% growth.

The Federal Open Market Committee (FOMC), which has consistently

been too optimistic, projects 2013 growth to fall within a range of 2.3% to 3.0%. GS expects the FOMC to either maintain this projection range at its next meeting or move it slightly higher.

Bill's "***Slow Growth***" forecast projects 2013 GDP growth of 2.8%. Bill's "***Strong Growth***" forecast projects 3.1% growth. However, these forecasts may be too high since my forecast model does not include the full effect of recent federal tax increases and spending cuts. Still, my projections fall within the upper part of the FOMC's projection range.

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

With the exception of my two scenarios, others expect GDP growth to accelerate in 2014 and 2015. As explained in Section II, my longer-term forecasts are depressed by slow productivity growth which is caused primarily by weak 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 $386.1 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 $520.0 billion by the end of 2014 and $670.9 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, although for a discussion of downside risks to their forecasts see Section VI. 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 $1,510.7 billion in the fourth quarter of 2012 — 11.1% of GDP. GS's forecast for nonresidential investment rises to 13.6% 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%. This is more detail than most readers probably have any interest in, but it does indicate why substantial acceleration in GDP growth in 2014 and 2015, which is embedded in most analyst forecasts, may be difficult to achieve.[2]

Yet, even though overly optimistic nonresidential investment assumptions provide an upward bias to GS and B of A GDP forecasts, their forecasts still track below the lower end of the FOMC's projected range in 2014. However, GS's forecast for 2015 falls in the middle of the FOMC's projected range.

Following a consistent historical pattern, FOMC projected GDP growth remains on the optimistic end of the spectrum. Bill's less optimistic outlook in 2015 and 2016 depends to a large extent on sharply lower productivity growth than others expect.

CBO's 2013 forecast mirrors B of A's pessimistic forecast. However, by late 2014 and continuing through 2015 and 2016 CBO's forecast is much more optimistic than any of the others including the Federal Reserve's.

5. Other Factors Affecting GDP Growth

Financial Conditions. Research indicates that financial conditions affect GDP growth. When credit is tight and risk taking is quiescent, as they have been since the onset of the Great Recession, the economy grows more slowly. These drags on growth are dissipating very slowly as monetary policy initiatives in the U.S., Europe and elsewhere seek to encourage risk taking and lessen the potential for and cost of illiquidity. This process is proceeding slowly and has been accompanied by occasional reversals.

Stronger Dollar. Over the last five months the trade weighted dollar has

[2] David Rosenberg of Gluskin Sheff Research observed in a March 6, 2013 commentary: "We are ... coming off the weakest four-year period in six decades in terms of growth in the private sector capital stock. This will have implications for multi-factor productivity growth which has already begun to weaken and barring significant immigration reform, that coupled with softening labor force activity will conspire to drag the secular noninflationary growth potential of the economy down, and as such bring forward the day that we see inflation begin to turn around closer than perhaps the 2018 timeframe I have been discussing.

increased 2.5%. A rising value of the dollar depresses U.S. exports and slows GDP growth. (For a more complete discussion of this, see Section IX. GS expects the recent rise in the value of the dollar to reduce U.S. GDP growth in 2013 by 0.1% to 0.2%.

IV. Employment

February's employment report signaled that the labor market recovery continues and has not yet been impacted adversely by tax increases and spending cuts. In fact, many of the details in the report exceeded expectations.

1. Payroll Report

Employers added 236,000 jobs in February. Revisions to December and January jobs data took away 15,000 jobs resulting in a net increase of 221,000. The 12-month rate of growth edged down from 1.51% in January to 1.48% in February, but remains solidly above the recent rate of growth in the labor force, which is approximately 1.0%.

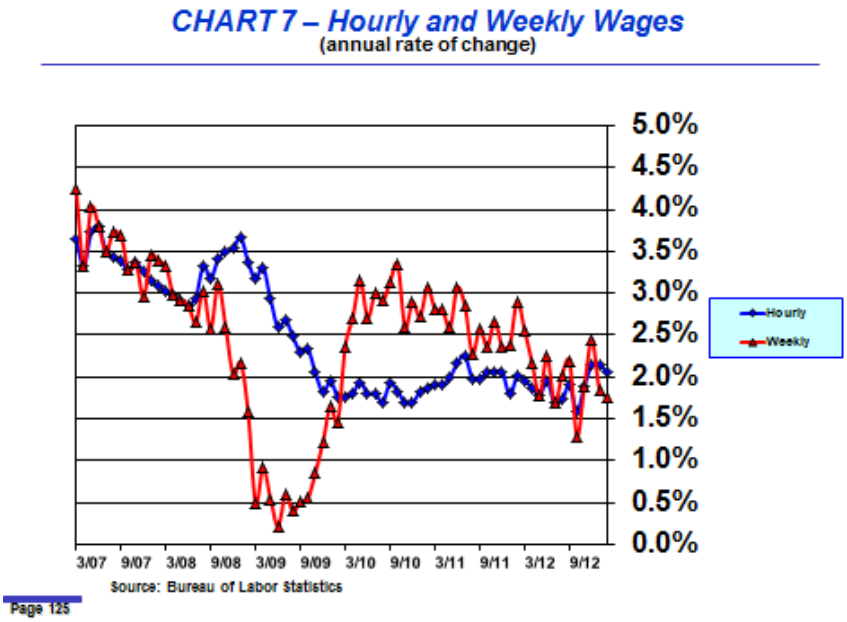
2. Household Jobs Report

Jobs increased by a slightly lower 170,000 in the household survey. However, the labor force shrank by 130,000. This could be just the result of sampling error volatility or it could reflect exit from the labor force of additional discouraged workers. The participation rate, which measures the ratio of people who say they are in the labor force to the total eligible to work, nearly matched the recent low which occurred in August 2012.

Average weekly hours worked increased from 34.4 to 34.5. While this is also a favorable development, it is not much different from the average 34.44 hours that has prevailed over the last 12 months.

3. Growth in Wages

Growth in hourly wages has stabilized near 2.0% (see **Chart 7**). 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 34.5 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.

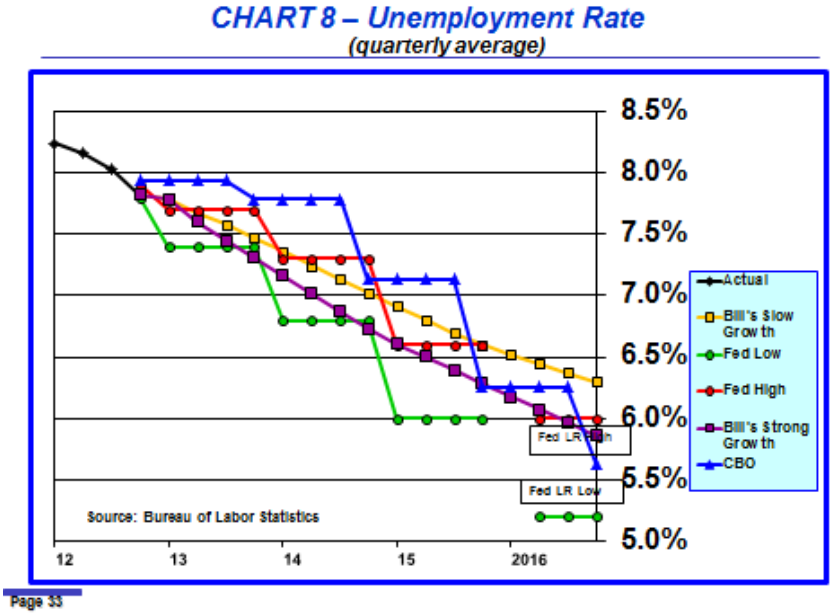
4. Unemployment Rate

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.

According to BLS, the number of unemployed workers decreased 300,000 in February after rising 126,000 in January. The unemployment rate fell back to 7.74%, not materially different from 7.75% in November, which was the previous post-Great Recession low. Over the last year since February 2012 unemployment has decreased 774,000 and the unemployment rate has decreased from 8.27% to 7.74%.

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'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**.

