



The Longbrake Letter\*  
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January, 2011

## I. Recovery Progressing, But Sustainability Not Yet Assured

Optimism is rising, based both on somewhat stronger recent economic data but also on hope. We are in one of those periods in which downside risks are discounted and upside potential is emphasized. Importantly, improving optimism is spreading from the stock market to consumers. The Rasmussen daily index of consumer confidence rose to 93.3 on January 7, 2011, the highest level since January 2008 just as the Great Recession was getting underway.

Optimism based on hope can be self-fulfilling, if consumers loosen up their purse strings and increase their spending. Increased spending by consumers is the necessary fuel to ignite self-sustaining economic growth without having to depend on the crutch of government deficit spending.

For the time being the economy still needs the stimulative benefits of the Obama-Republican tax compromise and the Federal Reserve's purchase of Treasury securities to offset the negative effects of high unemployment, falling housing prices and restricted access to consumer credit and state and local government fiscal retrenchment.

Other risks that pose challenges to sustainable economic growth include another eruption in the ongoing saga of the European financial crisis, overheating in China and other emerging nations, competitive currency devaluations coupled possibly with trade and capital restrictions, the onset of deflation, and possible renewed financial stress for the largest U.S. financial

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institutions as they contend with the ongoing fallout of the housing bubble, falling housing prices and litigation aimed at shifting credit losses from investors to issuers of mortgage backed securities.

In my opinion, while these risks bear close watching, they are more likely to result in uneven and sluggish economic growth than renewed recession. In other words, I think the fiscal and monetary policy mix that is in place is likely to move the U.S. economy toward a self-reinforcing virtuous circle of slowly improving growth and slowly diminishing unemployment.

However, significant economic imbalances remain in place and appear to be as intractable as ever. And in spite of much talk, there is no consensus about what should be done to address these problems, nor is there any apparent sense of urgency. For example, while the Obama-Republican tax deal will help economic growth and hopefully will be sufficient to foster sustainable growth, it will worsen the federal deficit by nearly \$1 billion over the next 10 years off a base line projection that already would have taken the public debt to GDP ratio deep into the danger zone. In that regard, tax reform will have to be front and center on the political agenda in coming months. As the dismissal of the report of the President's Fiscal Commission suggests, however, a political consensus has not yet emerged that this is an urgent matter and regrettably the odds favor delay rather than action.

There are at least two other imbalances that continue to worsen. There is nothing in the tax deal that addresses growing income inequality in the U.S. and, if anything, extension of the Bush tax cuts and continued Wall Street facilitated speculation in financial assets and commodities could worsen this imbalance. In addition, U.S. trade and current account imbalances are still huge and growing again and are sure to worsen as growth picks up.

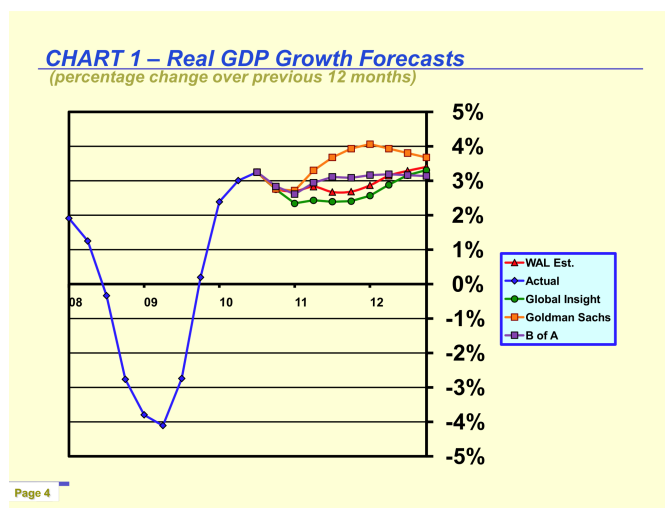
So, at the risk of being cynical, it is looking to me that aggressive monetary and fiscal policy may be on the verge of once again creating a sustainable cyclical recovery. But, many fundamental imbalances remain and, if not addressed, will continue to erode the strength and resilience of the U.S. economy over time.

In this month's letter I review and comment on prospects for GDP growth, employment, housing, inflation and prospects for interest rates.

## II. GDP Growth

### 1. Optimistic and Pessimistic Views

In the wake of Congressional action in December to extend the Bush tax cuts and provide for additional stimulus in 2011 through approximately \$120 billion in reduced payroll taxes and a one-year extension in extended unemployment benefits, forecasters have increased estimates of GDP growth (see **Chart 1**). The question now is whether the “can has been kicked down



the road” and weaker GDP growth will return in 2012 or whether 2011 will mark a handoff from the government to the private sector, so that GDP growth will continue to improve in 2012 even as government support fades.

The *optimistic view* of GDP growth is that the government tax cuts and spending increases will ignite positive feedbacks that bolster production, employment and income. In addition, growth in emerging nations, particularly China, and a weak dollar will continue to stimulate U.S. manufacturing and trade.

The *pessimistic view* of GDP growth, on the other hand, posits that the additional government stimulus will be insufficient, as it will be more than offset by high unemployment, falling housing prices and state and local government cutbacks. Consumers will continue to hold back on increasing

spending and will use much of the payroll tax reduction to build savings and pay down debt. This behavioral pattern will be reinforced by limited access to, and higher cost of, consumer credit. China and other emerging nations' economies will become increasingly "bubbly" and escalating inflation will lead to more restrictive monetary policies, with the result that global growth will slow. And, at long last the on-going sovereign debt crisis in the Euro area will escalate beyond the point of containment. While all of these risks are real, there is a reasonable chance that they will not cluster together and that the realization of some might not occur until well beyond 2011.

**Chart 1** shows various GDP forecasts. The *Global Insight* forecast has not been revised to reflect the benefits of the December tax and spending legislation. It reflects a decrease in federal support for the economy, now deferred until 2012, but then a gradual improvement in GDP growth as the recovery gradually gathers momentum.

*Goldman Sachs*, which had forecast slow growth during 2010 and whose forecast was closer to the mark than most others, now expects a significant improvement in GDP growth in 2011, peaking at 4.0% in early 2012 before slowing moderately to 3.5%. This forecast is toward the optimistic end of the spectrum and anticipates that the private sector will be able to pick up most of the loss in momentum in 2012 as government stimulus fades.

*Bank of America/Merrill Lynch* is somewhat less optimistic and expects GDP growth to hover around 3.0% for the next two years. While this is far from a doomsday view, if growth is this slow it will barely put a dent in the substantial excess capacity and unemployment is likely to remain a significant problem.

*Bill Longbrake's (WAL)* forecast is slightly more pessimistic than that of Bank of America/Merrill Lynch. The principal difference is that I assume that payroll employment growth remains weak at about 150,000 per month compared to about 176,000 per month for Bank of America/Merrill Lynch and close to 200,000 per month for Goldman Sachs.

None of these forecasts reflects an extremely optimistic or pessimistic set of assumptions.

The Federal Reserve revised its forecast at the November FOMC meeting. While the Fed reduced its optimistic GDP growth forecast once again,

it still remains at the high end of forecast range. The Fed expects real GDP growth (measured on a year over year basis rather than year end to year end) to be between 3.0% and 3.6% in 2011 (WAL 2.7%; GS 3.1%; B of A 2.9%) and 3.6% and 4.5% in 2012 (WAL 3.2%; GS 3.9%; B of A 3.2%). While the Fed's forecast range is wide, the mid-point of its range for both 2011 and 2012 is above all the other forecasts.

