

Current Conditions and Outlook for the U.S. and Connecticut Economies: 2008-2010



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The author wishes to thank Patrick Flaherty, Economist, Connecticut Department of Labor, for his research of banking and financial data for the Connecticut portion of the outlook.

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A Note of Thanks to the Economists Panel

To critique and advise in setting the assumptions for the economic outlook and Connecticut's Short-Term Industry Employment forecasts, a panel of economists from the Office of Research, and from outside the agency, from business, academia, and the non-profit sector, convenes every year in the Spring to assess the current and near future conditions and prospects for the U.S. and Connecticut economies. The Office of Research thanks them for their time and effort in participating in this process. As always, any errors are the responsibility of the author of this outlook.

Economists Panel (April 2009 Participants)

MEMBERS-Office of Research: Lincoln Dyer, Senior Economist; Patrick Flaherty, Economist; Jungmin Charles Joo, Senior Research Analyst; Daniel W. Kennedy, Ph.D, Senior Economist; Dana Placzek, Research Analyst, and Joseph Slepski, J.D., Research Analyst

MEMBERS-Outside Panelists: Jeff Blodgett, VP-Research, CERC; Edward Deak, Ph.D., Professor of Economics, Fairfield University, CT. Model Manager, NEEP, and Governor's Economic Council; Steven Lanza, Ph.D., J.D., Executive Editor, The Connecticut Economy, University of Connecticut, and Governor's Economic Council; and Nick Perna, Ph.D., Perna Assoc. (Wall Street Journal Survey of Economists), Webster Bank, Adjunct Professor of Economics, Yale University, and Governor's Council.

FOREWORD

What follows is the outlook for the U.S. and Connecticut economies for 2009 and 2010, which is prepared by the Office of Research, Connecticut Labor Department. After review by a panel of economists from academia, business, non-profits, and government, the U.S. and Connecticut outlooks are revised, updated, and then used as the basis for setting the assumptions for the next round of Short-Term Connecticut, Industry-Employment Forecasts.

The year 2008 was a historical year. The sub-prime/housing bubble and bust, in conjunction with the rapid rise, proliferation, and then collapse of the financial derivatives boom ignited financial contagion and crisis that spread to the real economy, culminating in the bankruptcy of Lehman Brothers and the collapse of AIG in September 2008. The U.S. and World economies were suddenly faced with the worst financial and economic crisis since the 1930's. These events obviously drive the outlook for 2009 and 2010. As a consequence, what follows is an expanded outlook that includes coverage of the origins of the current financial and economic crisis. Of course, the 2008 Outlook, as well as previous outlooks, highlighted the growing housing bubble and its threat to the rest of the economy. Though the housing bubble and bust did not impact Connecticut to the extent it did other areas of the country, particularly the epicenter regions, such as Phoenix and Las Vegas, Connecticut was still affected, and in particular, certain regions of the state. Nevertheless, Connecticut is still significantly exposed to the current crisis due to the large presence of the financial services industry in the state, particularly in Fairfield County. Further, the World economy is expected to contract for the first time in 60 years. Particularly troublesome for any recovery prospects is the \$13.8 trillion loss in U.S. household sector wealth, from the third quarter of 2007 to the first quarter of 2009, and the unprecedented contraction in net worth (at least in the post World War II era).

Both, the U.S. and Connecticut economic outlooks, which follow, and the critique and recommendations formulated in the Economists' Panel process set the assumptions for the Connecticut Short-Term Employment Forecasts.

