

2001-2011



# THE LINNEMAN LETTER

Volume 11, Issue 2

Summer 2011

## Moving Forward, Ever Slowly

What would you expect as the outcome of a military action of epic scale that is hurriedly planned over 2-3 days by commanders with little sense of the terrain, combat readiness, equipment availability, troop strength, or enemy deployment? A disaster. Such lack of preparation is why the serial government interventions begun by the Bush administration and continued by the Obama administration were abject failures. Efforts such as TARP were hurriedly conceived without any understanding of their consequences, and yielded disastrous economic outcomes. The most serious consequence was the undermining of the predictability of rules that have been the foundation of the U.S. economy. Gone was the belief that government is the honest referee in our economic system, as opposed to the primary player. Failure was written in the preparation, or lack thereof, of these hasty and impulsive emergency efforts.

The Obama administration can no longer claim that the continued weakness of the U.S. economy is the result of actions taken by its predecessors. Now, over two years into the Obama administration, the economy continues the slowest recessionary recovery pace recorded post-WWII, despite historical indications that the deeper the drop, the more rapid and extensive the recovery. The failure of the economy to recover more rapidly reflects the ill-conceived serial interventions which undermined risk-taking in all aspects of economic activity. Only since the November 2010 election, which produced partisan gridlock, have we seen signs of strength in the recovery.

Our hope is that gridlock remains, for if it does, the economy will pick up strength rapidly.

The economy hit bottom around July of 2009. The first 20 months of the recovery have been far weaker and more halting than past recoveries. Nonetheless, we are in a recovery which will continue for at least five more years, barring an oil price spike above \$140 per barrel, which would prematurely snuff out growth. The election in November was important in two ways: it created a gridlock situation in which only centrist changes can occur; and it sent a clear message that the U.S. does not want to become socialist France. In fact, the message was that we want a capitalist system, though perhaps with different regulations. Since the election, we have seen generally good signs, and we will see many more as we move forward through this year.

While the election brought a much-needed dose of political stability, we wish Congress had extended the tax bill for three years instead of two. The problem with only extending it two years is that it will be revisited by a lame duck Congress in late 2012. If they had extended it for three years, it would be an election keystone in 2012, with the winners having a year to figure out precisely what to do. Nonetheless, the way they handled the tax bill shows predictability for the first time in three years.

As we first declared in the Winter 2009-2010 issue, "We Found Bottom!" early in 2009. Thus, the good news is that the worst is now two years behind us. The bad news is that there is still a long way to go to get back on trend. And the sobering news is that we are already

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## On the Road to Recovery

	Thru Latest Available as of 6/10/11
% Change in GDP since 2009:II	4.9
Change in GDP since 2009:II (2008\$ billions)	\$696.6
% Change in After-tax Profits since 2008:II	25.6
% Change in Workers' Total Compensation since 2009:II	3.4
Monthly Sales of Autos & Light Trucks (SA, units in 000s)	1,094.2
Change in Per Capita Disposable Income since Oct 2009 (2005 \$)	\$490
% Change in Commercial Investment in Equipment since 2009:II	25.6
% Change in Private Domestic Investment since 2009:II	9.3
Change in Household Survey Jobs since Dec 2009 (thousands)	1,819.0
Change in Payroll Survey Jobs since Dec 2009 (thousands)	1,723.0
Change in Unemployment rate since Oct 2009 (bps)	-100.0
Change in Employment - Education & Healthcare since Dec 2009 (thousands)	601.0
Change in Capacity Utilization since June 2009 (bps)	1,002.3
% Change in Durable Goods Production since June 2009	19.8
% Change in Non-durable Goods Production since April 2009	6.1
% Change in Single Family Starts (SAAR) since Jan 2009	9.4
% Change in Multifamily Starts (SAAR) since Oct 2009	115.1
% Change in Home Price (FHFA) since 2009: I	-8.2
% Change in M2 since March 2009	6.5
Change in Commercial Bank Commercial RE Debt since June 2009 (\$ billions)	\$100.4
Change in Federal Spending since 2008 (\$ billions) vs Last 4 Qtrs	\$489.1
Change in Federal Receipts since 2008 (\$ billions) vs Last 4 Qtrs	-\$237.1

figure 1

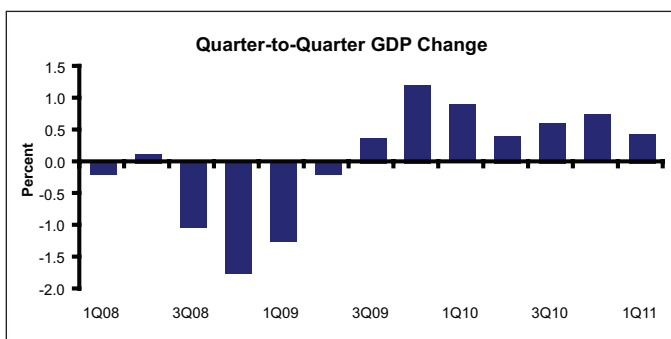


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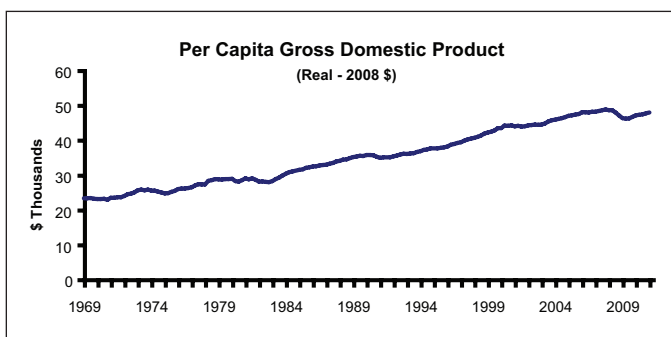


figure 3

two years into a recovery, and recoveries tend to last only about seven years. That is, the recovery is 30% over and you only recently grasped that it had begun!

Real GDP is 4.9% above the bottom, while population has increased by 1.3% over the same period, resulting in a roughly 3.5% increase in real per capita income since the second quarter of 2009. This means that roughly 60% of all households are better off in real terms, while 40% are worse off. While improving, economic conditions remain difficult for many, especially poorly educated young males, whose unemployment rates are 20-25%. This reflects the horrific failure of our public school system to educate and motivate young men, as much as the weakness of our economic growth.

The economy continues its mediocre recovery, with real quarterly annualized GDP growth of just 1.8% in the first quarter of 2011. Real per capita GDP remains approximately 2.8 standard

*Thus, there is no doubt that we are in a recovery, but we still need to add nearly \$1.2 trillion to get back on trend. That is, we need to add almost the entire economy of Canada to return to trend.*

deviations below its historical trend. GDP has now grown \$632 billion since its trough, which is essentially equivalent to the entire economy of the Netherlands. Thus, there is no doubt that we are in a recovery, but we still need to add nearly \$1.2 trillion to get back on trend. That is, we need to add almost the entire economy of Canada to return to trend.

Most economic indicators are still far from historical norms. Even as real retail sales rebounded by 4.5% between June 2010 and May 2011, they remain 1.6 standard deviations below their historical trend. Real home prices remain weak and are 1.9 standard deviations below their historical trend. Durable and nondurable industrial output have risen by 19.8% and 6.2% from their respective lows, yet remain 1.3 and 2.4 standard deviations below their respective historic trends. Real per capita household net worth also rose by 2.1% over the last four quarters, yet remains 1.9 standard deviations below its historical trend.

Payroll employment rose by about 870,000 (0.7%) year-over-year through May 2011, yet remains 2.5 standard deviations below its historical trend. The unemployment rate is 60 basis points (bps) below the May 2010 level and 310 bps (or 1.8 standard deviations) above its 30-year norm. Although consumer sentiment is up by 1,350 bps from the February 2009 low-point, it remains 1.4 standard deviations below its norm. Median weeks unemployed has fallen by 3.5 weeks since June 2010, yet remains 2.7 standard deviations above its norm. Capacity utilization has risen by 1,000 bps since its June 2009 low, yet remains 0.3 standard deviations below its norm.

Auto and light truck sales remain a standard deviation below the norm in spite of a notable rebound. Home values relative to per capita disposable income stand at 1.8 standard deviations below its norm, while real after-tax profits fell to 0.4 standard deviations below the historical trend in the first quarter of 2011.

There are pockets of strength, as corporate profits continue to rebound, with the financial sector continuing to benefit from artificially low interest rates. The 12-month moving average percent of industry sectors adding jobs was 63% at the end of the first quarter of 2011, 1.6 standard deviations above the 25-year norm. While this is somewhat misleading, as lots of industries are adding relatively few jobs, it is still below the height of the boom, when 67.5% of industries were hiring.

Real estate development remains non-existent. Multifamily and single-family housing starts are flat at 62% and 64%, respectively, of 30-year norms. Multifamily

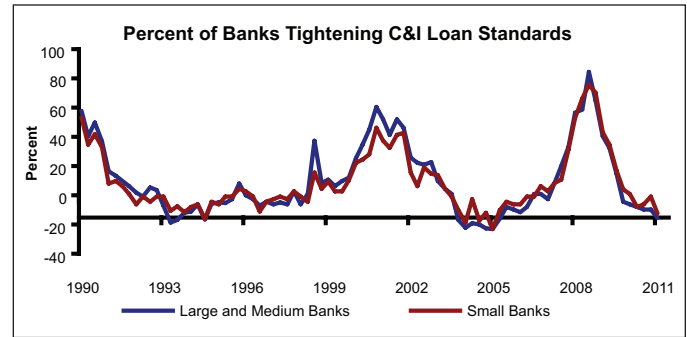


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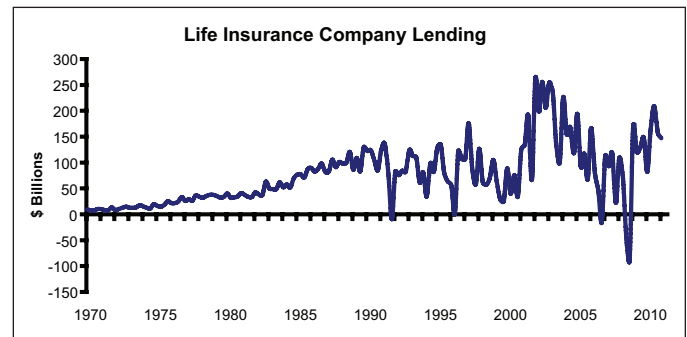


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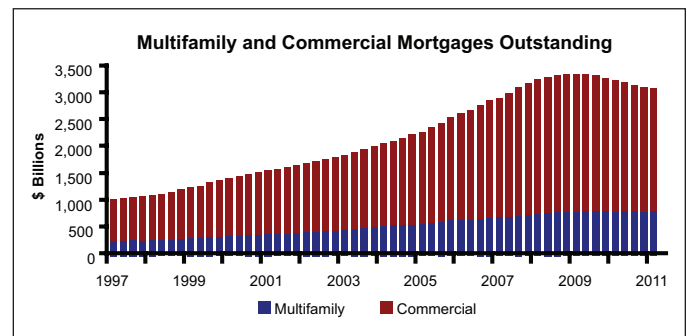


figure 6

and single-family housing starts remain 1.3 and 3.3 standard deviations below their respective historical norms. According to the Federal Housing Finance Authority (FHFA), real home prices fell by 24% from the March 2007 peak through April 2011. Bank lending for commercial and multifamily real estate has fallen by about \$270 billion from the peak in the first quarter of 2009 through the first quarter of 2011. In the first quarter of 2011, total commercial mortgages outstanding stood at \$2.3 trillion, while multifamily mortgages were \$840 billion. These levels represent a quarter-over-quarter decline of \$21.7 billion in commercial mortgages, while multifamily mortgages outstanding were flat.

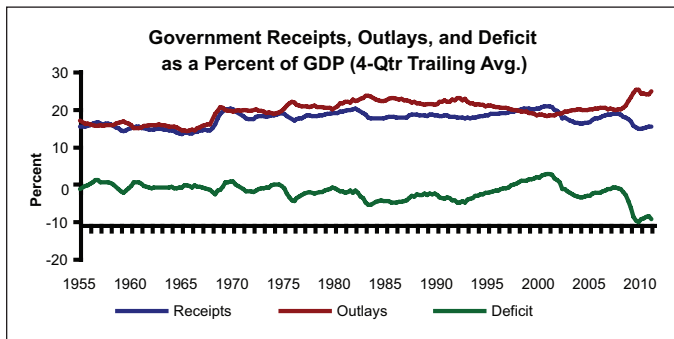


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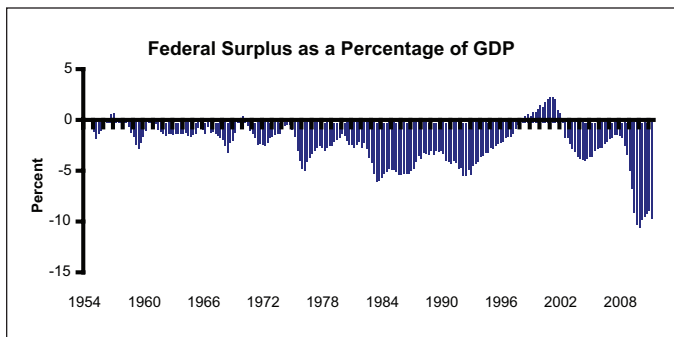


figure 8

Federal spending has risen to nearly 25% of GDP over the last three years, while receipts have declined to 14% of GDP. That is, we are experiencing the highest government spending and the lowest receipts since WWII. At 11% of GDP, the budget gap is clearly unsustainable in an economy that grows 3-5% annually. Even if revenues return to the historical norm of about 18% of GDP, and expenditures fall as unemployment is reduced, it will still leave the nation with an unsustainable budget deficit of 5-6% of GDP.

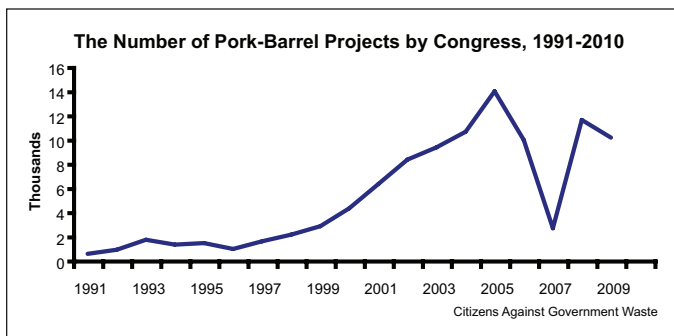


figure 9

**Feeding the Budget Deficit.** The threatened shutdown of the federal government in April was pure theatrical farce. With the federal budget approaching \$3.5 trillion

a year, Democrats and Republicans threatened to shut down the government over a difference of \$6 billion in budgeted annual federal spending. To put this in context, outstanding privately held federal debt is approximately \$9 trillion (about \$80,000 per household), rising at the rate of \$1.5 trillion a year (\$125 billion a month; nearly \$30 billion a week; \$4.1 billion a day; \$171 million per hour). That is, they were willing to shut down the government over 35 hours' worth of deficit accumulation.

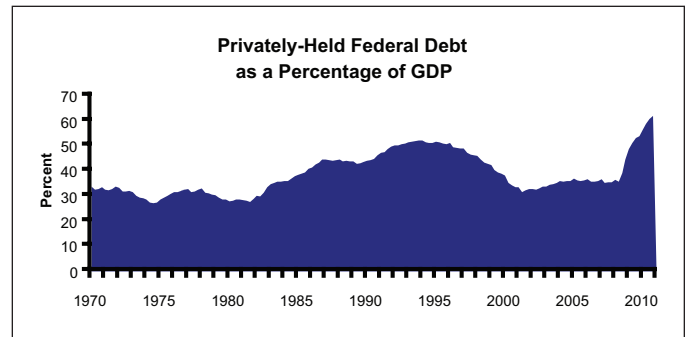


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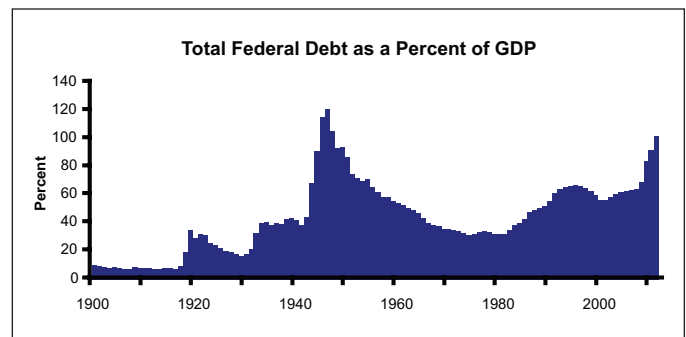


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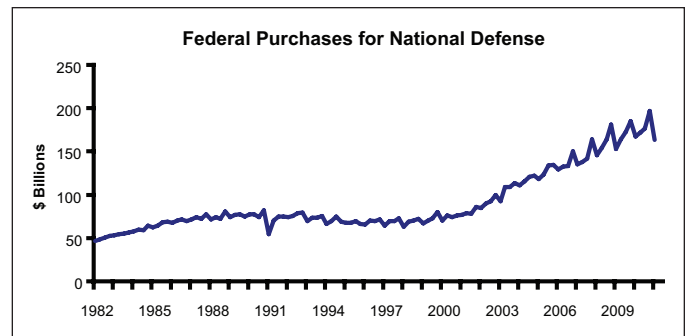


figure 12

Their political posturing made it seem like their positions were radically different, when in fact their difference represented a mere 0.17% of total budgeted

federal spending. The \$38 billion in “cuts” sought by the Republicans amounted to just 1.1% of all federal spending while, the \$32 billion “cut” backed by the Democrats was a mere 17 bps less.

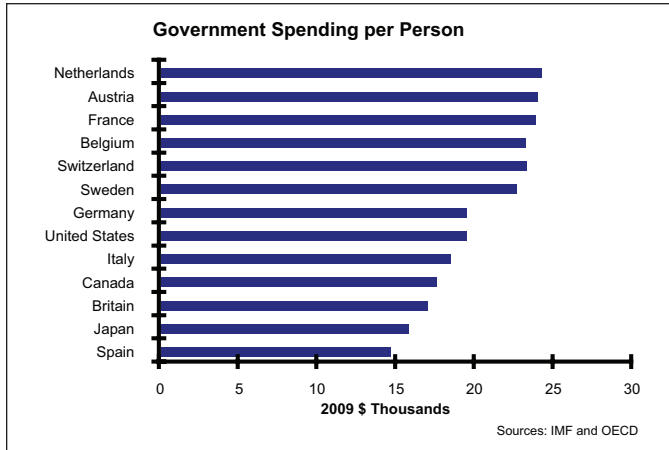


figure 13

Adding to the farce was the fact that, of these proposed cuts, \$6 billion was unspent Census appropriations, while another \$5 billion was for non-cash reserves for a victims fund. The icing on the cake is that none of these “cuts” represented spending less than the previous year. All proposed “cuts” were only smaller increases than already budgeted over the previous year.

This was absurdist political theater, full of sound and fury, signifying nothing about how either party plans to attack a very serious deficit. The encore to this political farce is the fact that raising the federal debt ceiling is now being proposed by Democrats led by President Obama, who voted against raising federal debt ceilings when it was supported by President Bush and the Republican leadership just a few years ago. Payback is a bitch.

Setting a target of 3% of GDP as the upper-bound federal deficit on a \$15 trillion GDP implies a maximum federal budget deficit target of \$450 billion. The current budget deficit is \$1.6 trillion. Thus to achieve this upper-bound target, we need to trim \$1.15 trillion.

If tax revenues rebound \$250 billion to their pre-crash peak, and we reduce defense spending in real terms to 2000 levels, it saves \$400 billion. And as the economy recovers, we will reduce income security transfer payments to their real level in 2005, saving \$190 billion. If we implement an across-the-board 5% reduction in federal payroll, it will yield a savings of about \$20 billion. Yet even if all of these were to occur, we would still fall \$290 billion (2% of GDP) short of

the maximum sustainable deficit of \$450 billion. And this is against a backdrop of the impending explosion of Boomer retirement entitlement expenditures — all while our political leadership postures over \$6 billion.

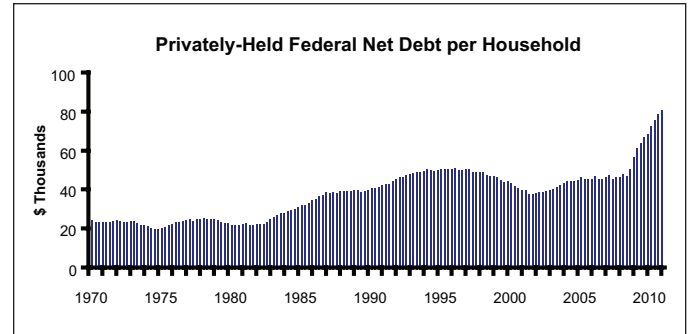


figure 14

The trend in federal spending over the last 20 years is a 5.2% annual increase, versus an annual increase in federal revenue of 4.1%, both relative to a 2.4% increase in CPI annually over this period. And for the past 10 years, federal tax receipts have grown by a mere 2.7% (versus an annual CPI increase of 2%), while federal outlays have grown by 6.7% annually. This has resulted in a 4% annual increase in the federal deficit. The result is that privately held federal debt is \$9.1 trillion today. This amounts to \$30,000 per person, versus just \$15,000 per person 10 years ago.