## 2. 2010 Q3 GDP

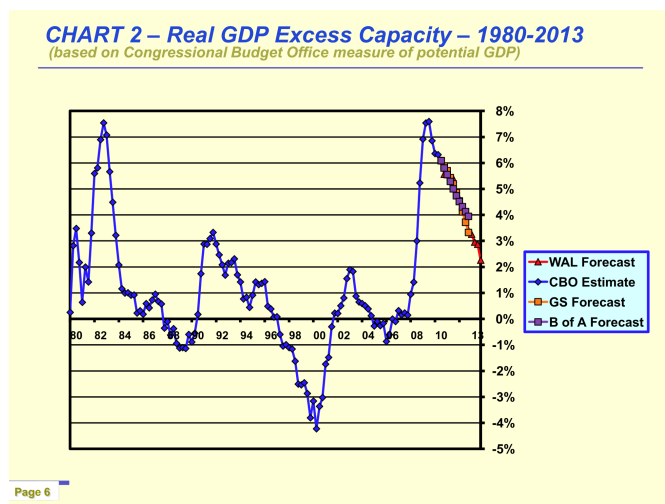
The “final estimate” of third quarter GDP growth was 2.6% versus the “second estimate” of 2.5% and the “advance estimate” of 2.0% (see **Table 1**). The principal differences between the “second” and “final” estimates were that personal consumption fell by 0.3% and inventories rose by an equivalent amount.

**Table 1**  
**2010 Third Quarter GDP Estimates**

	Advance	Second	Final
	Estimate	Estimate	Estimate
Personal Consumption	1.79%	1.97%	1.67%
Private Investment			
Nonresidential	.91%	.96%	.93%
Residential	-.80%	-.75%	-.75%
Inventories	1.44%	1.30%	1.61%
Net Exports	-2.01%	-1.76%	-1.70%
Government	.68%	.81%	.79%
<b>Total</b>	<b>2.01%</b>	<b>2.53%</b>	<b>2.56%</b>

## 3. GDP Output Gap

**Chart 2** shows how the GDP output gap has fluctuated since 1988 and includes a three-year forward forecast. The Congressional Budget Office



(CBO) estimates and publishes quarterly data for potential full-employment GDP. The CBO data series begins with the first quarter of 1949 and is projected through the fourth quarter of 2020. The oscillations in the output gap over time tell an important story.

Potential growth in real GDP depends primarily upon labor force growth and labor productivity, although the CBO considers an array of other factors in computing its estimates of potential GDP. I estimate that potential GDP growth is approximately 2.6% to 2.7% annually, while CBO estimates that it should be about 2.4% annually over the next four years.

The story that **Chart 2** tells is that there is substantial excess capacity in the economy and it is much greater than what occurred after the recession of the early 1990's. Based on CBO's estimate of potential GDP and the final estimate of third quarter 2010 GDP, the level of excess capacity was 6.1%.

The real story, however, is that it will take a long time to reduce excess capacity. By the end of 2012 excess capacity falls from 6.1% to 3.8% based on B of A's GDP forecast and CBO's estimate of full employment potential GDP. If GS's GDP forecast is substituted for B of A's, excess capacity declines from 6.1% to 2.6% by the end of 2012. Excess capacity declines to 3.7% by the end of 2012 based on my forecast and to 3.0% by the end of 2013. Although probably pretty meaningless because the dependability of forecasts declines over longer forecast periods, my GDP growth forecast still

indicates a GDP gap of 2.6% (employment gap is 1.6%) by the end of 2015.

The reason that excess capacity is important is that it signals that supply exceeds demand and generally when that is the case downward pressure exists on prices in the form of disinflation, that is, a declining rate of inflation. When the actual level of inflation is low, as it is currently, substantial and sustained excess capacity could lead to an outright decline in the general level of prices — deflation.

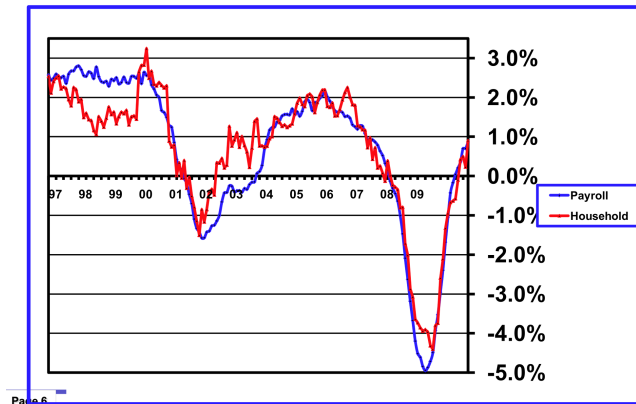
### III. Employment

Declining initial unemployment claims, anecdotes and a surprisingly strong ADP payroll forecast raised hopes that the December Bureau of Labor Statistics (BLS) employment report would be strong. That was not to be — at best the report can be described as “mixed”, neither terrible nor something to be ecstatic about. In a way the report was a reality check to remind everyone that while the labor market is healing it will be a long and extended process. In other words, a quick improvement is most likely not in the offing. *And, for reasons I discuss below, rapid recovery in employment is unlikely to occur and, indeed, will probably fall short of most expectations.*

The BLS publishes two surveys each month — the *payroll survey* and the *household survey*. Both sets of surveys are based on sampling procedures and are subject to a range of error. The household survey is never revised except for periodic seasonal smoothing, while the payroll survey goes through two initial monthly updates and then an annual revision based on more complete records from state-level employment departments.

As can be seen in **Chart 3**, the two surveys track each other over time, but can differ significantly from month to month. For example, over the preceding 12 months, payroll employment grew 0.87% in December while household employment grew 0.90%, practically identical. However, the 12 month growth rates in November were 0.70% for payroll employment and only 0.23% for household employment. Thus, it is important to consider both surveys and to look at trends over more than a single month. Unfortunately, market participants often grasp hold of simple statistics, such as the unemployment rate, which fell from 9.8% in November to 9.4% in

**CHART 3 – Employment Growth** (annual rate of change)



December, and reach conclusions that may not fairly represent the overall state of the labor market.

## 1. Payroll Survey

At first blush the increase of 103,000 payroll jobs in December was quite disappointing, particularly in light of expectations. However, the previous two months were revised upwards by a combined total of 70,000, a data point that often does not receive media attention. Thus, one could say that jobs increased by 173,000 which was relatively close to the expected number.

Because of revisions, it is better to evaluate the health of the labor market by looking at trends in jobs rather than focusing only on month-to-month changes. Job gains averaged 94,000 per month during 2010. Although temporary census jobs led to considerable month-to-month volatility, the underlying trend improved gradually over the year.

However, demographic trends indicate that the number of jobs needs to rise between 100,000 and 125,000 monthly simply to absorb new entrants. That did not happen during 2010 and that is why the unemployment rate did not decline materially during the year. Actually, it did decline, but for the wrong reasons (see discussion below in the “Household Survey” section).



Payroll employment is still 7.2 million below the December 2007 peak and is equal to the January 2000 level, which means that there has been no job growth for 11 years.

## 2. Household Survey

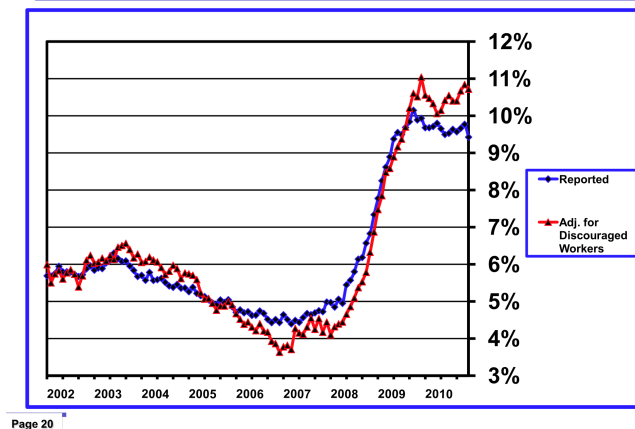
While the household survey indicates that household employment has increased 0.90%, or 1.2 million jobs, over the last 12 months, the labor force has increased only 0.34%, or 518,000 over that same time period. In a healthy labor market and reflecting demographic trends, the labor force should increase slightly more than household employment over time. This relationship is based on a steady labor participation rate. However, labor force participation has been declining as discouraged workers exit the labor force. This conveys a false sense of an improving situation because when this occurs, the unemployment rate falls because workers are giving up looking for jobs rather than finding them.