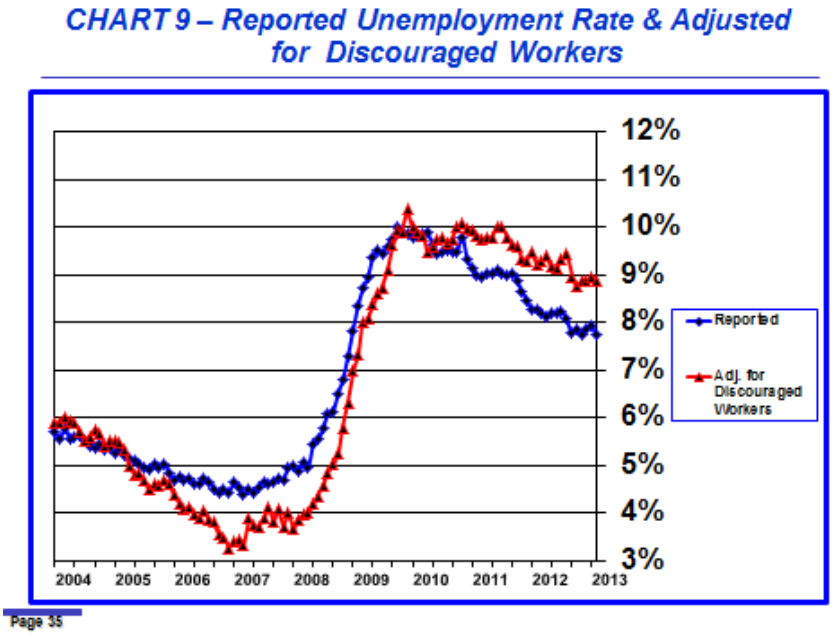
I have included unemployment rate forecasts for both "***Bill's Slow Growth***" (yellow line and squares) and "***Bill's Strong Growth***" (purple line and squares) scenarios. During 2013 "***Bill's Slow Growth***" unemployment rate projection tracks the upper end of the FOMC's range and "***Bill's Strong Growth***" unemployment rate tracks slightly above the lower end

of the FOMC's range. "***Bill's Strong Growth***" unemployment rate forecast projects reaching the 6.5% threshold in mid-2015 which is consistent with the FOMC's projection range for mid-2015. However, in "***Bill's Slow Growth***" scenario, the unemployment rate does not fall below the 6.5% threshold until the middle of 2016.

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.

5. Discouraged Workers and Labor Force Participation

There is reason to expect the rate of improvement in the unemployment rate to slow as the economy and the labor market strengthen. As is shown in **Chart 9**, 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 February 2013, there were approximately 1.8 million discouraged workers who were not counted as unemployed. Note that I estimated the number of discouraged workers to be 1.6 million in January, which suggests that 200,000 of the 300,000 decrease in unemployed workers in February was discouraged workers dropping out rather than finding work. B of A reached a similar conclusion, although it divided the 300,000 fall in unemployment a bit differently — 170,000 were reemployed and 130,000 dropped out of the labor force. If the 1.8 million in discouraged workers were counted, the unemployment rate would have been 8.89% rather than 7.74%. A recent Federal Reserve Bank of San Francisco Economic Letter suggested that as many as 2.1 million discouraged workers could re-enter the labor force as the labor market strengthens.[3]

There is another reason why the decline in the unemployment rate may slow as the economy and the labor market improve, which was proposed by Federal Reserve Chairman Ben Bernanke a few months ago. He suggested that during the Great Recession employers cut employment to a greater extent than warranted. This notion is supported by the more rapid improvement in employment during the initial phase of recovery than in GDP, reflecting the need for employers to "catch up". There is a long standing relatively stable relationship between employment and GDP which is referred to as Okun's law. During the recession employment fell more than implied by Okun's law with the consequence that employers were forced to "catch up" when the economy began to recover. GS estimates that payroll employment has grown 100,000 per month more than implied by GDP growth. However, because the historical relationship between GDP and employment has now largely been restored limited further "catch up" is likely to occur.

V. 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

[3]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.

their implications for broader economic activity.

1. 2012 Personal Income, Disposable Income and Spending

Table 4 shows the annual results for 2011 and 2012 and the 12 months

Table 4
Change in Personal Income and Its Disposition for 2011, 2012 and 12 Months Ending January 2013
(in billions of dollars)

	Nominal 2011	Annual Pct. Change	Nominal 2012	Annual Pct. Change	Nominal Jan 12 to Jan 13	Pct. Change Jan 12 to Jan 13
Personal Income	**$458.1**	**3.64%**	**$913.3**	**7.01%**	**$291.6**	**2.22%**
Compensation	269.2	3.34%	390.3	4.68%	248.3	2.94%
Proprietors' Inc.	21.0	1.83%	63.4	5.42%	65.4	5.57%
Rental Income	70.7	19.50%	52.0	12.00%	57.3	13.05%
Asset Income	25.9	1.56%	359.9	21.32%	-7.9	-0.47%
Government Transfers	4.3	0.19%	90.9	3.91%	83.0	3.55%
Less: ***Personal Taxes***	-112.7	5.05%	-150.9	6.44%	-231.7	9.75%
Disposable Income	**278.5**	**2.46%**	**805.5**	**6.94%**	**214.4**	**1.83%**
Less: ***Consumption***	**435.8**	**4.04%**	**400.6**	**3.57%**	**361.3**	**3.20%**
Personal Saving	**-157.4**	**-28.63%**	**405.1**	**103.3%**	**-146.9**	**-34.10%**
Personal Saving Rate	**4.24%**		**3.90%**			**3.82%**

from February 2012 through January 2013. What immediately stands out is the near doubling in nominal personal income growth from 3.64% in 2011 to 7.01% in 2012. The contrast between 2011 and 2012 was even more dramatic for disposable income growth which increased to 6.94% 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 in 2013 led these same sources of income to be accelerated into November and December to avoid higher tax rates in 2013. In addition, distribution of dividends and other sources of income were accelerated to November and December.

Personal income fell $505 billion from December to January (-3.6%) 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 probably also included income that normally would have been paid in January, but was paid in December. Thus, focusing on the 12 months ending with January 2013 eliminates most, but not all, of the timing anomalies.

Personal income rose just 2.22% over the 12 months ending in January 2013 and disposable income rose 1.83%. The impact of the payroll tax rate increase from 4.2% to 6.2% is clearly visible in the 9.75% increase in personal taxes over the same 12-month period. The saving rate plummeted from 6.4% in December to 2.4% in January.

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

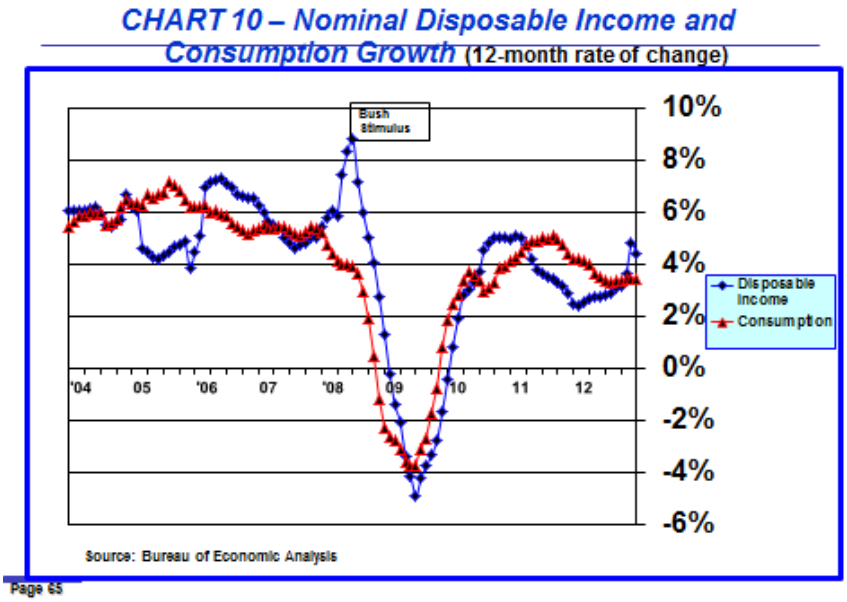
2. Consumption

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 4**, the rate of growth in consumption spending has slowed from 4.04% in 2011 to 3.57% in 2012 and 3.20% in the most recent 12 months, which includes 11 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.

