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

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The Longbrake Letter*

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June, 2012

I. U.S. and Global Economic Prospects Darken As Financial Conditions Tighten

Recent economic news both in the U.S. and elsewhere has been decidedly downbeat. What is particularly worrisome is that just about every significant part of the global economy is losing forward momentum. And, in our increasingly integrated global economy, loss of momentum in one sector or country leads to loss of momentum in another sector or country. We are an increasingly interconnected global economy. Problems in one part of the globe quickly are transmitted to other parts of the globe though trade relationships and international financial networks.

1. Excessive Debt Leverage

Excessive debt leverage is the fundamental problem underlying global economic and financial fragility and instability. Even countries, such as China and India, which have low sovereign debt to GDP ratios, are part of the problem because so much of their rapid growth is being fueled by investment booms reliant on enormous amounts of debt financing.

In short, there is far too much debt. We know that when debt reaches excessive levels, financial shocks become more frequent and their consequences are more severe. Much of the globe, in particular the U.S. and Europe, are in the process of debt deleveraging. This process is inherently deflationary and depresses economic activity which increases the pain inflicted by deleveraging. However, there is no reasonable alternative to deleveraging. Of course,

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there is an alternative, and that is to continue relying on ever increasing amounts of leverage. But the end game of that strategy is economic and financial collapse for those who pursue it.

Markets tend to oversimplify the problem of excessive debt leveraging by focusing only on individual sectors. Right now the focus is primarily on sovereign government indebtedness. But this ignores the consequences of leverage throughout the economy including households, businesses, government agencies and regional governments. It is the collective amount of debt across all sectors that is relevant and when this amount is high relative to GDP it creates instability.

Total domestic debt in Portugal is 450% of GDP. It is 300% in Canada, 350% in Germany and 375% in the U.S. But, much higher levels prevail in other countries — 700% in the Netherlands, 650% in Japan, 600% in Denmark, 500% in France, and 475% in Spain. Surprisingly, total Greek domestic debt is only 325% of GDP, but much too much of it is concentrated in government sovereign debt.

As I have pointed out in the past, the problem in the U.S. began with excessive leverage in the household and financial sectors. That climaxed in 2008 and both sectors have been deleveraging since that time which has depressed GDP growth. However, in an effort to stimulate the economy and to ease the pain for households, leverage in the entire economy has not decreased because the reduction in household and financial sector debt simply has been transferred to the government's balance sheet. The problem is still very much present. We refer to it as the "fiscal cliff". And the moment of truth will hit with a vengeance after the November elections.

U.S. policymakers will be tempted extend at least part of the "fiscal cliff" events to the future. But, no matter what the politicians end up doing we most certainly are in for a period of forced austerity, which will be greater or lesser, but not zero. All of this will depend upon the outcome of the elections and political negotiations yet to come.

In the meantime uncertainty about what the future holds and what politicians will end up doing, or not doing, is having a chilling effect on household and business decision making. The deleterious effects of uncertainty in the U.S., Europe, China and elsewhere seem likely to increase as the year progresses. With this in mind it is difficult to be very optimistic about growth in the U.S. and global economies. While recession is not a certain outcome, the risks are great and the possibility of policy errors is significant. So, it would be foolhardy to discount the recession possibility even though it seems to be a low probability event at the moment.

2. U.S. Economic Developments

May's employment report had no good news in it. The report was worse than even the most pessimistic forecaster expected. It was the kind of report that could not easily be explained away. This was a reality check both for the markets and for politicians because it brought home to everyone that the U.S. economic recovery is feeble and tenuous. This realization was punctuated by a reduction in estimated first quarter GDP growth from the initial estimate of 2.2% to 1.9% and a substantial downward revision in consumer disposable income over the last several months.

Stock prices swooned and bond yields plunged to a level not seen in the lifetimes of most Americans. The decline in bond yields is especially troublesome because it cannot wholly be explained by the Federal Reserve's monetary policy of quantitative easing which is intentionally designed to lower bond yields. The recent decline appears to be driven by two factors: a flight to quality, particularly transfers of funds from Europe to the U.S., and an unfavorable reassessment of global deflationary risks based on developments in the U.S., Europe, China, India and Brazil. Incoming data reflect a rapid slowing in economic growth in all of these countries.

3. Risks to the U.S. and Global Economic Outlook

In my December review of the economic outlook for 2012 I cited four risks to the outlook, all of which had the potential to undercut economic growth. These included events in Europe, developments in China, potential further declines in U.S. housing prices and the potential for significant withdrawal of fiscal stimulus in the U.S.

A brief summary of the significant risks follows.

Europe. Conditions in Europe are rapidly moving from bad to worse and a true existential crisis for the European Union and the Eurozone is approaching. Christine Lagarde, Managing Director of the International Monetary Fund, stated on June 8 that global economic and financial conditions have deteriorated and warned that growth and financial stability are at stake.

Events in both Greece and Spain pose much more serious challenges than earlier episodes with Ireland and Portugal. While there is a chance that interim, time-buying solutions will be stitched together for both countries, the underlying problems are enormous and will not easily be resolved with patchwork solutions. In the meantime recession in Europe continues to develop and deepen. Economic decline will worsen the severity of the financial challenges and hasten the day of reckoning.

Recession is gathering momentum and is proving to be worse than forecast. Manufacturing is contracting and was significantly worse in May in virtually every European country. The combined European Union purchasing managers index declined further to 46.0 in May, signaling accelerating contraction. Even though German GDP expanded 0.5% in the first quarter, momentum is now negative. Industrial production contracted 2.2% in April Manufacturing orders declined 1.9% in April and March's increase was revised downward. And, the business climate IFO index declined sharply in May.

European risks are increasing.

China. GDP growth appears to be slowing rapidly in China. Slowing growth initially resulted from internal policies to limit property speculation and inflationary pressures. But in recent week the slowdown appears to have accelerated as global growth and Chinese exports slow. China's monthly trade surplus rose to $18.4 billion in April. But, the details were quite negative. Imports have risen only 0.3% over the last year versus expectations of 10.9% and exports have increased 4.9% versus expectations of 8.5%.

ISI's diffusion index of U.S. companies' export sales and sales in China paints an increasingly worrisome picture. As of June 8, the index fell to 43.1. Just a month ago it was 46.1. Any level of this index that is below 50 means that sales activity is contracting. This index has now dropped to its lowest level since the depths of the Great Recession in 2009.

The sharp 20% decline in the price of oil since March and significant declines in other commodity prices are also indicative of an abrupt slowdown in China's infrastructure investment driven economy. China reports real GDP growth for the most recent 12-month period. This is the figure which is always cited in media accounts. China's growth rate for the 12 months ending in March 2012 slowed to 8.1% compared to 9.2% for calendar year 2011. However, if first quarter 2012 growth is isolated and annualized, as is the practice in the U.S., growth slowed to a 3.7% annual rate. Prime Minister Wen Jiabao stated in March that he expects the Chinese economy to grow 7.5% in 2012. This may prove to be overly optimistic.

Other Chinese economic indicators paint a similar picture of slowing growth. Retail sales in April grew at the slowest pace since 2009. Investments in fixed assets have increased in 2012 at the slowest rate since 2001. The slowdown appears to be broadly based, affecting both coastal and interior regions.

Residential property sales in the first quarter were 17.5% below sales in the first quarter of 2011. Data indicate that real estate prices are falling in more than 50% of China's 70 largest urban markets. However, GDP data indicated that real estate investment grew 23.5% in the first quarter. The inconsistency in the data can be explained by acceleration in completion of existing projects. But, the pipeline of projects under construction is thinning out which implies that real estate investment growth will turn decidedly negative as the year progresses. The problem is identical to the early stages of the U.S. housing market collapse following the price peak in mid-2006. Supply greatly exceeded demand. Six years later the supply-demand gap in U.S. housing remains, although it is greatly diminished. This is the problem with investment booms. They can drive rapid GDP growth, but if this results in too much supply relative to demand, the boom will be followed by a long and painful bust. China may be on the cusp of the bust — the oft discussed hard landing. Yet, few believe that hard landing is at hand, believing that Chinese authorities can continue to manipulate policy levers to sustain economic growth. This optimism is not without some foundation. The history of bubbles is that they tend to last longer and reach higher heights than rigorous analysis suggests is possible. This is because of the self-reinforcing nature of bubbles, absent policy intervention or when policy is supportive, until imbalances become so great that collapse finally is unstoppable.

The worsening European recession will place additional downward pressure on Chinese exports. When exports collapsed in 2008, Chinese policymakers countered the consequences with massive infrastructure investment. Annual growth in fixed asset investment spiked from 25% in 2008 to 33% in 2009. And, after a very brief slowdown to an annual rate of about 6%, GDP growth reaccelerated to approximately 12% in 2010. However, this resulted in an even more lopsided GDP mix heavily and unsustainably weighted toward investment. In recent months annual growth in fixed asset investment has fallen to a still very high 15%.

Chinese policymakers are well aware that structural reforms to rebalance the economy from investment toward consumption are necessary and that this transition needs to get underway quickly and substantively. The recent sacking of Bo Xilai, Communist Party Secretary in Chongqing municipality, is indicative of the economic policy debate which is in process concerning economic restructuring policies.

Chinese policymakers have already begun easing monetary policy by reducing bank reserve requirements and cutting lending and deposit rates. There is also discussion about increasing infrastructure spending, potentially in a range of $150 to $300 billion. The massive infrastructure stimulus in late 2008 and 2009 was $585 billion. The market seems to assume that this kind of stimulus will occur and that China will easily reverse the slowdown and become an engine for global growth once again. While this certainly is feasible, for reasons laid out in Section VI of the May Longbrake Letter, this kind of short-term fix would greatly exacerbate China's long-run challenge of rebalancing its economy without incurring a significant and potential politically destabilizing financial crisis. Understanding these challenges, Chinese policymakers appear to be taking a measured approach to renewed infrastructure investment stimulus. The stimulus could be limited to acceleration of projects already in the pipeline rather than trying to layer in many new initiatives.

While a hard landing crash of the Chinese economy is probably not near at hand, there is a strong likelihood that China's growth in coming months will disappoint confident forecasters and that new stimulus will be modest in scope.

Risks that China poses to the global economy are tilted to the downside.

India. While much less attention is paid to India than to China, it is a country with over 1 billion people and its economy has been growing almost as rapidly as China's for the last several years. India's real GDP growth rate slowed from 8.4% in 2011 to 6.5% over the last 12 months including the first quarter of 2012. The annualized rate of growth in the first quarter was 5.3%. India's growth has not been this slow since 2003.

India's rapid growth in recent years, like so many other nations, has been fueled by substantial debt leveraging. For example, the debt financed deficit in public spending, which includes the national and state governments as well as off balance sheet activities, has been increasing at a 9% to 10% annual rate for several years. The national government has forecast a budget deficit of 5.9% for 2012 and national sovereign debt to GDP is about 70%. Both figures are high but are not worrisome as long as rapid growth is sustained.

However, maintaining rapid growth will be challenging. Unlike China, India has been running a large trade deficit near 4% of GDP. Recently, the Indian currency has come under tremendous downward pressure, due both to the large trade deficit but also to recent policy actions that are discouraging foreign investment. India is increasingly dependent upon short term capital flows to finance its trade deficit.

Added to these financial market negatives is a perennial pattern of excessive bureaucratic control of the economy in certain sectors, which depresses competitiveness, and corruption, which increases uncertainty and the cost of doing business.

There is a nontrivial risk that if India's economy continues to slow this will precipitate a currency and external funding crisis. In other words, there is reason to be concerned that India's strong growth in recent years was driven by excessive debt financing. Increasing debt leads to fragility and financial instability. India may be near to the time when the chickens come home to roost. Even if this dire outcome does not occur, there is plenty of reason to assert that risks are tilted to the downside and that negative events elsewhere in the global economy could exacerbate the timing and extent of economic and financial challenges in India.

As discussed in Section V. "Impact of Financial Conditions on Macroeconomic Growth", debt-fed booms lead to financial instability. When financial conditions inevitably tighten, economic activity decelerates rapidly and financial meltdown becomes a nontrivial and significant risk. S&P rates

Indian sovereign debt as BBB-. Citing lack of fiscal discipline, poor infrastructure and slowing growth, S&P recently put Indian debt on "negative outlook". A reduction in India's debt rating would move it into "junk" status.

Risks posed by slowing Indian growth are increasing.