Volume I
Current Conditions and Outlook for
the U.S. Economy:
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CURRENT CONDITIONS AND OUTLOOK FOR THE U.S. AND CONNECTICUT ECONOMIES: 2008-2010

EXECUTIVE SUMMARY: Current Conditions and Outlook for the U.S. Economy 2008-2010

June 2009

Shortly after the government let Lehman Brothers fail, AIG Group, Inc. faced imminent collapse. In response, the Fed infused AIG with \$85 billion on September 16, 2008. The Fed effectively nationalized AIG by giving the U.S. Government, and therefore, U.S. taxpayers, 79.9% control of the company. This rapid succession of events promptly ushered in The Panic of 2008. The consequences of the financial panic on the real economy were almost immediate. What had been a steadily declining economy as a result of the collapse of the housing bubble, which ushered in a recession in December 2007, abruptly accelerated into a steep economic contraction. The aggressive policy responses to the crisis marked the end of the 30 year reign of the Chicago-Free Market School of economics as a guide to the relationship between government and the economy.

WHY THIS CRISIS IS SO SEVERE

Until the current crisis, there had been no nominal decline in U.S. households' net worth in any recession in the post World War II era, and the only decline in real net worth was during the 1973-75 recession. Over the current crisis, nominal net worth fell by 17.89% between 2007Q4 and 2008Q4. But even more significant was the 19.13% rate of decline in real net worth, which represents the most significant deterioration in U.S. households' balance sheet since the Fed's flow of funds series began in 1952. Also both financial *and* tangible assets have declined steeply over the current crisis. And research suggests that the variation in housing wealth has a much larger effect on consumption than the variation in stock market wealth. Thus the fall in tangible wealth, not a factor in the tech/stock-market bust in 2000, in conjunction with record high debt loads, has had a significant impact on consumer spending over this downturn.

ORIGINS OF THE CURRENT CRISIS

The principal developments that have played a critical role in this crisis are the expansion of derivatives from the commodities markets to financial markets; the securitization of residential mortgage pools in the secondary mortgage market into structured finance vehicles; the rise of warehouse financing of sub-prime mortgage originations by Wall Street; the rapid increase in independent mortgage brokers in the wake of the Savings and Loan Crisis; and the triumph of Chicago School free-market economics and its consequent aggressive deregulation policies, particularly as it impacted the financial-services industry. The final piece to all of this was the massive expansion of credit fueled by two major sources (1.) Federal Reserve, which pumped liquidity in the economy after the popping of the stock market/dot-com bubble in 2000, the subsequent 2001 recession, and the September 11th attacks, and (2.) the persistent and rapidly growing, structural trade deficits, in which the U.S. was consuming more than it was producing, which sucked in foreign capital to finance the trade deficit. Thus, both the Fed and the Federal deficit, which financed the trade deficit, flooded the economy with cheap credit, fueling the consumption and housing bubbles.

Roots of the Current Crisis—As the financial services industry was being recreated through deregulation, both driving and being driven by, financial deregulation there were new developments in the repackaging and purported spreading of risk. Mortgages were pooled to-



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gether and were used as collateral on the bonds issued. This concept was taken one step further with the structured-finance, mortgage-backed securities, which split mortgage pools into stratified segments (called *tranches*), rated according to their risk. This process essentially manufactured AAA-rated securities, which supposedly tailored their risk to the needs of the investor and to satisfy the credit rating agencies' guidelines which, it was thought, was spreading and deluding the risk.

However, this process was predicated on mortgage defaults being rare and independent events. But, mortgages that made up these pools typically came from the same, or contiguous regions, and were of the same vintage, which almost guaranteed that defaults would not be isolated, independent events, but dependent events that would rapidly spread contagion throughout the system once the default process began. Thus, instead of deluding and spreading the risk, structured finance in conjunction with excessive leveraging, hid the risk and passed it around. Consequently, assets created through this process were overpriced on a risk adjusted basis. Investors and financial institutions suddenly found that their balance sheets had rapidly deteriorated because they could not value these assets.

MONETARY AND FISCAL POLICY RESPONSES

Policy responses to the current crisis can be looked at from the standpoint of three distinct approaches: (1.) The Federal Reserve acting as Lender of Last Resort, (2.) The U.S. Treasury acting as Buyer of Last Resort, and (3.) the Federal Government as Spender of Last Resort.