## 3. Unemployment Rate

Adjusting the unemployment rate to include discouraged workers paints a bleaker picture. This adjustment can be calculated by determining what the labor force participation rate would be in a normal situation. Because of the demographic changes that are occurring in the age distribution of workers as time passes, the labor force participation rate is currently declining very gradually. I calculate that the “normal” participation rate has declined from 65.67% at the beginning of the Great Recession in December 2007 to 65.17% in December 2010. However, the actual participation rate in December 2010 was 64.34%. The difference amounts to 2.0 million workers who really should be counted as unemployed. It seems likely that when labor markets improve many of these discouraged workers will attempt to reenter the labor force. Adjusting for discouraged workers, the unemployment rate would have been 10.7%, not the actual reported rate of 9.4% in December.

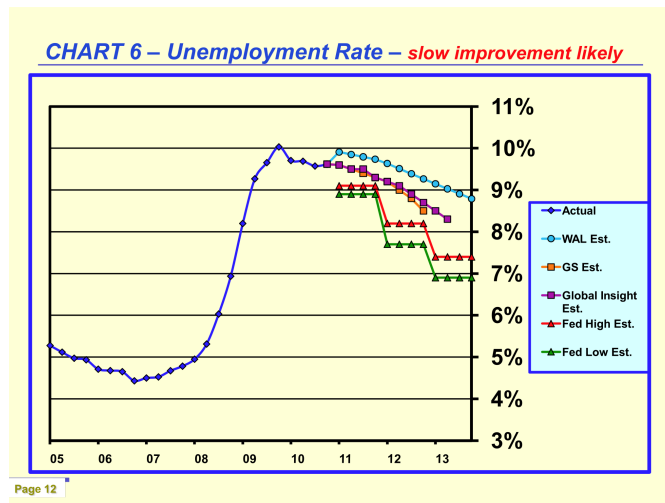
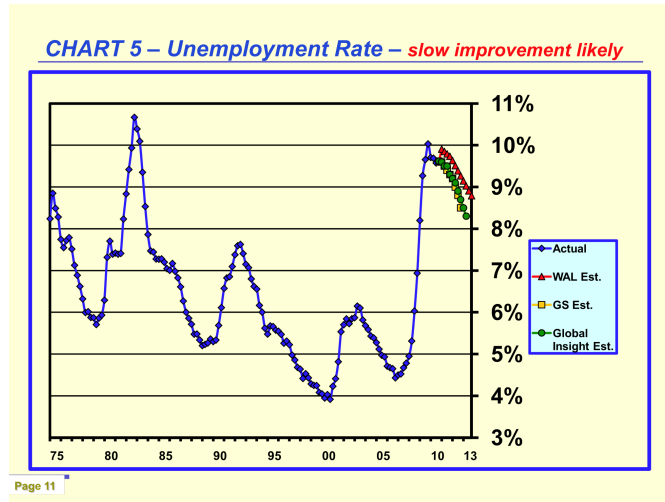
As can be seen in **Chart 4**, the adjusted unemployment rate that includes discouraged workers peaked at 11.0% in December 2009. It then improved to 10.1% in April 2010, which was coincident with the surge in optimism that labor markets were turning around. However, since April

**CHART 4 – Reported Unemployment Rate & Adjusted for Discouraged Workers**



the adjusted unemployment rate has deteriorated to 10.7%, while the official unemployment rate has improved from 9.93% to 9.42%. You can also see a pattern in **Chart 4** where the adjusted unemployment rate is higher than the reported rate during and just following a recession. The relationship reverses when reported unemployment is low, which implies that during times when jobs are easier to get, some individuals who would not normally seek employment enter the labor force. Although the December employment report was disappointing relative to expectations, it affirmed that gradual improvement in the labor market is under way. That is the good news. The bad news is that rapid recovery is unlikely and unemployment will remain at an extremely high level for a long time to come. And, because discouraged workers will gradually reenter the labor force as the economy recovers, it is likely that the unemployment rate will fall gradually as shown in **Charts 5** and **6**.

As I indicated above, I am less optimistic than many other forecasters about job growth and thus I expect unemployment to fall very gradually. The Federal Reserve's unemployment rate forecast is on the optimistic end of the forecast spectrum and other forecasts fall in between. The Fed expects unemployment to fall to between 8.9% and 9.1% by the end of 2011 (WAL 9.2% to 9.7%; GS 9.3%; B of A 9.2%), to 7.7% to 8.2% by the end of 2012 (WAL 8.5% to 9.3%; GS 8.5%; B of A 8.8%), and to 6.9% to 7.4% (WAL 7.8% to 8.8%) by the end of 2013.



#### 4. Structural Unemployment

Another reason for the increase in discouraged workers and the decline in the labor force participation rate involves the notion of structural unemployment. This occurs when jobs requiring certain kinds of skills disappear permanently and not just because of cyclical oscillations in demand. For example, 50% of the jobs lost since December 2007 were in manufacturing

and construction, but only 10% of the current job openings are in those industries. Construction is very depressed currently and will remain so for an extended period of time. Eventually, many, perhaps most, of the lost construction jobs will come back. But manufacturing has recovered from the Great Recession, which implies that many of the jobs lost in this sector are permanent losses.

In addition, when people are unemployed for extended periods of time their job skills can atrophy and this, too, contributes to an increase in structural unemployment.

There are two reasons to be concerned about a sustained rise in structural unemployment.

First there is a negative macro impact on household income and therefore on spending. This retards economic growth. In the past the economy has eventually created new kinds of jobs so that the loss of old jobs does not have a permanent negative macro economic impact. However, this is not a one-for-one process timing wise and, of course, structurally-unemployed workers are not likely to be employable in the new jobs without retraining.

Second, structural unemployment results in a tighter labor market than the unemployment rate otherwise would imply. What this means is that the level of unemployment that triggers inflation risks is higher than normal. If you are a monetary policy hawk, which means you believe that the Fed should raise interest rates sooner than later, you probably believe that the structural unemployment rate is high. To my own way of thinking, while structural unemployment undoubtedly has increased, the decrease in the labor participation rate and the lower reported rate of unemployment because of discouraged workers makes the structural unemployment issue less concerning from a monetary policy standpoint. Thus, whether the non-accelerating inflation rate of unemployment (NAIRU) is 5.0%, as assumed by the Congressional Budget Office, or 6.5%, as some proponents of structural unemployment believe, the current rate of 9.4% (or 10.7% including discouraged workers) reflects enormous labor market slack. The reality now and for an extended period of time is that labor market slack will be a strong disinflationary force, not an inflationary risk.

## 5. Linkage of Employment Growth to Housing

There is another reason that recovery in employment so far has been sluggish and is likely to continue to fall short of expectations.

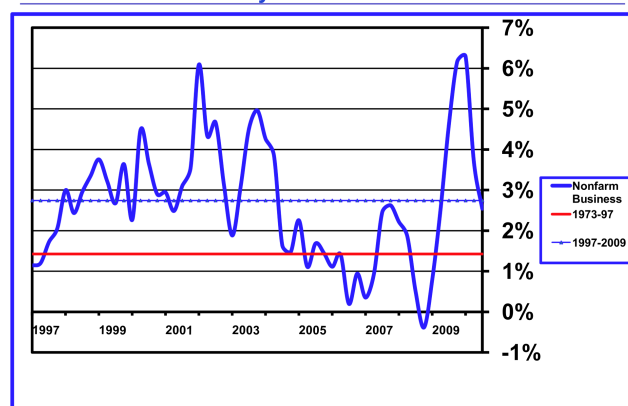
It is not unusual for some unemployed people to start up their own businesses. This is particularly true for professionals and those with higher level job skills. This kind of activity gives a boost to employment growth during the early stages of economic recovery. There is reason to believe, however, that this traditional favorable cyclical employment phenomenon may be severely impaired. And the reason has to do with the lack of access to credit.

In a typical recession and its immediate aftermath, bank lending to businesses, particularly to small businesses, is restricted because of tighter underwriting standards and greater risk aversion on the part of lenders. In the past, those wishing to start their own businesses have been able to parry this natural conservatism to an extent by tapping credit cards but mostly by taking out a home equity loan or refinancing their home mortgage. But, because of falling home prices and a barely functioning mortgage finance market, this source of funding is not available to those wishing to form new businesses. There is accumulating evidence that this phenomenon is having a significant negative effect on employment growth. There is nothing on the horizon to indicate that this will change materially in coming months.