Fiscal Policy. There is not much new news. Congress has done nothing and is not likely to do anything about the many tax and spending provisions, which automatically go into effect on January 1, 2013, until after the presidential and congressional elections on November 6. Legislative will be introduced but the chances of any being passed or signed into law appear to be negligible.

But there will be increasing debate and media coverage of the issues and speculation about solutions as the election approaches. This will include dire predictions about the impact of doing nothing — going over the "fiscal cliff". As the election approaches rhetoric will heat up and uncertainty about what might happen will build. With the exception of B of A, most forecasters have not factored in a slowing in the U.S. economy during the third and fourth quarters due to growing uncertainty. Research shows that uncertainty has impacted GDP growth negatively in the past. The logic of expecting uncertainty to have a negative impact is straightforward. If a household or a business doesn't know for sure how government tax and spending policies are likely to change, those participants will delay moving forward with many transactions. This causes economic activity to slow which can become self-sustaining.

Slowing economic activity in the U.S. and global economies will probably worsen the extent of uncertainty.

Risks are unambiguously tilted to the downside.

The Congressional Budget Office (CBO) recently released a report, "Economic Effects of Reducing the Fiscal Restraint That Is Scheduled to Occur in 2013". If all tax increases and spending reductions go into effect as provided for in current law, the impact of the "fiscal cliff" would be $607 billion or 3.8% of GDP between fiscal years 2012 and 2013. This assumes there would be no multiplier effects. However, adjusting the fiscal year calculation to a calendar year basis increases the impact of the "fiscal cliff" to $720 billion or 4.5% of GDP.

CBO's projection for real GDP growth in 2013 is 3.1%, which is above most other estimates, including those of the Federal Reserve. CBO estimates that GDP growth would rise to approximately 4.4% if all pending spending cuts are repealed and none of the scheduled tax increases occur. Alternatively, if the entire $607 billion in deficit reductions takes effect, GDP growth would slow to 0.5% in 2013 and the economy would contract by 1.3% during the first half of 2013.

While there will be no uncertainty about the outcome until well after the election, the balance of risks is that some portion of the $720 billion annual budget deficit reduction will actually take effect. So, the question is not one of whether fiscal policy will be restrictive in 2013, it is one of how restrictive. For this reason real GDP growth is likely to disappoint in 2013 and most forecasts will probably prove to be too optimistic. What CBO is pointing out in its analysis is that the threshold for recession is not very high.

Also of note, is the pending Supreme Court's ruling on the Obama health care act. The court could declare all or part of the act unconstitutional. Whatever the court's ruling, health care will be a major issue in the election season debate and could contribute to growing uncertainty about fiscal solutions.

Housing. Housing contributed modestly to first quarter GDP growth. Of all the risk factors, housing is of least concern. Prices appear to have stabilized and at worst have the potential for only modest further declines. But, excess inventory remains in many markets and this will continue to limit new construction activity and price increases. Mortgage delinquencies are declining gradually, but foreclosures will continue at a high level another couple of years.

While housing is no longer a major negative, it does not yet have the potential to play its historical role of driving economic recovery.

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Collectively, risks to U.S. economic growth are substantial and are increasing.

4. Monetary Policy

As the economic data have worsened in the U.S., financial market participants have focused in recent days on the possibility that the Federal Reserve might ease monetary policy further at its upcoming Federal Open Market Committee (FOMC) meeting. Easing, if it occurs, could take one of three forms. First, the FOMC could take no direct action but could strengthen the language in its official statement making it clear that the threshold for further easing is low and that it is concerned about the deterioration in the U.S. economy and in global financial conditions.

Second, the FOMC could extend "Operation Twist" beyond its end of June completion date. If it pursues this option, the impact would be modest because the Federal Reserve's balance sheet doesn't have a large amount of short-term Treasury securities any longer that it could sell and replace with longer-term Treasury securities.

Third, the FOMC could announce a third round of quantitative easing. Such an easing policy would probably involve the purchase of a substantial amount of agency mortgage backed securities — $500 billion or more — over a several month period.

Chairman Ben Bernanke testified before Congress on June 7, but as is his custom he gave no hint as to what the FOMC might do. In his testimony he expressed deep concern about developments in Europe and about the year-end "fiscal cliff" the U.S. is facing.

Many, including myself, have concluded that another round of quantitative easing is inevitable. While Chairman Bernanke has not signaled that such a decision is imminent, he and others, such as Vice Chairman Janet Yellen and New York Federal Reserve President William Dudley, have stated that the Fed is prepared to act if the U.S. economy bogs down or the situation in Europe worsens considerably. Thus, the threshold for action is low. If the FOMC does not act at its June meeting, it seems almost certain that it will do so at its next meeting later this summer.

5. Contents of June Letter

In this month's letter, I review recent developments in U.S. GDP growth and explore future prospects for potential growth. Then I discuss personal income, consumption, and employment. I have included a special section in this month's letter in which I discuss Hyman Minsky's "Instability Hypothesis" and explain the linkages between financial conditions and real GDP growth. The final section updates the deteriorating situation in Europe with focus on developments in Spain and Greece.

II. U.S. GDP

1. 2012 Q1 GDP Second Estimate

The "Preliminary Estimate" of first quarter GDP growth reduced the "Advance Estimate" of 2.20% to 1.86%. However, final sales, which nets out the impact of inventory accumulation, increased slightly from 1.61% to 1.65%. Generally speaking, real final sales growth is a better measure of how the economy is doing because inventory accumulation tends to be volatile from quarter to quarter. This measure indicates that economic growth lost a bit of momentum during the first quarter of 2012 compared to 2011's rather weak performance.

Because the Congressional Budget Office (CBO) estimates that GDP growth potential currently is 1.7%, the GDP output gap was virtually unchanged at 5.5% from the fourth quarter of 2011 to the first quarter of 2012.

Personal consumption expenditures, inventory accumulation, net exports and government expenditures were revised downward by a combined 0.77%. Offsetting this was an increase of 0.43% in private investment, almost all of which was in nonresidential structures and business equipment and software. Notwithstanding the better private investment data, business investment has decelerated sharply from 2011's strong growth pace.

Table 1 provides details of the composition of GDP growth.

Impact of Auto Production and Sales. Auto production and sales were very strong in the first quarter and accounted for nearly 60% of first

Table 1
First Quarter 2012 GDP Growth

	Advance Estimate	Preliminary Estimate	Final Estimate	2011
Personal Consumption	2.04%	1.90%		1.53%
Private Investment				
Nonresidential	-.22%	.20%		.79%
Residential	.40%	.41%		-.03%
Inventories	.59%	.21%		-.21%
Net Exports	- .01%	-.08%		.06%
Government	-.60%	-.78%		-.44%
Total	**2.20%**	**1.86%**		**1.70%**
Final Sales	**1.61%**	**1.65%**		**1.91%**

quarter GDP growth.

There is ample evidence that replacement of aging vehicles has been a significant factor contributing to the surprising surge in auto production and sales. The average age of cars has risen from 8.5 years in 1996 to approximately 10.8 years currently. To hold average age near 11 years requires sales of 13 to 14 million vehicles annually.

During the first four months of 2012, annualized car sales were on a pace to exceed 14 million. May sales were forecast to come in at an annual rate of between 14 and 15 million but the actual seasonally adjusted sales rate came in at 13.8 million.

Growth in consumer expenditures on cars has outpaced income growth which means that consumers have had to dip into savings. Since the beginning of 2011 the consumer saving rate has fallen from 5.24% to 3.41% in April. Rising auto spending by consumers has been facilitated by easier access credit.

So, while new car buying is buoying GDP growth and the need to replace aging vehicles should continue to propel buying, consumers are increasingly in a difficult position. Income simply is not growing fast enough to accommodate replacement purchases and the purchase of other consumer necessities.

For the time being access to credit and reduced saving have made auto sales the one bright spot in GDP growth. This cannot continue unless income growth picks up and that is looking less and less likely. ***What is more likely is that growth in auto sales will lose momentum as the year progresses and could even stall.***

One forecast pegs consumer auto purchases contributing 0.3% to second quarter GDP growth and 0.4% to third quarter growth. Ward's survey of domestic auto production indicates that planned production will fall from an annual rate of 10.5 million vehicles in the second quarter to 10.3 million in the third quarter.

Nonresidential Investment Spending. Business investment spending, which was the star of GDP growth in 2011, decelerated sharply during the first quarter. Notwithstanding warm weather, which should have been favorable for construction, commercial construction declined at an annual rate of -3.4% during the first quarter. The other component of "nonresidential investment", equipment and software, grew at a 3.8% annual rate in the first quarter compared to 14.3% and 7.3% in the third and fourth quarters of 2011, respectively. Based on this trend, it would appear that bonus depreciation pulled a significant amount of business investment forward into 2011.

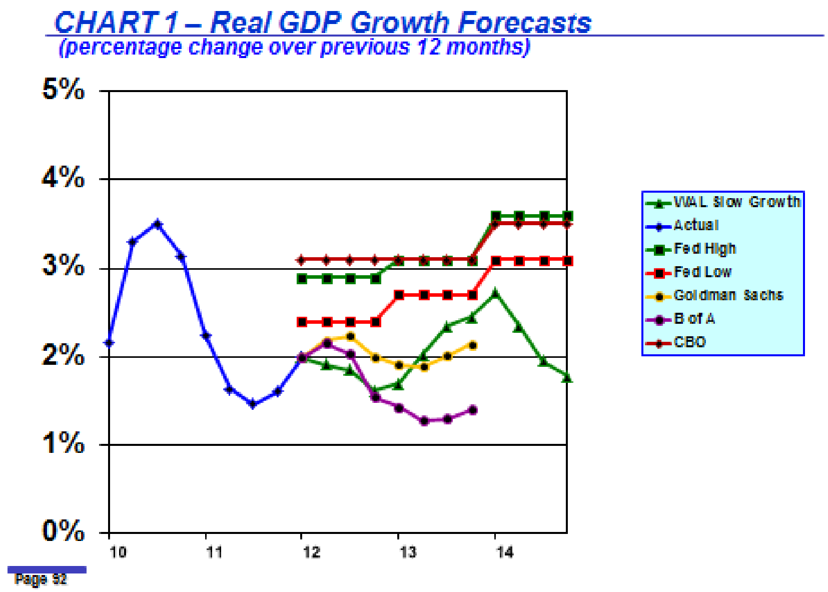
Government Spending. The decline in government spending on goods and services continues unabated. While most of the decrease in government spending during the first quarter stemmed from declining national defense spending, state and local governments decreased spending for the seventh consecutive quarter. As the nation approaches the "fiscal cliff" at the end of 2012, it seems more likely than not that government spending on goods and services will continue to contract. This negative momentum is compounded by shrinking government transfer payments to households.

2. 2012 Q2 GDP Estimates

- GS's tracking estimate is currently 2.1%
- B of A's forecast is 2.0%
- Blue Chip forecast is 2.2%

3. GDP Forecasts for 2012 and Beyond

Chart 1 shows several GDP forecasts: the Federal Reserve's high and low;



B of A; GS; the Congressional Budget Office (CBO); and my "WAL Slow Growth" scenario.

Federal Open Market Committee (FOMC) projections for real GDP growth indicate a range of 2.4% to 2.9% in 2012. The range rises in 2013 and 2014. The FOMC's high real GDP growth estimate is similar to CBO's projection.

Both GS and B of A forecasts remain on the pessimistic end of the spectrum and are below the FOMC's low forecast for 2012 and are well below the Fed's low projection in 2013.

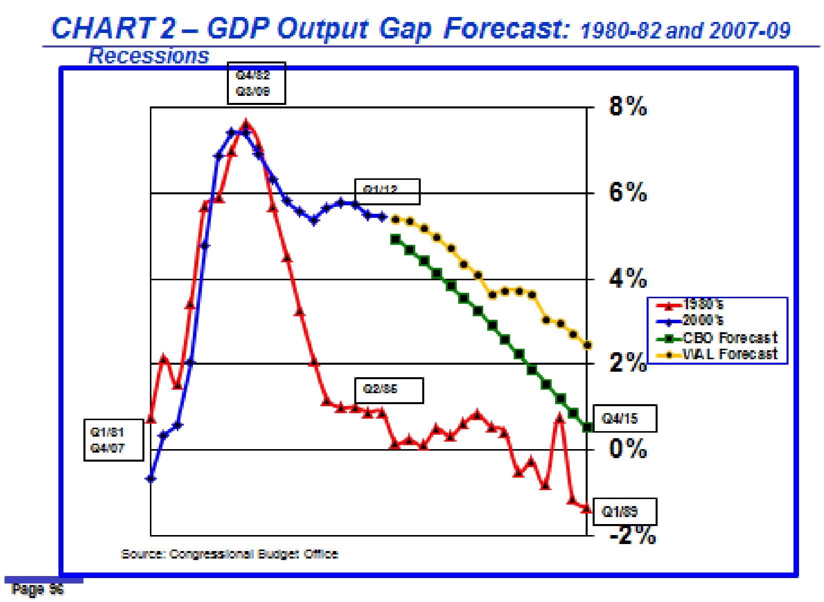
GDP growth averages 2.0% for the next seven quarters in GS's forecast and 1.6% in B of A's forecast compared to the FOMC's median of approximately 2.8% and CBO's 3.1%. The consensus of 54 members of the National Association of Business Economists is that GDP growth will average 2.6% over 2012 and 2013 (2.4% in 2012 and 2.8% in 2013). The Blue Chip forecast is slightly lower: 2.3% in 2012 and 2.7% in 2013.