The federal government is spending \$33,000 per household in 2011, versus expected revenues of \$17,000 per household. The pattern was basically the same in 2010, and is the realistic expectation for 2012. That is, every household has the government spending \$33,000 on its behalf. What are they getting in return? What they will have to show for it is \$48,000 in accumulated deficit per household for 2010-2012.

It is worth noting that increased defense expenditures (the legacy of the dearly departed Osama Bin Laden) over the past decade amounted to \$3 trillion. Had this spending not occurred, our outstanding debt would be roughly 30% lower. This spending and the

*Historically, the federal government has spent approximately 18% of GDP; today it is spending 25% of GDP. Is it any wonder that the economy is struggling, given that one quarter of all spending is done by the least efficient sector in the economy?*

thousands of deaths and injuries relating to the War on Terror underscore the value of peace and the need to end our military activities as expeditiously as possible.

In the last 40 years, there have been only four years of budget surplus, and only 2000 saw a federal budget surplus without the benefit of Social Security transfer payments. Historically, the federal government has spent approximately 18% of GDP; today it is spending 25% of GDP. Is it any wonder that the economy is struggling, given that one quarter of all spending is done by the least efficient sector in the economy?

Medicare and Social Security were 20% of a \$900 billion federal spending program in 1970; by 2010 they had risen to 40% of a \$3.5 trillion spending effort. Does the phrase “out of control” come to mind?

And the problem is not only with the federal budget. Many state and local governments teeter on the edge of being unable to service their debts, and this is before consideration of the massive unfunded pension liabilities. But by any measure, almost all of these governments have the ability to pay. That is, citizens have the resources to pay, but refuse to give the money to their governments. In this regard, the citizenry is like a corporate parent with respect to the liabilities of an unproductive subsidiary. Therefore, the governments are not technically insolvent; but rather, lack the liquidity with which to satisfy their liabilities. But as long as citizens believe they are not getting their money’s worth, the last thing they will willingly do is dump more money into corrupt and inept government bodies.

Who pays for all of this spending? The top 1% of taxpayers pay 1.35 times their proportion of income in federal taxes. This means that the top 1% pay more than a third of their pro-rata income share in taxes. The 2<sup>nd</sup>-20<sup>th</sup> percentiles pay 1.09 times their pro-rata income share in taxes. The 21<sup>st</sup>-40<sup>th</sup> percentiles, however, pay only 0.9 times their pro-rata income share in taxes, while the 41<sup>st</sup>-60<sup>th</sup> percentiles pay just 0.73 times. Interestingly, the bottom 40<sup>th</sup> percentile pays very little in taxes, but does pay approximately commensurate to its share of total income. Thus, the very highest-income citizens in our society pay far more than their proportional share of income in federal taxes, while the middle class (defined as the 20<sup>th</sup>-60<sup>th</sup> percentiles) pays far below its share in taxes relative to its share in income. This reflects the hollowing out of the middle class tax burden at the relative expense of our highest-income citizens.

In notable contrast to the U.S., Japan has a roughly proportional tax system, with the top 10% paying 1.01

times its pro-rata share of income in taxes, versus 1.35 times in the U.S. The truth is that the U.S. tax structure is far more progressive than that of supposedly progressive Europe. Germany is far less progressive than the U.S. at 1.07 times, while France, the U.K., and Canada are at 1.1 times, 1.20 times, and 1.22 times, respectively. The Organization for Economic Co-operation and Development (OECD) average is 1.11 times, far below the progressivity in the U.S. This extreme U.S. tax progressivity has risen steadily over the past quarter century, just as the effective zero federal income tax has approached the 50th income percentile. That is, more people pay zero taxes, while an even smaller fraction

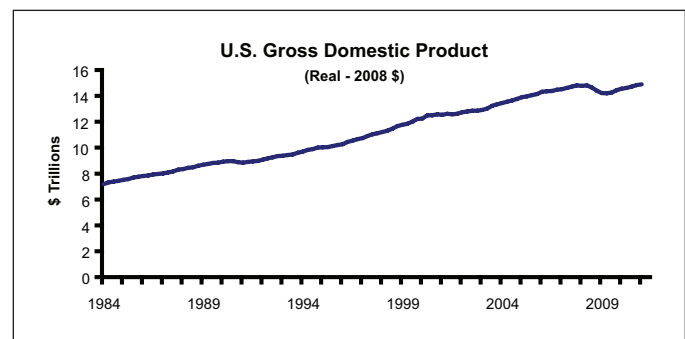


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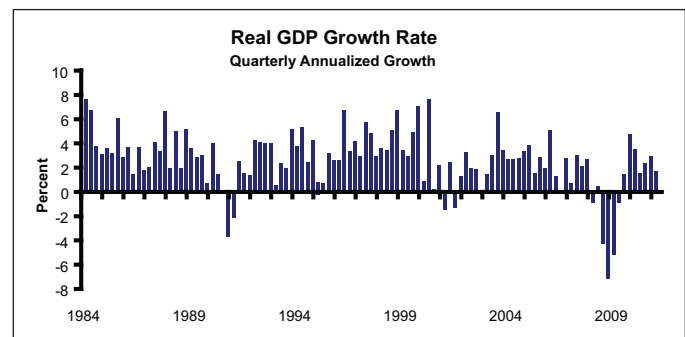


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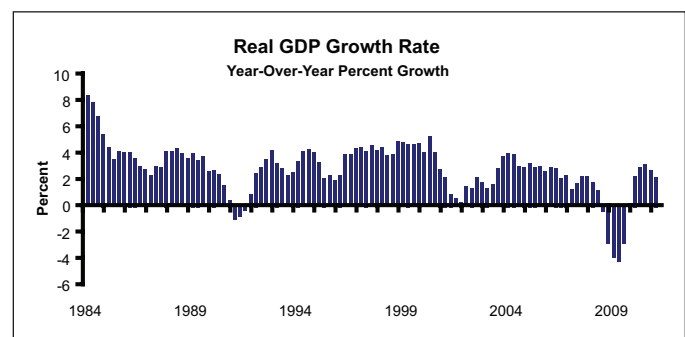


figure 17

shoulders an ever larger tax burden.

Real GDP has risen 4.9% since the second quarter of 2009, while nearly 1.8 million jobs have been added since the respective low-points of both the Payroll and Household Surveys. The private sector has added 2.1 million jobs since the February 2010 low-point, remaining 6.7 million jobs below its peak.

Global industrial output has seen a notable rebound since the bottom of the great recession. The U.S. is up by 11.2% after a 19.6% decline, leaving it just 10.7% below its peak. Similarly, Canada is up 12.3% after a 24.5% decline, leaving it 15.2% below its peak. The U.K., Japan, and Germany lost 13.9%, 32.3%, and 23.5%, respectively

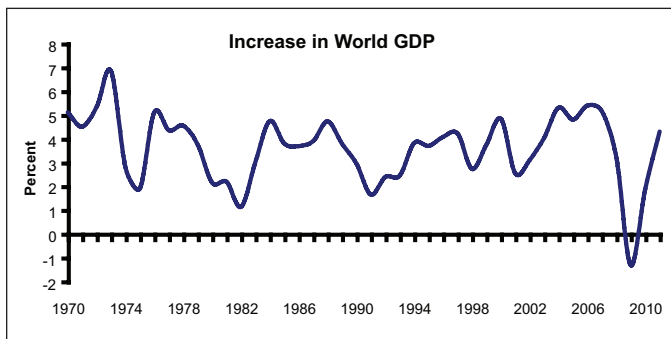


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figure 19

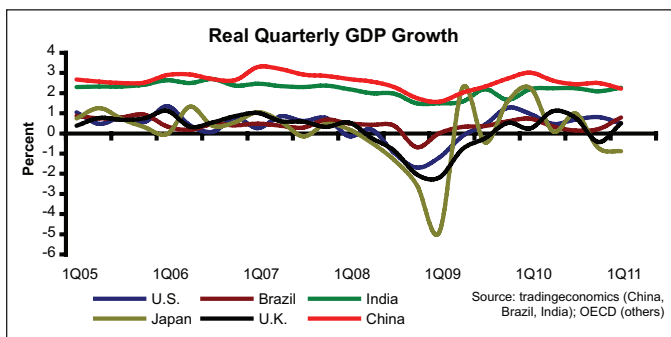


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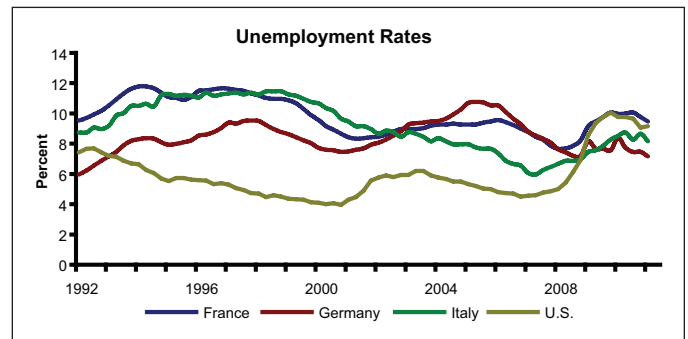


figure 21

during the recession, but have regained 6.3%, 24.6%, and 25.4%, respectively.

The latest estimates by the Economist Intelligence Unit (EIU) of real GDP growth thus far in 2011 range from 9% in China to -4.1% in Greece. The top performers in 2011 include China (9%), India (8.9%), Argentina (6.7%), Saudi Arabia (6.3%), Chile (6.2%), Indonesia (6.1%), Singapore (5.5%), Hong Kong (5.3%), and Malaysia (5.1%). In addition to Greece, the only other nation with a negative growth estimate for 2011 is Japan (-0.2%), driven by the expected near-term impact from the recent disasters. GDP growth in most G8 countries fell into the middle of the range, with Canada at 2.9%, France at 1.9%, Germany at 3.2%, Italy at 1.0%, Japan at -0.2%, the U.K. at 1.6%, the U.S. at 2.6%, and Russia at 4.2%.

We anticipate that U.S. real GDP will grow at roughly 3.4% over the next year. This is lower than our previous estimate of 4%, as a result of oil price increases of \$30 per barrel.

We cannot imagine that OPEC investors who are worried about “what if...” scenarios will prefer Europe over the U.S. for their investments. The European economy is hampered by socialism (as is the U.S. to a

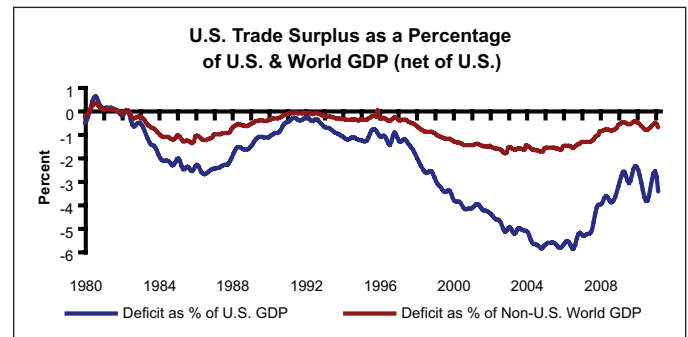


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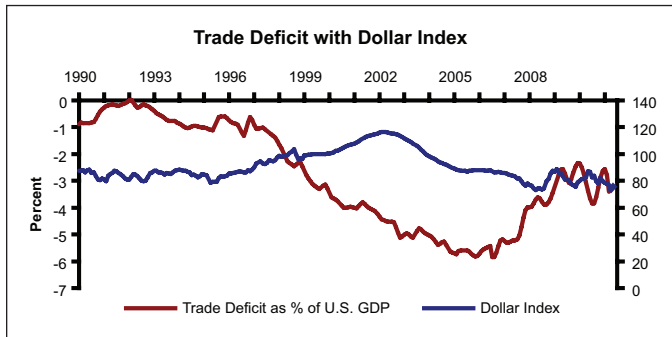


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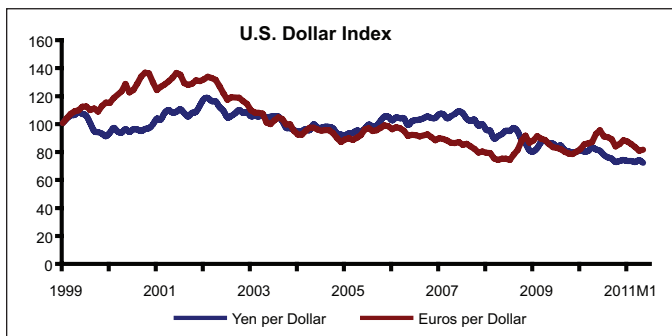


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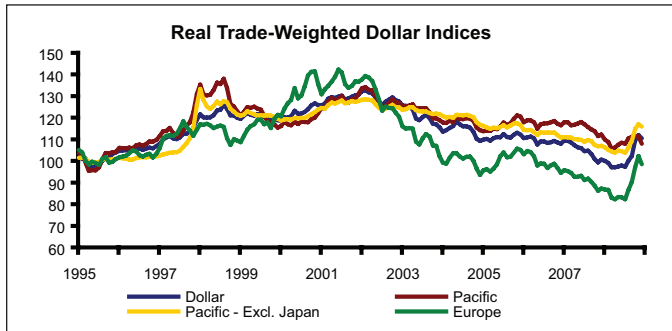


figure 25

lesser degree), a weak financial system, and an inherently unstable currency on the brink of unwinding. They may hate the U.S. outlook, but currency is a game of one economy relative to others. And relative to Western Europe, the U.S. (and thus the U.S. dollar) looks great, making it very difficult for these nervous investors to go elsewhere. However, they will eventually demand higher interest rates from the U.S., and we would not be surprised if they demand another 100-250 bps in interest on long-term debt during 2011.

The U.S. government missed a unique opportunity over the last two years when it shortened the maturities on outstanding government debt, rather than locking in very

long debt at historically low rates. Instead, they swapped 10-year debt for 1-5-year debt, playing the yield curve to reduce the budget deficit by borrowing short-term. That was a serious mistake.

That is, unless a phone conversation took place between the U.S. Treasury and China which said, “We will only buy your short-term debt, as we do not trust you enough in terms of inflation to buy your long-term debt at any yield you will accept.” In this case, shortening maturities was the only choice besides getting serious about reducing our federal deficit. That said, the truth is that the “bond mafia” is long gone, with no private investors buying long-term U.S. government debt. Instead, these investors have exited the market at current yields. So who is buying bonds?

The only players left are governments (not profit seekers), including the U.S. government via the Fed. The result is that the government bond market, here and elsewhere, is no longer a market of disinterested, profit seeking buyers and sellers. Instead, it is dominated by the U.S. government selling debt to itself (the Fed) and politically motivated foreign governments. U.S. bond rates are now like those in Japan: carefully manipulated prices set by the government. As such, they are no longer indicators of the market’s “risk-free rates.”

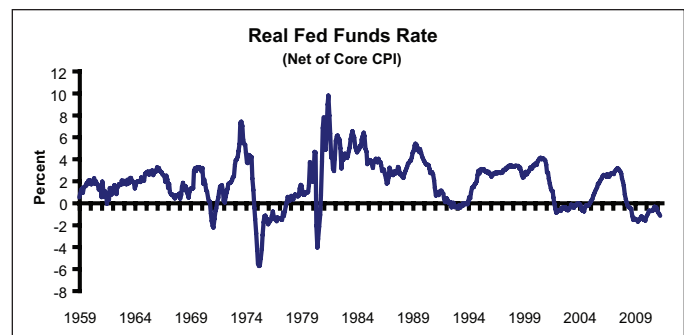


figure 26

What opportunities and implications does this create for real estate investors? First, if you can borrow based on rates made artificially low by government manipulation, take as much as possible for as long as possible. This means investors should look to long-term, fixed-rate debt. As long as you can cover the debt service of the longer term, go long. Given the choice of 3- or 5-year loans, do 5; if it is 5-year or 7-year, do 7; 7- or 10-year, do 10. A second critical implication is that real estate investors who are comfortable with the expected total return of 200 bps above the “risk-free rate” need

greater than expected return spreads when the “risk-free rate” is set by government manipulation than when it is set by free market forces. This is because when the manipulation stops — and it eventually will — true investors will determine market pricing, and rates will abruptly rise 100-200 bps. And when these interest rates rise, so too will cap rates. Stated differently, if you are not a bond buyer at a 3.2% yield on a 10-year Treasury, why would you be a real estate buyer at a 3.2% yield plus a 200-bp spread? The bond market is currently rigged in the U.S. and many other countries by governments selling to themselves and foreign counterparts. Don't be fooled by such price rigging.

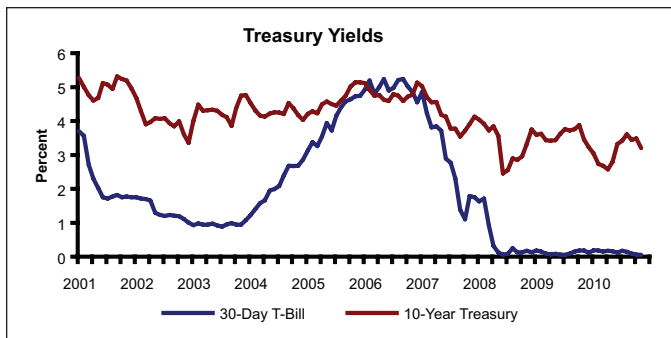


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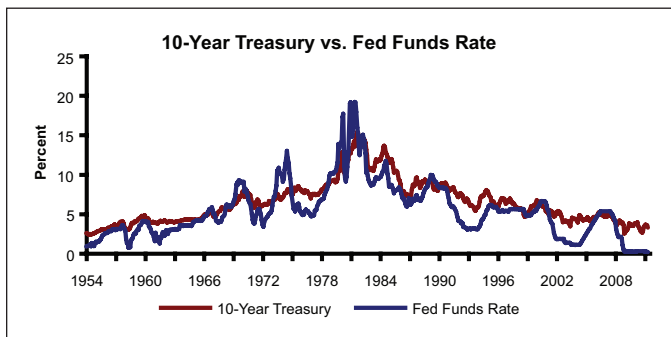


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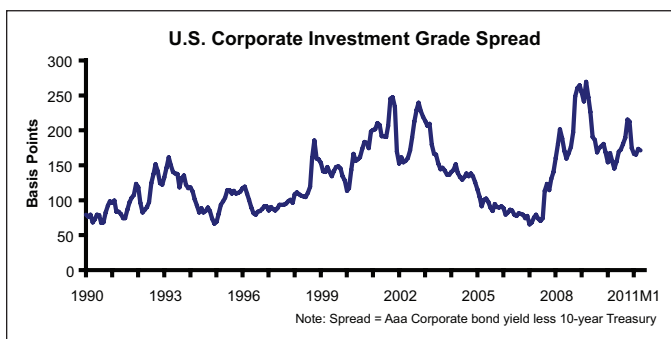


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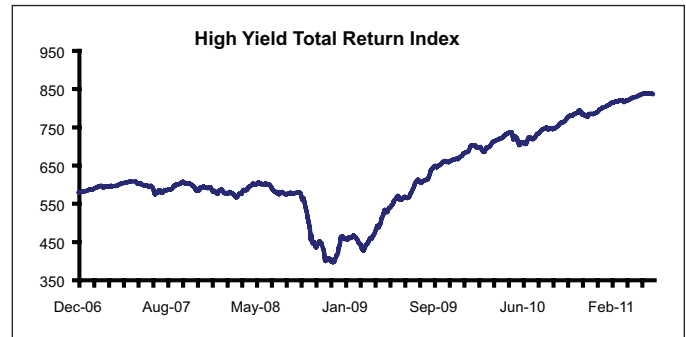


figure 30

Many investors are tempted to play a steeply sloped yield curve, as exists today. But steep yield curves are almost always the result of the Fed artificially lowering the short end of the curve. In such conditions, lenders tend to seek a spread over the cost of their funds at any given maturity. Hence, if the (seemingly) “riskless” rates are 1.5% on a 3-year maturity, 2% for a 5-year maturity, and 3.5% for a 10-year maturity, they will quote spreads above these rates. Typically the spread offered to borrowers is roughly the same irrespective of maturity, and often the spread on 3-5-year maturities is narrower than for a 10-year maturity. The result is that in our examples, borrowers in an environment of artificially low rates and a steep yield curve can borrow at 3.5% with a 3-year maturity (200-bp spread), or 4.25% with a 5-year maturity (225-bp spread), or 5.9% for a 10-year maturity (240-bp spread).