THE FEDERAL RESERVE AS LENDER OF LAST RESORT

The Fed's aggressive interventions to stave off depression in this crisis have taken the following forms: (1.) Term Auction Facility (TAF), (2.) Revival of Operation Twist, (3.) Term Asset-Backed Securities Lending Facility (TALF), and (4.) Primary Dealer Credit Facility (PDCF).

Term Auction Facility (TAF)— During the August 2007 Credit/Liquidity Crisis, it was clear that the changes in the discount window lending policy were not working. So, in order to remove the stigma attached to borrowing from the discount window, the Fed allowed banks to borrow anonymously. This encouraged those banks most in need of the funds to come forward, which allowed a "surgical" injection of funds targeted to the points of most critical need.

Revival of Operation Twist— In the 1960's during the Kennedy Administration, the Fed attempted to flatten out the yield curve by selling short-term securities (raising short-term rates) and buying long-term securities (lowering long-term rates). Except, this time, short-term rates were not raised.

Term Asset-Backed Securities Lending Facility (TALF)— If a primary dealer borrows securities and agrees to buy them back on a certain date, but cannot fulfill its obligation, for a small fee, the Fed will loan them the funds to repurchase the securities. Essentially, the Fed is selling Treasury holdings and buying Residential Mortgage-Backed Securities (RMBS).

Primary Dealer Credit Facility (PDCF)— The PDCF allowed investment banks and brokers to obtain what were essentially discount-window loans just like commercial banks. Further,



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they could pledge a broad set of collateral to obtain loans.

U.S. TREASURY AS BUYER OF LAST RESORT

The Emergency Economic Stabilization Act of 2008 (EESA), enacted on October 3, 2008, established the Troubled Asset Relief Program (TARP). It sought to stabilize the economy by thawing the frozen credit markets, both for consumer lending and for lending between banks. It also sought to avoid further failures of “too big to fail” financial institutions and to restore investor confidence in the markets by creating a market for “toxic”, sub-prime mortgage related assets. It also required participating institutions to issue equity warrants to the government, so that the government shares in any benefit the institutions accrue as a result of the bailout.

Public-Private Investment Partnership— On March 23, 2009, the U.S. Treasury in conjunction with the Federal Deposit Insurance Corporation (FDIC) and the Federal Reserve, announced the Public-Private Investment Partnership (PPIP) to address the problem of Legacy Assets. These assets include both, real estate loans held directly on the books of banks (“legacy loans”) and securities backed by loan portfolios (“legacy securities”). These assets create uncertainty around the balance sheets of these financial institutions, compromising their ability to raise capital and their willingness to lend.

FEDERAL GOVERNMENT AS SPENDER OF LAST RESORT

The American Recovery and Reinvestment Act of 2009 was signed into law by President Barack Obama on February 17, 2009, in an effort to stimulate the U.S. economy in the wake of the economic crisis by injecting \$787 billion. It includes Federal tax cuts, expansion of unemployment benefits and other social welfare provisions, and domestic spending in education, health care, and infrastructure, including the energy sector. It requires that 37% (\$288 billion) of the stimulus package go to tax relief and 18% (\$144 billion) to state and local fiscal relief (more than 90% of the state aid is going to Medicaid and education), and 45% (\$357 billion) to Federal social programs and Federal spending programs.

BACK FROM THE BRINK? CURRENT CONDITIONS AND THE OUTLOOK FOR 2008-2010

Are we back from the brink? And, if so, is it “real”, or only a temporary reprieve? The answer to that question lies in what happens to two closely connected outcomes: when housing prices recover, and whether or not “toxic” assets held by financial institutions can be priced through the Obama Administration’s Public-Private Partnership (PPIP) Program, and taken off the books of troubled financial institutions.