My "WAL Slow Growth" scenario projects GDP growth in 2012 and 2013 similar to the GS forecast and stronger than the B of A forecast in 2013. Average GDP growth over the next seven quarters for the "WAL Slow Growth" forecast is 2.0%.

Essentially, GS and I do not factor in a material change in growth momentum during the remainder of 2012. Merrill Lynch places a much greater emphasis on the negative impact on GDP growth it expects as uncertainty builds because of the approaching "fiscal cliff" at year end. Obviously, the FOMC expects GDP growth to accelerate as the year progresses, but with the shortfall in the first quarter, decelerating employment growth and stagnating productivity growth, it is unclear how this can happen.

4. GDP Output Gap and Potential GDP

Chart 2 shows CBO's forecast for the GDP gap, which is simply the differ-



ence between CBO's real GDP forecast and its estimate of potential GDP divided by potential GDP. The gap does not fully close until the end of 2015. This estimate is consistent with the FOMC's monetary policy to maintain interest rates at exceptionally low levels until late 2014.

However, if the B of A, GS and my GDP growth projections, which are lower than CBO's, turn out to be more accurate, the GDP gap will close more slowly as shown in the "WAL Forecast" in **Chart 2**.

It is also possible that CBO's forecasts of both potential and actual GDP are too high. Potential GDP growth depends on labor force growth and labor and capital productivity.

Labor Force Growth. As discussed in **Section IV. Employment** below, demographic changes in the composition of the labor force, particularly the aging of the baby boom generation, are reducing labor force participation. This development will persist for several years and will reduce the potential GDP growth rate. CBO has included expected demographic changes in its estimate of potential GDP growth.

However, structural unemployment stemming from a mismatch between job skills and available jobs is also reducing labor force participation. If structural unemployment is not a temporary passing cyclical phenomenon but persists over a long time period, it will result in lowering potential GDP growth. At the moment there is considerable debate and little agreement about the potential for structural unemployment to persist over a longer period of time.

Labor Productivity. CBO assumes that nonfarm labor productivity grows approximately 2.12% over the next five years. My estimate is 1.33%. My estimate includes an adjustment for the depressing impact of the output gap on productivity growth, which amounts to a reduction of 24 basis points for each percentage point of the output gap. With an output gap of 5.46% in the first quarter of 2012, this adds up to a reduction in productivity of 1.30%. Adding this to the actual 12-month productivity rate of 0.43% in the first quarter results in a zero-output-gap productivity potential run rate of 1.73%.

CBO makes no adjustment to its productivity estimate for the impact of the output gap. This implies that CBO's estimate of potential GDP is too high currently, but it also implies that CBO's forecast of actual GDP growth is also probably too high. By 2015 my estimate of potential real GDP is 3.1% lower than CBO's estimate and my actual real GDP forecast is 4.2% less than CBO's forecast. The result is that my estimate of the GDP gap declines but is still a relatively high 2.5% by the end of 2015; whereas, CBO's estimate of the gap by the end of 2015 is down to 0.5%.

With the passage of time we will know the answer as to which analysis is more accurate. What is important, however, is that potential GDP growth has downshifted and the GDP output gap is likely to remain large for the next three years and will diminish only gradually. This should maintain downward pressure on inflation and limit employment growth.

Labor productivity is likely to remain low as long as the output gap remains large. Other factors also imply slower productivity growth. However, significant technological innovation could boost productivity as happened from 1997 to 2004. Nevertheless, it is more likely than not that potential and actual real GDP growth will be much lower in coming years and even CBO's scaled down estimates of potential growth might prove to be too high.

III. Personal Income, Spending and Debt

1. Consumer Personal and Disposable Income — 2011

Consumer personal income and disposable income data are reported on a monthly basis but are revised several times over subsequent months. Thus, one can never be sure whether the story recently released data tells will be the same story several months hence. For example, in May the Bureau of Economic Analysis (BEA) released April income data and revised monthly data back to October 2011. The revisions were substantial and negative. As a result, the 2011 increase in nominal personal income decreased $72.8 billion (-12.6%) from $576.7 billion to $503.9 billion. Growth in nominal personal income was revised downward to 3.99% in 2011 from 4.57%. Disposable income decreased $58.8 billion (-15.2%) and growth was revised downward to 2.88% from 3.39%. These are extremely large negative adjustments. Thus, income growth during 2011 was even weaker than what I reported in the May Longbrake Letter.

2. Consumer Expenditures — 2011

There were no revisions to consumer expenditures which means that the entire decrease in disposable income was subtracted from saving. Saving is not calculated separately; rather it is the residual difference between disposable income and consumer outlays. Consumption grew $100.5 billion more than disposable income in 2011, which means that saving decreased by a similar amount.

More revisions will occur next month when the BEA conducts annual benchmarking. So it is still possible that the 2011 data could show better or worse growth in income, consumption and saving.

3. Consumer Income and Expenditures — 2012

Growth in consumer disposable income must accelerate to match or exceed the growth in consumer expenditures. If this does not occur, depletion of savings will eventually force consumers to reduce spending. Given the current fragile state of the economic recovery, a slowdown in consumer spending would be very damaging.

But, the stress on consumers has escalated considerably. As is evident in Table 2, increases in consumer spending have exceeded increases in disposable income by $87.1 billion during the first four months of 2012.

This means that the improvement in unemployment over the last 16 months has been driven to a great extent, not by income growth, but by increased borrowing and reduced saving. This pattern cannot be sustained. Either disposable income growth must accelerate in 2012 or consumer spending must eventually slow.

Personal income and consumption data for the first four months of 2012 are shown in the third and fourth columns of **Table 2**. Personal income growth has slowed from 3.99% in 2011 to 3.87% so far in 2012. Growth in income and payroll taxes outpaced personal income growth in 2011, which means that disposable income grew more slowly than personal income (2.88% versus 3.99%). The same pattern has occurred over the first four months of 2012, except that disposable income growth has increased a

Table 2
Change in 2011 and 2012 Personal Income and Its Disposition
(in billions of dollars)

	Nominal 2011*	Pct. Change	Nominal 2012 Jan.-Apr.**	Annual Pct. Change
Personal Income	**$503.9**	3.99%	**$169.2**	3.87%
Compensation	321.1	3.99%	103.1	3.71%
Proprietors' Income	36.0	3.32%	18.3	4.89%
Rental Income	80.2	22.61%	20.0	13.80%
Asset Income	22.0	1.25%	34.8	5.84%
Government Transfers	- 13.6	-0.58%	10.2	1.31%
Less: *Personal Taxes*	118.4	5.28%	58.2	7.40%
Disposable Income	**327.4**	2.88%	**128.7**	3.30%
Less: *Consumption*	**427.8**	3.97%	**215.9**	5.78%
Personal Saving	**-100.5**	-17.01%	**-87.1**	-53.27%

*Measured from December 2010 to December 2011
**Measured from December 2011 to April 2012

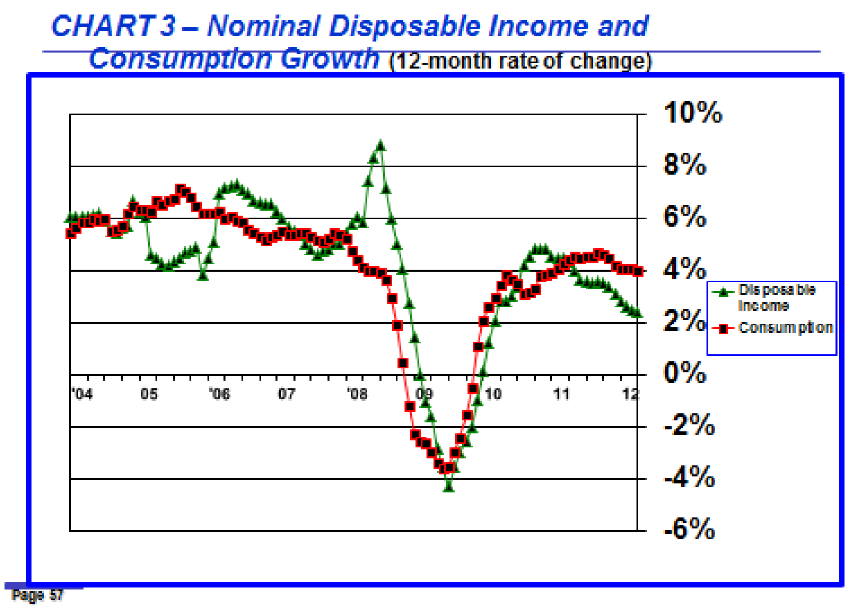
bit from 2.88% to 3.30%.

However, there are two very troubling facts embedded in the 2012 data. First payroll and personal taxes are growing more rapidly than disposable income (7.40% versus 3.30%). Second, consumer spending is growing at an unsustainable rate of 5.78%. Unless income growth accelerates, which is very doubtful given sluggish employment and wage growth, sustained spending growth at this level would reduce the saving rate to 1.9% by the end of 2012 compared to 4.2% in December 2011.

None of this bodes well for future consumer spending or GDP growth. Of course, it is entirely possible that subsequent data revisions will reduce the magnitude of the apparent problem, provided that more income is discovered. Unfortunately, recent data revisions have reduced rather than increased income.

Strong spending on consumer durables, especially autos, is consistent with the story told by the personal income and spending data. Thus, unless employment accelerates, which is not what is currently happening, consumer spending is likely to slow to match disposable income growth. This would merely stabilize the saving rate at its low April 2012 level of 3.41%. If consumers pull back on spending and increase saving, an entirely possible outcome if angst and anxiety escalate, my GDP forecast will prove to be optimistic and B of A's forecast more prescient.

Chart 3 shows the nominal rate of growth in disposable income and



consumer spending. The annual rate of growth in disposable income began slowing in late 2010 and has declined from its recent high of 4.9% in December 2010 to 2.4% in April 2012. Growth in consumer spending peaked later at 4.6% in July 2011, but now is declining and reached 4.0% in April 2012. These are not favorable trends.

Notice in **Chart 3** that spending growth tends to lead income growth. This relationship is consistent with changes in consumer confidence. However, over the last several months the relationship has reversed, with income growth leading spending growth. Until the March, April and May employment reports there was some reason to hope that income growth would pick up. Now a more likely outcome seems to be a decline in spending growth to match the lower growth rate in income.