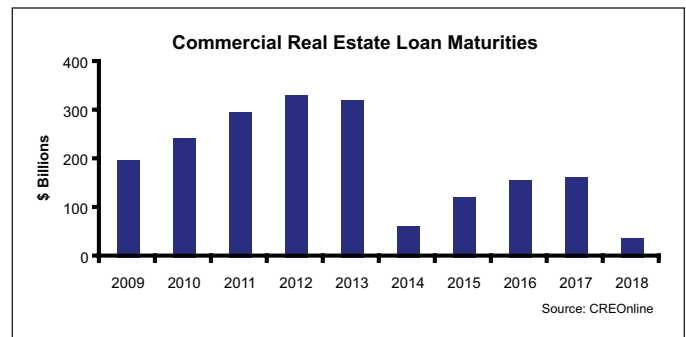


figure 31

The borrower faced with this situation is also faced with the perverse incentive to finance a long-term asset with short-term liabilities. But the borrower's risk is far greater with the mismatched financing. This is because the original short-term loan was (almost by definition) issued in an environment where the short end of the yield curve is artificially low. This means the odds are high that upon maturity, rates will be much higher. After all, that is

The newly released 3<sup>rd</sup> edition of  
**Real Estate Finance  
 and Investments:  
 Risks and  
 Opportunities**



...is an exploration of the key concepts of real estate finance and investment strategy. It is not a mere formulaic

analysis of numbers designed to give you “the answer” to any and all real estate investment decisions. Instead, this book is designed to help the reader understand that there is no singular or simplistic answer to any real estate finance problem. Rather, real estate finance is fundamentally driven by judgment and experience, with an eye to the numbers.

The 3<sup>rd</sup> edition includes updated discussions about CMBS, real estate cycles, corporate real estate, the use of leverage, and development. The text also includes 21 of Dr. Linneman’s articles on capital markets, real estate pricing, real estate cycles, private equity funds, REITs, and corporate real estate. These articles serve to enhance the text by providing additional depth of analysis.

“Peter’s book brings a much needed blend of theory and practice to the analysis of real estate finance and investment. Too often this field is presented as little more than algebra, with students assembling rows and columns of numbers, but having no idea what they mean.”

*Samuel Zell, Chairman, Equity Group Investments*

“In contrast to many academic texts, Peter’s book reveals the challenges and excitement of the industry. His examples are realistic, revealing the author’s grasp of both theoretical complexity and the necessity of pragmatic decision making. The lively writing style is consistent with his approach as a valued industry advisor: clear, concise, and on target.”

*Albert Behler, President, Paramount Group Inc.*

“This book offers students a rare glimpse into the tools and decision making of real estate finance. Its straightforward exposition allows one to grasp the challenges facing real estate investors, and provides them with an excellent foundation upon which to build their careers. This book will be required reading for new real estate professionals for many years to come.”

*Dean Adler, CEO, Lubert-Adler Partners*

To learn more or to order,  
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why the yield curve is so steeply sloped. In addition, 3- and 5-year borrowers must renew their loans four times and two times, respectively, over a 15-year time period, versus just once for the 10-year borrower. This not only means less brain damage and lower financing and legal fees, but also reduces the risk exposure to the vagaries of capital markets. And history repeatedly shows that the real risk to borrower equity is the exposure to an almost absolute unwillingness of capital markets to lend, rather than higher rates. In fact, long-term debt is also less risky for lenders. This is because while long-term commitments increase the lender’s interest rate risk, it greatly reduces their exposure to repayment risk on loan maturity. Thus, in a lending world that adequately built in the lumpy massive losses occasionally suffered during black swan events, notably smaller spreads would be charged on long-term maturity debt.

Real U.S. household wealth bottomed in the first quarter of 2009 at \$50 trillion (2008 \$) and stands today at \$56 trillion, 2.8% higher than a year earlier and 12.4% higher than the trough. Real tangible assets, including real estate and consumer durables, declined by \$1.2 trillion (5.3%) over the last year and by \$575 billion (2.5%) in the first quarter, while financial assets (including deposits, credit market instruments, and equities) increased by

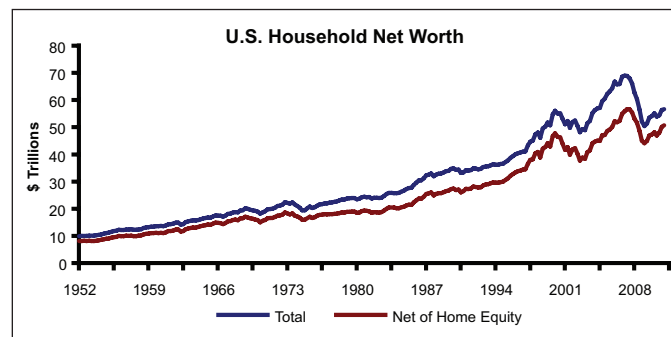


figure 32

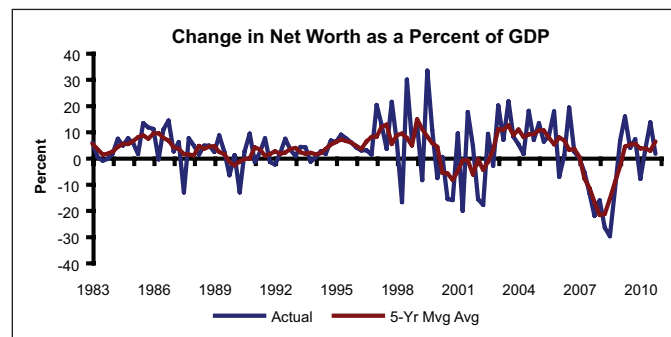


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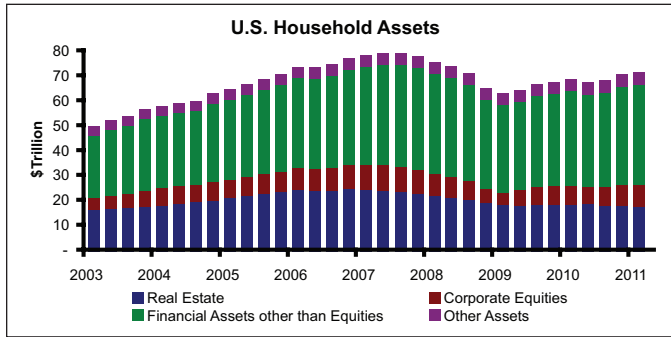


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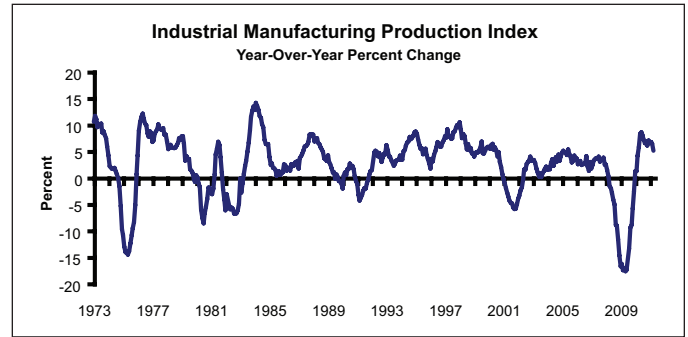


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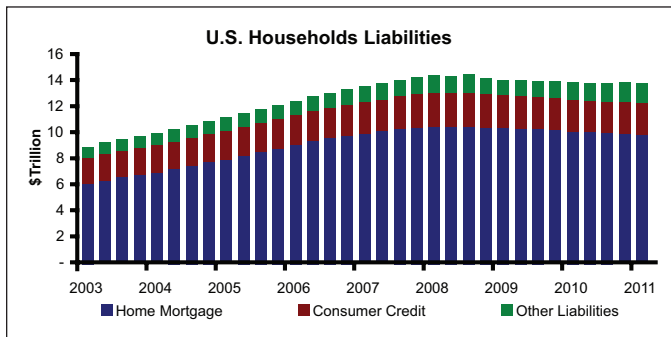


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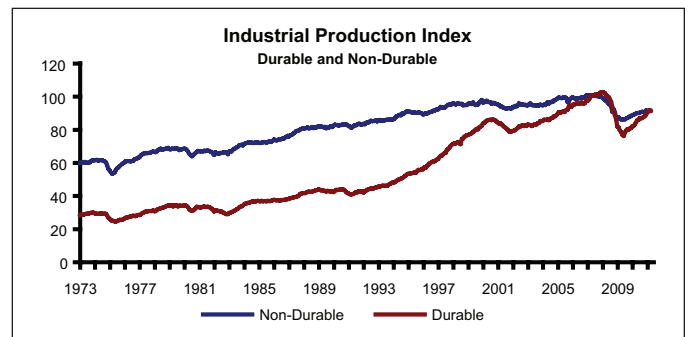


figure 38

\$2.4 trillion (5.3%) year-over-year and \$536 billion (1.1%) quarter-over-quarter. Home equity as a percent of household net worth stands at 10.6%, versus the 50-year historical average of 19%.

After hitting a low of 777,100 vehicles in February 2009, monthly automobile and light truck sales were 979,500 in May 2011. This sector is in a sustained rebound, but remains constrained by the 40% of households that remain worse off than in 2008.

From the low of April 2009, total vehicle sales increased by 25.5% on a real dollar basis through April 2011, and by 26.4% on a unit basis through May. Within the various vehicle categories, monthly unit auto sales

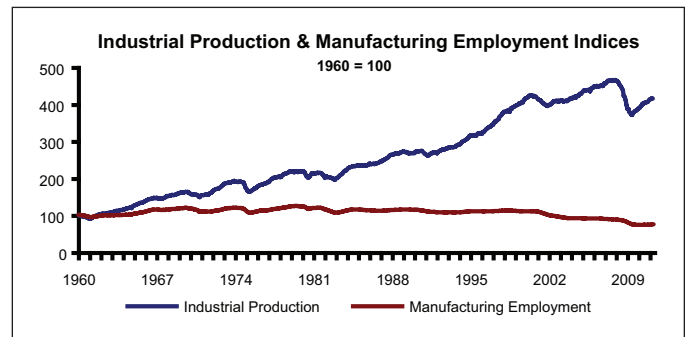


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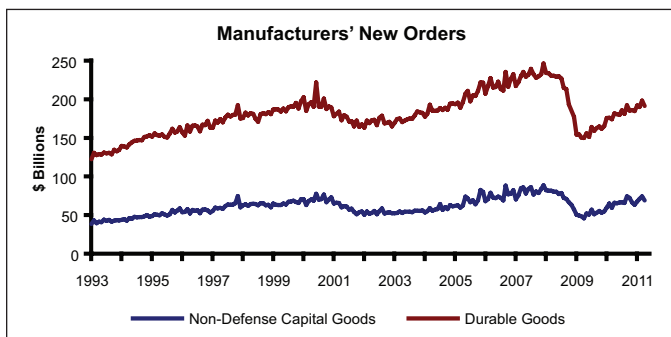


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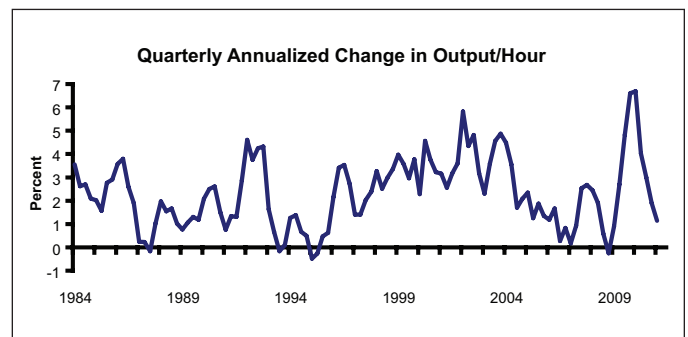


figure 40

increased by 22%, from 392,000 vehicles in January 2009 to 478,400 units in May 2011. From their respective low-points, monthly unit sales of light trucks grew by 120,000 vehicles (31.8%), while heavy truck unit sales grew by 61%, or an additional 9,000 units.

Durable and non-durable goods production fell by 25.9% and 14.9% from their respective peaks before the recession. Since these declines, durable goods production has risen by 19.8%, leaving it 11.4% off its peak. Non-durable production has risen by 6.2%, and is off the previous peak by 9.6% as of April 2011. In fact, as we forecasted two years ago, manufacturing is a key leader in the cyclical rebound.

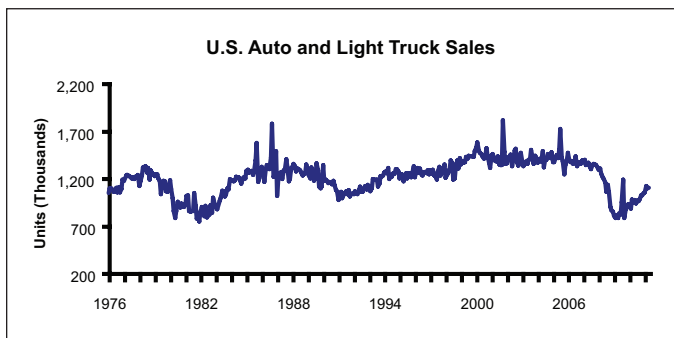


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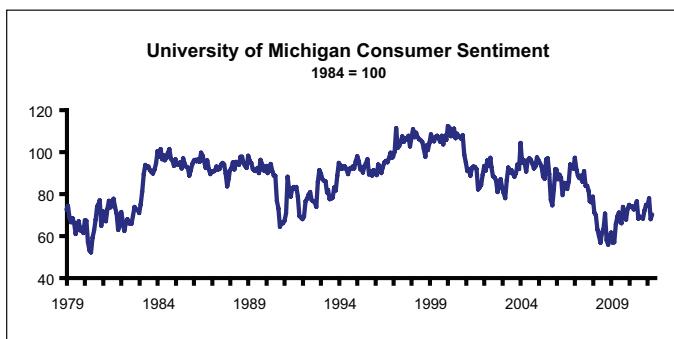


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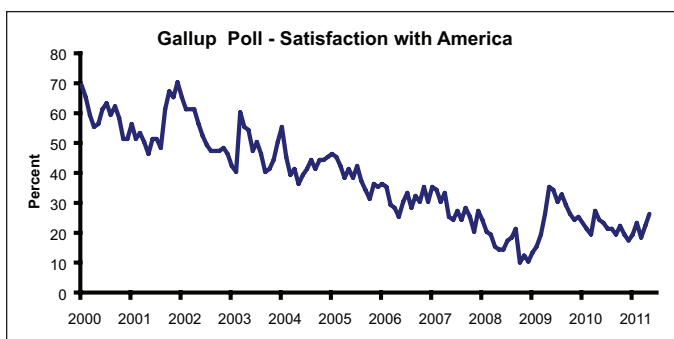


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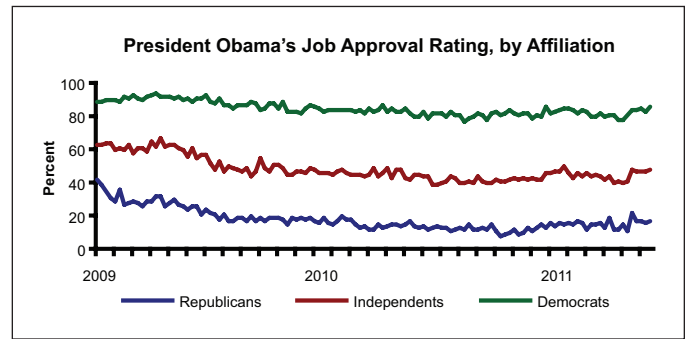


figure 44

The University of Michigan Consumer Sentiment Index reached a pre-recession peak of 96.9 in January 2007, before plunging to a low of 56.3 in February 2009. It stood at 69.8 in April 2011. We expect it to rise to about 80 (revised downward from 90) by late 2011, as the economy continues its slow rebound and more households become better off than ever before. In comparison, the Conference Board Consumer Confidence Index also showed improvement in April 2011, but then fell 5.2 points to 60.8 (1980 = 100) in May.

The S&P 500 rose from a low of 676.5 in March 2009 to around 1,270 as we went to press in late June 2011.

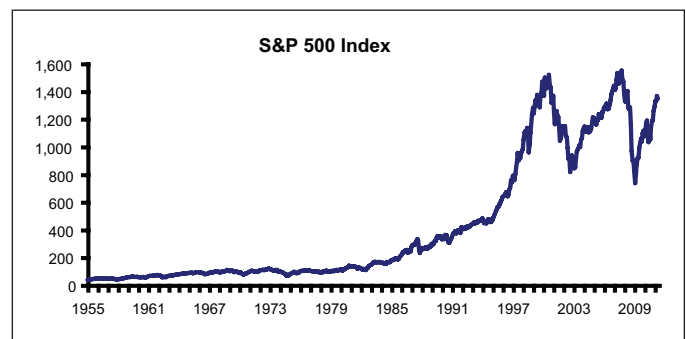


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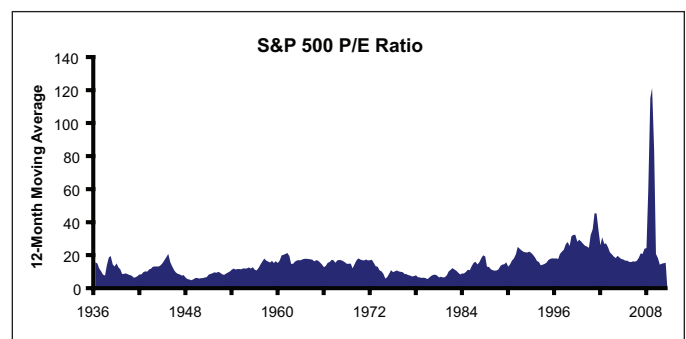


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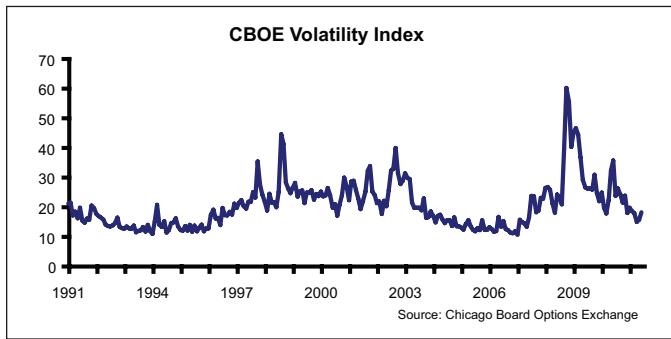


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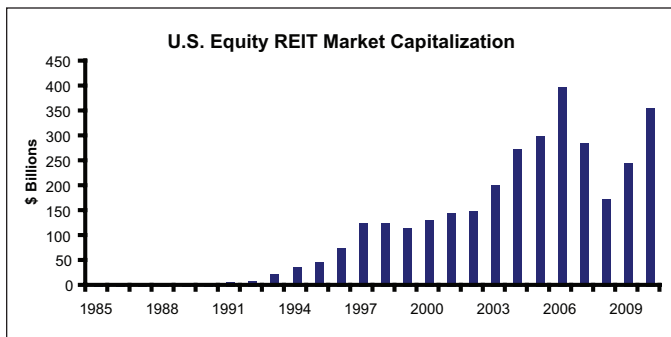


figure 48

In fact, we view the S&P as the best indicator of greed, as the perpetuity stream of profits changes little over the business cycle (perpetuity is a long time). Instead, we believe that S&P valuation changes tend to reflect views

*...the S&P soars as greed ascends and declines as fear rises. By this standard, greed is about 75% back, as the S&P stands at 75% of the way through the index's high and low range over the past decade.*

of the riskiness of these streams — that is, the discount rate. When greed is rampant, risk seems low, but when fear prevails, risk seems high. Hence, the S&P soars as greed ascends and declines as fear rises. By this standard, greed is about 75% back, as the S&P stands at 75% of the way through the index's high and low range over the past decade. And greed manifests itself with about a 12-18-month lag in private real estate markets versus the S&P. By this standard, private real estate greed is about 70% back, as 15 months

ago the S&P was 70% through its high and low range over the past decade.

Thus, while real estate pricing has rebounded rapidly, the flow of capital will continue due to the allocation decisions of institutional investors. And while cap rates

are down for occupied space, the value of “empty space” is still being discounted considerably. The extreme case of “empty space” is development/land, which has seen flickers of capital but largely remains an investor’s leper colony. This is in stark contrast to 2005-2007, when not only were cap rates low, but empty space and development was highly priced. Just as a woman’s greatest asset is often a man’s imagination, when greed abounds, real estate’s greatest allure is empty space.