## 6. Other Factors Limiting Employment Growth

Foremost among other reasons to expect employment growth to recover slowly is strong gains in labor productivity. Businesses are still taking advantage of data processing and telecommunications technological advances in streamlining business processes. As **Chart 7** shows, productivity has advanced at an annual rate of 2.74% since the middle of 1997 compared to 1.42% annually from 1973 to 1997. Over the last four quarters productivity has been 2.54%, consistent with the recent secular trend.

Another reason some believe employment growth has been slow has to do with the reluctance of employers to take risks because of the high level of uncertainty surrounding government policies affecting businesses. Health care, fiscal policy and regulation are frequently cited as sources of uncer-

**CHART 7– Productivity – Nonfarm Business**

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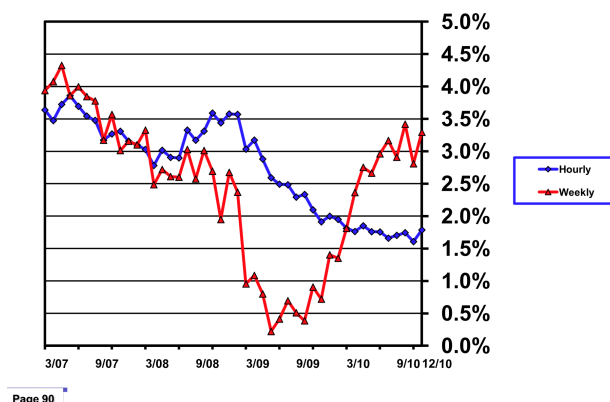
tainty driving hiring caution. I am somewhat skeptical of these arguments and am doubtful that the impact on hiring has been very material.

Yet another reason for slow recovery in employment has to do with the strong recovery in imports and the deterioration in the U.S. balance of trade, which indicates that purchasing goods and services from foreign countries remains attractive relative to domestic purchases. Since April 2009 imports of goods have risen \$41.7 billion or 34.1%. A related phenomenon is the on-going export of U.S. jobs to cheaper foreign locations.

## **7. Wage Growth**

Shrinking average hourly wage growth is an indicator of the intensity of excess labor supply relative to demand. **Chart 8** shows the annual rate of change in the hourly average employee wage rate and the annual rate of change in weekly wages. The growth rate in average weekly wages adjusts for the average number of hours worked. The growth rate in weekly wage earnings is a measure of spending power of consumers. Weekly wages have been growing since mid-2009 as average hours worked has slowly increased. However, the rate of growth in the average hourly wage rate has slowed steadily, reflecting the lack of labor bargaining power.

**CHART 8 – Hourly and Weekly Wages**  
(annual rate of change)



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In the long run, the more important of the two measures is growth in the average hourly wage rate. Average weekly hours fluctuate with the strength of the business cycle, falling during recessions and rising when the economy is expanding. Early in the recovery phase of the business cycle, employers increase the number of hours worked by employees. But, as employers gain confidence in the sustainability of the expansion, they begin to hire additional workers. We are probably getting close to that transition point. What that will mean is that the number of people hired will increase at a more rapid rate, which is what most, including myself, expect. It also means that the expansion in the number of hours worked per week will begin to flatten out. (Note in **Chart 8** that the rate of growth in average weekly earnings has flattened out over the last six months.) At that point, growth in the average hourly wage rate will become a more important indicator of the tightness of labor supply relative to demand.

The rate of growth in the average hourly wage rate is also a leading indicator of inflationary pressures. As long as it continues to decline there will be no upward pressure on inflation.

Consumer expectations for further restraint in wage growth reinforce cautiousness and frugality in buying. This in turn leads to loss of pricing power and greater focus on discounting and pricing specials.

Hourly wage growth peaked at 3.6% in February 2009 more than a year

after the start of the Great Recession. Since then growth in average hourly wages has fallen precipitously to 1.8%. Since adjustment in wages lags increases in unemployment, some further shrinkage in wage growth seems probable and reinforces the likelihood of further disinflation in various measures of inflation.

## IV. Housing

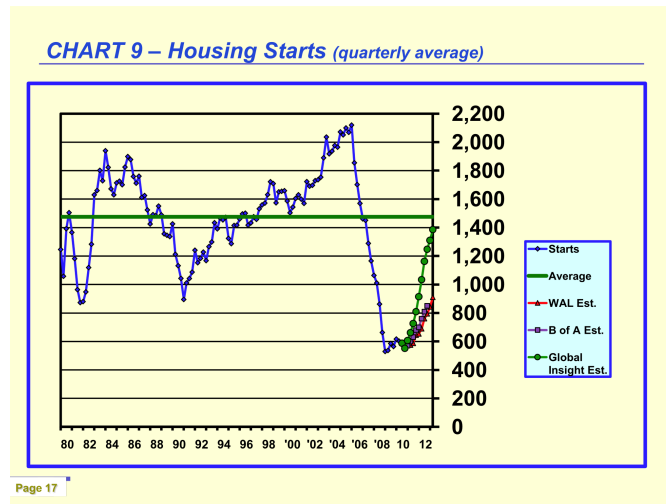
While the rest of the economy is showing increasing signs of life, the housing sector is grinding along the bottom and seems a very long ways away from being a positive contributor to economic growth.

In previous letters I have described how the inventory of vacant residential housing units, both single family homes and rental units, is approximately 1.8 million units above normal levels. This excess is shrinking but at a barely discernible pace. Until this overhang declines to near zero, new housing construction will be driven by “frictional demand”, including replacement of worn out stock and custom homes.

### 1. Housing Starts

My forecast for housing starts, shown in **Chart 9**, is similar to B of A’s forecast. Housing starts do not rise or fall materially for the next year and then move from an annual pace of approximately 600,000 to 900,000 by 2013, significantly below the long-term historical annual average of about 1.5 million units. I have included Global Insight’s housing start forecast in **Chart 9**, as it is typical of many housing-starts forecasts that are based on historical cycles but do not incorporate the unique problems of excess inventory and the severe impairment of the mortgage finance market. In short, the Global Insight forecast, which has starts rebounding to nearly their long-term average in 2013, is not credible.





## 2. New Home Sales

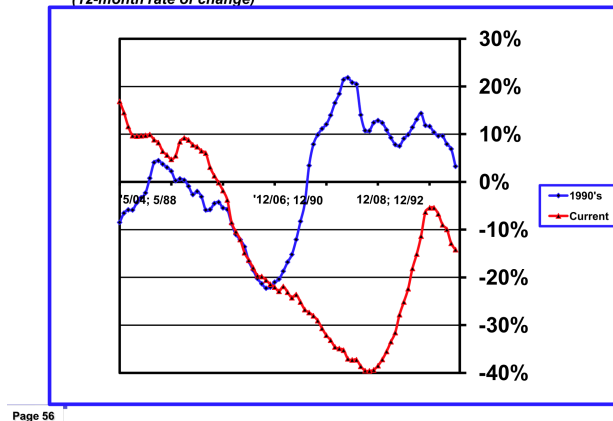
New residential homes sold in November amounted to an annual rate of 290,000. New residential building starts were 555,000 in November — 465,000 single family homes and 90,000 multi-family rental units.

The difference between single family starts and sales is huge and in the wrong direction. The rate of change in new homes sales in **Chart 10** clearly shows that the tax credit program slowed the rate of decline in new home sales temporarily. It also boosted new construction temporarily. Now that the tax credit program has ended, both sales and construction have fallen back to very low levels. If the policy objective of the tax credit program was to reduce inventory, this surely was not achieved as excess inventory of single family homes has been stuck in the 600,000 to 800,000 range for the last six quarters.