IV. Employment

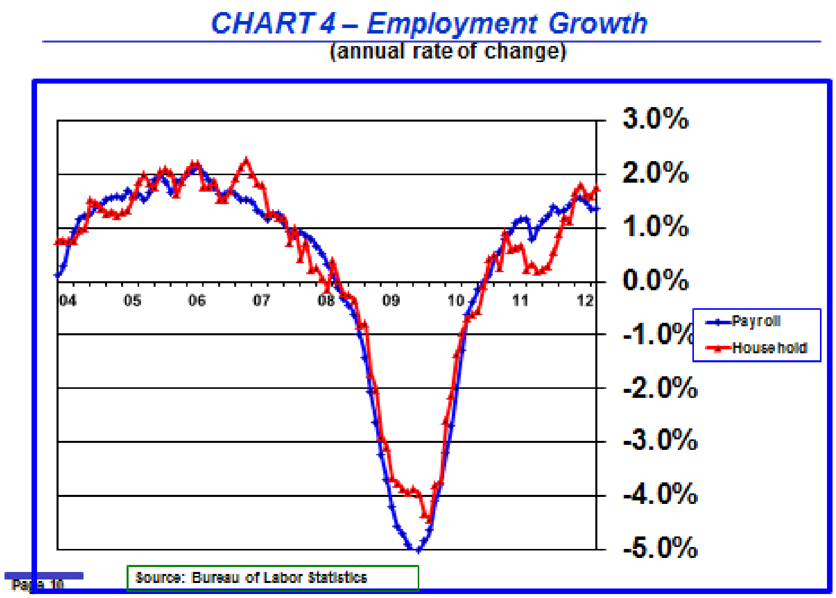
While April's employment report was disappointing, May's was a total disaster. Payroll employment grew only 69,000 in May. April's increase, originally reported as 115,000, was reduced to 77,000. All other key statistics were negative and reflect a deeply troubled labor market:

- Unemployment rose 220,000 from 12.50 million to 12.72 million
- The unemployment rate rose from 8.1% to 8.2%
- The unemployed plus underemployed rate rose from 14.5% to 14.8%
- 54% of college degree graduates under 25 are unemployed or underemployed
- The unemployment rate for males 16-19 is 27%; for males 20-24 is 13%
- The median duration of unemployment rose from 19.4 weeks to 20.1 weeks
- The share of long-term unemployment (greater than six months) is 42% and is at the highest level since the 1930's
- The average length of the workweek declined from 34.5 hours to 34.4 hours
- Hourly wage growth slowed to an annual rate of 1.69%, down from 2.21% in July 2011
- Inflation-adjusted hourly wages are in a gradual declining trend and are the same as they were in November 2008
- Weekly wage growth slowed to an annual rate of 1.69%, down from 3.07% in June 2011
- Household employment grew 422,000 after falling 169,000 in April but most of the increase was part-time workers

- 45 million Americans are on food stamps

1. Household and Payroll Employment Growth

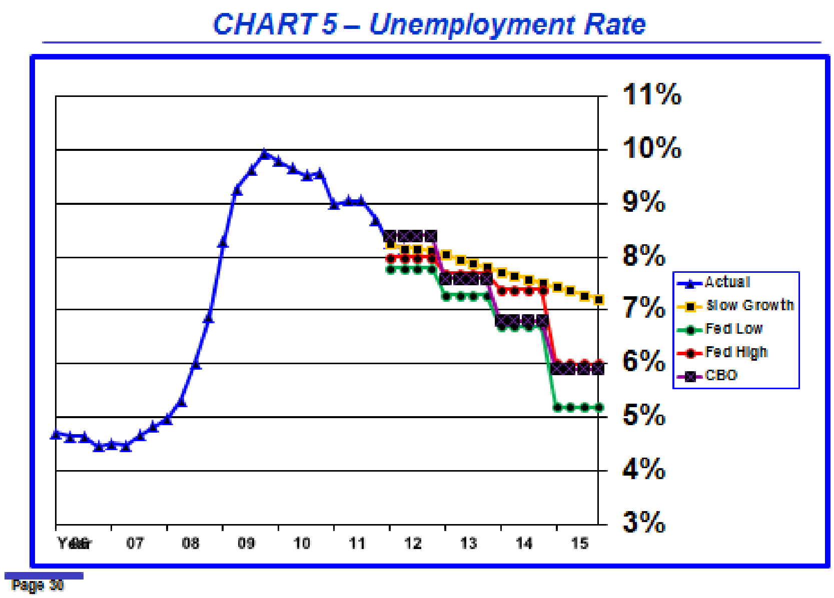
Chart 4 shows that growth in household employment after lagging behind



payroll employment during much of 2011 caught up early in 2012. However, over the last three months household employment has risen an average of 74,000 per month while payroll employment has risen 96,000. About 100,000 to 125,000 jobs need to be created each month to keep the unemployment rate steady.

2. Unemployment Rate

Chart 5 shows projections for the unemployment rate for my "Slow Growth" scenario, the FOMC's high and low projections and CBO. The high and low FOMC unemployment numbers for 2015 are not forecasts; rather they are



the FOMC's upper and lower bounds for the long-run non-accelerating inflation rate of unemployment (NAIRU).

While not shown, GS forecasts that unemployment will fall only to 8.0% by the end of 2013 and B of A forecasts that unemployment will remain unchanged at 8.2% through 2013.

My "Slow Growth" scenario projects a decline in unemployment to 7.8% by the end of 2013.

The FOMC's unemployment projection is more optimistic with a range of 7.3% to 7.7% by the end of 2013.

3. Labor Force Participation Rate

There were 4.0 million (household employment survey) to 5.0 million (payroll establishment survey) fewer employed people in May 2012 than at the beginning of the Great Recession in December 2007.

However, given the growth in the population eligible to be in the labor force over the last five years, household employment should be 6.2 million higher had the labor force participation rate remained unchanged. This means that if both the unemployment and labor force participation rates had remained at the same level as prevailed in December 2007, there would be 10.2 million more people employed today. The decline in the participation rate from 66.02% in December 2007 to 63.80% in May 2012 accounts for 5.4 million of the 10.2 million, which leaves an additional 4.8 million added to the number of unemployed people who are seeking jobs.

Missing Workers. There is considerable debate over what happened to the 5.4 million people who have left the labor force and are no longer counted as unemployed people looking for work. There are three possibilities. First, some of the decline may be cyclical and thus temporary. Such people drop out of the labor force when jobs are difficult to find but re-enter the labor force when jobs are more plentiful.

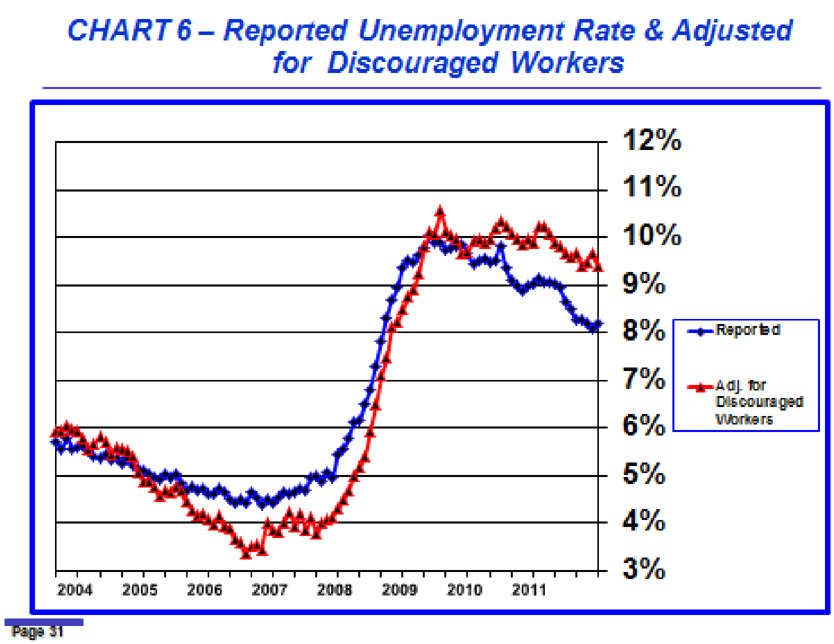
Second, some people may drop out of the labor force more or less permanently because their skills no longer match available jobs. These are structurally unemployed workers. Some structurally unemployed people may continue to look for work. If they do, they are counted as unemployed and thus would be among the 4.8 million, but because their skills do not match available jobs they will remain unemployed for an extended period of time. Because they are counted as unemployed but have little opportunity for employment the non-accelerating inflation rate of unemployment (NAIRU) rises. This phenomenon has implications for monetary policy, which is why it is a hotly debated topic.

Third, labor force participation can rise or fall due to demographic factors. For example, labor force participation declines with the age of the worker. Thus, as the baby boom generation moves into the age range where retirement occurs, labor force participation will decline. Cultural considerations, such as women entering the labor force or young people delaying entry to pursue educational opportunities, can also impact labor force participation.

At issue is how the 5.4 million missing workers, who are not counted as unemployed, are distributed among these three groups — discouraged, structural, demographic changes. Also at issue is how many of the 4.8 million, who are counted as unemployed,

will never find jobs. Answers will provide guidance on potential GDP growth rates and the unemployment rate at which inflation becomes a concern.

Demographic Changes. B of A estimates that demographic factors account for 1.20 of the 2.22 percentage points decline in the labor force participation rate since December 2007. Cyclical (discouraged) and structural factors accounted for the remainder of the decline. GS estimates that demographic changes account for a 0.90 percentage point change and cyclical and structural factors account for 1.22 percentage points. This translates into between 2.2 million (GS) and 2.9 million (B of A) workers who have permanently left the labor force. This leaves 2.5 million to 3.2 million workers who are either temporarily, cyclically discouraged workers or who have exited the labor force permanently for other reasons. If these missing workers were still counted as unemployed, the unemployment rate would be 9.8% to 10.3% instead of 8.2%. My estimate is a somewhat lower 9.4% which is shown in **Chart 6**. This chart compares the reported unemployment rate with an



adjusted rate that includes the entry and exit of discouraged workers.

Both B of A and GS project that demographic factors will continue to depress the labor force participation rate by about 0.2 to 0.3 percentage points annually. My estimate, based on less sophisticated statistical analysis, is 0.2 percentage points. The demographic decline in labor force participation will be offset by reentry of discouraged workers as the labor market improves. However, continued weakness in the labor market of the sort that occurred in March. April and May and the ongoing expiration of extended unemployment benefits at the rate of about 150,000 per month during 2012 will increase the number of discouraged workers and that would drive the participation rate down further

Other Reasons for Dropping Out of the Labor Force. The Bureau of Labor Statistics conducts a periodic survey of people eligible to be in the labor force and asks nonparticipants why they are not in the labor force. In the November 2011 Current Population Survey, reasons given for nonparticipation included:

- Retired — 48%
- In school — 18%
- Health issues — 16%
- Taking care of household members — 15%
- Discouraged — 1%
- Other — 2%

For reference purposes, nonparticipants amount to about 88 million people. This means that a 1 percentage point increase in those dropping out of the labor force to go to school would reduce labor force participation by nearly 1 million. This is important for two reasons. First, the percentage of nonparticipants who cite "In School" as a reason has risen substantially since the onset of the Great Recession. Second, most people who drop out of the labor force for educational reasons return to the labor force later on. With the exception of the "Discouraged" reason, other categories tend to reflect permanent, rather than temporary, nonparticipation. Although individuals who cite "Health Issues" tend to exit and re-enter the labor force, the percentage has been relatively constant over time, reflecting only a mild procyclical correlation.

Between December 1997 and November 2011 approximately 12 million between the ages of 25 and 54 left the labor force. This data subset sheds a bit more light on the "In School" reason for nonparticipation. For most of the period the "In School" reason was fairly steady at 10%. However, since 2008, the percentage has risen to nearly 15%.

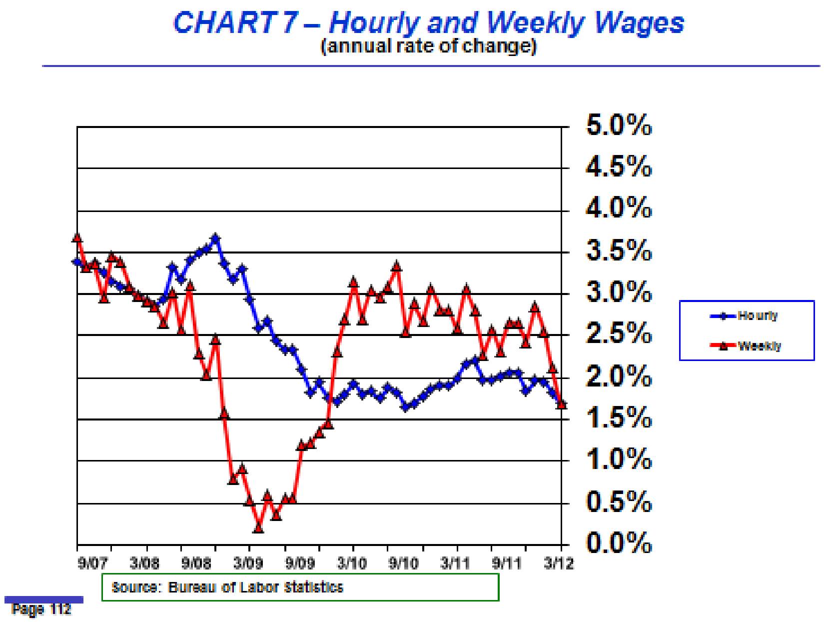
These data suggest that returning to school has been a fairly important factor in reducing the labor force participation rate. It seems reasonable to expect that as the labor market improves many of these people will re-enter the labor force.