3. Disposable Income and Spending

Chart 10 shows the nominal rate of growth in disposable income and consumer spending from 2006 to the present. Growth rates are calculated as changes in quarterly averages year over year. This method smooths out 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 4.4% in January.

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 six 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. 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.

Increases in federal personal taxes during 2013 will amount to approximately $200 billion or about 1.66% of nominal consumer disposable income. The increases include $126 billion in payroll taxes, which predominately impact middle and lower-income households; $50 billion in income taxes from tax rate increases for those earning more than $400,000/$450,000 annually; and $24 billion from higher taxes on dividends and capital gains mandated by the Health Care Act, which predominately affect wealthier households.

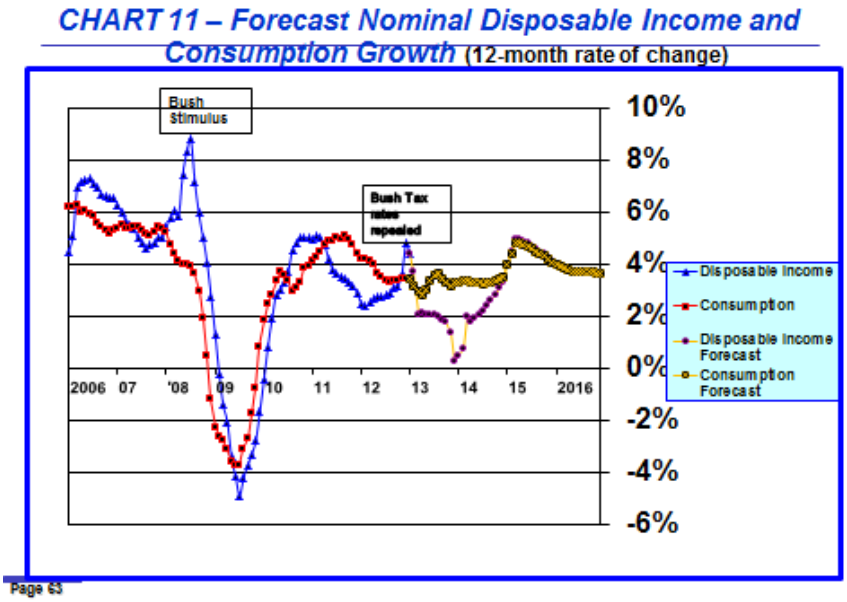
If all of the decline in disposable income is made up by dipping into savings, the saving rate would drop to about 2.00% in 2013 from 3.90% in 2012. If nothing else changed, nominal spending growth would continue at the 2012 level of 3.6% and real spending growth would be 2.1%, if the PCE deflator were 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 1.4% in the first quarter, 1.5% 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.

VI. Housing — Recovery or New Bubble?

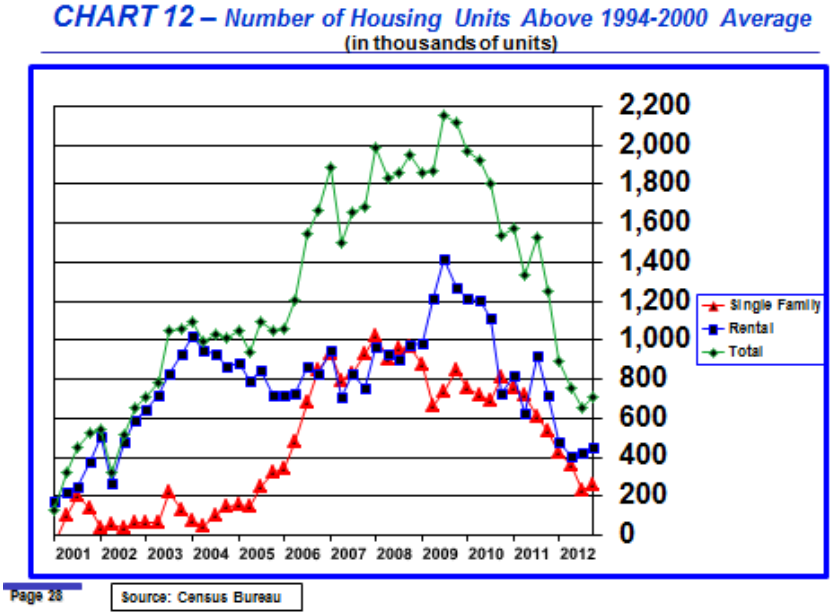
There is growing optimism that the housing recovery will gather momentum during 2013 and contribute materially to real GDP growth. Certainly builders think so as builder optimism, according to ISI, is at a sky-high level of 66.3 on a scale of 0 to 100 where a value of 50 indicates a balance between optimism and pessimism. This optimism has been bolstered by greater than expected price gains over the last year and, to a substantial decline in the inventory of homes available for sale according, to the National Association of Realtors.



In the wake of the implosion of the national housing bubble, prices collapsed and demand and, therefore, construction have been depressed for several years. Thus, rising prices and falling inventories certainly appear at first glance to be reasonable indicators of a market in which demand exceeds supply. However, appearances are not always reflective of reality and understanding this possibility argues for a more comprehensive examination of the relevant data.

1. Supply and Demand

Supply. Let me begin with supply. The U.S. Census Bureau reports the total number of single-family and multi-family housing units on a monthly basis. There always must be inventory to support buying and selling activity and rental activity. **Chart 12** shows the amount of single-family and multi-family vacancies that are above the level that would be expected in a normal market. In the third quarter of 2009 there were nearly 2.2 million vacant units above the normal level — 1.4 million multi-family rental units and 736,000 single-family homes. This was the result of overbuilding during the



bubble years and doubling up that occurred following the onset of the Great Recession.

Excess vacancies fell to 709,000 units in the fourth quarter of 2012, up slightly from 655,000 units in the third quarter. Clearly, the number of excess units is diminishing, but the important point is that there are still excess vacancies over the level that would be expected in a normal market. The market is tightening, but it is not tight. Data from the National Realtors Association appears to contradict this conclusion, but its measure of inventory comes from data reported by realtors and is not anchored systematically to a survey of the total housing stock as are the Census Bureau data. The difference in conclusions may be linked to a large shadow inventory of homes that are not for sale but would be if their owners weren't burdened by mortgages exceeding the current sale value of their homes.

My estimate of excess vacancies is a little lower than GS's estimate of 1 million at the end of 2012. Based on GS's estimation methodology, it estimated that the peak level of vacancies was 2.5 million compared to my peak estimate of 2.2 million. What is important is that the trend is substantially the same. In other words, there is definitely still excess inventory and this

will continue to depress new construction for about two more years.

Demand. Demand for single-family homes is improving. The percentage increases are large, but they are off a low base. The reality is that sales are still far below levels that would be expected based on the demographics of household formation. The National Association of Realtors sales data for existing homes show a modestly improving trend — sales are 9.1% higher than a year ago. New home sales have risen 28.9% over the last year to an annual rate of 437,000 units in January, but the level remains far below the 1 million plus level that prevailed during the bubble years.

It is likely that sales will continue to increase in coming months, but demand needs escalate a lot more to support optimistic housing starts and construction forecasts.

Factors Influencing Supply. Although the inventory of distressed homes is shrinking, there is still a relatively large number of units that will come to market via foreclosures and short sales. Liquidations declined from 1.7 million units in 2011 to 1.3 million in 2012 and should fall further in 2013.

Favorable Factors Influencing Demand. First, very low interest rates make buying a house extremely affordable. Second, rising prices lead to optimism and impart a degree of urgency to purchase a home before prices rise further. A recent Fannie Mae survey indicated that 48% of respondents expect prices to rise and only 10% expect prices to fall.

Unfavorable Factors Influencing Demand. First, probably the biggest obstacle to increased demand is that underwriting requirements remain very stringent and may worsen a bit as the Consumer Financial Protection Bureau's (CFPB) qualified mortgage regulation is implemented. Second, incomes are rising very slowly. For example weekly wage income is growing at a 2.0% annual rate and disposable income grew 1.8% over the last 12 months (see **Table 4**). The importance of slow growth in income is that when housing prices rise faster it will squeeze out marginal potential buyers. Third, there will be no further increase in housing affordability in terms of financing costs because interest rates probably won't go any lower.