## 3. Housing Prices

With softness in the housing market continuing and the artificial prop of the tax credit program gone, a resumption of declines in home prices, which had stabilized or even increased a little, is underway. The Case-Shiller housing price index (HPI) declined at an annual rate of 6.6% in the third quarter of

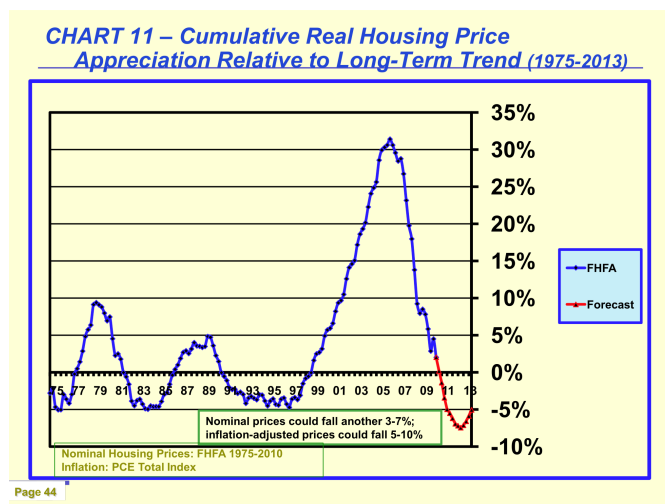
**CHART 10 – Rate of Change in New Home Sales**  
(12-month rate of change)



2010 and is on track to decline at an even greater annual rate in the fourth quarter.

The often-cited Case-Shiller HPI covers the 20 largest urban markets, but the Federal Housing Finance Agency (FHFA) HPI covers approximately 300 markets. While the geographic coverage is broader in the FHFA HPI, it includes only homes with mortgages guaranteed by Fannie Mae and Freddie Mac and thus omits many homes, particularly those with higher prices. Nonetheless, the FHFA HPI declined at a near similar annual rate of 6.3% in the third quarter. Historically, while the Case-Shiller and FHFA HPI's have tracked each other reasonably well, the Case-Shiller HPI has been much more volatile. For example, nominal home prices, according to the FHFA HPI, have declined 14.0% (the inflation-adjusted decline has been 17.7%) since the index peaked in the second quarter of 2007. The Case-Shiller HPI peaked a year earlier in the second quarter of 2006 and nominal prices have declined 30.5% since then.

According to my analysis of the long-term trend in inflation-adjusted housing prices, prices are close to the long-term trend level currently (see **Chart 11**). Because interest rates are very low, however, measures of affordability imply that prices are already at very attractive levels. Unfortunately, more stringent mortgage underwriting is an offsetting factor. However, the real problem with housing lies in excessive inventory and a feeble new household formation rate courtesy of the high rate of unemployment and under-



employment. Or, simply put, supply greatly exceeds demand. And when that occurs, there will be ongoing downward pressure on prices. Goldman Sachs (GS) recently revised its forecast for housing prices to a decline of 5.0% during 2010 versus its previous 3.0% decline. B of A expects housing prices to decline 3.6% in 2011. Other forecasts are even more negative with estimates ranging as high as a decline of 10% during 2011.

While GS's and B of A's forecasts are tied to the Case-Shiller HPI, mine is tied to the FHFA HPI. I currently expect housing prices to decline 3.5% during 2011. However, having said that, I believe the balance of risks is tilted in the direction of a greater decline.

#### **4. Potential Consequences of Falling Home Prices**

There are three negative consequences of falling housing prices that could interfere with or limit acceleration in economic growth.

First, there will be no substantive increase in residential housing construction until excess inventory declines substantially and housing prices stabilize. This is not likely to occur for another two years.

Second, declining home prices mean that this component of consumer wealth will continue to shrink. The short-lived uptick in home prices and

increasing stock prices boosted household wealth over the past year by about \$1.7 trillion. It looks like stocks will need to do the heavy lifting in 2011 to offset the impact of declining home prices on consumer wealth. If equity prices do not rise substantially during 2011, consumer wealth could decline as it did during the second quarter of 2010 and this would probably impact consumer confidence negatively and could depress consumer spending based on accumulated wealth. At the very least, depressed home prices will slow reacceleration in consumer spending and growth in GDP will progress more slowly than in recoveries from previous recessions.

Third, falling home prices means shrinking home equity for many homeowners and an expanding group of homeowners with negative equity. This will have two consequences. First, the probability of defaults and foreclosures will rise and second, losses incurred by investors will increase.

But, investors are not likely to roll over and take the losses without a fight. The “robo-signing” media frenzy of last fall is far from over. Investors have filed lawsuits and state attorneys general are in the process of negotiating potentially large financial settlements with major mortgage servicing companies. Already Bank of America and other large servicers have reached multi-billion settlements with Fannie Mae and Freddie Mac to limit future losses stemming from demands to buyback mortgages with flawed underwriting that had been guaranteed by the Enterprises.

## **5. Mortgage Backed Securities and Mortgage Servicing Problems**

There are three problems currently. They involve securitization and underwriting, trust formation and servicing. Of the three, the first and third problems are potentially very serious in terms of the extent of financial consequences.

When a home is bought the purchaser receives a deed of trust, which is proof of ownership. If the buyer then finances the purchase, a second document, a promissory note or mortgage in common nomenclature, is created. Prior to the creation of mortgage backed securities these two documents did not have to be treated separately. This changed with securitization. With the advent of mortgage backed securities the deed of trust remained in county courthouses while the mortgage notes were deposited into a trust. The trust then issued securities to investors collateralized by the pool of

mortgage notes. However, because mortgage backed securities often tranche cash flows no investor has a direct legal interest in any of the mortgage notes. An electronic data base, MERS (Mortgage Electronic Registration Systems), was established to keep track of what securities contained what mortgage notes and what mortgage notes were linked to what deeds of trust.

In a securitization there can be as many as six main parties, the originator of the mortgage note, an investment bank (can also be a government sponsored enterprise) which purchased the mortgage notes in bulk and issued securities, often times a mortgage insurer — either a private enterprise or a government sponsored enterprise (Fannie Mae and Freddie Mac), a trustee responsible for holding the mortgage notes and making cash payments to investors, investors who purchased the securities and servicers who collect payments from borrowers and disburse proceeds to the trustee. To avoid the costly exercise of re-underwriting each mortgage note, the originator made representations and warranties concerning its underwriting practices and agreed to repurchase any mortgage note in violation of those representations and warranties.

**Securitization and Underwriting.** As losses mount on defaulted mortgages there are three parties that are first in line to absorb those losses: the Enterprises — Fannie and Freddie, mortgage insurers, and investors in private label securities. Each group has an incentive to shift losses to originators if they can prove that representations and warranties have been violated.

Fannie and Freddie collectively made repurchase demands of \$3.8 billion in the fourth quarter of 2009, \$4.8 billion in the first quarter of 2010 and \$5.6 billion in the second quarter. This is not to say that every dollar of repurchase demands would have to be honored by originators if the originator could prove that its representations and warranties were valid. Also, the repurchase amounts involved the total principal balance which would exceed the actual loss, potentially by a large margin. The recent financial settlements by large originators with Fannie and Freddie avoid an extended and potentially costly haggling period over repurchase demands. However, some believe that the government was overly generous in determining the amount of the settlement and in limiting further repurchase liability, particularly should foreclosure rates escalate and losses burgeon. Critics wonder whether the settlement amounts to a stealth government bailout of large originators.

Mortgage insurers are in a similar situation as Fannie and Freddie and are also making repurchase demands of originators. To give some sense to the size of the matter, the Association of Financial Guaranty Insurers estimates that \$10 to \$20 billion of mortgages originated by Bank of America and the companies it acquired fail representations and warranties made to mortgage insurers and thereby are subject to repurchase. As matters stand, mortgage insurers must prove that representations and warranties were violated on a loan-by-loan basis to force repurchase. This will be a costly and burdensome task and suggests that a global settlement of the sort that Fannie and Freddie agreed to might be the logical outcome. State and federal officials and regulators are probing securitization malfeasance, which is likely to lead to a blanket settlement and this could be beneficial to mortgage insurers.