Thus, it is highly likely that the unemployment rate, were it to be adjusted for the increase in nonparticipants who have gone to school, would be much higher than 8.2%.

4. Growth in Wages

While a declining participation rate is making it appear that unemployment is a diminishing problem, it is clearly a false positive. It creates the illusion of a tightening labor market. If the labor market really is tightening wage rates would begin to rise and that development would threaten subsequent increases in inflation. However, wage rate increases are at a very low level and the rate of growth appears to be slowing gradually. Furthermore, what really is important for economic recovery is significant growth in disposable income. This cannot happen when employment growth is limited and wage rate growth is not improving. That is clear in the disposable income data and is corroborated by the 1.77% annual rate of growth in household employment and the 1.69% rate of growth in weekly earnings, which translates into total income growth of 3.49%, which is not much different from the 3.71% rate of growth in wage compensation during the first four months of 2012 (see Table 2).

As is evident in **Chart 7**, growth in the hourly wage rate and weekly wages is weakening. **Chart 7** shows that from 2007 to the end of 2009 the annual rate of growth in hourly wages decelerated from about 3.5% to less than 2.0%, remained near 2.0% until the beginning of 2012 and now appears to be declining. The 12-month rate of increase declined from 2.06% in December to 1.69% in May. As long as the unemployment rate remains unusually high, labor will have very little bargaining power and this is likely



to limit increases in hourly wages for the foreseeable future.

Weekly wage growth is more volatile than hourly wage growth because it incorporates the length of the workweek. When the length of the workweek is stable, the two measures will track each other closely. Divergences occur during and following recessions. During recessions employers tend to cut the length of the workweek before shedding workers. The opposite happens in recoveries — employers increase hours before adding workers. The recent convergence of the two measures means that the length of the workweek has stabilized. Indeed, the length of the workweek peaked at 34.6 hours in February and has since declined to 34.4 hours in May. This is not a good news story because it means that the rate of growth in take home pay has fallen from nearly 3% a year ago to 1.69% currently. This weakening trend in weakly wage increases is why aggregate personal and disposable income growth is slowing.

Weakening employment growth and slowing growth in wage income mean that consumers will be spending less in coming months. And, that means GDP growth should slow from its already measly pace of 2%.

5. "Human Disaster of Unemployment"

In a recent New York Times article, Kevin A. Hassett and Dean Baker discussed consequences of long-term unemployment.[1] Long-term unemployment includes people who have been looking for employment for more than six months. Prior to the Great Recession 0.8% of the labor force met the definition of long-term unemployed. Currently, 4.2% fit the definition and Hassett and Baker suggest that the percentage would be 50% higher if discouraged workers were counted.

Hassett and Baker cite some frightening statistics about the long-term unemployed:

- Workers between the ages of 50 and 61 who have been unemployed for 17 months or longer have only a 9% chance of finding a job; this percentage drops to 6% for workers 62 and older.
- The probability of older males dying rises 50% to 100% after losing a job.
- A 10% increase in the unemployment rate, say from 8.0% to 8.8%, is correlated with a 1.47% increase in the suicide rate for males.
- Unemployed men have a 25% higher chance of dying from cancer.
- The probability of divorce increases 18% after a husband loses his job and 13% after a wife loses her job.
- People whose fathers lost a job when they were kids earn 9% less in adulthood.

[1] Kevin A. Hassett and Dean Baker. "The Human Disaster of Unemployment", The New York Times. May 12, 2012.

V. Impact of Financial Conditions on Macroeconomic Growth

1. Dynamic Stochastic General Equilibrium Model

Neoclassical macroeconomic theory is based on a dynamic stochastic general equilibrium model. As the term "equilibrium" implies, any shock to the economic system will set in motion processes guided by the invisible hand of prices that return aggregate supply and demand to an equilibrium. While money facilitates transactions, its supply is controlled by the central bank through bank reserve requirements. Banks are passive entities that simply link savers and borrowers. Extension of loans depends upon availability of funds supplied by savers. In other words, the financial system does not matter.

2. Hyman Minsky's Financial Instability Hypothesis

According to Minsky banks are profit maximizing organizations which engage in credit creation; they are not passive conduits. ***Importantly, central banks cannot control the supply of credit through reserve requirements.*** Rather, credit is created by bank lending activity and this lending is financed through the deposits that borrowers receive when the bank makes the loan. In effect, banks "create money" out of thin air.

The concept that banks create money is difficult to grasp because we are used to thinking that we have to have money before we can lend it and that must mean that someone else has to provide it to us. Also, we have been taught that the central bank by its power to print money controls the money supply. However, anyone can create money if he or she can persuade others to accept it as legal tender to pay for economic transactions. For example, if I paint your house for $500, you could pay me with your IOU for $500. I could then use your IOU to purchase a flat screen TV set, assuming that the merchant accepted your IOU in payment.

Central banks can control the supply of credit through bank capitalization regulation, collateral standards, supervision of loan underwriting and by setting the price of money — customarily the interbank lending, or federal funds, rate. To reiterate, according to Minsky, banks, not the central bank, create money. Thus, the functioning of the financial system has critical relevance to the performance of the macroeconomy.

Because banks are profit maximizing organizations they will seek to create as much credit as possible. If credit creation is not regulated in some fashion it will lead to an ever increasing amount of debt leveraging which will increase the fragility of the financial and economic systems. In other words, unbridled credit creation leads to financial instability and the potential for economic debt-deflation disequilibrium which is not naturally self-correcting. A debt-deflation process, first described by Irving Fisher in the 1930's, begins with an increase in demand for cash to meet debt obligations. Cash is obtained by liquidating financial assets but when such liquidation occurs under duress the market value of collateral declines. However, the value of debt remains unchanged. In a debt-deflation process the more you pay the more you end up owing as collateral prices continue to deflate toward zero. Unless the central bank intervenes as the lender of last resort this process gathers momentum until the financial system completely collapses.

Credit creation is crucial to financing economic growth. Too little limits economic growth; too much results in financial collapse and depression.

Minsky defines three levels of credit creation. The first, called "***hedge financing***", occurs when borrowers have the ability to meet their contractual debt payments of interest and principal through cash flows generated by activities financed by the loan. The second, called "***speculative financing***", occurs when cash flows are sufficient to cover interest on the debt but insufficient to repay principal, thus requiring repeated refinancing of the debt. The third, called "***Ponzi financing***", occurs when cash flows are insufficient to cover either interest or principal payments on the debt so that debt and interest must be refinanced and the amount of the debt constantly grows.

Unless regulation intervenes there is a natural tendency for credit creation to progress over time from hedge to speculative to Ponzi. One can easily see how this progression unfolded during the housing bubble. Economies and financial systems are stable when credit creation is limited to hedge financing. However, fragility builds as speculative financing takes hold. And, when Ponzi financing emerges it is only a matter of time before a Minsky moment arrives when forced selling of overvalued assets causes the financial system to implode. When you think of Ponzi financing, think of no doc, liar loans at the tail end of the housing bubble.

Credit finances investment. Investment booms generate increasing cash flows which tend to validate the belief that credit extension is squarely of the hedge variety. However, rising real asset prices (collateral values) and ever increasing optimism can lead over time to financing, which is believed to be hedge financing but is really speculative financing, based on increasingly optimistic forecasts of cash flows and rising collateral values. Margins of safety, such as risk spreads, contract over time. Shrinking risk margins convey the illusion of reduced riskiness but also stimulate increasing use of leverage to obtain desired rates of return.

3. H. Woody Brock's — Four Origins of Perfect Financial Storms

In his recent book, ***American Gridlock: Why the Right and Left Are Both Wrong***, Woody Brock cites four causes of the recent global financial meltdown.[2]

First, the Efficient Market Theory, which the political and financial elite came to rely upon, is deeply flawed. (I discussed this topic in section VI. 6. in the February Longbrake Letter.) According to Brock, this theory is "poor" because "...it neither explains nor predicts real-world data and ...at a deeper level its Basic Assumptions are indefensible. The Basic Assumptions of the Efficient Market Theory include: (1) participants do not make mistakes, (2) all risks can be hedged (when (1) and (2) are combined, they imply that leverage does not matter), and (3) everyone possesses all relevant information and knows how to price correctly. Models based on this theory grossly underestimated volatility and derivative instruments designed in reliance on the theory did not perform as expected.

Second, theories of the efficacy and benefits of market deregulation were misguided. Blind adherence to "the market knows best" belief leads to disastrous outcomes.

Brock posits that an ideal social system has three components: the econ-

[2] H. Woody Brock. American Gridlock: Why the **Right** and **Left** Are Both Wrong. John Wiley & Sons, Inc., 2012.

omy, the political system and a constitution. The constitution is an essential component of the ideal social system because it contains enforceable rules that govern behavior in the economy and the political system.

Norms for an Ideal Constitution. These norms provide for the rule of law and equal protections and treatment of citizens. The U.S. constitution and first ten amendments (Bill of Rights) meet the norms for an ideal constitution. In authoritarian capitalism there is no meaningful constitution. The party and the state are the constitution. This means that the interests of the power elite, rather than society as a whole, govern outcomes.

Norms for an Ideal Economy. According to Brock there are six norms:

- Efficiency (non-wastefulness)
- Stability
- Freedom (actions and decisions occur without the necessity to secure permission)
- Privacy
- Distributive justice ("fairness" — the glue that keeps society working)
- Incentive structure compatibility

The norm of "incentive structure compatibility" must permeate the five other norms.

Norms for an Ideal Government. According to Brock "politics is about eyeball-to-eyeball bargaining between interest groups." An ideal government is one in which multi-lateral bargaining achieves "good" compromises that serve the collective interests of society well. An ideal government is efficient (same norm as in the ideal economy), fair (embodies notion of distributive justice), and unbiased.

Interaction Between the Three Components. The economy and political system overlap. The extent of the overlap is determined by how much of economic activity the political system seeks to control. The constitution and the political system also overlap. The constitution constrains the power of government and establishes rules for balancing the needs of society and the rights of individuals.

Achieving the right overlaps is crucial to optimizing social welfare over the long run.

Adherence to "the market knows best" belief diminishes or limits the legitimate role of government in assuring outcomes that serve the collective interests of society well and opens the way for narrowly-based financial and political elites to rig the system to serve their interests.

Third, according to Brock, the emergence of a "pathological" incentive structure contributed significantly. The hallmark of the incentive structure involved de-linking performance and risk. This outcome was at the root of the breakdown in underwriting in the securitization market. But it also was reflected in adoption of governance structures such as limited liability corporations and the substitution of the corporate governance for partnership governance in investment banking companies.

Fourth, and most important of all, was the runaway use of excessive amounts of leverage, which, as Hyman Minsky postulated, migrated from hedge to speculative to Ponzi financing.

Most unfortunately, these four causes interacted and reinforced each other to create an unprecedented Ponzi-financed global boom. The magnitude was huge and so, too, is the damage caused by collapse of the boom. To date solutions have been deeply flawed and have served primarily to perpetuate excessive leverage. All that has changed is that the venue of excessive leveraging has shifted from the private sector to the government. But this is a difference without distinction because the government is the private sector in the form of taxpayers.

4. China

China's economic policy, as discussed in Section VI of the May Longbrake Letter, is intentionally directed toward financing prodigious amounts of investment using bank-provided debt leverage. Minsky's Financial Instability Hypothesis applies to China no less so than to the U.S., Europe or any other nation.

China has clearly entered into the Ponzi financing stage. Maintaining a high GDP rate of growth requires an ever increasing portion of GDP to be devoted to investment. This is simply not mathematically sustainable indefinitely. The market is now beginning to realize that China's growth is slowing more rapidly than anticipated as the property bubble there deflates. However, the attitude of most is that all China needs to do is to throw lots of money on the table, as it did in late 2008, and all will be well. There has been talk about a new investment stimulus program amounting to at least $150 billion and perhaps twice that much. Such doubling down would delay the day of reckoning but would, as all Ponzi finance schemes do, greatly worsen the collapse when it inevitably occurs.

As I have said before, I believe Chinese policymakers are very much aware of the box China is in and the need to restructure the economy dramatically and sooner than later. But knowing the problem and even having a sense of what should be done to address the problem does not mean that the solutions are politically feasible. Thus, it will be interesting to see how Chinese policymakers respond and whether they are able to thread the needle. The rapid cooling of the global economy is a most unwelcome development and increases the near-term and longer-term policy risks for Chinese policymakers enormously.