Total real retail sales in the U.S. bottomed in March 2009 at \$297.6 billion, and have since risen to \$336.8 billion in May 2011. Real retail sales, excluding autos, increased

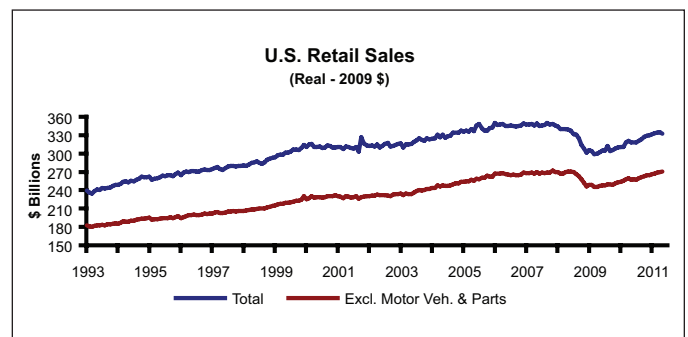


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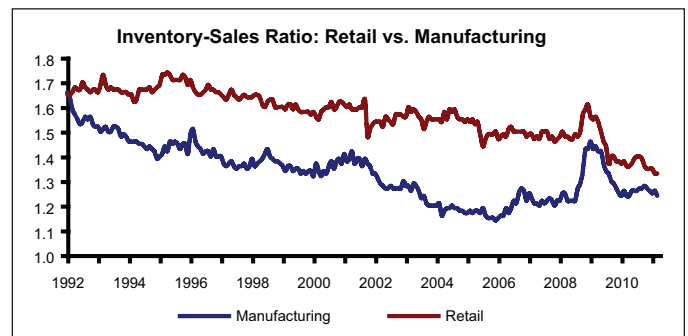


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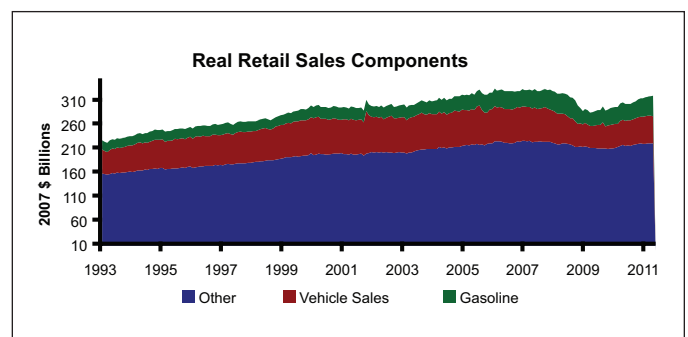


figure 51

by 12.4% during the same period. The recent recovery is heavily oriented towards high price points and luxury. The segments exhibiting positive growth between March 2009 and May 2010 included: gas stations (51.2%); health and personal care stores (4.1%); sporting goods, hobby, book, and music stores (5.9%); building materials, garden equipment, and supply stores (7.2%); grocery and liquor stores (4.1%); and restaurants and bars (3.8%). Department stores (-5.6%), furniture and home furnishing stores (-0.2%), and electronics and appliance stores (-0.8%) all registered declines in real retail sales compared to May 2010. Certain categories of sales were only reported through April 2011 as we went to print. All of those retail segments, including electronic shopping and mail order (28.2%), clothing and shoe stores (6.5%), warehouse clubs and superstores (5.6%), and jewelry stores (18.3%) posted positive growth between March 2009 and April 2011.

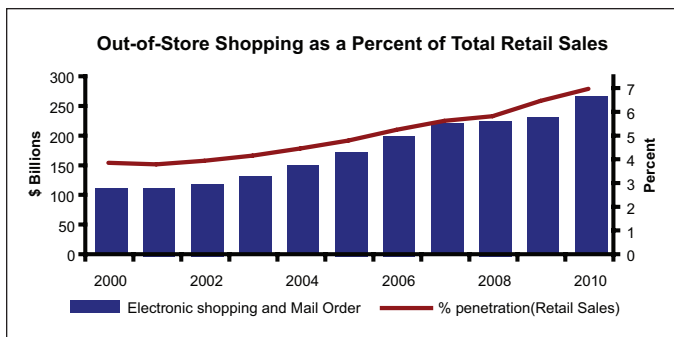


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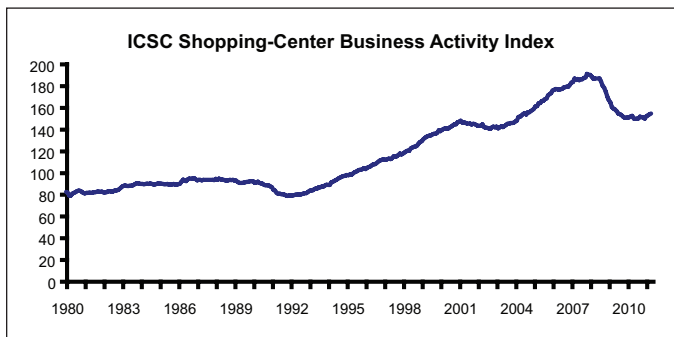


figure 53

The International Council of Shopping Centers (ICSC) publishes the Shopping-Center Business Activity Index, which is a composite cyclical industry indicator of shopping-center jobs, construction, sales, and interest rates. It peaked in November 2007 before declining by 21% through June 2010. It has subsequently risen by 3.3% through April 2011. Similarly, the ICSC-Goldman

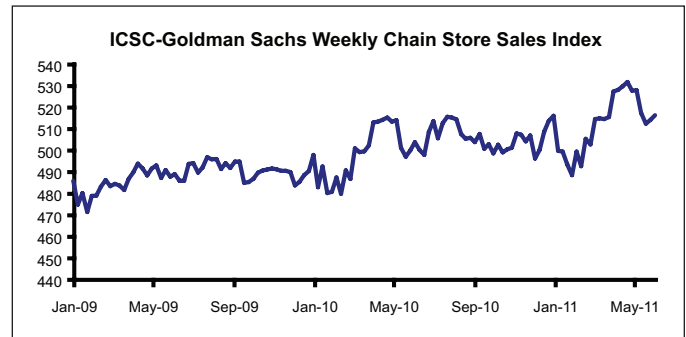


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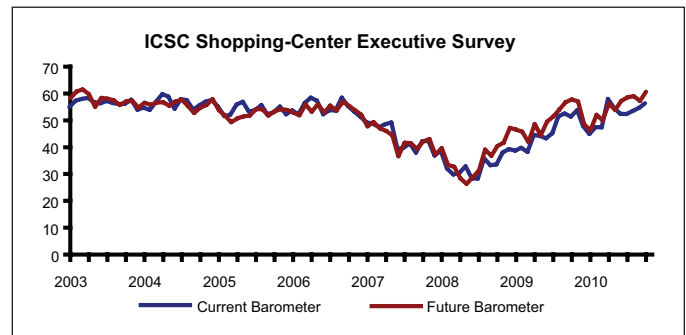


figure 55

Sachs Weekly Chain Store Sales Index rose by 5.7% from January through June 2011. ICSC's Shopping-Center Executive Barometer of Future Business is a compilation of components including sales, customer traffic, occupancy rates, rent spreads, and capitalization rates, where a reading over 50% indicates a growth sentiment. This index hit a low of 26.3% in December 2008 and stood at 60.7% in May 2011, the highest level since 2003.

Since its low of 64.4% in June 2009, manufacturing capacity utilization has risen 1,000 bps to 74.4% in April 2011, compared to a 20-year average of 79%. Over the past six months, it has risen by 150 bps, an indicator of improving manufacturing strength.

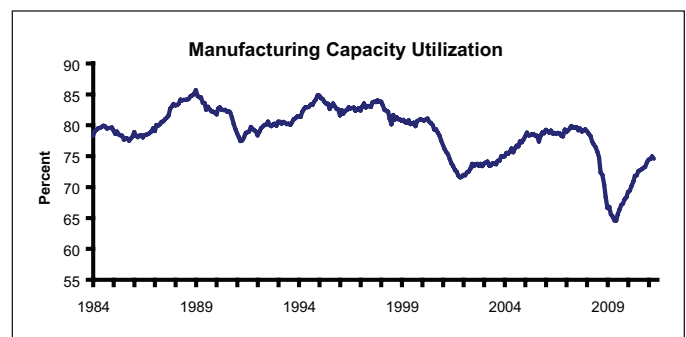


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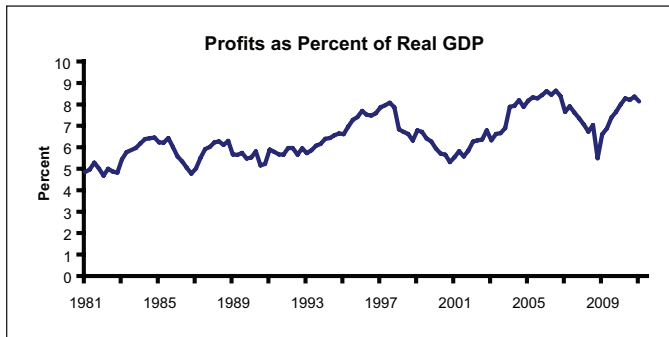


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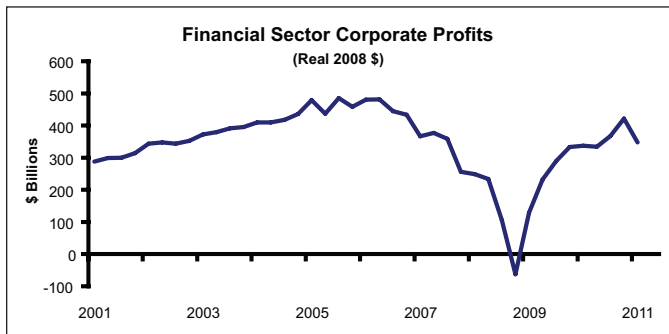


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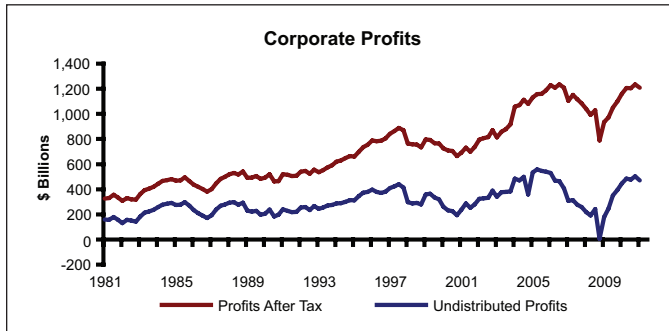


figure 59

Rebounding corporate profits remain the strongest driver of job growth, with almost all profits being retained and built up into enormous cash positions. On an annualized basis, real after-tax corporate profits in the first quarter of 2011 rose by \$711 billion compared to the third quarter of 2008, and \$195 billion over the past year. This 4.2% increase in year-over-year after-tax profits has resulted in a spike of 5.6% in undistributed profits, as corporations continue to keep their profits tightly locked in their vaults.

Companies have more cash than at any time in their history. Real undistributed profits made up just 18% of after-tax profits in the second quarter of 2008, but stood

at 38.6% in the first quarter of 2011 — a clear indication that firms are hoarding cash. This excess cash has only recently started to be distributed via dividends, buybacks, M&A investments, and hiring. The churning of corporate profits, rather than the stashing of them in dormant bank vaults, is powering the economy forward.

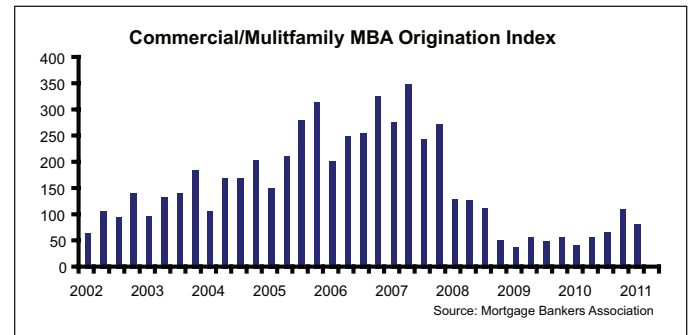


figure 60

Despite a dip in the first quarter of 2011, financial sector profits are nearly on par with the levels seen at the height of the boom. These profits are allowing for bank write-offs and a loosening of loan underwriting. New loans are being made to those with solid credit. By the first quarter of 2011, real financial service profits reached \$344.6 billion (seasonally adjusted annualized). This is in comparison to a loss of \$65.2 billion in the fourth quarter of 2008.

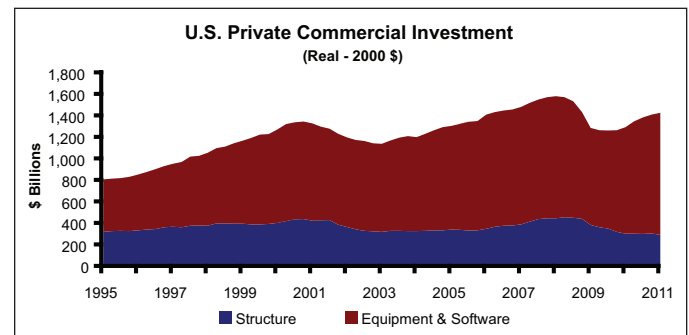


figure 61

From its peak in the first quarter of 2008 through the third quarter of 2009, U.S. private investment fell by 20%. It has since rebounded by 12.8%. Private investment in equipment and software has increased by 24.3%, while investment in new commercial structures declined by 15.9% during the same period, due to the excess supply of real estate associated with the loss of 8.8 million jobs.

Private residential investment has been flat since 2009. In the first quarter of 2011, it stood at \$323.5

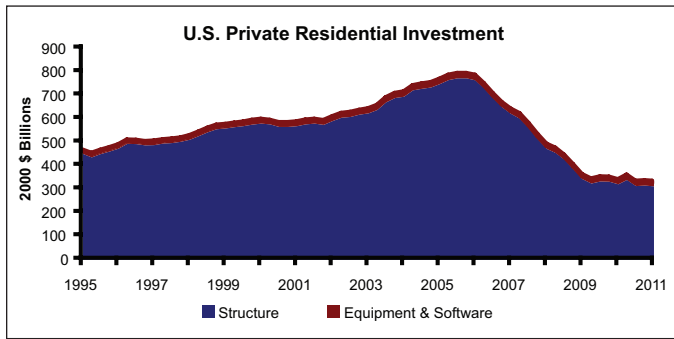


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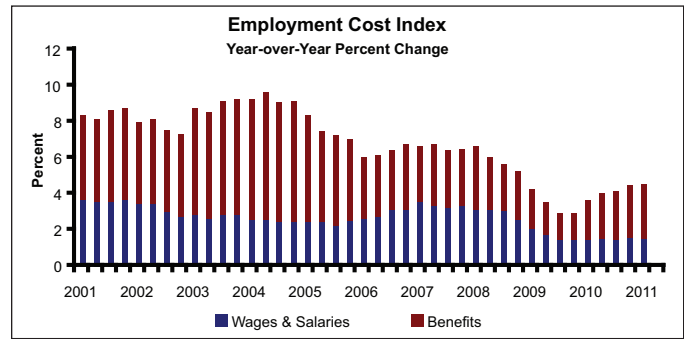


figure 65

billion, 58.7% below the 2005 peak of \$783.5 billion, as well as the 15-year average of \$558.4 billion.

Real disposable personal income rose by 1.7% year-over-year through the first quarter of 2011. Real wage and salary income declined by 7.1% during the recession, but stood at 1.4% above the bottom as of April 2011.

Real personal consumption expenditures were up by 2.7% year-over-year through the first quarter of 2011, and by 0.5% quarter-over-quarter. Real housing expenditures rose by 1.7% over the last four quarters, while auto expenditures grew by 16.4% over the same period and real personal expenditures on gasoline edged down by 2.3%. Note that while real personal

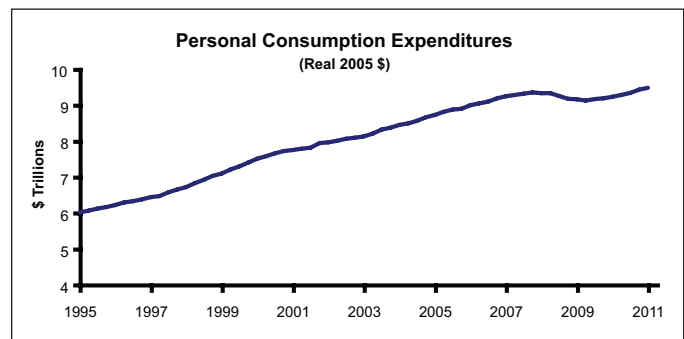


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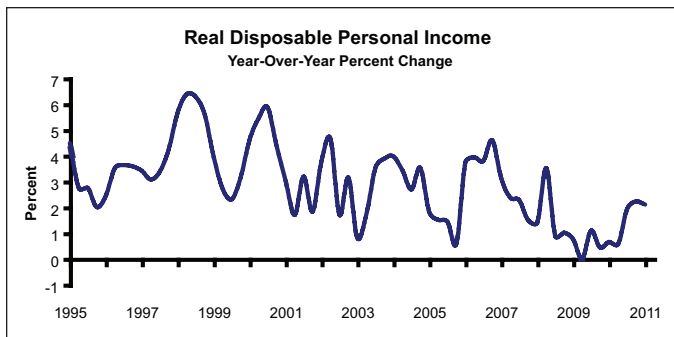


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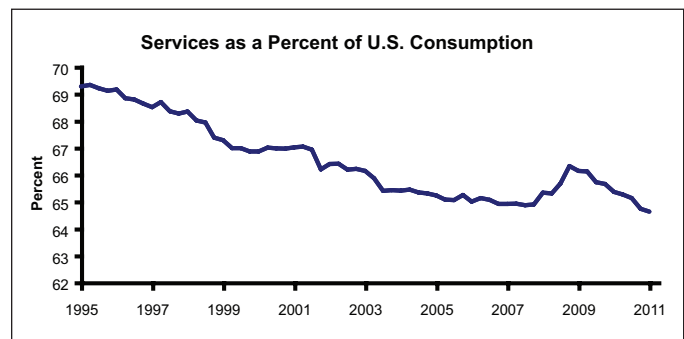


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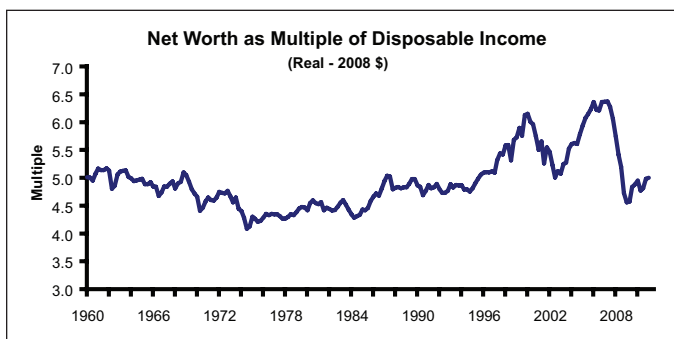


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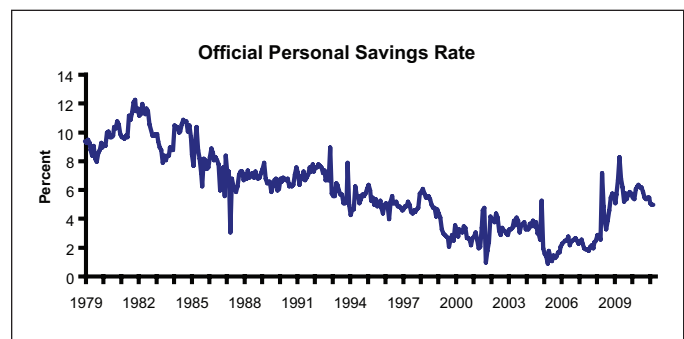


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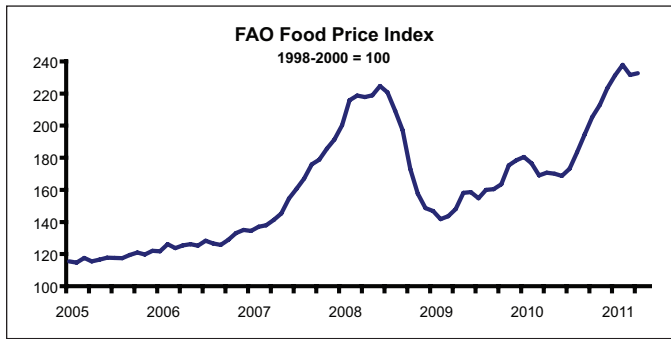


figure 69

consumption expenditures on automobiles are up by 16.4%, unit sales increased by 18.5% during the same period, indicating that people are either finding good deals or are making conservative purchases. Service consumption rose by 1.5%, with medical expenditures increasing by 2.8% year-over-year through the first quarter of 2011.

Quarter-over-quarter results for the first quarter of 2011 were 0.5% for total personal expenditures, 0.4% for housing, -1.5% for gasoline, 2.3% for auto, 0.4% for service, and 0.6% for medical.