2. Housing Prices

What appears to be feeding optimism is the greater than expected increase in prices over the last 12 months. The Case-Shiller 20-city composite rose 6.8% and the national index rose 7.3%. The Federal Housing Finance Agency (FHFA) index rose 5.5%.

Because we are all taught that prices are determined by changes in supply and demand, it is easy to assume that higher prices reflect a confluence of shrinking supply and increasing demand. Certainly, this is the current market narrative. But factors other than the simple dynamics of supply and demand can influence housing prices.

First, we know that distressed sales depress price indices. Core Logic reports a price index that excludes distressed sales. This index shows a greater rise in prices than in Core Logic's all-inclusive index. As noted above, the number of distressed sales is decreasing. Also, the composition of distressed sales is shifting from foreclosures to short sales, which fetch somewhat higher prices — 29% of liquidations were short sales in 2011; 38% were short sales in 2012. These factors impart an upward bias to unadjusted price indices.

Second, I expect the more important factor driving up prices is a large amount of private equity money dedicated to buying single family homes, converting them to rental units, with the intent to sell them at a handsome profit in five years after the housing market has completely stabilized. In principle, this is a sensible development. Investor money helps clear out the inventory of distressed homes and in so doing helps to stabilize the market. Also, expected investment returns are favorable, as long as interest rates are very low. The cash rental return at recent price levels and low interest rates provide an attractive rate of return to an investor without having to count on price appreciation. But, as prices rise, the rate of return shrinks. Then, attractive returns increasingly will depend more on expected resale price appreciation than on rental cash flows. There is no reason to expect rents will not follow the same upward trajectory as housing prices. Rental rates are determined by the supply and demand for rental housing and in the short run are minimally impacted by housing prices.

The impact on housing prices arises when investment dollars, which have been raised by investment funds based on a reasonable set of economic as-

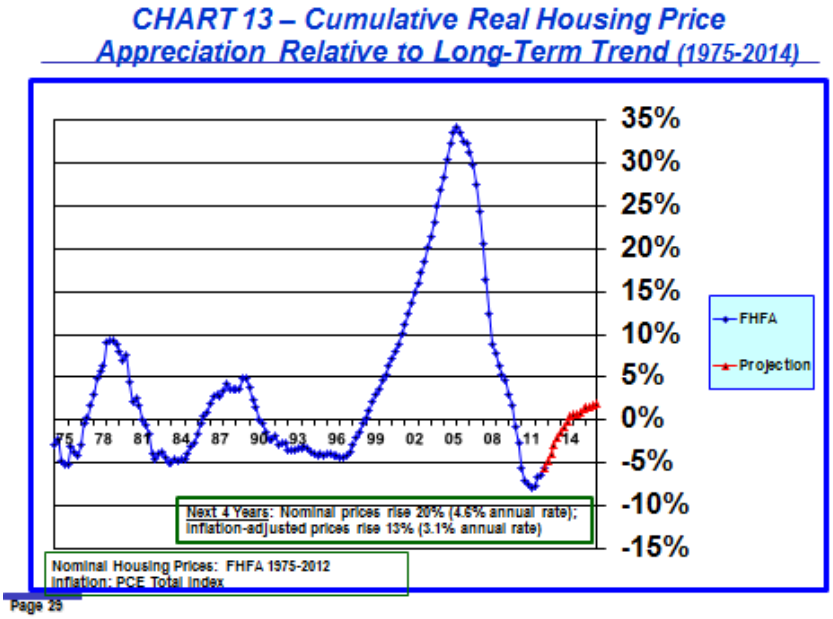
sumptions, have to be deployed and artificially increase demand in the face of static supply. Suddenly there are multiple offers on homes at or before formal listing and the home sells at a price that exceeds the asking price. There is tremendous persistency in home pricing because recent sales prices set appraisal valuations and price expectations for the next set of sales. This phenomenon becomes self-feeding and for a time drives prices higher. And, as always, there are speculators who join the fray when they believe there is easy money to be made. Speculators are not investors because their intent is not to hold the property but to flip it for a quick gain. But speculators add fuel to the fire and demand and prices continue to escalate.

This is the stuff of bubbles and this process appears to be in the early stages in certain regional markets. For example, prices have risen 14.1% in San Francisco over the 12 months and 23.0% in Phoenix. A blog post by Mark Hanson on March 7, 2013 describes what is happening in Phoenix and his description definitely reflects speculative activity. Here are a few excerpts from Mark's blog: "*But from most all the Realtors I talk to, it's the same 37 investors bidding cash pushing out the 3 organic bidders that need loans in order to buy.... Everybody takes for granted if they buy it, it will automatically rent at market rates'. In fact, most never even talk about the rental demand side of the equation because they assume it's a 'given'. But that's not the case, at least in Phoenix. There is so much rental supply on the market — and coming on line — that landlords are in full blown price cutting wars. Moreover, aggressive landlords have loosened rental guidelines to accept virtually anybody with a cashiers check and heartbeat.*"

While bubbles may well be forming in certain regional markets, prices appear to be at reasonable levels in most markets. So, there is little risk of a national bubble. However the thinness of demand strongly implies that prices cannot rise very far on a sustained basis because outsized increases will destroy demand and that will quickly take the steam out of price increases.

B of A recently increased its forecast for national housing prices to increase 8% in 2013 followed by a 6.5% increase in 2014. This may well be on the mark for a while because of current investor driven momentum. But these kinds of price increases cannot be sustained by investor demand alone. It will require organic buyers and greater growth in income and easier credit availability just to maintain today's level of demand from organic buyers, if prices continue to rise rapidly.

Chart 13 shows deviations of real housing prices over time from the



long-term trend of 1.15% increase per year. The bubble of the mid 2000's is impossible to miss. In the fourth quarter prices were 5.6% below trend. So, there is room for prices to increase somewhat faster than the rate of inflation for a while. Note in the box at the bottom of the chart, that the projection indicates that nominal prices are forecast to rise 20% over the next four years while inflation-adjusted prices rise 13%. If this is what occurs, it would leave real prices about 2% above the long-term trend by the end of 2016. While this could happen, my hunch is that it will prove to be overly optimistic.

3. Housing's Forecast Contribution to 2013 Real GDP Growth

GS forecasts residential housing investment will grow 16% in 2013 and B of A projects a more optimistic 21% increase. This would contribute between 0.45% and 0.60% to GDP growth in 2013 or between 20% and 30% of total expected GDP growth during 2013. These forecasts appear to be reasonable given current momentum. But, if increases in organic demand do not materialize, it will be hard to sustain this kind of growth in construction in

2014 and beyond.

4. Concluding Comment

B of A put the housing market into perspective with the following comment on February 5, 2013: "*While progress has been made, it is important to remember that the housing market is far from normal. There are still considerable distortions that need to be worked through, owing to distressed properties. The key to a normal recovery will be the return of primary homebuyers and the exit of institutional investors. A crucial ingredient is credit availability. We anticipate some easing of lending standards this year, but it likely will take time for credit to flow freely again. Another important component of a healthy market is positive home price expectations. Homebuyers need to believe that it has yet again become an opportune time to buy a home and that the outlook for home prices is positive.*"

VII. 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 unabated 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 passing a continuing resolution to fund the government for the remainder of the current fiscal year, and later in the year 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 not be addressed in legislation this year.

1. Continuing Resolution

Next up is passage of a continuing resolution to fund the government for the remainder of fiscal year 2013 — through September. The current continuing resolution expires on March 27).

As part of funding the government, both parties appear to agree to let most of the sequester remain in place.

Two modifications, however, seem likely. First, there will be appropriations bills for some categories of government spending. If Congress passes an appropriation bill, there is no need for a continuing resolution for that category of expenditures. There appears to be agreement that passage of any appropriations bill will retain spending cuts inherent in the sequester, but the cuts will be specifically targeted rather than across-the-board fixed percentage cuts.

Second, there appears to be grudging bipartisan support, but not enthusiasm, to give President Obama discretion as to how to allocate the sequester for those expenditures not covered by appropriation bills.