5. Federal Reserve's Financial Stability Role

Prior to the 2007-09 financial markets collapse, the Federal Reserve viewed its policy role as limited to the conduct of monetary policy and serving as the lender of last resort in exigent circumstances. Former Fed Chairman, Alan Greenspan, said that it was not the Fed's role to regulate real asset prices and for the most part the Fed took no action during either the tech or housing bubbles. This policy was not wholly consistent with the Fed's history and perhaps reflected Greenspan's libertarian views and a belief in the efficacy of "the market knows best". The Fed has the power to regulate margin requirements for financial instruments. However, it has not exercised this authority in recent years.

While the Fed did very little to contain the building financial markets bubble, when the bubble burst the Fed exercised its lender of last resort powers vigorously. It is commonly agreed that the Fed's actions plus the bank recapitalization made possible by the loathed TARP legislation prevented an uncontrolled collapse of the financial system and economic depression.

The Dodd-Frank Act created the Financial Stability Oversight Council and gave additional regulatory authority to the Fed to supervise systemically important financial institutions. Moreover, the Fed seems to have grasped the importance of well-functioning and adequately regulated financial markets, as articulated by Hyman Minsky, for financial stability and stable economic growth. Fed Chairman Ben Bernanke said in a recent speech: "Going forward, for the Federal Reserve as well as other central banks, the promotion of financial stability must be on an equal footing with the management of monetary policy as the most critical policy priorities."

In effect, financial stability has been added to the Fed's goals of price stability and full employment. It remains to be seen how the Fed administers policy in response to the financial stability goal. It can attempt to prevent financial instability or it can fortify financial institutions to be better able to withstand financial crises when they occur. To date efforts appear to be focused on financial institutions. The Basel III capital and liquidity rules are very stringent, although they will be phased in over several years. The revised capital rules will limit the extent of leveraging, particularly for systemically important financial institutions.

But there remains the problem of excessive debt leveraging in the aggregate. For policy to be effective in the long run, the Fed will need to regulate markets as well as individual financial institutions.

6. Deteriorating Financial Conditions Negatively Impact Economic Growth With a Lag

Goldman Sachs (GS) recently updated its financial conditions index (GSFCI) and conducted statistical research to determine the correlation between changes in GSFCI and GDP growth. The eight components of GSFCI include the federal funds rate, the 5- and 10-year Treasury yields, the TED spread, the iBoxx domestic non-financials BBB 15 year +/10-year Treasury spread, the ratio of the S&P 500 stock index to a 10-year average of earnings per share, a trade-weighted dollar index, and a house price/rent ratio. Each of these components is weighted relative to its individual impact on GDP growth.

GSFCI has been computed back to 2000 and has a range been about 99, which occurred in the mid-2000's, and 103, which occurred at the height of the financial markets meltdown in late 2008 and early 2009. A 1 point (100 basis points) move in the index is correlated with a 1.5% change in GDP growth over the next year. Changes in GSFCI over the two most recent quarters gives the best forecast of changes in GDP growth over the next year.

GS explored an alternative version of GSFCI which accommodated the separate impact of oil prices. This version indicates that a 100 basis points change in GSFCI changes real GDP growth by 1.2% over the next year and a 10% change in oil prices changes GDP growth by 0.2% over the next year.

GSFCI has increased 40 basis points since April. About half of this increase stems from deteriorating financial conditions in Europe. The other half is linked to deteriorating U.S. data reports. Assuming the recent increase in GSFCI is not reversed, GS's model indicates that GDP growth should be about 0.6% lower by the first quarter of 2013. However, there would be some offset from the recent sharp decline in oil prices.

VI. European Sovereign Debt Crisis — Spanish Bailout Coming

Matters are quickly moving from bad to worse in Europe.

Recession is deepening. The purchasing managers' index dropped to 46 in May signaling accelerating contraction. New orders fell 1.9% in Germany in April.

Uncertainty surrounding how **Spain** will find €60 — €80 to recapitalize insolvent banks has precipitated a deposit run. Spanish sovereign debt yields are fluctuating near 6.5% and concern is increasing rapidly that Spain may be next in line for bailout assistance.

Polls suggest that the new **Greek parliamentary election** to be held on June 17 will result in a dead heat between New Democracy, which would renegotiate the bailout but remain in the euro, and Syriza, whose possible formation of a Greek government could eventually result in Greece's departure from the European Union and the euro.

1. Crisis Recap

There are four sets of economic problems — (1) bank solvency and tight financial conditions, (2) high sovereign debt to GDP ratios, (3) economic recession and (4) lack of trade competitiveness. In addition political movements involving populism and nationalism are developing rapidly and threaten to undermine solutions intended to save and strengthen the monetary union.

Bank Solvency and Tight Financial Conditions. Many European banks have high levels of troubled loans and sovereign debt whose market value is considerably less than book value. Many troubled loans are carry overs from aggressive lending prior to the global recession in 2008 and 2009. But, increasingly, recession is adversely impacting the quality of many other loans.

The decline in the value of bank assets and increasing credit quality issues have been exacerbated by the regulatory mandate to increase capital ratios and liquid assets. The easiest way to increase capital ratios is by curtailing lending and selling assets. However, such a response has resulted in a severe credit crunch which in turn is fueling recession. And in due course recession will lead to more credit defaults. It is a vicious circle and there is not yet light at the end of the tunnel.

For these reasons bank capital ratios, when marked to market, are declining and insolvency risks for weaker banks are escalating.

Banks with the weakest capitalization are experiencing deposit runs. The European Central Bank's (ECB) long-term refinancing operation (LTRO) late last year and early this year provided approximately €1 trillion in three-year liquidity at a 1% interest rate. LTRO has prevented liquidity insolvencies so far at individual banks.

High Sovereign Debt-to-GDP Ratios. High sovereign debt ratios and large current budget deficits raise investor doubts about a country's ability to service debt. As debt ratios rise, nations move from "hedge" to "speculative" to "Ponzi" financing. High levels of both debt and budget deficits lead at first to increasing interest rates. But, when markets begin to doubt a country's ability to service its debt, the market's willingness to provide financing shuts down and a bailout becomes necessary. So far this has happened to Greece, Ireland and Portugal. However, Spain is approaching the danger point and there is increasing discussion about the probable need for bailout assistance.

To date, bailouts provided by the European Financial Stability Facility (EFSF) and the International Monetary Fund (IMF) have come with severe conditionality requirements. Taxes must be increased, spending must be reduced, stringent budget deficit targets must be met and actions must be legislated to improve competitiveness. Collectively these conditional terms have imposed severe austerity on the nations receiving bailout funds and have spawned deep economic recessions.

As time has passed, it has become apparent that austerity, rather than solving a country's sovereign debt problems, is making matters worse. This is because the denominator of the sovereign debt-to-GDP ratio is falling faster than the numerator. This is the same phenomenon as Irving Fishers debt-deflation cycle — the more you pay the more you owe.

Recession. Responses to the first two problems have led to recession in many European countries. Because of the high level of economic integration in the European Union recessions in the various European countries are mutually reinforcing. Even Germany is likely to become infected.

To make matters worse, global economic growth has slowed rapidly in 2012 and will contribute to deepening recessions in Europe.

Trade Competitiveness. By and large the countries with the worst banking and sovereign debt problems are also the least competitive. When a country has its own currency it can restore trade competitiveness by devaluing its currency. This solution is not available in a monetary union. In Europe uncompetitive countries have only one option and that is to restore competitiveness through internal deflation. This means cutting wages, reducing pension benefits, modifying social safety net benefits and so forth. This is not only very painful and difficult politically to enforce, this solution also clobbers economic activity. In short, while it is a theoretical alternative to currency devaluation, internal devaluation will lead to the death of the patient long before the cure has a chance to work.

There is an alternative to internal devaluation and that is transfers of funds from strong countries, such as Germany, to weak countries. This is not a substitute for restoring competitiveness but it provides time and lessens the pain. Germany and other strong countries oppose monetary transfers because they fear moral hazard — once financial pressures have been lifted, recipient countries might return to the "bad behaviors" that got them into trouble in the first place.

Political Pressures. All 17 members of the Eurozone (EZ) are parliamentary democracies. This means that elected governments can be voted out of office. This has already happened in several countries, most recently in France where Francois Hollande recently defeated Nicolas Sarkozy for the presidency. And it may happen in Greece after the June 17 parliamentary election.

Agreeing to policy changes, particularly if they involve treaty changes takes a very long time. Time is working against elected governments. Fringe parties are gaining traction and are feeding off of discontent. ***Nationalism*** is a natural response to economic crisis as political leaders give primacy, not to the union, but to their own nation's well-being. Similarly, ***populism*** naturally gains strength as economic hardship afflicts a country's citizens with the loss of social benefits and perceived competitive threats from immigrants. Unlike the United States where citizens think of themselves as Americans first and citizens of individual states second, the exact reverse is true in Europe. Other than among the political elite there is no emotional allegiance to the importance of the EU.

Ultimately, political forces, more than economic forces, will define the future of the EU and the EZ. Many seem to think that the twin economic and political crises will create pressure sufficient to correct a fundamental flaw in the EZ by compelling members to accept some form of fiscal and political union to complement the monetary union. ***This is wishful and unrealistic thinking***. The political forces which have been unleashed are strongly pushing in the opposite direction — not toward greater integration but toward ***populism*** and ***nationalism***, which involve the reclaiming of national sovereignty. The political elite who fervently believe in the importance of a united Europe are rapidly losing ground to fringe political movements on both the right and the left which do not share the goal of union.

Summary. In coming months the EZ and EU will undergo significant change. The political elite are committed to the European Project of integration. Indeed, there is emerging agreement that the time has come to move in the direction of greater economic and fiscal integration to complement the monetary union. However, the sheer complexity of reaching agreement and the cumbersome process of ratification of governance changes greatly limit the odds of success. Political centrifugal forces are building rapidly and will increasingly diminish the chances for broad-based acceptance of significant reforms.

There is practically nothing in the reforms under discussion which would address in any material way the severe lack of competitiveness in the weaker countries. With recession deepening and sovereign debt and banking problems worsening, already committed bailout financial resources are inadequate. The important question is whether there is capacity among the strong countries to provide additional financial resources in the quantity that might eventually be needed to avoid sovereign defaults.

I continue to believe that the complexity of the problems and the enormity of the obstacles to effecting meaningful and timely reform argue against survival of the EZ and EU in their present forms. I do believe that some kind of union will survive, but it will involve fewer countries. Assuming that this comes to pass, the resulting union is likely to involve a much greater degree of fiscal, economic, funds transfer and political integration alongside the established monetary union.

2. Key Events

June 17 — Greek parliamentary elections. Three outcomes are possible: (1) stalemate; (2) centrist parties form a government; (3) leftists form a government. Outcome (2) would be met by market relief as Greece would probably stay in the EZ; however, a third bailout will be required sooner than later as the Greek economy has already deteriorated to the point that the second bailout is unworkable. The Greek treasury will run out of funds in early July. Outcome (3) would probably lead to more decisive action at the EU summit at the end of June, which could lead to modification of the bailout terms or commencement of planning for Greece's eventual exit from the euro.

It should be noted that Cyprus's fate is tightly linked to what happens to Greece. Some form of bailout is inevitable for Cyprus. Cyprus has not been newsworthy because its economy is very small.

June 18 — 29 — Stress test results for Spanish banks will be reported. These results are important because they will help define the amount of euros needed to recapitalize capital deficient and insolvent Spanish banks. Estimates currently range from a low of €30 billion to a high of €80 billion. Current policy requires Spain to recapitalize its banks but Spain has no borrowing power left to accomplish this. Spain has been attempting to persuade EZ members to make direct capital infusions into the banks through the EFSF/ESM rather than through the Spanish government which would constitute a sovereign bailout and bring with it onerous conditionality.

June 28 — 29 — EU summit meeting. The stage is currently being set to consider significant reforms to the EU and EZ including pro-growth economic policies, pan-European deposit insurance and bank supervision, direct recapitalization of capital deficient and insolvent banks, Eurobonds or some kind of joint sovereign debt facility, fiscal integration and tighter control of economic policy. There is speculation that a win by anti-bailout leftist parties in the Greek election would increase the urgency of considering significant reforms. But pressure could also come from the rapidly deteriorating financial situation in Spain.

3. Reform Options

Pro-Growth Policy Reforms. The most powerful pro-growth reform would be to reverse demand depressing policies that are driving recessionary momentum. This would mean extending deadlines for budget deficit reductions. This is already happening by default because of falling tax revenues and declining GDP. To moderate or reverse recessionary momentum, government spending would need to be permitted to increase and budget deficits to widen. No one is seriously discussing this kind of reform.