The economy continues to recover slowly, with every major economic indicator — including housing

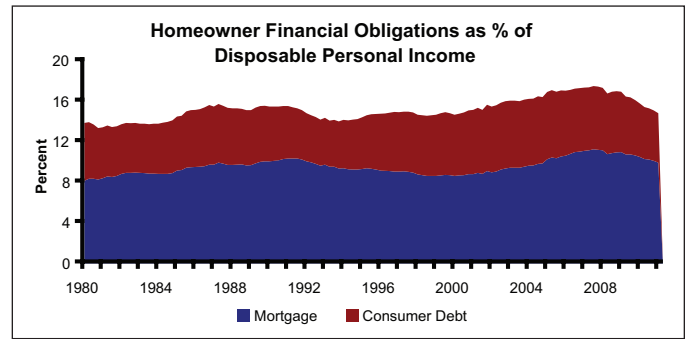


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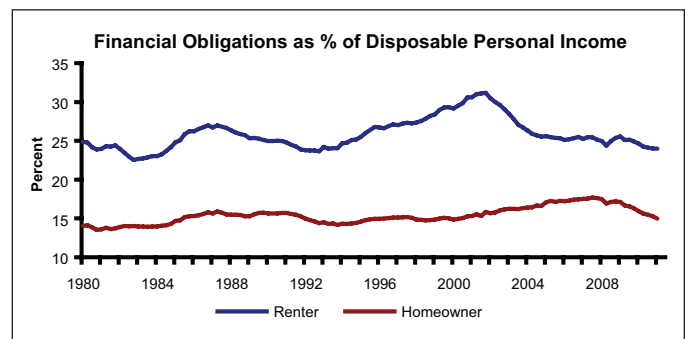


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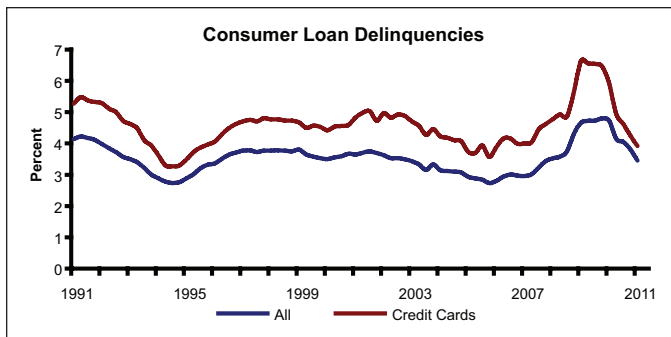


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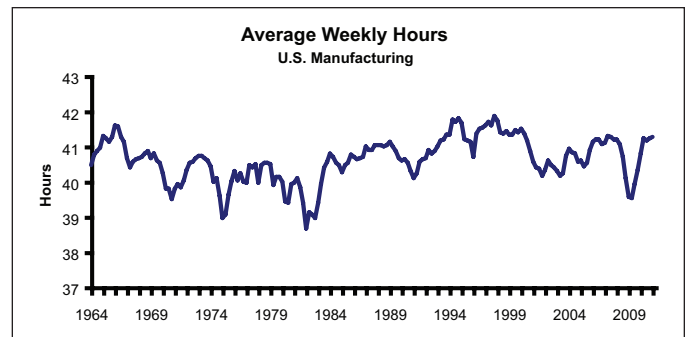


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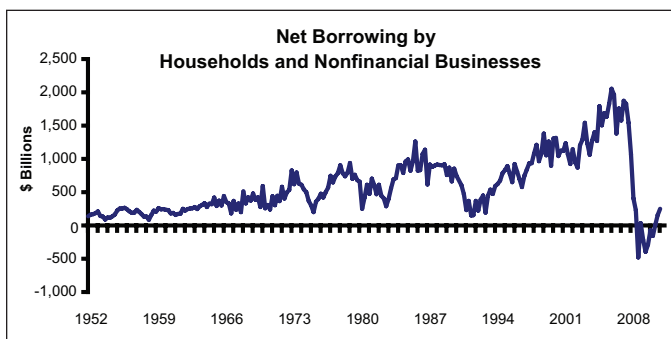


figure 71

starts — improving over recessionary troughs: average weekly manufacturing hours worked (4.4%); average weekly overtime hours (57.7%); new orders received by manufacturers for durable (23.4%) and non-defense capital goods (47.3%); single-family housing starts (9%); industrial production (11.9%); non-durable (4.5%) and durable (18.2%) goods consumption; and industrial inventories (16.0%). While housing lagged the other sectors, both multifamily and single-family starts are now above their respective lows. In short, we are two years into a 7-year cyclical recovery.

## It Is Still The Second Inning

We are still in just the second inning of a 9-inning economic recovery, and they continue to be long innings with lots of balls, walks, and fouls. After losing 8.75 million jobs (based upon restated Bureau of Labor Statistics data), we have only added 1.8 million jobs since the bottom. Due to repeated policy errors, this is a far slower pace than during a normal recovery, which is characterized by a jobless recovery phase until corporate profits rebound, and then strong job growth occurs. This time, even though corporate profits rebounded extremely rapidly, jobs have lagged far behind due to an ever changing regulatory environment and (not unrelated) a massively delayed housing sector recovery.

In the first quarter of 2011, we added jobs at an annual rate of 2.5-3 million, about a year later than we had predicted. This delay was the cost of political instability and tinkering. At this rate, it would take about 30 more months to return to 2008 peak employment. And then April employment growth registered an anemic 54,000. While we believe this will be revised to about 90,000 jobs, it is still awful. It is as if employers are saying: "We want to hire, but we see no clarity about how the enormous budget mess is resolved, and before we hire we have to be sure we are not crushed by the wake of the deficit."

With a modicum of stability finally returning to our political system since the November 2010 election, corporations are raising dividends and banks are beginning to lend their excess reserves. However, the recent insanity involving the National Labor Relations Board (NLRB) complaint against Boeing for moving its manufacturing facility from Washington State to South Carolina left the business community aghast and shaken. If the NLRB prevails in its allegation that Boeing's move to South Carolina was an unfair labor practice against a Machinist and Aerospace Workers union in Washington and Oregon, firms will no longer be able to move freely in order to avoid unions. This action clearly has chilled business confidence even as President Obama spouts "business friendly" rhetoric.

As we have noted in the past, in early 2008 (which seems like a lifetime ago), when people asked, "How are rent and occupancy for apartments, office buildings, retail, warehouses, and hotels?" the response was,

*...corporations  
are raising  
dividends and  
banks are  
beginning to  
lend their excess  
reserves.*

"Pretty good." Then we lost nearly 8.8 million payroll jobs. Until these jobs are recreated and an additional 1.5 million are added to fill space created since 2008, rents and occupancy rates will remain below their 2008 peaks, and little in the way of new development will be required. Only when employment approaches previous highs will rents and occupancy rates return to their previous peaks.

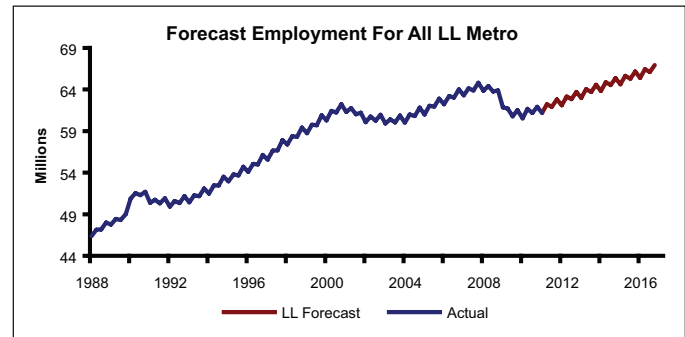


figure 75

We anticipate that 2011-2013 will see 2.2 million (an 800,000 downward revision), 3.2 million, and 3.5 million new jobs, respectively. These projections may seem overly optimistic, but keep in mind that these estimates imply that by the end of 2013, there will only be about 1.8 million net new jobs versus mid-2008, even though the population will be 16 million larger. It also means that the unemployment rate at year-end 2013 will still be approximately 7%. Hence our mantra remains: an employment recovery to uninspiring mediocrity.

Total Payroll employment peaked in January 2008 at nearly 138 million jobs, bottoming two years later at 8.75 million fewer jobs. We have regained 1.8 million jobs through May 2011. In comparison, the Household Survey, from which unemployment statistics are calculated, indicates that employment peaked in November 2007 at about 146.6 million jobs, bottomed in December 2009

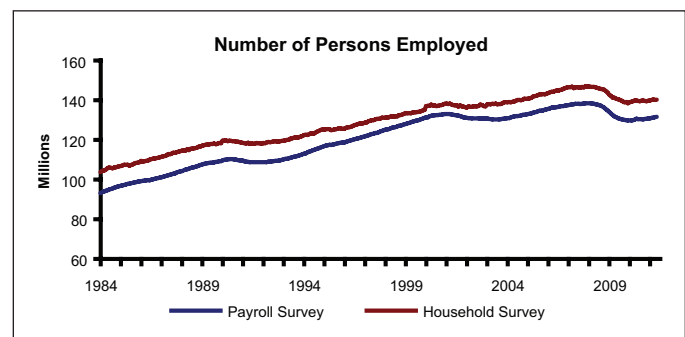


figure 76

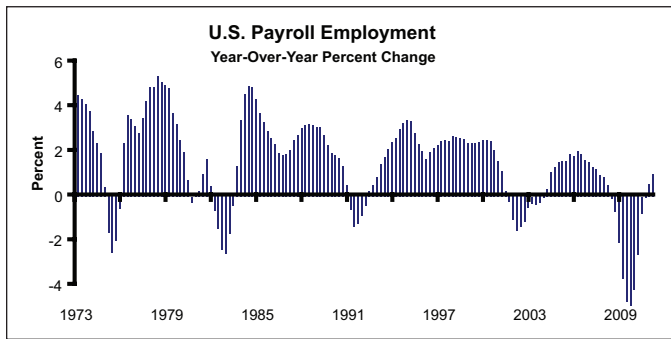


figure 77

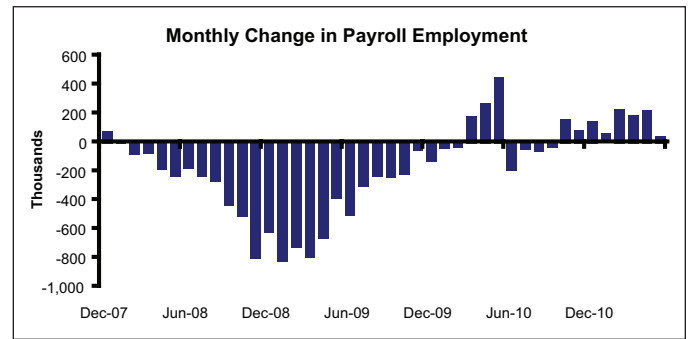


figure 79

with 8.6 million fewer jobs, and has since grown by more than 1.8 million. Of the lost jobs, 5.23 million were concentrated among men older than 19, with only 1.95 million among women older than 19. The result is that less educated, young, and minority workers are much more likely to be unemployed than the workforce as a whole. In May 2011, the unemployment rate for adults 25 and older with a college degree was 4.5%, while those with only a high school diploma had an unemployment rate of 9.5%. In 2001, this gap was only 180 bps (2.1% for college degrees vs. 3.9% for high school graduates), in contrast to 500 bps today.

Monthly Payroll employment grew for eight consecutive months through May 2011, with an aggregate of 1.2 million new jobs during that period. The largest increase of 235,000 occurred in February 2011, while the gain in May 2011 was preliminarily 54,000 jobs. Based on the Household Survey, the unemployment rate stood at 9.1% in May, 100 bps below the 10.1% peak in October 2009.

The “marginally attached” labor force stood at 2.2 million in May, about the same as one year earlier. The Bureau of Labor Statistics defines the “marginally attached” as individuals who are not part of the labor force, but wanted work and were available for work,

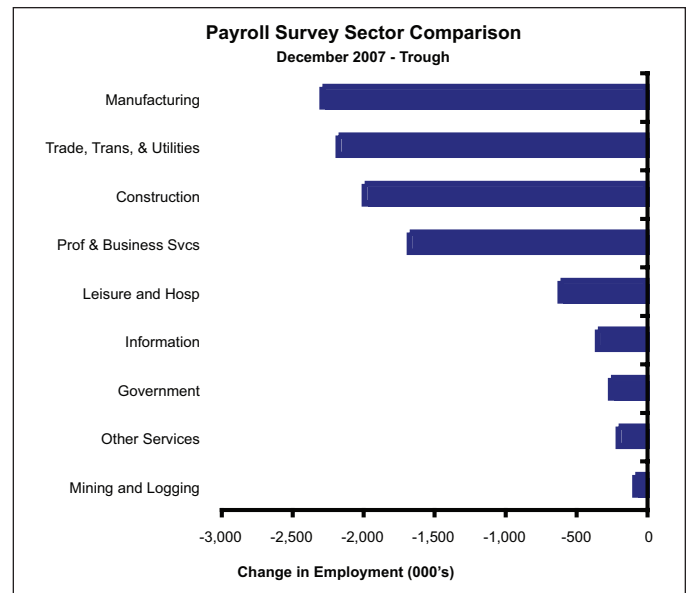


figure 80

having looked for a job in the last 12 months, but not in the last four weeks. There were 2.2 million Temporary Help Service workers in May 2011, a decline of 1.2 million over the last month, but an increase of 187,000 year-over-year.

Industry	Payroll Survey Employment (000s)							
	Dec-07	Trough Date	Trough	May-11	Peak to Trough		Trough to Present	
					Change	% Change	Change	% Change
Prof & Business Svcs	18,052	Sep-09	16,383	17,160	-1,669	-9.2%	777	4.7%
Trade, Trans, & Utilities	26,731	Dec-09	24,561	24,872	-2,170	-8.1%	311	1.3%
Leisure and Hosp	13,538	Jan-10	12,931	13,197	-607	-4.5%	266	2.1%
Manufacturing	13,740	Dec-09	11,456	11,694	-2,284	-16.6%	238	2.1%
Other Services	5,514	Feb-10	5,317	5,444	-197	-3.6%	127	2.4%
Mining and Logging	740	Oct-09	661	774	-79	-10.7%	113	17.1%
Construction	7,487	Jul-10	5,500	5,529	-1,987	-26.5%	29	0.5%
Information	3,024	May-11	2,681	2,681	-343	-11.3%	-	0.0%
Government	22,377	May-11	22,127	22,127	-250	-1.1%	-	0.0%

figure 78

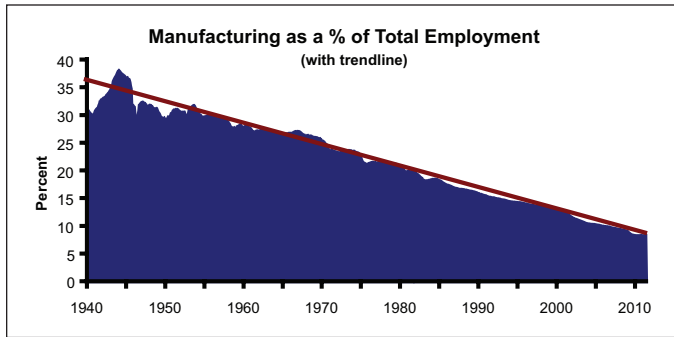


figure 81

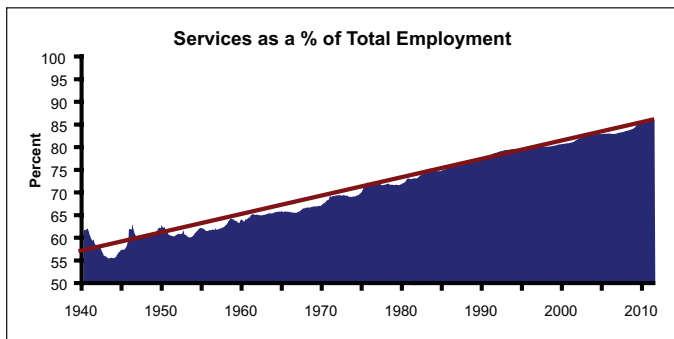


figure 82

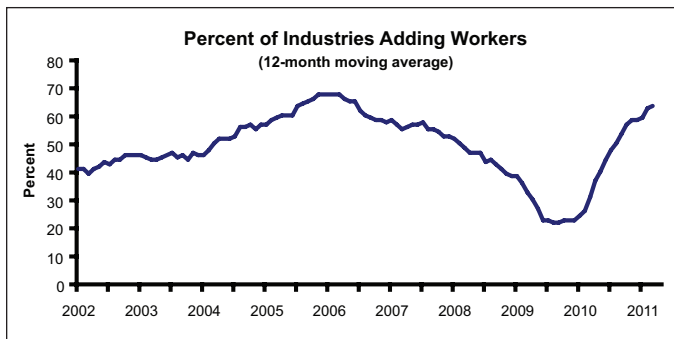


figure 83

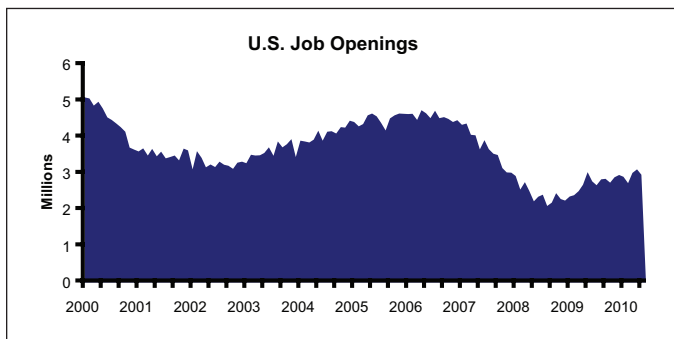


figure 84

According to the March 2011 Job Openings and Labor Turnover Survey, 63% of industries are adding workers on a 12-month moving average basis, versus the 9-year average of 48%. This is massively improved from just 22% in late 2009.

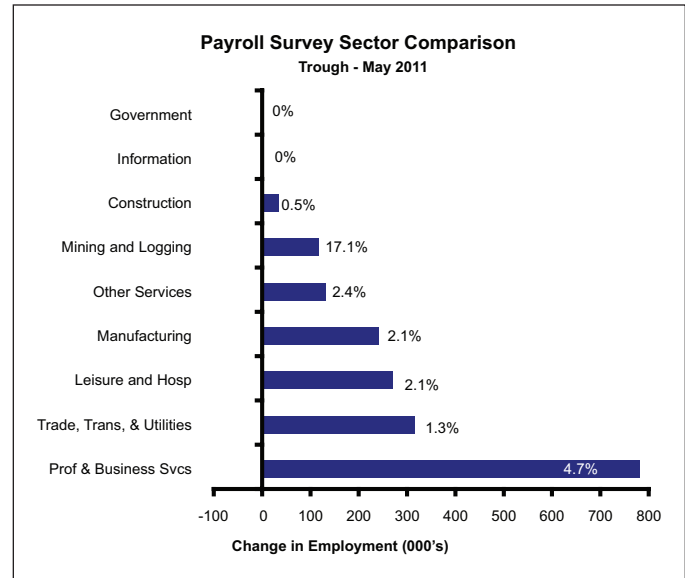


figure 85

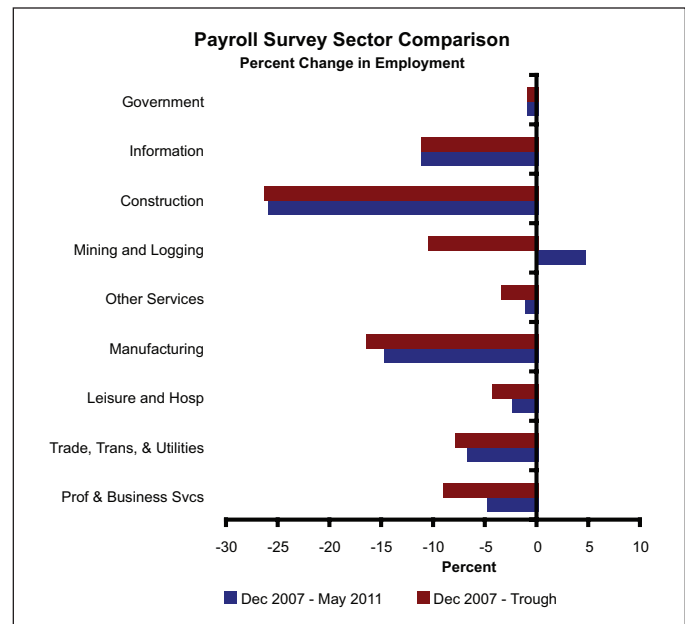


figure 86

On a percentage basis, the most notable improvement from each respective trough through May 2011 was in mining and logging (17.1%), followed by professional and business services (4.7%). In fact, mining and logging is at an all-time high, fueled by high commodity

prices and natural gas extraction from shale deposits. Other sectors increased by no more than 240 bps, with the construction sector registering the smallest increase (0.5%) over its trough. On an absolute basis, professional

and business services improved the most (777,000 jobs), followed by trade, transportation, and utilities (311,000 jobs), leisure and hospitality (266,000 jobs), and manufacturing (238,000 jobs).