Private label investors also have to prove violation of representations and warranties on a loan-by-loan basis. However, they have had difficulty gaining access to loan level data because of trustee non-responsiveness. This has led to two lawsuits. One involves three Federal Home Loan Banks and the other involves Blackrock, the Federal Reserve, Pimco, Metlife and TCW in a \$47 billion putback request to Bank of America. The Bank of New York Mellon is the trustee for the securitizations in question in the second lawsuit. If Bank of America does not cure alleged loan defects, investors will demand that Bank of America's affiliate, Countrywide, be fired as servicer. Of course, the intent of this legal maneuvering is to force Bank of America to repurchase the entire \$47 billion. One investor estimates that the ultimate realized loss to Bank of America from this particular claim could be a pre-tax amount as much as \$25 billion. And that is just the beginning of the potential damage as Bank of America is the originator of about \$450 billion in private label securities overall.

The stakes are high in the mortgage buyback saga. If investors are ultimately successful, the size of the losses that Bank of America and other large originators could be forced to take could force a new solvency crisis.

**Mortgage Servicing Issues.** The way in which the deed of trust and mortgage note have been split poses substantial political and financial risks to mortgage servicers and this is the subject of the current federal and state probe. Issues under investigation involve assignment errors for both deeds of trust and mortgage notes. There is also the matter of servicer conflict of interest with respect to first and second mortgages. The extraordinarily low delinquency rate on second liens relative to first liens is disquieting

and suggestive of manipulative practices. The financial incentives for large financial institutions to avoid recognizing losses on second liens are enormous because these institutions hold far more second mortgages directly in their portfolios than first mortgages.

**Summary.** While the potential losses from buybacks and second mortgages may be overblown, the numbers are extremely large and absent favorable settlements the financial impacts on large financial institutions would weaken their capital positions. And, even if the large financial institutions avoid the worst, the losses are real and will be borne by someone. The chilling concern is that in spite of the belief that the mortgage crisis has passed and that most losses have already been recognized, that turns out not to be the case. So there are more losses to be recognized, there is uncertainty about who will end up holding the bag and there is a nontrivial risk that falling home prices during 2011 will exacerbate matters and may even trigger a negative feedback loop of foreclosures and further downward pressure on home prices. This is not a pretty thing to contemplate so it pays to be hopeful that loss containment strategies are found.

## V. Will Inflation Turn Into Deflation?

### 1. Market Response to Recent Monetary and Fiscal Policy Developments

Inflation is not a threat now and will not be for some time to come. But, each time a new stimulus program is announced, whether it was quantitative easing or the more recent Obama-Republican tax deal, interest rates have gone up. The increase in interest rates has been driven by expectations that these policy actions will lead to faster economic growth, but also by concerns about rising inflation.

In the immediate aftermath of the Federal Open Market Committee's announcement to purchase \$600 billion in U.S. Treasury securities over the next several months, the 10-year Treasury note rate rose from 2.53% on November 4, 2010 to 2.95% on December 6, 2010, the day before President Obama announced his tax deal with the Republican leadership. In the two days following that announcement the 10-year Treasury note rate skyrocketed to 3.26% and has since edged up to 3.37% as of January 11, 2011.

Importantly, the 2-year Treasury rate, which rose slightly from 0.33% to 0.42% following the quantitative easing announcement increased sharply to 0.63% in the aftermath of President Obama's announcement, but since that time has fallen back slightly to 0.60% as of January 11, 2011.

The market's expectations for the long-term inflation rate can be ascertained by calculating the 5-year forward 5-year Treasury Inflation Protected Securities (TIPS) spread. In recent years that spread has fluctuated around a level of approximately 2.5%.

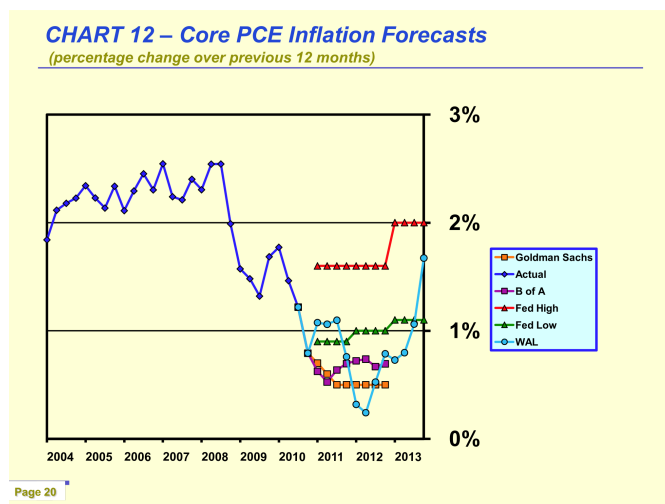
Prior to the failure of Lehman brothers in September 2008 and for most of 2009 following March of that year, the implied inflation rate fluctuated in a narrow range around 2.5%. However, in the immediate aftermath of the Lehman failure, the implied inflation rate fell to 0.5% as the market feared the potential onset of depression. Then, again, when fears about the potential for a double-dip recession escalated during the summer of 2010, the implied inflation rate fell to about 1.9%. However, following Chairman Bernanke's Jackson Hole monetary policy speech in late August, when he openly talked about the possibility of another round of quantitative easing, the implied inflation rate returned to a level slightly above 2.5%. Because the market had fully anticipated the likelihood of quantitative easing, the implied inflation rate did not rise any further after the November 4th announcement.

Moreover, the increase in nominal interest rates following the announcement and enactment of tax cuts and government spending increases during December did not result in any further increase in the implied inflation rate. That means that the entirety of the recent increase in nominal rates can be traced to an increase in the real rate of interest, which reflects market expectations for greater economic growth in the future as the result of this policy action.

## **2. The Market May Be Too Sanguine About Long-Term Inflation Prospects**

The market's implied inflation rate of 2.5% to 2.7% is considerably above the Fed's expected long-term personal consumption expenditures (PCE) inflation rate between 1.6% and 2.0%, which many assume to be the Fed's inflation target. In addition, as can be seen in **Chart 12**, a number of





forecasts for the core PCE inflation rate, including B of A, GS and myself, expect that rate to decline to less than 1% over the next two to three years. Of course, that does leave room for inflation to rebound sharply after 2013, but that is not as certain an outcome as is embedded in long-term TIPS yields.

### 3. The Importance of the Core PCE Inflation Measure

First of all, the Fed prefers to focus on PCE inflation in formulating monetary policy because it is a broader-based measure of inflation than the more widely known and reported consumer price index (CPI).

Second, the core PCE measure, which excludes volatile food and energy prices, is a better gage of trends in inflationary pressures in the economy. Food and energy prices are unduly affected by shocks, which is why they are volatile. But more importantly, research by GS indicates that since 1987 PCE inflation (sometimes referred to as “total” or “headline”) converges in the direction of core PCE inflation rather than the other way around. What this means is that when food and energy prices spike upwards, as they did during 2008, core inflation does not adjust upwards in response. Rather, once the shock has ebbed, total PCE inflation returns to the level embedded in the core PCE measure.

Based on its research, GS concluded: *“Although headline inflation is the correct measure of past changes in the cost of living, core inflation is a better measure of the underlying inflation trend and hence a more useful guide to where inflation might be in the future.”*

Prior to 1987, GS found that core PCE inflation converged to total PCE inflation. Since then the relationship has reversed. This structural change appears to have been driven by growing Fed inflation-fighting monetary policy credibility, as reflected in well anchored inflation expectations in recent years, and by a systematic and progressive elimination of price escalator clauses in wage and a variety of other contracts.

GS’s research shows that since 1987 a gap of 1 percentage point between total and core PCE inflation was followed by a 1.18% decrease in total PCE inflation and no material change in core PCE inflation.

#### 4. Core PCE Rate Gradually Declining Over Time

I have analyzed the behavior of the core PCE rate over time. Variations in economic growth over the business cycle, labor productivity, the federal budget deficit, oil prices and housing prices explain over 96% of the fluctuations in the core PCE rate. When these influences are held constant, core PCE inflation has declined annually by 3.8 basis points over the past 26 years between 1985 and 2010. This amounts to a decline in the core PCE rate of nearly 100 basis points. This gradual reduction in the level of core PCE inflation is probably driven by well anchored inflationary expectations and the Fed’s ability over a very long period of time to move inflation in the direction of its long-term target.