Instead, pro-growth reforms are focused on the supply side. There are two sets of policies under consideration. One set includes reforms to improve labor market competitiveness and productivity by making it easier to hire and fire workers and by reducing the cost of benefits. A second set involves allocating funds to infrastructure investment. Neither set of reforms will help much in the short run. There is considerable political opposition to labor market reforms and even if enacted such reforms will take a long time to have any meaningful impact. As to infrastructure investment, the amounts under consideration are so small as to be almost irrelevant. Infrastructure investment would create jobs in the short run, but the greater return occurs over a much longer period of time as completed infrastructure projects impact broader economic activity.

Expect much talk about pro-growth reforms but do not expect them to have much favorable economic and financial impact.

Pan-European Deposit Insurance and Bank Supervision. European Commission leaders announced on June 5 a plan for a European deposit insurance, bank resolution and centralized bank supervision. The plan would require each member country's approval and the approval of the European Parliament. The proposal would not be implemented until January 1, 2018. Prior to this announcement some had suggested that European deposit insurance might be an answer to helping recapitalize troubled Spanish banks. Germany has been adamant that European rather than sovereign bank supervision must accompany any broad-based deposit insurance program.

It is now clear that deposit insurance is not a viable near-term solution.

Direct Recapitalization of Capital Deficient and Insolvent Banks. Delayed implementation of an EU deposit insurance mechanism means that recapitalization of capital deficient and insolvent banks will have to be handled in other ways. To date each country has determined whether and how to recapitalize its own banks. In the case of Ireland, the government assumed the debts of its banks through nationalization and then had to go to the EFSF to provide financing. EFSF credit came with onerous conditionality.

For obvious reasons, Spain is trying to find an alternative to the Irish precedent because it does not wish to be burdened with onerous conditionality. The Spanish government initially suggested that it issue bonds directly to its banks, which could then be used as collateral to obtain cash from the

ECB. This proposal was rejected by the ECB because it believed that the scheme would amount to financing the Spanish government, even though such financing would be indirect. The ECB is prohibited by law from providing financing to sovereign governments. However, the ECB has bought sovereign debt in the open market as an "investment". For example, the ECB holds €50 billion of Greek sovereign debt.

After the ECB rejected its initial proposal, the Spanish government suggested that the EFSF directly recapitalize Spanish banks. Although it is not entirely clear, it appears that the EFSF is not permitted to make direct capital infusions into non-sovereign entities. However, a May 30 report from the European Commission suggested that the European Stability Mechanism (ESM), after it becomes operational on July 1, 2012, might be able to extend a line of credit directly to Spanish banks rather than through the Spanish government.

With respect to this proposal, Germany has not opposed it outright but has been emphatic that centralized European bank supervision is a necessary component.

If Spain's problems were limited just to its banks, the EU might figure out how to use the EFSF and ESM to recapitalize Spanish banks. But Spain's problems extend to financing its sovereign and regional government debt. Thus, there is a strong likelihood that Spanish bank recapitalization becomes embedded in a broader Spanish bailout program complete with onerous conditionality requirements. If not, a broader Spanish bailout will still have to occur later on.

Eurobonds or Joint Sovereign Debt Facility. Many have proposed the issuance of Eurobonds. Such bonds would substitute the collective credit backing of all EU or EZ governments for the credit of individual countries. Not surprisingly, this proposal is popular with countries that have weak credit, such as Italy and Spain, and anathema to countries with strong credit, most notably Germany. Francois Hollande, president of France, has also suggested Eurobonds.

Germany has expressed deep concerns that Eurobonds would unleash moral hazard. Countries with high debt-to-GDP ratios and high budget deficits would no longer be under pressure to reform. A recent poll indicated that 80% of Germans oppose Eurobonds. Moreover, Germany asserts that it cannot be party to Eurobond issuance because it is unconstitutional under the German constitution and European treaties prohibit countries from covering each other's debts. Joerg Asmussen, a German member of the ECB board, has stated that Germany "will only consider jointly underwritten euro area bonds once the conditions are right meaning closer economic integration and coordination across the euro zone, including on fiscal matters."

However, Germany has pointed out that the Fiscal Compact, agreed to in December and in the process of ratification by EU governments, provides the option to pool European country debts that exceed a 60% debt-to-GDP ratio as collateral for the issuance of 25-year debt obligations. Interest and principal of these bonds would be paid jointly.

Eurobonds will continue to be a topic of discussion but implementation will probably require either fiscal union or direct central oversight and control over sovereign country fiscal matters, including both taxes and spending. This would entail ceding an enormous amount of individual country sovereignty to a central government.

Fiscal Integration. As the European crisis escalates willingness to consider fiscal integration is growing. Fiscal integration would lead to a substantial loss of individual country control. There would be pressure to standardize tax policies and spending programs. In addition, central oversight and enforcement along the lines already outlined in the Fiscal Compact would become mandatory.

It is difficult to discern how fiscal integration would work well unless transfers of funds from stronger economies to weaker economies are sanctioned. By itself, fiscal union will not resolve the stark competitive differences among members of the EZ.

Deeper Political Integration and Tighter Control Over Economic Policy. German Finance Minister, Wolfgang Schaeuble, said on May 16 that the EU needs a common finance policy and a central government and suggested that the European Commission be developed into a government. This followed a statement on May 29 by European Commission President Jose Manuel Barroso that EZ countries need to establish a timetable for full economic and monetary union. European Council President Herman Van Rompuy has been tasked to draft a plan to broaden and deepen economic and monetary union for consideration at the EU summit at the end of June.

Greater political and economic integration requires cessation of individual country sovereignty. It will also take a long time to accomplish because new treaties will need to be negotiated and then ratified by member countries. Thus, these kinds of reform proposals will be of almost no help in dealing with immediate banking problems and financing the sovereign debt of weak governments. Moreover, nationalism is on the rise, which will make it difficult to develop popular support and endorsement of a much greater degree of integration.

4. Spain — The Situation Is Much Worse Than Generally Believed

Spain's financial challenges were brought to the fore when the Spanish government was forced to take over Bankia in early May. Initially, Spanish authorities said Bankia would need €7 to €10 billion to cover loan losses but that figure was revised upward to €19 billion after the takeover. Market pressures on Spanish sovereign debt ensued immediately in the wake of this news. As days passed it became apparent that if Spain bailed out Bankia directly, it would probably have to do so for other capital deficient Spanish banks as well. And, it also became apparent that if it did so, Spain risked increasing its debt-to-GDP ratio to a level where the markets would refuse to provide financing and this would force Spain to accept a bailout similar to those now in place for Ireland and Portugal. Needless to say, the Spanish government wants to avoid such an outcome. Accordingly, it has pursued a strategy of seeking recapitalization of its troubled banks directly rather than through Spanish sovereign debt. While this strategy may succeed in coming days, it will only buy a bit of time.

There are several reasons why an eventual Spanish bailout is inevitable.

First, although Spain's sovereign-debt-to-GDP ratio appears to be at a manageable level of 70% in 2011, it is expected to rise to at least 79% in 2012 and 87% in 2013 as deficits continue and GDP shrinks. While the budget deficit target is 5.3% for 2012 and 3.0% for 2013, the European Commission recently estimated that without further government initiatives realized deficits will be higher — 6.4% in 2012 and 6.3% in 2013. These projections do not include the impact of Spanish bank recapitalization.

However, what is only now beginning to be understood is that the Spanish government has provided explicit and implicit debt guarantees for regional governments and private projects which, if included, would increase the debt-to-GDP ratio by 50%. A rapidly aging population and underfunded entitlement programs bedevil regional governments and assure ongoing funding shortfalls which can only be covered through additional borrowing.

On May 17 Moody's downgraded the credit ratings of four of Spain's regional governments. One of those regional governments, Catalonia, announced on May 25 that it might not be able to finance its debts and requested assistance from the central government.

Second, the end of the housing construction boom will reduce GDP growth by as much as 2.0% over the next couple of years, with nothing in the wings to replace it. Housing prices have fallen 22% from the peak and are expected to fall another 15% to 20%.

Spain is in recession and GDP could contract by 3% or more in 2012. The official estimate is a 1.9% GDP contraction in 2012. Trend data actually paint a picture of a collapsing economy. Since 2008 retail sales have decline from a peak index value of 105 to 79 and industrial production has declined from 110 to 76.

Third, when prospective loan losses are factored in many Spanish banks are woefully undercapitalized and solvency is at risk. At the very least, credit conditions will tighten further with detrimental impacts on economic growth. The Spanish government needs to provide an additional €19 billion to Bankia, bringing total government assistance to €23.5 billion. Just a month ago the estimate of additional capital needed was €7 — €10 billion. That was before the government took over the bank and examined the books more carefully.

Those knowledgeable about Spanish bank financial accounting have observed that the Bank of Spain was permitting practices that resulted in understatement of problem loan values. Perhaps because of such concerns the ECB and the European Commission have required Spain to conduct an independent stress test assessment of the adequacy of bank capital. This review is being conducted by Blackrock Solutions and Oliver Wyman and is expected to be released in late June.

In the meantime, the IMF released its own stress tests results of Spanish banks on June 8. It assumed that Spanish GDP declines 4.1% in 2012 and an additional 1.6% in 2013. Given how rapidly the Spanish economy appears to be deteriorating, the IMF scenario doesn't appear to be very stressful. In any event, the tests indicated that Spanish banks would need an additional €37 billion to be in compliance with capital ratio requirements. For some reason, the IMF audit did not include balance sheet restructuring costs or potential loan losses. With that deficiency in mind, one should consider €37 billion to be at the lower end of the range of what is needed.

Informal estimates of the aggregate bank capital shortfall in Spanish banks ranges from €30 to €80 billion. However, the Brussels-based CEPS think tank estimates that the amount needed to completely clean up Spanish banking problems is more likely to be in the range of €200 billion to €250 billion. All of this reminds me of the official denial about the extent of losses in S&Ls in the U.S. during the late 1980's. The final total for cleaning up U.S. S&Ls was many times the amount of initial estimates. Denial and optimism are typical official reactions during banking crises and the final cost of fixing banking problems is always much greater than initial estimates. That is likely to be the case for Spain. So, I don't expect the amount of funds requested from the EFSF/ESM to be anywhere close to €200 to €250 billion but in time that range of loss may well prove to be more accurate.

Spanish banks borrowed €316 billion from the ECB's LTRO program or approximately 30% of the aggregate LTRO program. As of March €89 billion remained on deposit at the ECB. However, given the escalating capital flight out of Spanish banks to banks in other European countries and elsewhere this amount is certainly much smaller today. The plunge in German sovereign debt yields implies that considerable amounts of Spanish bank deposits are finding their way to Germany.

To put the enormity of the LTRO borrowing into perspective, Spanish banks hold €1.2 trillion in deposits and €2 trillion in loans. This is a 165% loan to deposit ratio, which is very high by prudent banking standards. This means that Spanish banks are very reliant on volatile wholesale funding, which is why Spanish banks were forced to borrow huge amounts from the ECB. Spain's Deposit Guarantee Fund guarantees deposit accounts up to €100,000. Nonetheless deposit flight is occurring. While information is lacking, Spanish banks may be nearing a new liquidity squeeze.

The Deposit Guarantee Fund is financed by a 20 basis point annual charge on bank deposits. But, so desperate is Spain for funds that a plan is under consideration to issue bonds to be amortized over eight years by using revenue generated by the guarantee charge. These funds would be used to finance an asset guarantee facility. Either this is foolhardy or Spanish officials must truly believe that no Spanish bank will be allowed to fail.

On May 17 Moody's downgraded credit ratings of 16 Spanish bank one to three notches. Standard & Poor's downgraded Bankia, Banco Popular and Bankinter to junk status.

Fourth, Investors are already anticipating the worst as they have transferred €140 billion in financial assets to other countries and have withdrawn €41 billion in deposits from Spanish banks in the last year. In March Spaniards transferred €66.2 billion in funds to countries with stronger economies. And that occurred before the announcement of Bankia's problems. Through April deposits of individuals fell at an annual rate of 1.4% but deposits of businesses fell at a 14% annual rate. It seems likely that capital flight has continued since then and perhaps has even accelerated.

To date capital flight has not been an issue because the ECB's LTRO liquidity program has enabled Spanish banks to replace lost funds with cheap 1% three-year funds.