Metropolitan Area Employment Growth Employer Payroll Survey versus Household Survey						
	Payroll Survey			Household Survey		
	Y/Y % Change Thru Apr-2011	Q/Q % Change Thru 1Q11	Trough Thru Apr 2011 % Change	Y/Y % Change Thru Apr-2011	Q/Q % Change Thru 1Q11	Trough Thru Apr 2011 % Change
<b>STRONG</b>						
Dallas/Fort Worth	2.9	-0.2	3.5	2.2	-0.3	2.4
Houston	2.0	0.6	3.2	1.3	0.5	1.9
Austin	1.8	0.4	3.4	1.1	0.4	2.4
Orlando	1.5	0.3	2.8	1.7	1.1	4.1
Columbus	1.2	-0.1	3.4	1.4	-0.4	3.2
Cincinnati	1.0	-0.8	3.1	1.4	-0.9	3.2
Portland	1.0	0.9	2.8	1.9	0.6	4.7
<b>SOLID</b>						
Fairfield County	1.7	-2.1	2.5	0.0	-0.6	0.6
Raleigh-Durham	1.5	-0.3	1.8	0.0	1.3	2.1
San Jose	1.5	1.1	3.4	0.8	0.4	1.8
San Diego	1.1	0.4	2.2	0.5	-0.2	0.7
Chicago	1.0	0.5	3.3	0.7	-1.1	2.3
St. Louis	0.9	-0.5	3.2	3.4	-0.3	4.4
Nashville	0.9	1.8	4.2	2.3	1.6	7.2
Boston	0.9	-1.1	4.3	1.0	-0.6	3.0
Ft. Lauderdale	0.8	0.8	1.4	1.0	1.5	2.6
Cleveland	0.6	-1.5	2.3	2.1	0.6	4.7
<b>WEAK</b>						
Charlotte	0.9	-1.1	2.1	-0.3	0.5	2.5
Orange County	0.9	-1.3	1.3	0.0	-0.3	0.4
Washington, D.C.	0.8	-1.1	3.4	0.7	0.4	2.4
New York City	0.7	-1.2	2.2	-0.7	0.8	-0.7
Tampa	0.7	-0.5	0.6	0.9	0.4	1.8
Detroit	0.7	1.7	4.0	-0.6	-0.8	0.4
West Palm Beach	0.7	-0.4	1.6	0.6	0.6	2.4
Phoenix	0.6	-2.1	1.1	0.9	0.4	1.9
Los Angeles	0.6	-0.1	1.0	0.7	-0.7	0.8
Long Island	0.3	-2.8	3.3	-1.0	-0.5	1.2
U.S.	0.2	-0.9	1.7	0.3	-0.1	1.8
Philadelphia	0.1	-1.1	2.7	-0.1	-1.0	-0.4
San Francisco	0.1	1.7	2.2	-0.9	0.3	0.0
Denver	0.0	-1.1	3.1	-0.4	-0.7	2.2
Minneapolis	0.0	-1.8	2.4	0.8	-0.5	1.4
Kansas City	-0.1	0.3	1.8	0.0	1.8	1.7
Indianapolis	-0.4	-0.8	3.0	0.3	0.2	4.3
<b>DISASTROUS</b>						
Northern/Central NJ	-0.2	-1.9	1.9	-0.2	-0.1	0.5
Westchester County	-0.3	-2.9	2.1	-1.5	-0.5	0.2
Las Vegas	-0.3	0.7	0.7	-0.8	1.6	-3.2
Baltimore	-0.4	-2.0	4.3	-0.1	0.5	3.3
Atlanta	-0.4	-1.3	0.6	-0.7	0.0	0.7
Riverside-San Bernardino	-1.5	0.3	0.5	-1.8	-0.4	-0.6
Sacramento	-1.8	-0.7	-1.7	-2.4	-1.2	-2.9
<b>QUESTIONABLE</b>						
Seattle	1.4	-1.2	1.7	-2.2	-0.4	-0.5
Miami	0.0	0.1	1.5	2.2	0.2	1.4

\* April 2011 is based on preliminary MSA data from the Bureau of Labor Statistics.

figure 87

Only the government and information sectors have not improved since the end of the recession, and were in fact at their respective low points in May 2011. Note that the government sector increased its employment base during the official recession (December 2007-June 2009), but is now 250,000 jobs below where it stood in December 2007. However, this is a far smaller decline than for the private sector. At the end of May 2011, the information sector had 343,000 fewer jobs than in December 2007.

The net decline in government jobs since the end of 2007 has been driven wholly by cuts at the state and local level, while the federal government continues to become more bloated. In fact, the federal government

*The net decline in government jobs since the end of 2007 has been driven wholly by cuts at the state and local level, while the federal government continues to become more bloated.*

had 94,000 (3.4%) more jobs in May 2011 than December 2007, of which 37,000 were added after the official end of the recession. In contrast, state and local governments have cut more than 75,000 (1.5%) and 415,000 jobs (2.9%), respectively, since mid-2009.

As we go to print, the latest available MSA employment data are through April 2011.

Most MSAs posted positive employment growth from February 2010 through April 2011. For the Payroll Survey, the largest percentage gains during that period were seen in Boston and Baltimore (4.3% each), Nashville (4.2%), and Detroit (4%). The markets with the top percentage growth based on the Household Survey include Nashville (7.2%), Cleveland and Portland (4.7% each), and St. Louis (4.4%).

Based on the Payroll Survey, only Austin has surpassed its December 2007 employment base. All markets except one, Detroit, are 400 bps or fewer away from their respective peaks. MSAs that are 400 bps or fewer from their respective peaks include Nashville and Houston (-40 bps each), Raleigh-Durham (-33 bps), Fairfield County (-28 bps), and Washington, D.C. (-26 bps). At the other end of the spectrum, the markets farthest from their December 2007 employment levels are Detroit (-512 bps), Los Angeles (-374 bps), and Chicago (-290 bps). All other markets are 250 bps or less below their respective peaks.

The Household Survey also indicates that Austin has surpassed its peak level, as have Houston and Dallas/Fort Worth. No other market even comes close to its

respective December 2007 employment level, according to the Household Survey.

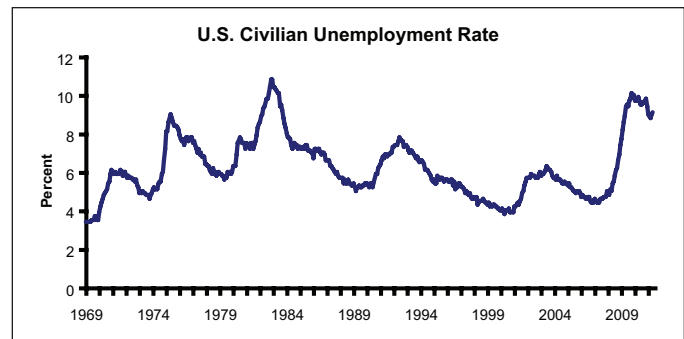


figure 88

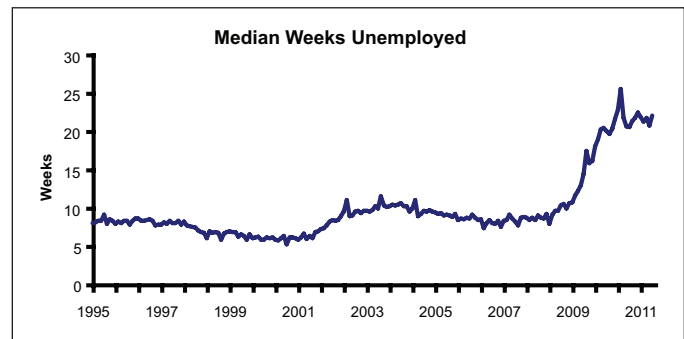


figure 89

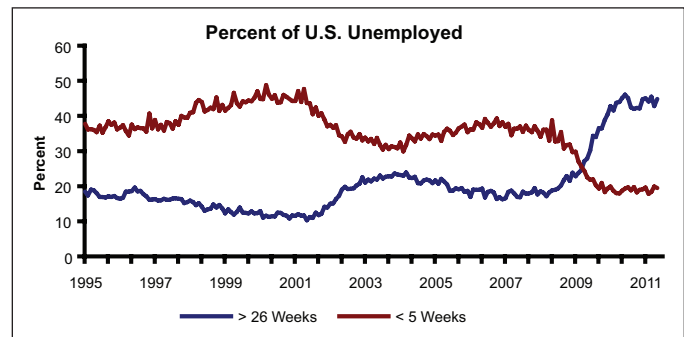


figure 90

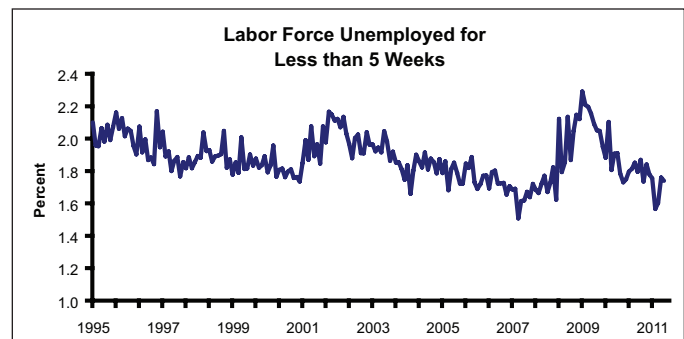


figure 91

After declining to 8.8% in March 2011, the U.S. unemployment rate was back up to 9.1% in May. The good news is that the median unemployment duration stands at 22 weeks, a significant decline from 25.5 weeks in June 2010. The percent unemployed 27 weeks or more increased over the last month, and stood at 45.1% in May 2011 — significantly higher than the low of 17.3% in December 2007, but on par with the 45.8% high in June 2010. At the same time, short-term (five weeks or less) unemployment spells account for 19.1% of the unemployed, compared to 37% at the beginning of the recession.

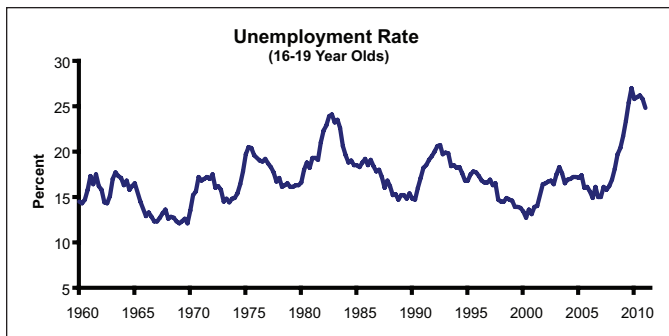


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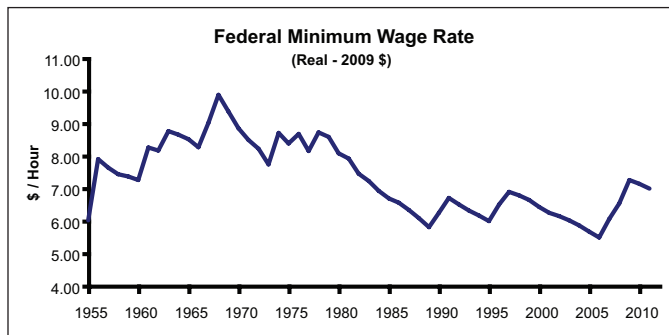


figure 93

Teens accounted for about 18% of all jobs which were lost. Their unemployment rate rose from 16.9% at the end of 2007 to 27.1% in October 2010, then retreated to 24.2% in May 2011. Fortunately, teens are not the primary wage earners in most households.

The labor force participation rate, which was 60% for 16-19-year olds in the 1980s, has fallen to a mere 35% today. Only 25% of African Americans and Asians aged 16-19 participate in the labor force. This decline in youth participation reflects both the social values of high-income families, who no longer desire to see their children work, and reduced opportunities for low-income families due to minimum wages and other deterrents.

Interestingly, the labor force participation rate today is higher among 55-64-year olds than it was in the 1980s, in spite of today's severe recession.

## Housing Market Update

While both multifamily and single-family housing production levels are above their respective recessionary low-points, both remain extremely low by historical standards. From 1970-2010, the average annual number of single-family and multifamily home starts was nearly 1.5 million and 355,000, respectively. In comparison, May 2011 run rates were just 394,000 for single-family and 114,000 for multifamily home starts. This is with a population that has grown by roughly 50% over the last 40 years.

Over the last 24 months through May 2011, the southern region of the U.S. has averaged only about 243,000 single housing starts per year versus a historic norm (since 1984) of 510,000. Similarly, the northeast has registered single-family starts at about 50,000 a year over this period (versus a norm of 120-125,000), while the Midwest has run about 75,000 single-family units (versus a historical norm near 220,000 units) and the Western region has registered approximately 95,000 single-family units (versus a 270,000-unit norm). Multifamily starts are running approximately 100,000 per annum over the last two years, (versus a 50-year average of 365,000 units), while total roofs (multifamily, single-family, and manufactured housing) are approximately 620,000 a year over the past two years, versus a long-time norm of 1.6 million.

In a normal year, housing accounts for about 2.5% of GDP (directly). Since housing production has only been at about 25% of normal levels for the last two years, it has been a huge drag on the economy, knocking off about 180 bps of GDP growth annually. How long will this continue?

Through the first quarter of 2011, the home price indices published by Case-Shiller (-4.9%), the Federal Housing Finance Authority (FHFA) (-5.5%), and the National Association of Realtors (NAR) (-4.6%) all exhibited year-over-year declines. Similarly, the three indices registered quarter-over-quarter declines of 1.9%, 2.5%, and 7.0%, respectively. In comparison, one year earlier, the changes in index values between the first quarters of 2009 and 2010 were +2.5%, -2.9%, and -0.5% for the Case-Shiller, FHFA, and NAR indices, respectively. Thus, while it appeared that home prices were at a turning point one year ago, the last four quarters have seen home price declines.

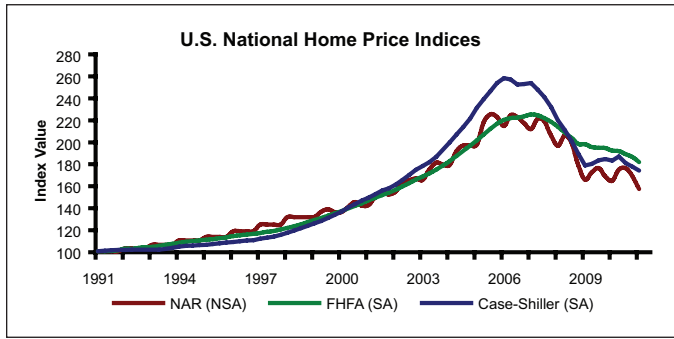


figure 94

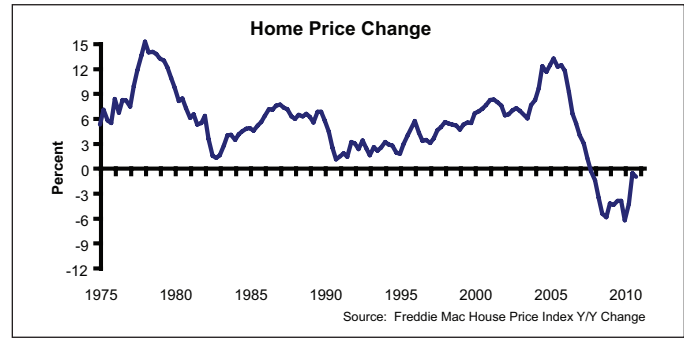


figure 98

	U.S. Home Price Indices Sliding Backwards					
	Case-Shiller		FHFA		NAR	
	Q/Q %	Y/Y %	Q/Q %	Y/Y %	Q/Q %	Y/Y %
1Q08	-5.2	-13.5	-2.0	-4.9	-4.3	-7.2
2Q08	-4.0	-14.9	-2.5	-7.0	4.8	-7.0
3Q08	-4.7	-16.6	-2.2	-8.1	-3.1	-8.8
4Q08	-5.9	-18.4	-2.8	-9.2	-10.6	-13.2
1Q09	-5.5	-18.7	-0.2	-7.5	-7.2	-15.7
2Q09	0.8	-14.6	-1.2	-6.3	4.1	-16.3
3Q09	1.8	-8.8	-0.3	-4.5	2.3	-11.6
4Q09	0.6	-2.5	-0.1	-1.9	-4.4	-5.5
1Q10	-0.7	2.5	-1.2	-2.9	-2.3	-0.5
2Q10	2.1	3.7	-0.2	-1.8	6.3	1.5
3Q10	-3.3	-1.5	-1.5	-3.0	0.6	-0.2
4Q10	-1.8	-3.8	-1.4	-4.2	-4.0	0.2
1Q11	-1.9	-4.9	-2.5	-5.5	-7.0	-4.6

Source: Case-Shiller, Federal Housing Finance Agency, National Association of Realtors, Linneman Associates

figure 95

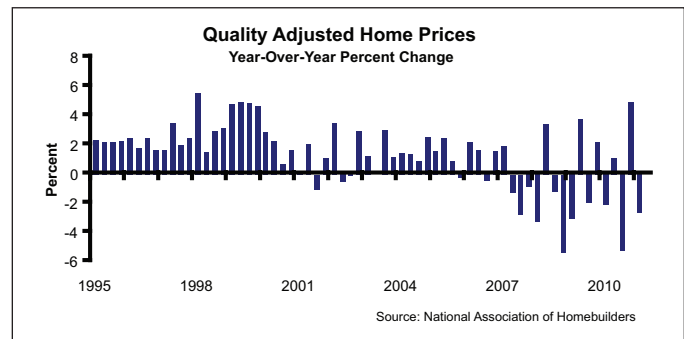


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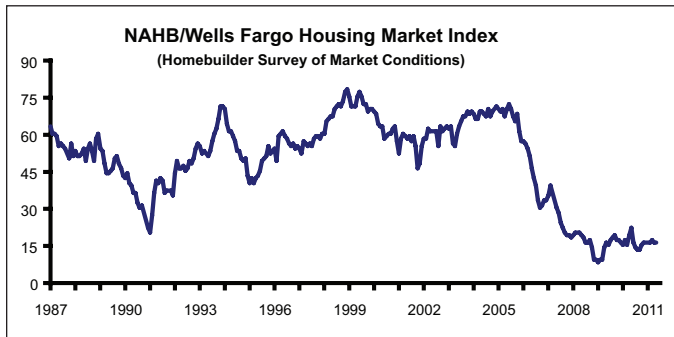


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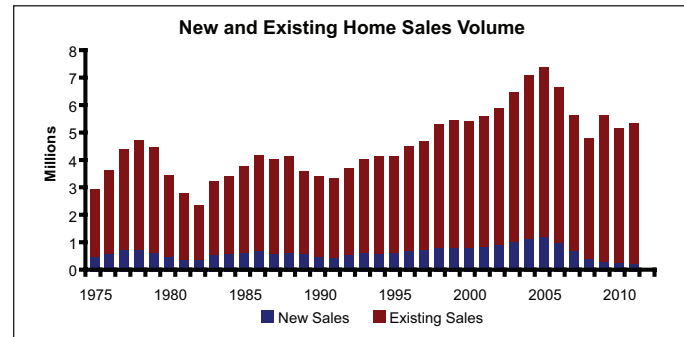


figure 100

	FHFA Home Price Index Growth									
	Q/Q % Change					Y/Y % Change				
	1Q10	2Q10	3Q10	4Q10	1Q11	1Q10	2Q10	3Q10	4Q10	1Q11
U.S.	-1.2	-0.2	-1.5	-1.4	-2.5	-2.9	-1.8	-3.0	-4.2	-5.5
Atlanta-Sandy Springs-Marietta, GA	-2.0	-1.1	-6.1	-4.1	-2.9	-2.6	-1.2	-11.2	-12.7	-13.5
Baltimore-Towson, MD	-1.7	1.3	-4.9	0.6	-1.5	-3.3	-1.3	-7.3	-4.8	-4.6
Chicago-Joliet-Naperville, IL (MSAD)	-0.1	-0.5	-1.5	-2.8	-4.9	-5.9	-3.5	-6.7	-4.9	-9.5
Cleveland-Elyria-Mentor, OH	0.1	-1.3	-0.8	0.2	-2.4	2.7	0.7	-2.5	-1.8	-4.2
Dallas-Plano-Irving, TX (MSAD)	-1.0	0.9	-1.0	-2.3	-0.1	0.1	2.6	-0.2	-3.4	-2.5
Denver-Aurora-Broomfield, CO	2.5	-2.3	-1.0	3.3	-5.3	4.3	0.9	-2.1	2.4	-5.4
Edison-New Brunswick, NJ (MSAD)	1.9	-2.7	0.9	0.2	-4.0	-1.5	-3.6	-1.0	0.2	-5.6
Houston-Sugar Land-Baytown, TX	1.4	1.3	-1.3	-0.9	-2.2	4.8	3.9	2.1	0.5	-3.1
Los Angeles-Long Beach-Glendale, CA (MSAD)	0.6	-0.4	-1.6	-1.6	-1.5	2.8	3.6	0.5	-3.0	-5.0
Miami-Miami Beach-Kendall, FL (MSAD)	0.4	0.1	-1.3	-2.5	-3.1	1.9	0.0	-4.6	-3.4	-6.7
Minneapolis-St. Paul-Bloomington, MN-WI	-2.1	1.3	-2.3	-4.0	-3.0	-2.1	-0.1	-2.0	-7.0	-7.9
Nassau-Suffolk, NY (MSAD)	0.9	-1.3	0.1	-0.7	-1.9	-3.0	-0.1	-0.9	-0.9	-3.8
New York-White Plains-Wayne, NY-NJ (MSAD)	0.3	-0.5	-0.2	-0.8	-3.4	-1.4	-0.8	0.5	-1.1	-4.8
Oakland-Fremont-Hayward, CA (MSAD)	1.5	0.6	-2.6	-3.2	-3.3	8.2	8.3	1.8	-3.8	-8.2
Philadelphia, PA (MSAD)	-1.2	-0.4	-1.8	-1.0	-1.2	-0.5	-0.4	-1.3	-4.4	-4.4
Phoenix-Mesa-Glendale, AZ	-2.2	-3.1	-5.0	-4.7	-1.1	-8.5	-5.7	-9.3	-14.3	-13.3
Pittsburgh, PA	1.7	-2.0	1.8	0.9	-0.5	3.0	0.9	1.5	2.4	0.2
Riverside-San Bernardino-Ontario, CA	-0.2	0.6	-2.1	-1.2	-2.0	-1.7	4.0	0.5	-2.9	-4.6
St. Louis, MO-IL	-0.1	-0.7	-2.4	-3.6	-0.9	1.4	-0.3	-1.7	-6.6	-7.4
San Diego-Carlsbad-San Marcos, CA	2.0	-0.2	-0.1	0.3	-7.1	6.2	5.7	3.9	2.1	-7.0
Santa Ana-Anaheim-Irvine, CA (MSAD)	-1.0	0.1	-1.2	-0.9	-0.3	3.6	4.3	0.5	-3.0	-2.4
Seattle-Bellevue-Everett, WA (MSAD)	-2.9	-0.4	-2.0	-4.0	-3.6	-6.8	-2.9	-2.3	-9.0	-9.6
Tampa-St. Petersburg-Clearwater, FL	-0.4	-0.2	-1.0	-5.1	-6.1	-8.6	-4.5	-3.4	-6.6	-12.0
Warren-Troy-Farmington Hills, MI (MSAD)	-3.4	1.0	-2.1	-1.4	-1.0	-4.2	-1.0	-1.8	-5.7	-3.4
Washington-Arlington-Alexandria, DC-VA-MD-WV (MSAD)	-0.1	-0.2	-0.8	-0.8	0.3	10.5	7.2	3.7	-1.8	-1.4

Source: Federal Housing Finance Agency, Linneman Associates

figure 97

In the first quarter of 2011, the FHFA seasonally adjusted median home price indices for the 25 largest metropolitan areas continued a downward slide in comparison to the previous quarter. All markets except Washington, D.C. posted negative quarter-over-quarter growth. Similarly, Pittsburgh was the only market that posted positive (0.2%) year-over-year growth, with all others declining over the last four quarters. Overall, home prices were markedly weaker in the first quarter of 2011 than in the fourth quarter of 2010, when many markets had registered positive quarter-over-quarter and year-over-year growth.