The question now is whether the slow downward drift in core PCE inflation will continue. If it does, a rebound in core PCE inflation, once the amount of slack in the economy has been reduced substantially, might not be as great as most expect.

In addition, the amount of slack is at an unprecedented level and is persisting for a much longer time. The larger magnitude of economic slack should exert greater downward pressure on core PCE inflation. And, extended persistence of a large amount of slack gives more time for adjust-

ment processes to become embedded before downward pressures diminish and ultimately reverse.

A rejoinder to this line of reasoning is that well-anchored inflationary expectations will weigh against downward adjustment in prices. Moreover and arguably, there could be significant resistance to cutting nominal prices and particularly wages. If there is merit in this line of thought, then institutional factors make it easier to raise prices than to reduce them. Or, in economist terms, the relationship between economic slack and inflation is asymmetric.

My research, which assumes a symmetric relationship, indicates that each 1 percentage point increase in the amount of labor slack (equivalent roughly to a 1 percentage point increase in the unemployment rate) results in a reduction of about 22 basis points in the core rate of inflation over the next three to four years. Employment slack peaked at over 7% in late 2009 and since has come down to slightly less than 6%. Because unemployment will remain high for an extended period of time, I believe it will exert greater downward pressure on core PCE inflation over time than most anticipate.

## **5. Potential Consequences of Deflation Would Be Severe**

There is some reason to believe that Chairman Bernanke is more concerned about the possibility of deflation than most others. In my view, it is constructive that he has this kind of anxiety, because the threat of deflation is greater than the market believes to be the case. This is not to say that deflation is a foregone conclusion. It is not. But my research and that of GS indicate that, based on statistical analysis of the inflation process, inflation is likely to be less than the expected level that is embedded in TIPS yields. There is good reason to believe that the core PCE inflation rate will flirt with the zero level in the next year. And, if that occurs, all it would take to push the rate into negative territory would be a negative shock of some sort. There are plenty of possibilities. The greatest threat from the vantage point of the present time would appear to be a greater than expected decline in home prices. That event, if it is coupled with accelerating home loan defaults and foreclosures, would lead to escalating investor losses with the possibility that investors might be able to shift those losses to financial institutions, thus leading to renewed insolvency risks.

As of this writing this is not a forecast, it is a scenario. But it is a plausible scenario and thus bears close watching. Chairman Bernanke was successful in limiting the potential for the original insolvency crisis to spin out of control and bring down the global economy, so an attentive and not complacent Chairman is a good thing.

I examined the potential consequences of deflation in detail in the *August 2010 Longbrake Letter*. Those consequences, were deflation to take hold, would be severe, so there is little surprise that policymakers are pulling out all the stops. While policy intervention is likely to avoid the entrenchment of deflation, it is less clear to me that the market's anxieties about rising inflation are merited. Thus, my sense is that the market is going through another one of its periodic knee-jerk reactions, which momentum will carry further for a time, but that in due course falling measured inflation and the slow pace and acceleration in economic growth will reassert themselves as the main story. If that occurs, inflation anxieties will subside and possibly be replaced with deflation anxieties.

## VI. Prospects for Interest Rates

Based on my discussion of inflation and my conclusion that the market's expectations for inflation are greater than what I and some other forecasters, such as GS and B of A, anticipate expectations for rising Interest rates may not materialize. However, since even GS and B of A are forecasting interest rates to rise in coming months, it may be useful to explain the drivers of interest rates and in so doing explain why rates might not rise as most expect.

Interest rates are the sum of five components:

- real rate of return
- inflation premium
- liquidity/maturity premiums
- risk premium
- sentiment component

## 1. Real Rate of Return

The real rate of return is the core component of an interest rate. In the realm of production, it is the rate at which the return from utilizing capital is at least equal to the cost of acquiring and deploying the capital. In the realm of finance, it is the rate at which people collectively are indifferent between holding a dollar in an investment versus spending it on current consumption. If the real rate of interest were to rise, people would want to save more, but producers would want to invest in less capital because the cost of borrowing at the margin would exceed the return on capital. This disequilibrium would set in motion an adjustment process until a level is established for the real rate of interest that balances the desires of both savers and investors.

**Cyclical Component.** In an economy driven by business cycles aggregate demand and supply fluctuate over the cycle with demand exceeding supply during booms and supply exceeding demand during busts. The real rate of interest fluctuates over the cycle, rising during boom periods to ration scarce investment dollars and falling during busts to stimulate investment demand. It is the role of monetary policy to moderate these swings in aggregate supply and demand by adjusting the price of money — interest rates.

**Desired versus Actual Investment Demand Component.** While it is an accounting dictum that saving must always equal investment, the amount of desired saving versus the amount of desired investment can move the real rate of interest up or down for an extended period of time, unlike the shorter term fluctuations in the real rate stemming from business cycles. There is a developing view that the global real rate of return is likely to head higher in coming years. The argument is as follows. Emerging economies have an enormous appetite for investment capital to finance infrastructure and production. While this already is a reality, as reflected by the significant and relatively sustained upward pressure on commodity prices, savings is enormous in the emerging economies and sufficient, for the time being, to help satisfy investment demand without forcing up the real rate. However, as the emerging economies transition from a production/trade to a consumer focus, savings will fall, but desired investment will not. The result will be a higher real rate of interest.

**Level of the Real Rate of Interest.** Generally, the government 10-

year bond rate is the benchmark for observing the measured real rate of interest. However, this rate contains within it the other four components, which have to be subtracted out to isolate the level of the real rate. Treasury Inflation Protected Securities (TIPS) directly eliminate the ***inflation component***, at least if it can be assumed that the inflation index to which it is tied is the right measure of inflation. The ***sentiment component*** generally washes out over a long period of time as does the influence of fluctuations in the business cycle.

This leaves the liquidity/maturity component and risk components. The ***liquidity/maturity component*** can be isolated by comparing a short-term government security yield to the 10-year yield. This component has averaged about 170-200 basis points over the last 50 years.

The ***risk component*** for government securities is usually considered to be zero, but this is actually probably not accurate. For example, we know from the recent problems in Europe that there is always the potential for sovereign debt to default. Even in the U.S. the price of a credit default swap on U.S. Treasury securities is not zero. Thus, there is a risk component, even in a government security. That component will ordinarily be very small, but could grow in size as the government's fiscal situation deteriorates as measured by the amount of public debt relative to the size of the economy as measured by GDP — the simplest measure is the public government debt to GDP ratio.

Simply subtracting the CPI inflation rate from the nominal 10-year U.S. Treasury rate gives the following estimates of the real rate of interest:

**Table 2**  
**Estimates of the Real Rate of Interest for 10-Year U.S.**  
**Treasuries**

Time Period	Average Nominal Yield	CPI Inflation Rate	Real Rate of Interest	Adjusted Real Rate of Interest <sup>a</sup>
1948-2010	6.99%	3.77%	3.22%	2.47%
1948-2000	7.92%	4.12%	3.80%	2.98%
2001-2010	4.18%	2.40%	1.78%	1.30%
2006-2010	3.91%	2.25%	1.66%	1.21%

<sup>a</sup>The value of the inflation premium is greater than the simple nominal rate of inflation. The value of the multiplier is assumed to be 1.2, which is a simplification (see discussion in the Inflation Premium section below).

These estimates of the real rate are too high because the actual inflation premium is greater than the simple value of inflation and no consideration has been given to the liquidity/maturity or risk premiums. But it does give one a general sense and does clearly show that the real rate has declined in recent years.

As an aside, these simple inflation-adjusted real yields are considerably lower than the 10-year TIPS yield, even adjusting for the tax effect. This is something to think about.

## **2. Inflation Premium**

In economic theory it is assumed that the coefficient of the inflation premium is equal to one. In the real world, this assumption is not valid for two reasons. First, in a world of uncertainty, where the future inflation rate is not known precisely, it is reasonable to posit that the inflation coefficient could be greater than one. In other words, as inflation rises, risk increases, and in response nominal rates could rise by more than the increase in inflation. Longer term rates would be more likely to be affected than shorter term rates. If this hypothesis is supported by empirical analysis, and it is, reliance on the traditional economic model would result in an overstatement of real rates.