What this means is that the full extent of the sequester is likely to remain in place through September. Moreover, increasingly it appears that there will be little substantive reduction in spending cuts when the fiscal year 2014 budget is adopted, or a continuing resolution is enacted, if a budget can't be passed.

2. 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.

Practically no one likes the arbitrariness of the across-the-board cuts. That was an intentional strategy — make the cuts so mindless that Congress

would be forced to put together a thoughtful replacement. Well, so much for altruism. Republicans and Democrats are so far apart in their views on what does and what does not merit cutting that the default scenario of blunt across-the-board automatic cuts have now taken effect.

Budget Spending Authority versus Spending Outlays. Both the sequestration and the budget resolution establish limits on spending authority. Spending cannot exceed budget authority. But outlays, especially defense contracts, can come from previously authorized spending. This means that the full brunt of the sequester will not take effect immediately, but over time the full impact will come into play. For example, it is expected that the reduction in actual defense spending in the remainder of this fiscal year may be as little as half the amount of authorized spending cuts.

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.

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.

CBO initially forecast that the sequester would result in the equivalent of the loss of 300,000 to 1.4 million full-time equivalent jobs by the end of 2013 and later refined its forecast to 750,000 being the most likely number. CBO also forecast that GDP will grow only 1.4% in 2013, a more negative outcome than nearly all professional forecasters expect.

Impacted government agencies are more likely to furlough workers by putting them on shortened work-week schedules than to lay them off, which means that the actual decline in employment is likely to be less than CBO's estimate. This kind of response will be workable in the short-term but will become increasingly difficult to sustain the longer the sequester remains in effect.

Two studies about the impacts of automatic across-the-board spending cuts have been released which predict far greater negative consequences than those forecast by CBO. Stephen Fuller prepared an analysis for the

Aerospace Industries Association which predicts that real GDP will fall by 1.5% and employment will decline 2.1 million, raising the unemployment rate by 1.5 percentage points. The second study focused only on the defense industry but forecasts similar dire results. It forecasts that 900,000 defense and defense-related jobs will disappear — 152,000 Department of Defense employees, 102,000 military positions, 91,000 contractor jobs, 135,000 supplier jobs and 376,000 other jobs due to the multiplier effect.

Research conducted by B of A challenges these numbers and concludes that job losses should be limited to 520,000, consisting of 400,000 direct cuts and 120,000 additional losses through the multiplier effect. However, B of A also expected 1.5 million government workers to be furloughed at 80% of normal time. Although furloughing results in no job losses, it will reduce income by the equivalent of 300,000 jobs. Thus, in effect, B of A's analysis adds up to 820,000 jobs lost from an income standpoint, which is not materially different from CBO's estimate.

Geographical impacts will hit the Washington, DC metropolitan area especially hard. But, Alabama, Alaska, Georgia, Kentucky, Maine, New Mexico, Oklahoma and South Carolina, whose economies have significant defense components, will also suffer.

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. An NBC News/Wall Street Journal poll sheds some light. 52% said that automatic spending cuts were a "bad idea" versus 21% who thought they are a "good idea". The concern seems to be with the fact that the cuts are "automatic" because the responses to another question indicated that 39% believe Congress should develop "a plan that has more cuts" while 37% believe the opposite. Only 14% supported the current "automatic" cuts.

In another poll conducted by ABC News/Washington Post, a majority disapproved the way President Obama (52%) and Republicans in Congress (67%) are handling federal spending issues. Thus, there is plenty of blame to be shared, although Republicans come out a bit worse.

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 the recent run of stronger than expected data has contributed to 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.

3. Fiscal Year 2014 Budget

The Senate has not passed a budget resolution in four years. During that time period the federal government has continued to operate through a series of continuing resolutions.

Both the House and the Senate Budget Committees have proposed fiscal year 2014 budgets. Not surprisingly, there is little common ground in the details other than both seek to reduce the deficit.

Ryan Budget. In the House, Budget Committee Chairman Paul Ryan (R-WI) has proposed a ten-year budget that would 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. Over in the Senate, Senate Budget Committee Chairman Patty Murray (D-WA) has proposed a budget which would reduce the deficit by $1.85 trillion over ten years. Sen. Murray's budget would reduce 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, de-

fense, domestic spending and lower interest on the federal debt. Consistent with Democratic Party orthodoxy, no reforms are proposed for entitlement programs.

Compromise Unlikely. There are no substantive surprises in either the House or Senate proposed budgets. Details of each hew closely to long-standing party policy positions. Of note is that Congressman Ryan's proposed budget is even more austere than the one passed by the House in the previous Congress. Also of note is that Senator Murray's proposed budget includes more spending cuts than President Obama's fiscal 2013 proposed budget included and also reduces the deficit modestly over the next ten years rather than stabilizing it at the current level.

Passage of Ryan's proposed budget by the House without substantive change is likely. The fate of Senator Murray's proposed budget is less clear in the Senate because of the 60-vote super-majority requirement.

In any event, because the approaches of the two proposed budgets in dealing with policy issues are so different and the strength of party orthodoxy is so overwhelming, it is difficult to imagine any real possibility of a consensus or "Grand Bargain" emerging from Congress during the current session.

President Obama's Budget. Normally, the president submits his budget to Congress in late January or early February. This year is an exception to the norm. President Obama has yet to submit a budget for fiscal year 2014 and is not expected to do so until after Easter in early April. It would appear that the delay is intentional to give Senate Democrats an opportunity to craft their own budget.

In the meantime President Obama has been breaking bread with members of Congress. That raises the question of whether the president is laying the groundwork for a "Grand Bargain". Most are skeptical and expect that the president's budget, when it is finally delivered to Congress, will not look much different from the Senate budget proposal. In other words it will probably not include any proposals for entitlement reform which is a necessary component if a "Grand Bargain" is to become a credible possibility.

4. Debt Ceiling

Republicans wisely proposed a short-term increase in the debt ceiling so that debates on automatic spending cuts and the budget resolution would come first. They correctly understood that using the debt ceiling as a blunt tool to force spending cuts would in all likelihood bring with it a heavy political cost, as well as unsettling financial markets and potentially adversely impacting economic activity.

Consideration of this issue has now been deferred until summer. The Treasury Department has advised that the debt ceiling is likely to become binding 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.

5. Tax Refunds

Because of the delay in dealing with tax rate legislation, tax refunds were delayed and were $20 billion less in January and February than typical. The importance of this has to do with consumer spending because a substantial portion of tax refunds is customarily spent. However, February's retail sales were stronger than expected and appear to have been unaffected by the timing of tax refunds. An analysis done by GS concludes that in coming weeks tax refunds will track previous years' levels, but the $20 billion gap will persist.

VIII. 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 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.

In remarks made during the September 12, 2012 post-FOMC meeting press conference, Chairman Bernanke said: "*We do think that these policies can bring interest rates down, not just treasury rates but a whole range of rates including mortgage rates and rates for corporate bonds and other types of important interest rates. It also affects stock prices. It affects other prices, home prices, for example. So looking at all the different channels of effect, we think it does have an impact on the economy. It will have impact on the labor market but again, the way I would describe it is a meaningful effect, a significant effect, but not a panacea, not a solution for the whole issue.*" In other words, easy monetary policy is effective in driving economic recovery, but stimulative fiscal policy is also essential.

Chairman Bernanke, in recent congressional testimony, cited research which concludes that large scale asset purchases have been effective in reducing the term premium on long-term interest rates. Reducing rates helps prompt productive risk-taking that is essential to robust growth and to getting the unemployed back to work.

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

When the minutes of the December FOMC meeting were released it became clear that a debate is underway among Committee members about how long the Fed should continue to buy $85 billion monthly in securities. This was confirmed in the January FOMC meeting minutes. It is clear that quantitative easing is likely to end well before the first increase in the federal funds rate takes place. But, it is not clear what the FOMC's guidelines are likely to be for determining how and when to scale back and eventually end purchases of securities.

Some FOMC members are clearly uneasy about the Fed's growing balance sheet and about the potential impacts of large scale asset purchases on the functioning and stability of financial markets over the longer run and about the complexities of shrinking the Fed's balance sheet when the time comes to do that.