In the first quarter of 2011, aside from the positive performance by Pittsburgh, the strongest (or least negative) year-over-year performers were Washington, D.C. (-1.4%), Orange County (-2.4%), Dallas (-2.5%), Houston (-3.1%), and Warren-Troy Hills, MI (-3.4%). The weakest year-over-year home price changes were seen in Atlanta (-13.5%), Phoenix (-13.3%), Tampa (-12.0%), Seattle (-9.6%), and Chicago (-9.5%).

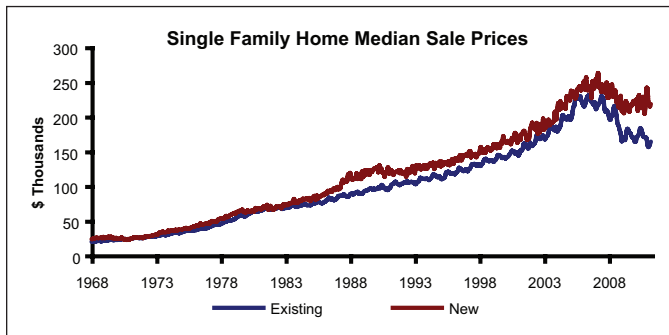


figure 101

On a quarter-over-quarter basis, 24 of the 25 markets registered negative median home price growth in the first quarter of 2011. Aside from the positive quarter-over-quarter increase by Washington, D.C., the least negative changes occurred in Dallas (-0.1%), Orange County (-0.3%), Pittsburgh (-0.5%), St. Louis (-0.9%), and Warren-Troy Hills, MI (-1.0%). The weakest first-quarter home price growth occurred in San Diego (-7.1%), Tampa (-6.1%), Denver (-5.3%), Chicago (-4.9%), and Edison-New Brunswick, N.J. (-4.0%).

Examining the high and low FHFA home price index levels of the top 25 MSAs between 2006 and the first quarter of 2011, the average decline was 27%. Of those, home prices have already hit bottom in only six MSAs (Dallas, Denver, Houston, Pittsburgh, Orange County, and Washington, D.C.) and gained back an average of

5.4%. All others were at their recessionary low-points in the first quarter of 2011. Thus, most markets remain substantially out of balance, despite indications of broader improvement one year earlier.

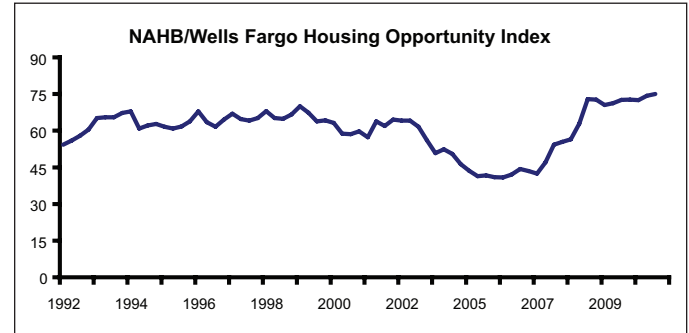


figure 102

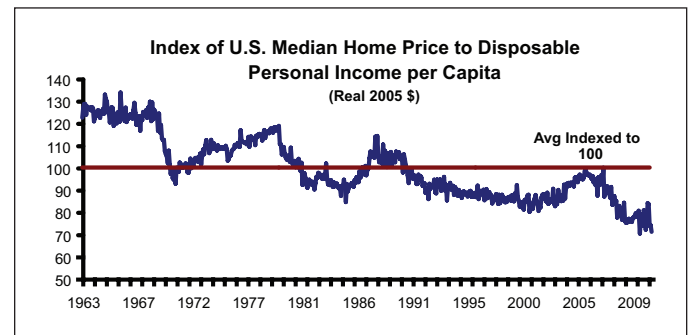


figure 103

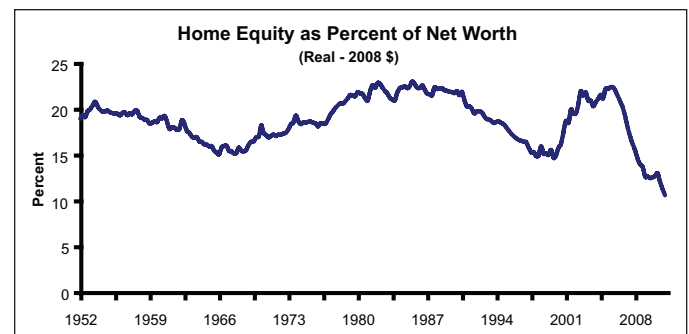


figure 104

In the fourth quarter of 2010, the NAHB/Wells Fargo Housing Opportunity Index indicated that families earning the national median income could afford to purchase 74.6% of all new and existing homes sold during the quarter. This assumes a national median home price of \$165,000 and a weighted interest rate of 4.98% in the first quarter of 2011. The index is at its 20-year high, surpassing its first-quarter 2009 level of 72.5%.

Increased affordability is driven by mortgage rates dipping below 5%. In contrast, the NAHB/Wells Fargo Housing Market Index, which is a homebuilder survey of market conditions, stood at just 16%, hovering among the lowest sentiment levels in nearly 25 years.

**Excess Inventory.** The U.S. population continues to grow, meaning that more people must be housed, either in multifamily or single-family homes. We find it useful to view the housing market as a problem of excess

(relative to historic norms) vacant units relative to pent-up households. Using Census data, we calculated the 25-year historical average vacancy rates for single-family (1.8% excluding seasonally vacant homes and units that are empty but not for sale or rent) and multifamily (8.5%) units. We compared the 25-year averages to annual levels in order to determine whether there was an excess or shortage of vacant units (compared to the norm) in a particular year.

Excess Rental Units (000s)								
	Renter Occupied	Renter Vacant	Renter Total	Calculated Rental Vacancy	25-Yr Avg. Vacancy Rate	Vacant Rental Units @ Historical Avg	Excess Vacant Rental Units	Excess Vacant Rental Units as % of Stock
1Q00	34,592	2,989	37,581	8.0	8.5	3,185	-196	-0.5%
2Q00	34,538	3,040	37,578	8.1	8.5	3,184	-144	-0.4%
3Q00	34,163	3,098	37,261	8.3	8.5	3,157	-59	-0.2%
4Q00	34,587	2,970	37,557	7.9	8.5	3,182	-212	-0.6%
1Q01	34,663	3,135	37,798	8.3	8.5	3,203	-68	-0.2%
2Q01	34,513	3,175	37,688	8.4	8.5	3,194	-19	0.0%
3Q01	34,073	3,164	37,237	8.5	8.5	3,155	9	0.0%
4Q01	34,418	3,336	37,754	8.8	8.5	3,199	137	0.4%
1Q02	33,610	3,393	37,003	9.2	8.5	3,136	257	0.7%
2Q02	34,010	3,167	37,177	8.5	8.5	3,150	17	0.0%
3Q02	33,692	3,364	37,056	9.1	8.5	3,140	224	0.6%
4Q02	33,437	3,466	36,903	9.4	8.5	3,127	339	0.9%
1Q03	33,762	3,553	37,315	9.5	8.5	3,162	391	1.0%
2Q03	33,735	3,627	37,362	9.7	8.5	3,166	461	1.2%
3Q03	33,321	3,713	37,034	10.0	8.5	3,138	575	1.6%
4Q03	33,208	3,809	37,017	10.3	8.5	3,137	672	1.8%
1Q04	33,204	3,904	37,108	10.5	8.5	3,144	760	2.0%
2Q04	32,617	3,775	36,392	10.4	8.5	3,084	691	1.9%
3Q04	33,098	3,798	36,896	10.3	8.5	3,126	672	1.8%
4Q04	33,133	3,731	36,864	10.1	8.5	3,124	607	1.6%
1Q05	33,267	3,765	37,032	10.2	8.5	3,138	627	1.7%
2Q05	33,876	3,720	37,596	9.9	8.5	3,186	534	1.4%
3Q05	33,843	3,773	37,616	10.0	8.5	3,187	586	1.6%
4Q05	33,725	3,626	37,351	9.7	8.5	3,165	461	1.2%
1Q06	34,406	3,685	38,091	9.7	8.5	3,228	457	1.2%
2Q06	34,223	3,676	37,899	9.7	8.5	3,211	465	1.2%
3Q06	33,984	3,808	37,792	10.1	8.5	3,202	606	1.6%
4Q06	34,169	3,779	37,948	10.0	8.5	3,216	563	1.5%
1Q07	34,698	3,956	38,654	10.2	8.5	3,275	681	1.8%
2Q07	35,058	3,731	38,789	9.6	8.5	3,287	444	1.1%
3Q07	35,118	3,866	38,984	9.9	8.5	3,303	563	1.4%
4Q07	35,714	3,838	39,552	9.7	8.5	3,352	486	1.2%
1Q08	35,678	4,063	39,741	10.2	8.5	3,368	695	1.7%
2Q08	35,513	4,008	39,521	10.1	8.5	3,349	659	1.7%
3Q08	35,834	4,012	39,846	10.1	8.5	3,376	636	1.6%
4Q08	36,346	4,141	40,487	10.2	8.5	3,431	710	1.8%
1Q09	36,426	4,155	40,581	10.2	8.5	3,439	716	1.8%
2Q09	36,512	4,407	40,919	10.8	8.5	3,467	940	2.3%
3Q09	36,119	4,588	40,707	11.3	8.5	3,449	1,139	2.8%
4Q09	36,673	4,474	41,147	10.9	8.5	3,487	987	2.4%
1Q10	36,785	4,428	41,213	10.7	8.5	3,492	936	2.3%
2Q10	37,118	4,444	41,562	10.7	8.5	3,522	922	2.2%
3Q10	37,040	4,335	41,375	10.5	8.5	3,506	829	2.0%
4Q10	37,669	3,969	41,638	9.5	8.5	3,528	441	1.1%
1Q11	37,674	4,071	41,745	9.8	8.5	3,537	534	1.3%

figure 105

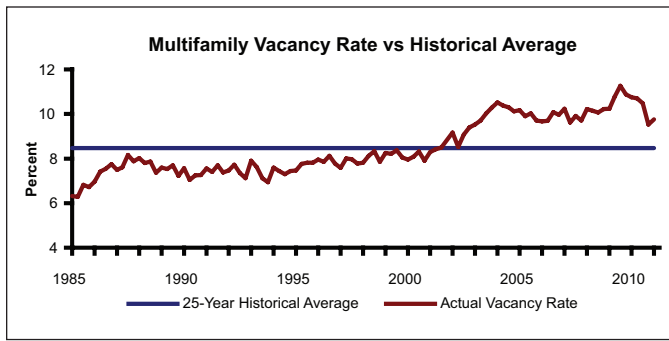


figure 106

In the first quarter of 2000, the U.S. had approximately 196,000 (0.5% of the stock) too few rental units relative

to historical vacancy levels. However, by the third quarter of 2009, excess rental units stood at 1.1 million (2.8%). As we predicted two years ago, the number of excess rental units has fallen dramatically since then, standing at 534,000 in the first quarter of 2011. Specifically, in March of 2011, there were nearly 4.1 million vacant multifamily units, of which about 3.5 million represent the “normal” level based on the long-term historical average vacancy rate, leaving 500,000-600,000 excess vacant units.

We expect substantial declines in excess rental inventories, as multifamily development averaged an annual rate of approximately 143,000 units over the first four months of 2011, versus a 25-year (1980-2005) norm

Homebuilder vs. Amateur Excess Single Family Units (000s)								
	Occupied Owned Units	Total SF Vacant Units	Vacant Homebuilder Inventory	Vacant Amateur Inventory	Excess Homebuilder Inventory	Excess Amateur Inventory	Total Excess Vacant Owner Units	Excess Vacant Owner Units as % of Stock
1Q00	70,701	1,161	313	848	-33	-93	-127	-0.2%
2Q00	70,758	1,063	306	757	-40	-184	-225	-0.3%
3Q00	71,637	1,180	300	880	-46	-61	-108	-0.1%
4Q00	71,906	1,188	298	890	-48	-51	-100	-0.1%
1Q01	72,131	1,141	292	849	-54	-92	-147	-0.2%
2Q01	72,252	1,300	301	999	-45	58	12	0.0%
3Q01	72,774	1,410	310	1,100	-36	159	122	0.2%
4Q01	73,215	1,353	308	1,045	-38	104	65	0.1%
1Q02	70,811	1,197	316	881	-30	-60	-91	-0.1%
2Q02	70,934	1,224	328	896	-18	-45	-64	-0.1%
3Q02	71,465	1,214	333	881	-13	-60	-74	-0.1%
4Q02	71,903	1,244	339	905	-7	-36	-44	-0.1%
1Q03	71,645	1,242	338	904	-8	-37	-46	-0.1%
2Q03	71,740	1,249	343	906	-3	-35	-39	-0.1%
3Q03	72,178	1,411	350	1,061	4	120	123	0.2%
4Q03	72,650	1,331	370	961	24	20	43	0.1%
1Q04	72,666	1,273	381	892	35	-49	-15	0.0%
2Q04	73,449	1,261	383	878	37	-63	-27	0.0%
3Q04	73,772	1,321	410	911	64	-30	33	0.0%
4Q04	74,413	1,375	422	953	76	12	87	0.1%
1Q05	74,488	1,388	445	943	99	2	100	0.1%
2Q05	73,974	1,370	455	915	109	-26	82	0.1%
3Q05	74,588	1,481	487	994	141	53	193	0.3%
4Q05	75,163	1,566	511	1,055	165	114	278	0.4%
1Q06	74,883	1,580	552	1,028	206	87	292	0.4%
2Q06	75,227	1,729	566	1,163	220	222	441	0.6%
3Q06	75,646	1,935	559	1,376	213	435	647	0.8%
4Q06	75,763	2,100	536	1,564	190	623	812	1.0%
1Q07	75,006	2,179	545	1,634	199	693	891	1.2%
2Q07	75,283	2,037	542	1,495	196	554	749	1.0%
3Q07	75,181	2,074	527	1,547	181	606	786	1.0%
4Q07	75,164	2,179	497	1,682	151	741	891	1.2%
1Q08	75,145	2,277	470	1,807	124	866	989	1.3%
2Q08	75,715	2,169	435	1,734	89	793	881	1.1%
3Q08	75,896	2,227	395	1,832	49	891	939	1.2%
4Q08	75,508	2,230	353	1,877	7	936	942	1.2%
1Q09	74,942	2,114	313	1,801	-33	860	826	1.1%
2Q09	75,607	1,916	280	1,636	-66	695	628	0.8%
3Q09	75,339	1,985	252	1,733	-94	792	697	0.9%
4Q09	75,038	2,087	231	1,856	-115	915	799	1.0%
1Q10	75,065	1,996	228	1,768	-118	827	708	0.9%
2Q10	75,097	1,968	211	1,757	-135	816	680	0.9%
3Q10	74,874	1,934	202	1,732	-144	791	646	0.8%
4Q10	74,782	2,052	188	1,864	-158	923	764	1.0%
1Q11	74,491	1,990	183	1,807	-163	866	702	0.9%

figure 107

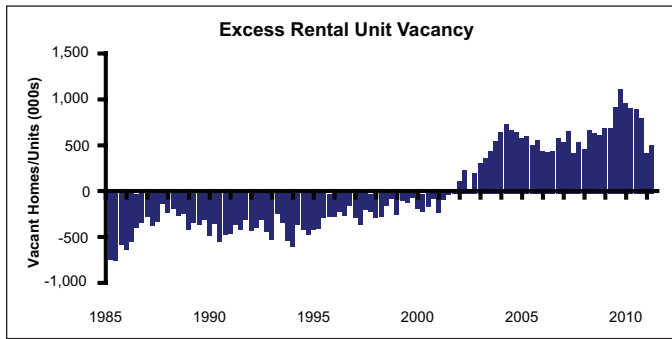


figure 108

of about 322,000 units per year. In fact, an estimated 167,000 units are destroyed annually, making for a net rental stock change of -24,000 units.

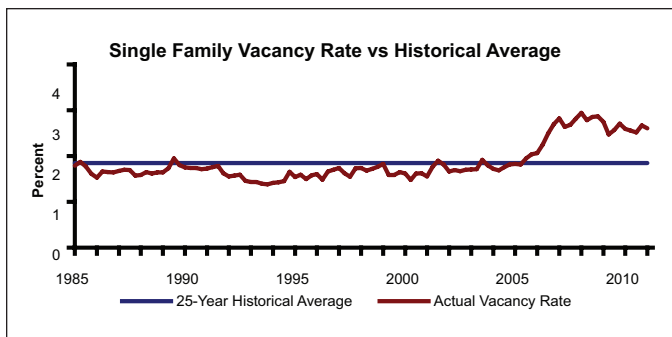


figure 109

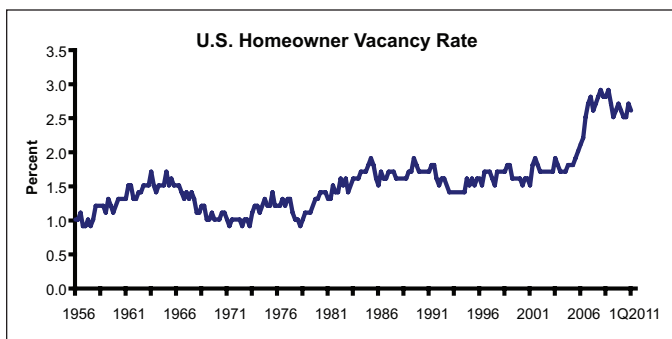


figure 110

Turning to single-family, we distinguish the excess single-family inventory held by homebuilders versus units held by non-homebuilders, such as investors, speculators, and banks. We refer to these owners as “amateurs.” We calculate historical norms for both homebuilders and amateurs in order to determine the total number of excess units of vacant inventory. A total 225,000-unit shortfall (0.3% of stock) in the second quarter of 2000 grew to an excess of 990,000 units (1.3%) by the first quarter of

2008. There has since been a general downward drift to just over 700,000 (0.9%) excess units in the first quarter of 2011. This downward movement will continue, as single-family housing starts remain at a mere 394,000 as of April 2011, versus a 25-year average of 1.1-1.2 million units and a destruction of 330,000 units.