Second, and perhaps more importantly, the tax rate has an impact on the nominal rate as inflation rises. For example, consider the following. The

real after-tax expected rate is 2.5%, the tax rate is 35% and the inflation rate is first at 2% but then rises to 3%. Holding the real after-tax expected rate of 2.5% constant, the nominal rate would be 6.923% when inflation is 2% and 8.462% when inflation is 3%. The nominal after-tax return would be 4.5% when inflation is 2% and the real rate would be 2.5%; the nominal after-tax return would 5.5% when inflation is 3% and the real rate would be 2.5%. In this particular example, the implied coefficient of inflation, assuming no other effects, is 1.222 (8.462%/6.923%).

The inflation coefficient in the tax-adjusted model is not stable but declines as the rate of inflation rises; otherwise, if the coefficient were stable, the real rate would fall as inflation rises. However, the uncertainty effect could neutralize or overwhelm this effect, leading to a higher coefficient than that implied by the tax effect alone.

### 3. Liquidity/Maturity Premiums

Liquidity has to do with being able to find a buyer or seller easily without incurring significant transactions costs. Maturity involves the date of final repayment of principal. Securities with longer maturities tend to be less liquid but also are more subject to the vagaries and consequences of political and economic events because of their longer life spans. Even deeply liquid Treasury securities have systematic difference in maturity liquidity/maturity premiums as are shown in **Table 3**.

**Table 3**  
**Liquidity/Maturity Premiums for U.S. Treasury Securities**

Time Period	3-Month T-Bill	6-Month T-Bill	12-Month T-Bill	2-Year T-Note	5-Year T-Note	10-Year T-Note	30-Year T-Bond
1982-2010	4.92%	5.13%	5.33%	5.73%	6.29%	6.72%	6.94%
1982-2000	6.36%	6.62%	6.86%	7.32%	7.78%	8.07%	8.26%
2001-2010	2.17%	2.31%	2.43%	2.72%	3.48%	4.18%	4.45%
2006-2010	2.20%	2.35%	2.41%	2.57%	3.19%	3.91%	4.47%

The 3-month to 10 year spread, roughly equivalent to the liquidity/maturity premiums, was 180 basis points for 1982-2010; 171 basis points for 1982-2000; 201 basis points for 2001-2010 and 171 basis points for 2006-2010.



#### **4. Risk Premium**

Risk premiums compensate the lender for the risk of default. They are generally close to zero for government securities but escalate rapidly as the probability of default rises. Risk premiums interact with liquidity over the business cycle. As we witnessed during the 2007-09 financial storm, risk premiums on low credit-rated securities soared to astronomical levels.

#### **5. Sentiment Component**

Over a sufficiently long period of time the sentiment component is zero. However, over short periods of time emotion can drive rates above or below their fair value based on the other yield components. Changes in sentiment are driven initially by shifts in expectations about the future performance of the economy and thus in expectations about what the values of the various components of yield should be. But, sentiment also has an emotional element which leads to directional moves that go beyond the initial change in expectations or put somewhat differently, the initial set of expectations can build directionally through the interactions of market participants. This is not the stuff of efficient markets, but waves of buying and selling are endemic to even the most liquid of markets. This is why those who devote their energies to sophisticated technical analysis usually are rewarded for their efforts.

#### **6. What Does All This Mean for the Trajectory of Interest Rates?**

Let us begin with a simple example. If an investor wishes to earn a 1.5% yield on 10-year Treasuries after inflation and taxes, what would the nominal yield be? One can construct a table of possibilities, assuming a 20% tax rate.

If the market really believes inflation will average 2.5% over the next 10 years and the real after-tax yield requirement is 1.5%, then the nominal yield for 10-year Treasury notes should be 5.00% currently rather than 3.35%. When this Treasury yield was 2.5% last fall, and assuming a real return of 1.5%, the implied inflation rate was 0.5%.

**Table 4**  
**Nominal Yields for 10-Year Treasury Note**

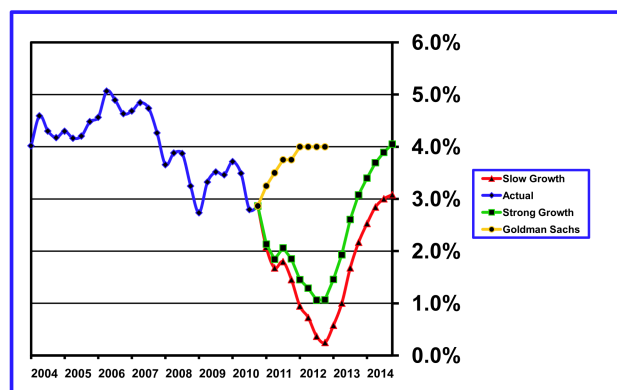
	Real Rate			
Inflation	1.0%	1.5%	2.0%	2.5%
0.0%	1.25%	1.88%	2.50%	3.13%
0.5%	1.88%	2.50%	3.13%	3.75%
1.0%	2.50%	3.13%	3.75%	4.38%
1.5%	3.13%	3.75%	4.38%	5.00%
2.0%	3.75%	4.38%	5.00%	5.63%
2.5%	4.38%	5.00%	5.63%	6.25%

Now just to complicate matters a bit further, remember that the real yield is not a constant but rises and falls with the business cycle. Since we are only in the early stages of recovery, real yields should still be below the cycle average. If the cycle average is 1.5%, the real yield at this stage of the cycle could be only 1.0% or perhaps even lower. This kind of reasoning leads one in the direction that the recent run up in yields appears to anticipate a stronger and faster recovery in economic growth and a higher rate of inflation than seems likely. If that is the case, then with the passage of time those expectations are likely to be dampened, and as that occurs, yields will fall once again.

In summary, while the forecasts of higher yields that almost everyone expects could well turn out to be the right call, my evaluation of the situation tells me that we are currently at the higher end of the reasonable range and that sometime within the next year we will most probably see another period of lower rates. Or, put another way, the market has priced in a relatively strong recovery and no further material decline in inflation.

## **7. 10-Year Treasury Rate**

**Chart 13** shows the forecasts calculated by my econometric model for the 10-year Treasury note yield for two scenarios — slow growth and strong growth. I would not bet good money on these forecasts as both project the 10-year rate to fall to an implausibly low level during 2012. The model's result follows the historical pattern of falling real rates and incorporates an inflation forecast near zero. While the absolute level is not meaningful,

**CHART 13 – 10-Year Treasury Rate Forecasts**

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more reliance can be placed in the directional movement in the sense that this yield should not be rising to any significant extent at this early stage in the recovery given the large amount of slack and still declining inflation.

## 8. Fed Funds Rate

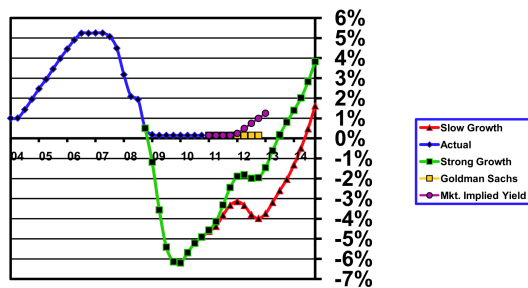
**Chart 14** shows the Federal Funds rate forecast. In my strong growth scenario, the Fed does not begin to raise the rate until sometime during 2013 and in the slow growth scenario the first increase does not occur until 2014. Although my model's projection has the Fed on hold for longer than other forecasters, I am not that far apart from some. For example, GS does not expect the first increase to occur until 2013. The market, however, is quite pessimistic. Fed funds futures indicate that the market expects the Fed to begin raising rates in early 2012 and for that rate to reach 1.25% by the end of 2012. As a matter of historical record the market forecast of increases in the Federal Funds rate almost always has been premature in the early stages of a business expansion.

Personally, I am comfortable with the GS forecast of no increases for at least the next two years. Too much can happen beyond that timeframe, which could alter the trajectory in future rates considerably, so I would neither embrace nor dismiss my model's forecast.

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**CHART 14 – Federal Funds Rate Forecast**

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