Considerable uncertainty exists about the timing and pathway for exiting its large scale asset purchase policy. This issue is likely to be an ongoing subject of FOMC policy debates and lacking more specific guidance it will be a continuing source of market uncertainty. Perhaps more explicit FOMC guidance will be forthcoming at a future meeting.

Possible Guidelines for Scaling Back Purchases. One possible guideline might be real GDP growth relative to potential growth. If there is clear evidence that the output gap is closing, this could serve as a guide for scaling back and eventually ending large scale asset purchases. Another policy suggestion is to link purchases of securities to a nominal GDP (NGDP)

target. These ideas are the subject of academic debate but do not appear to be under serious consideration by the FOMC.

However, some FOMC members have raised the possibility of an unemployment rate guideline. Boston Federal Reserve Bank president Eric Rosengren has suggested that the FOMC consider terminating purchases of securities when the unemployment rate reaches 7.25%. This suggestion begs the question of whether a phase down in purchases would begin prior to the unemployment rate reaching 7.25%.

Chairman Bernanke has stated that the FOMC has decided "at this time" against establishing chronological thresholds for securities purchases. This implies that the issue remains on the table and guidance may be forthcoming at a future FOMC meeting.

Obstacles to Greater Transparency. The record to date does not offer much hope that clear GDP growth-based guidelines can be established. The FOMC's real GDP projections have been consistently and substantially overoptimistic. For example, in November 2010, the FOMC's mid-point estimate for 2012 GDP growth was 4.05%. Based on preliminary data for 2012, real GDP grew just 1.55% year over year. Similarly, the FOMC's mid-point estimate for 2013 GDP growth was 4.15% in February 2011. This estimate was revised to 2.65% in December 2012. And, even with that reduction the FOMC's 2013 projection range of 2.3% to 3.0% is above that of many other forecasters. The FOMC's current real GDP growth forecast range for 2014 is 3.0% to 3.5% compared to 2.6% for B of A and 2.9% for GS.

While the Fed's own projections imply an earlier phasing down and cessation of quantitative easing, most market forecasts lead to a conclusion that the GDP output gap will close more slowly and quantitative easing will continue for an extended period of time.

This optimistic bias on the part of FOMC members stands in the way of reducing market uncertainty. And, there may be little that can be done about it. For one thing the FOMC is cognizant of the power of its projections to influence markets. This creates a natural tilt toward optimism because of fear that more pessimistic projections of real GDP growth would spur the kind of decision making that would result in a worse outcome. Or, FOMC members might have strong faith that their monetary policy actions will

improve real GDP growth.

Market Response to Uncertainty. As a consequence of this uncertainty, the market's response to release of the December FOMC minutes was to price in a slightly earlier phasing out of quantitative easing. This resulted in boosting longer-term asset yields, probably not what the FOMC really wanted to happen.

According to the December New York Federal Reserve's primary dealer survey, market participants anticipate that large scale asset purchases will end by the first quarter of 2014. Embedded in this response is an implied tapering off in purchases beginning in the second half of 2013.

GS expects quantitative easing to continue at its current level of monthly purchases through 2014.

In the absence of explicit guidance from the FOMC, the market will watch data reports and listen closely to the commentary of FOMC participants. Presumably weaker data reports will result in the timing of exit being pushed back while stronger reports would cause market participants to expect an acceleration in timing.

3. Potential Consequences of Large Scale Securities Purchases

Five potential problems could stem from large scale asset purchases: (1) increasing the complexity of reversing securities purchases; (2) creating losses as interest rates rise and securities are sold; (3) igniting inflationary expectations; (4) impairing the normal functioning of financial markets; and (5) creating various kinds of financial imbalances. Chairman Bernanke addressed these challenges in House and Senate hearings held on February 26 and 27 and provided further detail in a March 1 speech at the Federal Reserve Bank of San Francisco. His overall message has been that none of these challenges poses a significant risk.

Reversal of Purchases. First, the law of large numbers means that the bigger the Federal Reserve's balance sheet becomes, the harder and arguably riskier it will be to unwind it. The Federal Reserve has tools available to help smooth the impacts. An important tool is the ability to pay interest on excess reserves. Of course, unwinding the balance sheet is simply a matter of

selling securities to market participants. To the extent that this may result in undesirable market disruptions, such as chilling the incentive of lenders to extend credit, and to the extent that sales cause gyrations in interest rates, the Federal Reserve believes it can manage such potential consequences by adjusting the interest rate paid on reserves. Financial institutions, it is argued, will choose whether to hold reserves or reduce reserves by extending loans. Choices to lend will turn upon the risk-adjusted return obtained by extending loans versus the return earned on reserves. By managing the level of the interest rate on reserves, the Federal Reserve can smooth the impacts on credit extension caused by selling securities.

But, even though tools exist to manage potential market disruptions there is no precedent for handling the unwinding of a very large balance sheet. This means that real time learning will take place and that will amplify the possibility of mistakes. Chairman Bernanke, while acknowledging there are potential risks, stated his belief that the risks of exit are not likely to become significant enough to alter the course of current monetary policy.

Declining Remittances to the Treasury Department and Potential for Losses. Second, it is obvious that the Federal Reserve's balance sheet will grow as long as purchases continue. In the short run this will help reduce the federal deficit because the Federal Reserve will remit an ever-growing amount of income to the U.S. Treasury Department. However, the Federal Reserve's interest-rate risk will increase in magnitude along with the size of its balance sheet. Not only will an ever growing balance sheet increase the complexity of unwinding when the time comes, it will also result in an extended period of zero, rather than positive, transfers to the U.S. Treasury when interest rates rise. Note — **central banks cannot become insolvent** because of their power to print money.

CBO expects the Federal Reserve's remittances to the Treasury Department to fall to zero between 2018 and 2020. The accuracy of this forecast depends both on the size of the Federal Reserve's balance sheet and the level of future interest rates, neither of which are knowable with any degree of precision. Chairman Bernanke acknowledged that Treasury remittances will fall but did not address the issue of losses. Because of the way in which the Federal Reserve does its accounting, there will never be negative remittances to the Treasury Department. To the extent the Federal Reserve realizes losses in the future this will extend the length of time that its remittances to the Treasury Department are zero. Just, to be clear, losses are

not a problem for the Federal Reserve. However, declining remittances will boost annual deficits. If there are losses, that would mean that interest rates have risen considerably and this fact would exacerbate the deficit because of higher debt service costs. But, remittances will never be less than zero. The practical outcome is that larger losses will mean a longer period of zero remittances.

Igniting Inflationary Expectations. Third, the market may come to the conclusion that asset purchases will be too large and will extend for too long. For this to become a real threat requires that quantitative easing will foster excessive credit creation when the output gap closes. If such a belief takes hold, it would spawn inflationary expectations, which would negate the desired monetary policy impact of the large scale asset purchase program to reduce long-term interest rates. With current inflation rates well below the FOMC's 2% target and edging a bit lower recently, this appears to be a remote risk. And, Chairman Bernanke said as much in his congressional testimony.

Impairing Normal Functioning of Markets. Fourth, purchases could disrupt the normal functioning of markets.

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 has resulted in a profits boon for large mortgage originators, such as Wells Fargo.

In addition, Federal Reserve 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, which is important in managing interest-rate risk. Less liquidity in the TBA market likely would lead to higher spreads on those securities relative to Treasury securities.

Creating Imbalances and Bubbles. Fifth, there is the possibility that the abundant amounts of liquidity created by asset purchases will lead to asset price bubbles.

Stock prices are an intentional target of quantitative easing. The risk is

that prices ascend to levels that are unsustainable once the Federal Reserve begins to shrink its balance sheet. At the moment the equity risk premium is relatively high and the price/earnings ratio is moderate. If a bubble were forming the risk premium would be shrinking. It is not. There appears to be some further room for multiple expansion and for stock prices to rise further without risking creating a bubble.

Some have pointed to ***farm land prices*** as a bubble in the making. However, higher food prices appear to have provided support for land prices.