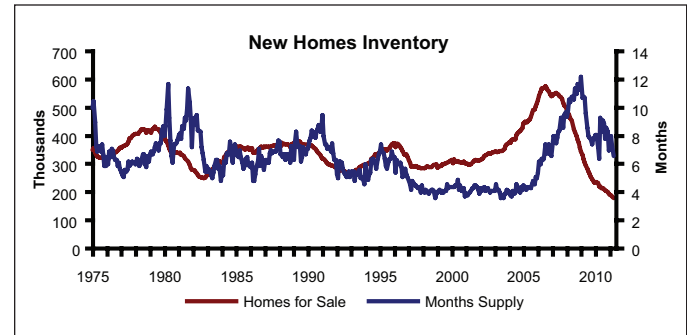


figure 111

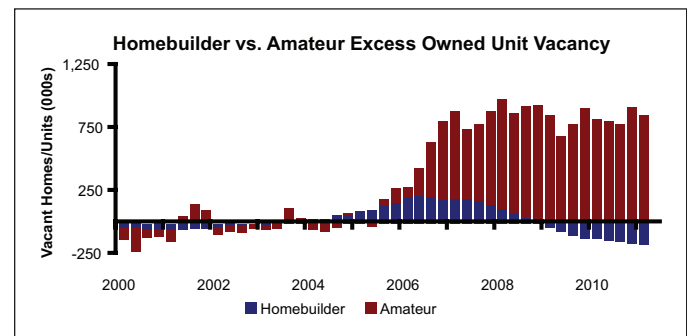


figure 112

Over the last 25 years, the historical average homebuilder inventory of homes for sale was approximately 350,000, while the amateur inventory averaged about 940,000 units. In 2000, homebuilders had an inventory shortfall of about 33,000 homes. This swung to a surplus of 220,000 in the first quarter of 2006, but was back to a shortfall of 163,000 by the first quarter of 2011. In comparison, excess amateur inventory swung from zero excess in 2005 to a staggering surplus of 936,000 units in 2009. So much for the bubble belief that flipping was a “can’t lose” proposition. In fact, if any simple chart tells the story of the housing boom/bust, it is the excess vacancy chart in figure 112. The amateur surplus stood at 866,000 units in the first quarter of 2011, as flipper units crawl through the foreclosure process, with many located in places where no one wants to live. This static amateur excess has occurred even as households have liquidated nearly 600,000 units of inventory. The overall

excess of single-family homes built in 2005-2007 was built by homebuilders, sold to speculators, packaged into mortgage-backed securities, and foreclosed upon by lenders. It is the continued foreclosure of the amateur excess inventory that hangs over the housing market, continuing to feed units at wholesale pricing through foreclosure sales.

of 2.28 people roughly tripled to over 6.0. If we compare only the incremental population against new household formations, household formations are significantly lagging historical averages. Households that we would have expected to form have not been created because of the lack of jobs. On a cumulative basis from 2004 through the end of 2007, the historical norm for household formations held true. Namely, for every 2.28 people coming into the economy, a new household was formed, with each new household consuming a housing unit.

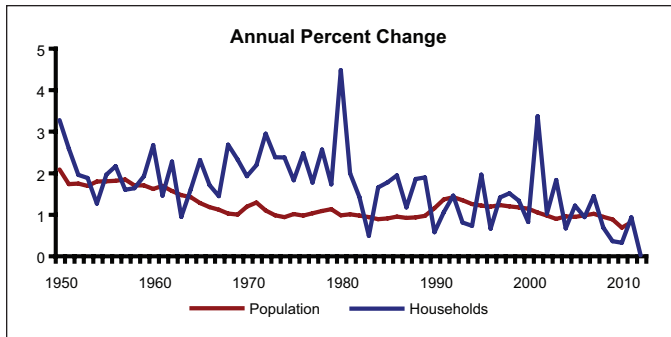


figure 113

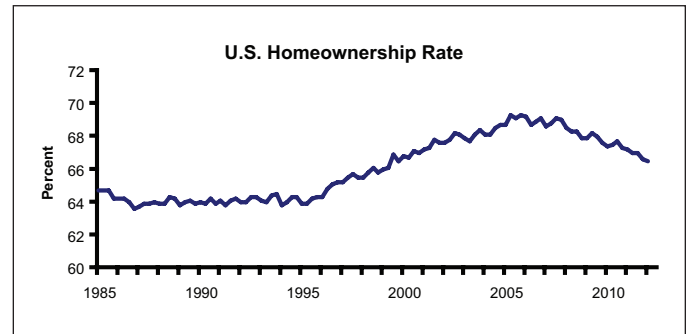


figure 116

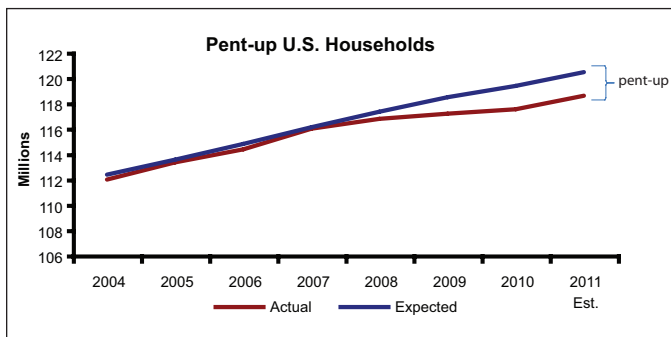


figure 114

**Household Formation.** But the U.S. no longer has too much housing; it has too few households. Over the course of the recession, the historical marginal household size

From mid-2008 through (estimated) March 2011, we added population at a roughly historical pace, but not households. Rather than taking 2.28 people to create a household over the past 2.5 years, marginal household formations required 3.6 people in 2008, 6.6 people in 2009, and 5.7 people in 2010. In 2011, we estimate that marginal household formation will be roughly back on track, but the damage has been done. Stated differently, we added 5.9 million people over the last 2.5 years, but only 1.7 million households. The result is that there are 1.9 million pent-up households. Only in the last three

Cumulative Shortage of Household Formations (000s)											
	Total Population (000s)	Population Change	Y/Y % Change	Total HH (000s)	Actual HH Change	Y/Y % Change	Reported HH Size	Marginal HH Size	Expected HH Change*	Actual less Expected HH Change	Cumulative Actual less Expected HH Change
2004	293,046	2,719	0.94%	112,000	722	0.65%	2.57	3.77	1,190	(468)	(468)
2005	295,753	2,707	0.92%	113,343	1,343	1.20%	2.57	2.02	1,185	158	(311)
2006	298,593	2,840	0.96%	114,384	1,041	0.92%	2.57	2.73	1,243	(202)	(513)
2007	301,580	2,987	1.00%	116,011	1,627	1.42%	2.56	1.84	1,307	320	(193)
2008	304,375	2,795	0.93%	116,783	772	0.67%	2.56	3.62	1,223	(451)	(645)
2009	307,007	2,632	0.86%	117,181	398	0.34%	2.57	6.61	1,152	(754)	(1,399)
2010	309,050	2,043	0.67%	117,538	357	0.30%	2.59	5.72	895	(538)	(1,936)
2011 Est.	311,514	2,464	0.80%	118,612	1,074	0.91%	n/a	2.29	1,079	(4)	(1,941)
35-Year Average (1970-2005)			1.05%				2.72	2.28			
30-Year Average (1970-2000)			1.07%				2.75	2.32			
Latest 10-Year Average (2000-2010)			0.91%				2.57	3.09			
Latest 5-Year Average (2005-2010)			0.88%				2.57	4.10			

\* Expected HH Change = Change in Population divided by 30-Year Average (1970-2000) marginal household size of 2.28  
 Source: Census Bureau, Linneman Associates

figure 115

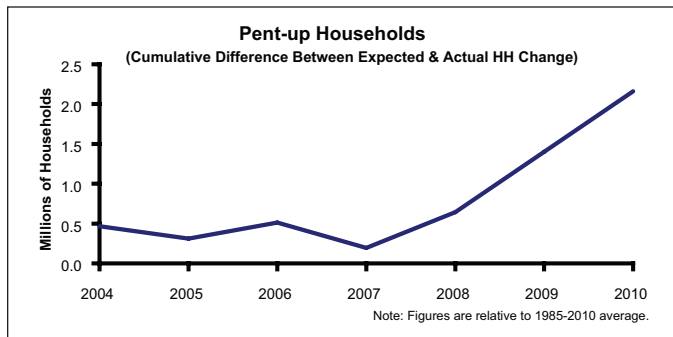


figure 117

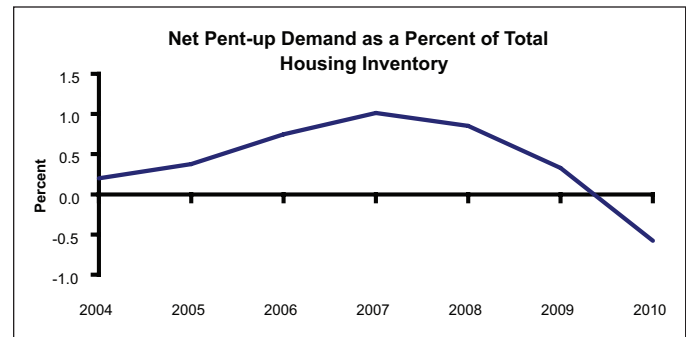


figure 119

quarters has the pace of household formation risen to 1 million a year, still 200,000 below normal formation rates but nearly double the rate of the previous three years.

Why are households not forming? Quite simply, absent jobs, households do not form. We currently have an excess vacant inventory of approximately 1.2 million housing units (500,000 rental + 700,000 owned units), versus 1.9 million unformed households. Thus, if pent-up households were to form, a shortage of about 700,000 housing units would exist, demonstrating the magnitude of pent-up demand.

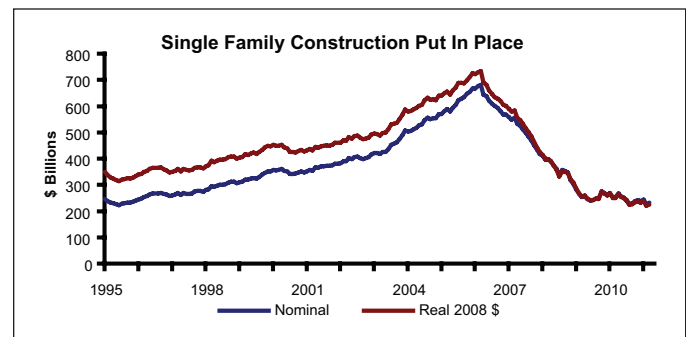


figure 120

Single Family Home Forecast					
	2011	2012	2013	2014	2015
<b>Supply</b>					
Vacant (relevant)	1,990,000	966,089	242,178	(81,733)	266,845
+ New	600,000	900,000	1,300,000	1,600,000	1,800,000
- Destroyed <sup>(1)</sup>	(333,000)	(333,000)	(333,000)	(333,000)	(333,000)
= Total	2,257,000	1,533,089	1,209,178	1,185,267	1,733,845
<b>Demand</b>					
Primary <sup>(2)</sup>	1,232,962 <sup>(3)</sup>	1,232,962 <sup>(3)</sup>	1,232,962 <sup>(3)</sup>	877,193 <sup>(4)</sup>	877,193 <sup>(4)</sup>
+ Second Homes <sup>(5)</sup>	57,949	57,949	57,949	41,228	41,228
= Total	1,290,911	1,290,911	1,290,911	918,421	918,421
End of Period Vacant	966,089	242,178	(81,733)	266,845	815,424
Excess Vacancy <sup>(6)</sup>	(5,765)	(737,047)	(1,073,529)	(741,422)	(211,914)
% Change New Starts	36%	50%	44%	23%	13%
<b>% Change Real Home Price</b>					
First Quarter	+	+++	+++	+++	+++
Second Quarter	+	+++	+++	+++	+++
Third Quarter	++	+++	+++	+++	+++
Fourth Quarter	+++	+++	+++	+++	+++

Source: Linneman Associates

(1) Two-thirds of 500,000 total units destroyed annually; 2/3 factor represents the proportion of destroyed units which are SF.

(2) Two-thirds of household formations are single family; the other third is rental.

(3) SF household formations are 55% of pent-up demand + two-thirds of normal share from population growth.

(4) Normal household formation

(5) Second home demand is 4.7% of primary demand.

(6) Excess vacant units above the historical (25-year) norm of 1.3%

figure 118

As hiring heats up, pent-up households will quickly disperse into both rental and single-family housing, and in so doing will rapidly absorb excess inventories. Rental housing will benefit disproportionately, as pent-up households are concentrated among the young, who have delayed renting an apartment. As jobs are created over the next three years, pent-up households will form, with almost 55% (1.1 million) owning and 45% (875,000) renting. The rental proportion for the pent-up households is relatively high due to the relatively young age of pent-up households. This is on top of the 3.95 million households that will form as the result of population growth of 9 million over the next three years (based upon the historical marginal household size of 2.28 people per household). Of these households, about two-thirds (2.6 million households) will be single-family buyers and one-third (1.3 million) will rent. Hence, over the next three years, we anticipate 3.8 million new single-family households and 2.3 million renter households.

**Statistical Forecast.** Based upon our statistical forecasts, we anticipate that about 1.8 million (600,000 per year) single-family and 540,000 (180,000 per year) multifamily home starts will occur over the next three years. Meanwhile, our fundamental forecasts predict 2.8

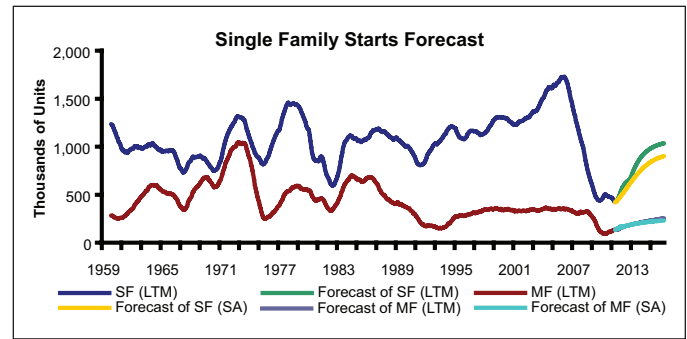


figure 122

million single-family and 720,000 multifamily starts over this period. The higher single-family fundamental forecast merely reflects the consequence that such prolonged low production rates (as suggested by our statistical model) would result in an unprecedented housing shortfall. In either case, the net result will be that we burn through the excess inventory, even if household formation rates remain muted. Low single-family inventory levels will create strong upward pressure on home values, restoring some lost confidence in homes as an investment. In fact, a crazy but true research result is that many people use the past year's home price increase to estimate future annual

	Multifamily Forecast				
	2011	2012	2013	2014	2015
<b>Supply</b>					
Vacant (relevant)	4,578,000	3,821,653	3,175,306	2,608,959	2,353,696
+ New	140,000	250,000	330,000	350,000	350,000
- Destroyed <sup>(1)</sup>	(166,667)	(166,667)	(166,667)	(166,667)	(166,667)
= Total	4,551,333	3,904,986	3,338,640	2,792,293	2,537,030
<b>Demand</b>					
Primary <sup>(2)</sup>	729,680 <sup>(3)</sup>	729,680 <sup>(3)</sup>	729,680 <sup>(3)</sup>	438,596 <sup>(4)</sup>	438,596 <sup>(4)</sup>
+ Second Homes	0	0	0	0	0
= Total	729,680	729,680	729,680	438,596	438,596
End of Period Vacant	3,821,653	3,175,306	2,608,959	2,353,696	2,098,433
Excess Vacancy <sup>(5)</sup>	359,031	(294,232)	(874,136)	(1,144,615)	(1,415,095)
% Change New Starts	40%	79%	32%	6%	0%
<b>% Change Real Rents</b>					
First Quarter	FLAT	+	+++	+++	+++
Second Quarter	FLAT	+	+++	+++	+++
Third Quarter	FLAT	+	+++	+++	+++
Fourth Quarter	+	++	+++	+++	+++

Source: Linneman Associates

(1) One-third of 500,000 total units destroyed annually; 1/3 factor represents the proportion of destroyed units which are MF.

(2) Two-thirds of household formations are single family; the other third is rental.

(3) MF household formations are 45% of pent-up demand + one-third of normal share from population growth.

(4) Normal household formation

(5) Excess vacant units above the historical (25-year) norm of 8.3%

figure 121

appreciation. This means that as home prices stabilize, so too will the belief in long-term appreciation.

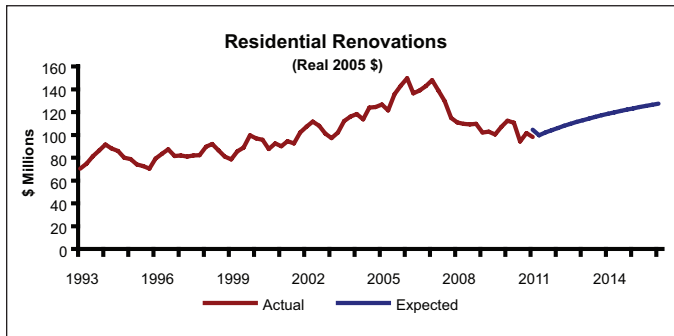


figure 123

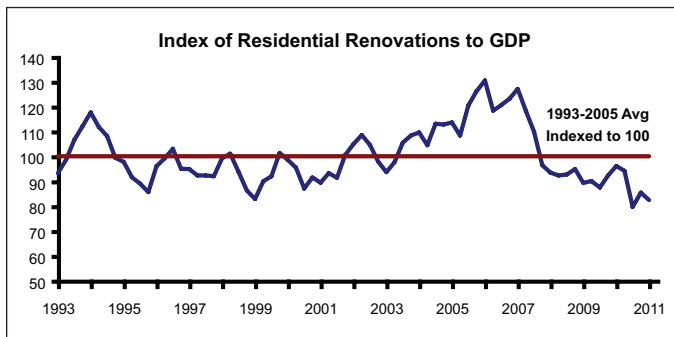


figure 124

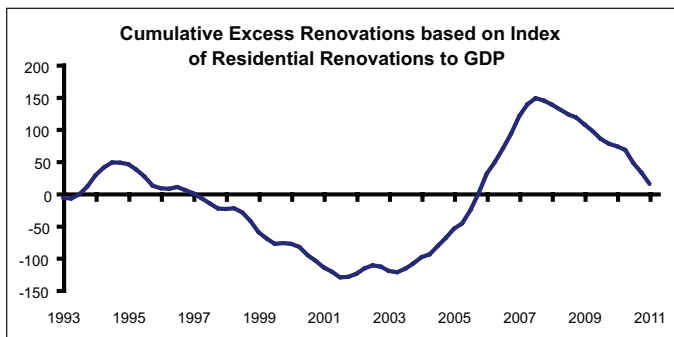


figure 125

**Housing Renovations.** An important component of housing expenditures is renovation and remodeling. These expenditures are far less volatile than housing starts. However, they have declined substantially over the course of the cycle. Our analysis reveals that residential renovations relative to GDP ran substantially above the norm from 2003 through the end of 2007. Since 2007 they have run approximately 10% below the historical norm. However, a cumulative excess still exists. As a

result, we anticipate that residential renovations will run approximately 10% below their norm relative to GDP for another 2-3 years, as this excess is burned off.

## The Disgrace of Fannie and Freddie

There are approximately \$11 trillion of outstanding residential mortgages, held by approximately 51 million homeowners (an average mortgage of \$215,000). In spite of the fact that 25 million homeowners (a third of all homeowners) have no mortgage whatsoever, and another 40 million households rent, our politicians continue to pay inordinate attention to the minority (perhaps 15 million households) of the 51 million mortgage holders with little or no home equity.

Freddie and Fannie hold some \$5 trillion worth of all outstanding residential mortgages, even as these disgraced agencies have been under government receivership for almost 3 years. Making matters worse is that as much as 90% of all new mortgages are backed by Freddie and Fannie.

In spite of a history of disgraceful disclosures, weak corporate governance, and raw politicking, these agencies survive far beyond their original niche purpose. Recently, Secretary Geithner said there are a variety

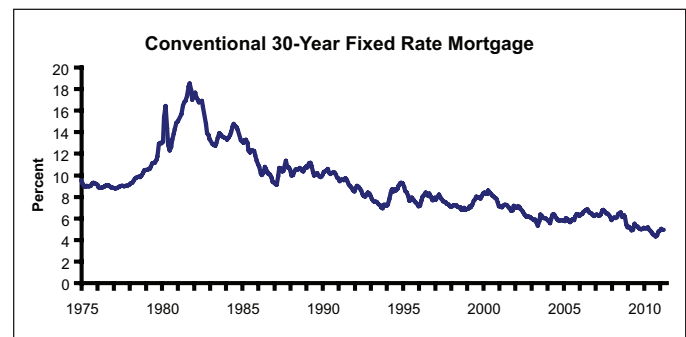


figure 126

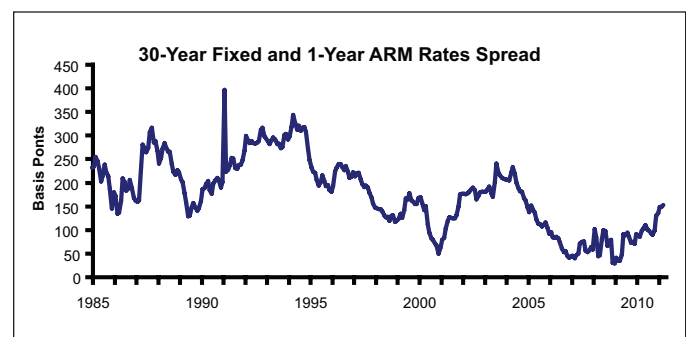


figure 127