Fifth, credit to businesses and consumers has contracted for 18 consecutive months. While the LTRO program enabled Spanish banks to resolve a funding liquidity squeeze, proceeds have not found their way into increased lending. Rather, Spanish banks purchased €230 billion in additional Spanish sovereign debt to serve as collateral for LTRO loans. While the banks are earning a fat arbitrage spread, rising Spanish interest rates are rapidly eroding the market value of these recent purchases. Think about the inanity of this circularity. The Spanish government recapitalizes capital-deficient Spanish banks by issuing sovereign debt that Spanish banks purchase. It looks an awful lot like a Ponzi scheme. Foreign investors have taken advantage of all of this by reducing their holdings of Spanish sovereign debt over the last year from 40% of the total outstanding to 26%.

Sixth, at 24.4% Spain has the highest unemployment rate among developed countries, although Greece is a close second at 21.9%. To make matters worse, many unemployed workers have already exhausted unemployment benefits. Unemployed workers with no cash income do not make mortgage payments. This will compound bank asset quality problems.

Moreover, within the EU Spanish labor is extremely uncompetitive. A solution to uncompetitiveness is wage deflation, but this will serve only to drive unemployment up to even greater heights and further depress consumer spending. Already disgruntled labor unions have engaged in general strikes, including one on March 29, protesting government austerity and social reform policies.

Seventh, when the time inevitability arrives when the market loses faith in Spain's ability to solve its economic and sovereign debt problems on its own, it is difficult to see how the EFSF and the ESM will have enough resources to provide a credible bailout. This risk is greater than a cursory look at the numbers might suggest because a Spanish meltdown is more likely than not to be accompanied by the market's loss of confidence in Italy as well.

On April 11 Prime Minister Rajoy stated that Spain will continue to implement reforms and insisted that Spain will not require a bailout now or in the future. What else can he say? In the meantime the cost of Spanish sovereign debt remains at a high level. A market riot is not yet at hand, but one must wonder just how far off the day of reckoning might be.

Spain's Impending Death Spiral. According to Michael Pettis, Spain's death spiral will unfold as follows:[3]

- **Private Creditors**. As Spain's credibility deteriorates, private creditors will demand higher yields and reduce their risk by shortening maturities. Higher rates means that outstanding debt increases more rapidly and shorter maturities increase the frequency of refinancing and thus balance sheet fragility.
- **Official Lenders**. Illiquidity forces official lenders to structure liquidity facilities with seniority. This increases risk for other lenders and increases balance sheet fragility.
- **Depositors**. As doubt about Spain's ability to stay in the euro rises, depositors move deposits to safe havens because they fear exit from

[3]Michael Pettis. "Europe's Depressing Prospects: Two Reasons Why Spain Will Leave the Euro." EconoMonitor, May 18, 2012.

the euro would lead to result in capital controls and devaluation of the replacement currency. Shrinking deposits causes lending to contract which in turn depresses economic growth.

- **Workers**. As recession takes hold and unemployment rises, workers become increasingly militant which raises uncertainty and costs for businesses. This further depresses economic growth.
- **Small and Medium Businesses**. These businesses are vulnerable during a crisis to "expropriation" of their wealth through taxes, wage and price controls and other measures. As the likelihood of such an outcome increases, these businesses cut back on expenses and move funds to safe havens. These actions further depress economic growth.
- **Political Leaders**. Politics becomes increasingly radicalized and the behavior of policymakers adds to business uncertainty.

Pettis' death spiral accurately describes what has happened in Greece over the last two years. He believes that the process is also well underway in Spain and that Spain's exit from the euro is an inevitable outcome. Few would agree with Pettis' pessimism, but his view may well be vindicated in time.

5. Greece — Consequences of Exit From The Eurozone, If Contagion Is Ignited, Could Be Disastrous

While Greece has been conspicuously absent from the European news flow over the last couple of weeks that will change abruptly after the parliamentary election on June 17. The Greek treasury expects to run out of cash in early July. This is the result of falling tax revenues as Greece's economy continues its inexorable collapse. This means that one of three things will have to happen after the election. The troika — ECB, European Commission and IMF can accelerate the distribution of funds agreed to in the current bailout agreement and commence to renegotiate that agreement; or the Greek government can delay paying its obligations; or the Greek government can pay its obligations with IOU's. The third solution, if implemented, could become the first step toward creation of an alternative currency to the euro, should Greece eventually leave or be forced out of the EZ and the euro.

Greek Economy Is In Free Fall. The Greek economy is in free fall. GDP fell 6.8% in 2011 compared to an IMF forecast decline of 2.6% when the first bailout was put in place in spring 2010. Most of 2011's GDP decline occurred in the fourth quarter.

Since the onset of the crisis Greek GDP has fallen 16% and a further decline of 5% is expected in 2012; industrial production has declined 25%; the money supply has plummeted 30% as depositors moved their euros to non-Greek banks; and unemployment has risen to 21.9%. Austerity requirements in the latest bailout agreement will only serve to accelerate economic collapse. The budget deficit was 10% of GDP in both 2010 and 2011. The 2011 deficit target was 8%. Tax revenues were 10.2% less in April 2012 compared to April 2011. Getting to a primary surplus by 2013, even though interest rates on new Greek debt have been cut, seems nigh on to impossible.

Latest Greek Bailout Cannot Succeed. The fundamental reason that the bailout will fail is that the Greek economy is simply uncompetitive with other members of the European Union. No amount of debt forgiveness or bailout funds can solve this problem.

Greece's uncompetitiveness has many facets. First, the prices of Greek goods and services need to decline relative to prices in other European Union countries. This could be accomplished in a single stroke if Greece could devalue its currency — but it doesn't have its own currency, so this is not an option. That is, it is not an option unless Greece exits the European Union and the Eurozone. The probability of just such an outcome is rising rapidly.

Second, Greek wages need to decline relative to wages in other countries. It does not matter whether they are already lower, which they are, than wages in other European countries. They just need to decline. While this is a good textbook solution, it is not a politically viable solution because it requires high levels of unemployment to force wage deflation. Greek unemployment is already 21% and rising. Moreover, deflation will raise the value of debts denominated in the euro and increase the likelihood and cost of bankruptcies. In short, deflation is an ugly, destructive solution.

Third, Greece could try to boost productivity. That is easier said than done because it means breaking entrenched social and institutional contracts. Moreover, productivity enhancing reforms take a very long time to bear fruit.

No amount of austerity or economic restructuring will cure Greece's uncompetitiveness. Indeed, austerity is worsening the problem. Greece can resolve the competitiveness problem by leaving the euro and devaluing its substitute currency — the new drachma. Of course, this solution will not be without significant consequences and costs for Greece. But, this alternative is rapidly becoming the only realistic alternative.

Outcome of June 17 Elections for Parliament — Three Scenarios. In the first scenario the centrist parties — New Democracy and Panhellenic Socialist Movement (PASOK) — win more than 150 seats and form the new government. Polling results indicate that 77% of Greeks want Greece to stay in the euro. Because these two parties are committed to such a policy, they ought to win the election. However, election polls indicate that the outcome will be very close. Talk of Greece leaving the euro would subside and the new government would focus on renegotiating bailout terms. Markets would probably relax. However, unless the Greek economy stabilizes under revised bailout terms, a doubtful proposition for reasons stated above, the issue of Greek exit from the euro probably would re-emerge after a few months. A negative consequence in the short term would be less pressure on EU members to adopt political and fiscal reforms.

A second scenario would be another indecisive election similar to the May 6 election in which neither of the two major blocs would be able to form a government. However, rather than go to a third set of elections there probably would be intense pressure from many quarters for politicians to form a broad-based coalition government. Such a government would probably pursue a policy similar to the first scenario — stay in the euro but renegotiate the bailout. However, such a government would be inherently unstable, which could have adverse market consequences.

The coalition of the left, Syriza, wins the election in the third scenario and forms a government. Syriza's stated policy goal is to abandon austerity. While it is not Syriza's policy to exit the euro, this becomes a more likely outcome if the troika does not agree to Syriza's demands. Bailout funds are necessary for Greece to pay its bills and avert defaulting on its restructured debt. If the troika withholds bailout funds because Greece has not met the terms of the bailout, default becomes inevitable. This does not necessarily need to lead to formal Greek exit from the euro because Greece would create a pseudo currency in the form of IOUs to pay its bills. But it would lead to financial chaos well beyond Greek borders.

For starters the ECB would probably be forced to withdraw liquidity support from Greek banks because Greek debt would no longer be eligible collateral. Greek banks already owe the ECB about €109 billion. Liquidity in Greek banks, which already have suffered massive deposit outflows, has been provided not only by the ECB but also by a €60 billion emergency liquidity assistance facility. On May 23 the EFSF announced it was injecting €18 billion into four Greek banks. Withdrawal of ECB liquidity support would precipitate a bank run and force Greece to impose capital controls. Bank runs unfortunately are emotional rather than rational events, so it wouldn't take much for a run in Greece to spread to other countries, such as Spain, whose banks are weakly capitalized.

If the third scenario unfolds, the potential for contagion would prompt EU leaders to move more quickly to adopt political, economic and fiscal reforms which accelerate the process of European integration. In the short run this is not a market friendly scenario but if the crisis helps accelerate European integration, it could have beneficial market impacts over the longer run.

While these appear to be the three possible Greek outcomes, the situation in Spain has deteriorated to the point that the two crises could intersect and propel extreme market instability. Were that to occur, events would move more quickly and Greek exit from the euro and contagion become more likely. This may be why there is urgency to craft a Spanish bank recapitalization plan prior to the Greek parliamentary elections.

Potential Consequences of Greece's Exit from the EU. B of A has sketched out three European scenarios, which it labeled "Good", "Bad" and "Ugly". In the "Good" scenario, which B of A assigned a 55% probability, Greece stays in the euro and Spain and Italy avoid sovereign debt funding crises. Under this scenario European GDP contracts 0.5% in 2012.

In the "Bad" scenario, 30% probability, Greece exits the euro, Spain and Italy encounter funding crises which are contained through EFSF/ESM bailouts and unlimited ECB purchase of Spanish and Italian sovereign debt. Under this scenario European GDP contracts 1.5% in 2012.

In the "Ugly" scenario, Greece and other nations exit the euro. In essence what this entails is either a failure or inability to contain the sovereign debt crises in Spain, Italy and other nations such as Cyprus. GDP contracts at a 4% annual rate in this scenario.

B of A also believes that whatever happens in Europe will have significant consequences for the rest of the world. For example, its already pessimistic forecast of just 1.5% GDP growth in the U.S. would fall to 1.0% in the "Bad" scenario and to -0.5% in the "Ugly" scenario. Global growth would fall from 3.5% to 3.0% in the "Bad" scenario and to 1.0% in the "Ugly" scenario. In effect, the "Ugly" scenario would be a replay of what happened globally after Lehman's failure in September 2008.

Because the Greek economy constitutes only about 2% of the European economy some believe that a Greek exit from the euro should have limited impact. This view grossly oversimplifies matters. The risk of a Greek default is in the implications it has for European financial institutions and the solvency of those institutions. Greek default would impact approximately €300 billion in public debt including €187 billion owed to the ESFS and the IMF and €50 billion held directly by the ECB. The ECB has additional exposure of €109 billion in borrowings by Greek banks through the 17 EU member central banks (Target2). The ECB also has some exposure on €60 billion in a liquidity facility involving repurchase agreements. Estimates place the burden of Greek default on Germany in the range of €75 to €100 billion and €50 billion for France. French banks, in particular, have substantial Greek exposure. Finally, restructuring of non-government debt, which would have to occur if Greece leaves the euro, would impose substantial losses on investors. A large share of that burden would be borne by European banks.

Summary. While the consequences of Greek default and exit from the euro arguably can be contained and contagion risk limited, in practice this will be hard to accomplish. Financial markets tend to act, then think. The EU is not structured in a way that it is easy to reach binding decisions quickly. This opens the crisis resolution process at best to a high level of uncertainty and at worst to missteps, which could lead to catastrophic consequences for other members of the EZ and the global economy. B of A's "Ugly" scenario probability of 15% may seem small but it is high enough to indicate that it is an outcome worth paying attention to. It is for that reason that countries and companies are now scrambling to develop contingency plans. This is all well and good and a hopeful sign. But remember that as much as Lehman's demise was anticipated, the failure of authorities to contain quickly the consequences of actual bankruptcy led to fast moving and broad financial market panic, the collapse of global trade and an extremely deep and virulent global recession. A repeat of this sequence of events, which I hope is not probable, is entirely possible in coming months.

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