Another possible bubble in the making is ***real estate prices***, both residential and commercial. Prices are rising and there is some evidence beginning to accumulate of investor speculation in residential rental housing (see Section VI). However, average housing prices on a national level are still low enough to make cash returns on debt leveraged rentals attractive. There is accumulating evidence, however, that price bubbles may be in the early stages of development in selected regional markets. Bubbles form, as described by Hyman Minsky, when investors bid prices to levels not supported by cash flows on the belief that prices will continue to rise. Currently there is an abundant supply of investor money dedicated to purchasing residential housing for rental. We will know that a bubble has arrived when fund managers justify the attractiveness of investment on expected resale values rather than current rental income.

Chairman Bernanke in his congressional testimony cited research that indicates that monetary policy was a minor factor in driving housing prices up during the bubble. The real culprit he asserted was easy credit standards. And, I might add, lax supervision.

Diminishing liquidity in the TBA (to be announced) mortgage securities markets could increase the challenges of hedging interest-rate risks inherent in fixed-rate residential mortgage loans and mortgage servicing rights. If large scale asset purchases continue at the current level throughout 2013, purchases of mortgage back securities would total $480 billion and purchases of Treasury securities would amount to $540 billion. The total amount of agency guaranteed mortgage backed securities is expected to decline from $6.1 trillion issued and outstanding as of the fourth quarter of 2012 during 2013. This means that privately held mortgage backed securities would shrink by more than $480 billion. In addition, the Federal Reserve would end up buying as much as 60% of all new Treasury debt issued during 2013.

While none of these risks appears to be troublesome at this time, they all bear close monitoring. Chairman Bernanke's observations to Congress about potential market imbalances and bubbles were consistent with the need to monitor market impacts. He commented that the most effective policy tool to prevent or limit the development of asset price bubbles is supervision.

4. Risks of Premature Scaling Bank or Ending Quantitative Easing

Chairman Bernanke and several other members of the FOMC have cautioned that lessening the extent of monetary policy accommodation prematurely could have the perverse consequence of extending the time period for zero interest rates by slowing the rate of economic recovery. In a speech delivered on March 1, 2013, at the San Francisco Federal Reserve Bank, Chairman Bernanke said: "*Premature rate increases would carry a high risk of short-circuiting the recovery, possibly leading — ironically enough — to an even longer period of low long-term rates.*" This view is also applicable to large scale asset purchases. Chairman Bernanke added: "*In light of the moderate pace of the recovery and the continued high level of economic slack, dialing back accommodation with the goal of deterring excessive risk-taking in some areas poses its own risks to growth, price stability, and, ultimately, financial stability.*"

Thus, policy is clearly pointed in the direction of continuing large scale asset purchases for an extended period of time. Without discussing dates or time frames, Chairman Bernanke has repeatedly sounded this policy intent.

Key to a policy shift will be recovery in the labor market. The quantitative guideline is a 6.5% inflation rate and the subjective guidance is that labor market conditions must "improve substantially". Chairman Bernanke explained to Congress that the FOMC will look to many indicators of labor market health in addition to the unemployment rate in determining the health of the labor market. He acknowledged that labor market conditions "have been improving gradually," but added that "the job market remains generally weak, with the unemployment rate well above its longer-term normal level."

5. 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".

There were no further substantive policy changes or nuances included in the FOMC's January meeting policy statement. The assessment of economic activity remained tilted toward ongoing weaknesses. Inflation remains well anchored. Finally, the current aggressive policy stance remains appropriate.

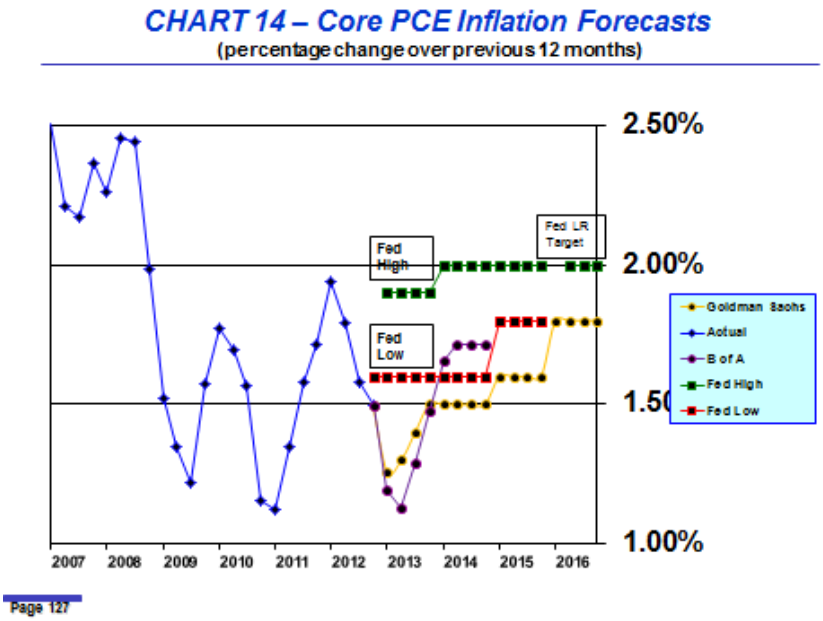
December Policy Guidance. "*In particular, the Committee decided to keep the target range for the federal funds rate at 0 to percent and currently anticipates that this exceptionally low range for the federal funds rate will be appropriate* ***at least as long as the unemployment rate remains above 6-1/2 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.*" (The bolded language, which replaced the previous time-based language, set the unemployment rate guideline at 6.5% and the inflation guideline at 2.5%.)

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 own projections for the unemployment rate and inflation and from forecasts developed by others.

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%.

Chart 14 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. Thereafter both 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.

Unemployment Guideline. As was shown in **Chart 8** above, the FOMC's unemployment rate projections do not penetrate the 6.5% guideline until 2015. CBO has a similar expectation. However, the unemployment rate does not reach 6.5% in GS's forecast and my "***Slow Growth***" scenario until the first quarter of 2016.

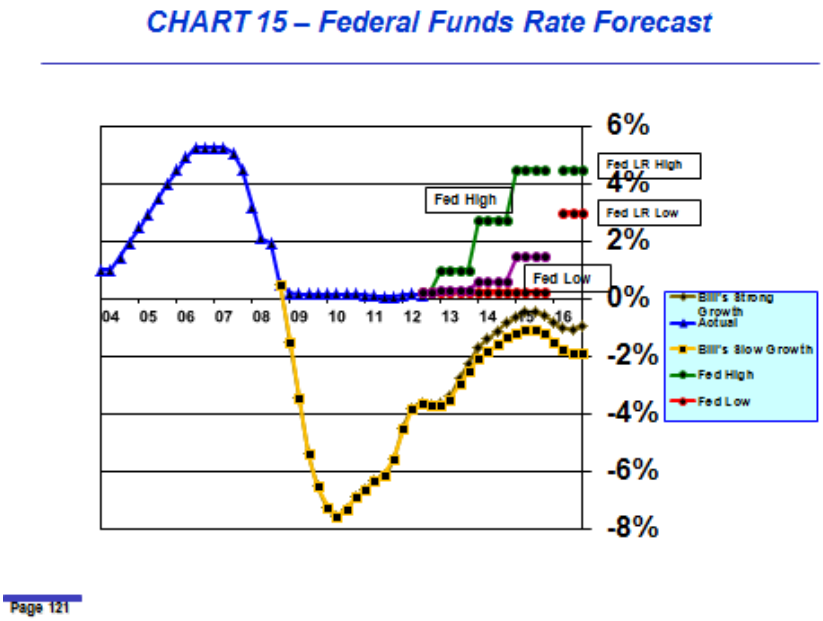
Update of FOMC Projections for Growth, Unemployment and Growth. The FOMC meets on March 20 and will provide revised projections for key economic variables. GS expects the FOMC raise its GDP projections by a smidgen and lower its unemployment and core inflation projections for 2013, 2014 and 2015. A slightly lower unemployment projection could advance the timing of hitting the 6.5% threshold to late 2014.

March 20 FOMC Meeting. Given recent stronger data reports, the FOMC is likely to upgrade its assessment of recent economic developments and trends. However, no substantive changes in policy guidance are likely.

Because of the risks posed by the automatic federal spending cuts which are just now being implemented, the FOMC will probably wait at least until its next meeting to see whether the recent improvement in the economic outlook is a flash in the pan or is sustainable.

6. Federal Funds Rate

Chart 15 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% in early 2016.

7. FOMC's Strategy for Normalizing Monetary Policy

First, the FOMC will scale back large scale asset purchases. Then, it will end them altogether. After that the strategy of normalizing monetary policy will become important. At its June 2011 meeting, the FOMC established a sequence for normalizing monetary policy: (1) phase out reinvestment of principal payments, (2) modify the forward guidance on the timing of federal funds rate increases, (3) begin raising the federal funds rate, and (4) begin asset sales to normalize its balance sheet over a three- to five-year period.

B of A expects large scale asset purchases to continue until late 2014, although the amount of purchases will be scaled back prior to that time. GS expects reinvestment of principal payments to cease in the first quarter of 2015. Asset sales would begin in the first quarter of 2016, or about three quarters after the quarter in which the median FOMC projection anticipates the first increase in the federal funds rate. Sales would begin with mortgage backed securities at the rate of about $50 billion per quarter.

IX. Global Monetary and Fiscal Policies — Currency Wars

Japan's recent change in government has resulted in the adoption of an aggressive policy agenda designed to end Japan's two-decade long deflation. Financial markets have responded enthusiastically. But others 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. In discussing U.S. fiscal policy in Section VII and U.S. monetary policy in Section VIII, I made no mention of potential impacts on other countries. This is an oversimplification, of course, because there are significant cross border trading and financial relationships.

U.S. exports of goods and services amount to 13.8% of GDP and U.S. imports of goods and services amount to 17.1% of GDP. If U.S. fiscal and monetary policies affect exports and imports, which they most certainly do, then other countries will be affected.

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 U.S. financial markets 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. I discuss below why this truism is important in the context of government policies intended to stimulate aggregate demand.

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 trading 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.

In short, because of German policy and the common currency, the strong gets stronger and the weak get weaker. This is not a sustainable situation, although it can, and already has, persisted for a long time.

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 government 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 been depressed by a decline in economic activity. It also raises expenditures. The result is a large budget deficit.

If aggregate demand is slow in responding, as has been the case, 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 building.

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. Europe 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 probability there might be 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 I have not mentioned China, which 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.

X. Japan

Japan's recent election returned Shinzo Abe to power as prime minister. He campaigned on a platform to end Japan's chronic deflation by pressuring the Bank of Japan to flood the economy with liquidity. Abe has moved quickly to assure that the Bank of Japan will hew to his policy agenda by nominating Haruhiko Kuroda, a highly vocal opponent of deflation, to be Governor of the Bank of Japan. This means that even more massive quantitative easing will occur soon in an attempt to extricate Japan from deflation.

Abe is also pursuing an aggressive fiscal stimulus program intended to boost aggregate demand. Government spending will be increased by approximately 2.6% of GDP.

But if the all of this stimulus is not put to work effectively, these initiatives, which are not much different from past Japanese initiatives, may turn out to be just as ineffective in defeating deflation as the previous policy initiatives were. Perhaps sensing this risk, Abe has embarked upon a moral suasion campaign to urge employers to unilaterally raise employee wages. Wages have been deflating in Japan for several years. If such an action were taken collectively, it would limit competitive consequences. Of course,

it would hurt profit margins in the short run. But the theory is that an across-the-board- wage hike would lift spending and stimulate inflationary pressures. The object of policy is to defeat entrenched deflation. Aggressive monetary policy, a weakening of the yen, strengthening of exports, large wage hikes and massive government spending programs might just be the combination of policy actions necessary to end Japan's persistent deflation.

Coordination of these policy initiatives has a reasonably good chance of working, at least for a while. Retaliation by other countries might reverse the depreciation of the yen to an extent and this would dilute the part of Abe's program intended to boost Japan's surplus balance of trade.

But, Japan is saddled by long-term demographic decline which cannot be reversed by policy actions. Depopulation is inherently deflationary. Even if Abe's policies are successful in defeating deflation, they are unlikely to have more than a very modest positive effect on growth in real GDP. That, as I discussed in detail in Section II, is determined by growth in the labor supply, which is decreasing rapidly in Japan, and productivity improvement. To my knowledge Abe's policy initiatives have not targeted an improvement in productivity.

XI. Europe

Europe's recession continues, although most forecasters expect a return to growth by the second half of 2013. I think this may well 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. 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. As of yet, a new Italian government has not been formed. When one is formed it is expected to be weak and new elections are expected within a year.

Euro-skeptic parties on the right, while still far distant from obtaining real political power, are growing. Reductions in the recently approved seven-year EU budget will result in large wealthy members providing smaller subsidies to less well-off members. Thus, the budget marks a move away from integration as countries with stronger economies seek to limit transfer of resources to less well endowed countries. The slow unraveling of the European Project is continuing.

Optimism about Europe's ability to emerge from recession in the second half of 2013 has pretty much become the consensus view. Were this to occur it would help boost U.S. manufacturing and exports. Europe's recession is a home-grown affair based upon its response to banking and sovereign debt crises. Europe's recession is not feeding off of global problems. This is helpful as it limits the potential for Europe's recession to get a lot worse. However, it is still a stretch to expect an end to Europe's current recession during 2013. And, more aggressive monetary policies in Japan and the U.S. will put upward pressure on the value of the euro, which if the euro actually rises would exacerbate the economic outlook for EZ member economies, particularly those in the periphery.

Optimism about Europe's ability to emerge from recession is 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. 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 this development will delay Europe's emergence from recession; at worst it will contribute to deepening the recession.

Second, there is a presumption that the banking and sovereign debt crises are slowly being resolved. 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. Stay tuned — Europe remains a large downside risk that is significantly underappreciated.

XII. China

Recent data from China have reinforced the soft landing story. It is still much too early in the tenure of China's new leadership to know whether and how the necessary transformation of the Chinese economy and concomitant political reforms will occur. This will take time to unfold. Over the next several months China is likely to support somewhat improved global growth, but is unlikely to be the engine of global growth to the same extent as it has been in recent years. For the moment, downside risks also appear to be in check.

Optimism about China's soft landing appears to be sound. There seems to be little reason to doubt official projections of a small increase in the growth rate during 2013. Enormous challenges are ahead but there appears to be time for the new leadership to formulate and implement reform policies. Their ability to do this successfully will have a significant impact on the health of China's economy over the longer run but this risk is not likely to unfold during 2013.

If there is a risk that occurs in 2013 it would be the reemergence of inflationary pressures that would prompt more restrictive policy measures. The high-end housing market has involved speculative elements in recent years. Policy had some impact in dampening speculation during 2012 but prices are now beginning to edge up again. Food prices are rising and if they continue rising this could become a problem. However, the industrial and commodity inventory correction cycle seems to have run its course.

In summary, no dramatic developments appear likely during 2013. How-

ever, over the longer run, the necessary transformation to a consumer-based economy will be challenging and fraught with risk.

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%.
     ✓ ***? "Preliminary Estimate" was +0.14%.***
   - ***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.***
   - ***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 181,*** 000 monthly in 2012; employment growth probably will be stronger than 125,000 monthly in 2013; over the first two months of 2013 payroll growth has averaged 177,000.
- ***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 7.74% in February, but it appears that additional discouraged workers have 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 disposable income fell more than expected in January; spending growth has weakened slightly, although retail sales were stronger 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 go capital gains realization to avoid higher tax rates in 2013, but the rate dropped sharply in January.***
- ***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 January.***
- ***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 again in February. The improvement appears 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%.

  ✓ ***?***

- ***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.***

- ***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.

  ✓ ***+ January PCE inflation fell to 1.2% and core PCE inflation fell to 1.3%***

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

  ✓ ***?***

- ***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 schedule on March 1st.***

- ***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.

  ✓ ***?***

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.***

- ***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.

  ✓ ***?***

-

- 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 continues.***

- ***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 will kick in on March 1 and are not likely to be modified for several months.***

   - ***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.

     ✓ ***?***

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

     ✓ ***? The trend in global growth is about the same as last year.***

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

     ✓ ***?***

   - ***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.

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