FINANCIAL STORM: STAVING OFF A LIQUIDITY TRAP

It looks like the recent storm (the Panic of 2008), for the most part has passed—for now. Bernanke, along with the U.S. Treasury, has pumped nearly a trillion dollars into the U.S. Economy since the current financial crisis began back in early 2007. Did flooding the economy with liquidity stimulate credit creation? Tracking the Money Multiplier (MM)¹ over this crisis shows how money pumped into one end of the pipe stopped coming out the other as a net expansion of credit. After September 10, 2008, the M1-MM (the money multiplier for the basic money supply) collapsed from a value of 1.61 on September 10th, to 0.88 by

¹ The Money Multiplier represents the total possible expansion of credit due to a given base of demand deposits and reserves in the banking system.



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January 20, 2009. After recovering somewhat, it drifted back down to 0.87 on May 20, 2009². It indicates credit creation has still not returned to robust levels. When the financial system is functioning properly, credit is the grease that lubricates the wheels of the real economy. In September 2008, that lubricant dried up, and the wheels of the real economy seized up. That is what makes financial crises different from that of a “normal” recession. It is why recessions accompanied by financial crisis are deeper, last longer, and are followed by weaker recoveries.

THE BATTERED U.S. HOUSEHOLD SECTOR: IMPLICATIONS FOR THE REAL ECONOMY

Consumer spending accounted for around 70% of the growth in aggregate demand over the last expansion, the highest of any post World War II expansion. According to the Federal Reserve Board’s flow of funds, U.S. household wealth has declined by \$13.8 trillion between 2007Q3 and 2009Q1. Thus, consumers can no longer support that kind of spending, especially since much of it was debt financed by tapping into home-price appreciation during the housing bubble to fund purchases. Further, to redress the trade imbalance, the U.S. is going to have to depend more on exports for growth, and that in turn will depend on our competitiveness and the return of World economic growth.

THE PROSPECTS FOR RECOVERY

Housing and the Prospects for Recovery— Based on the Case-Shiller Housing-Price Index Composite for the 20 largest U.S. metro areas, home price declines accelerated from 1.97% in February 2009 to 2.17% in March. At this point, it does not appear that the decline in housing prices will abate this year. The health of the housing market will return when prices, at least, stop falling, let alone increase.

The Stock Market and the Prospects for Recovery— Is the 39.7% recovery in the S&P 500 between March 3, 2009 and June 11, 2009 a “real” turn-around, or a “Bear Market Rally”? The turnaround in the market after March 9, 2009 is an encouraging sign, however, that is tempered by the decline in trading volume after March 9th. Between March 9th and June 11th, the 10-Day Moving Average of trading volume declined by 24.41% after the S&P 500 Index turned around. This narrowing of the trading-base, as the market rallied, is a worrisome sign.

Exports and the Prospects for Recovery— For a sustained recovery from the current crisis, there must be other sources of growth than that of domestic, consumer spending. Innovation and development of new products and processes are a critical component to a dynamic economy. And, an increasing importance of exports as a driver of U.S. economic growth is another critical piece to the path to recovery and long-term, sustainable growth. Of course, any revival in exports is dependent upon the return of growth to the World’s Economy. The two biggest destinations for U.S. merchandise exports are its two NAFTA partners, Canada and Mexico. Both, like the U.S., are expected to contract in 2009. In fact, Mexico’s economy is expected to decline more steeply than either the U.S. or Canada in 2009. However, according to the International Monetary Fund’s (IMF) April 2009 forecast, while the U.S. is expected to contract again in 2010 (although not as steeply as in 2009), Canada and Mexico are projected to return to growth in 2010. This may be a sign of possible recovery in U.S. export growth in 2010, whether this would be enough to produce

² See the Federal Reserve Bank of St. Louis Website at <http://research.stlouisfed.org/fred2/series/MULT> to get the latest update on the M1-MM.



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positive, overall economic growth remains to be seen.

Inflation/Deflation and the Prospects for Recovery— The reason for such aggressive action by Bernanke, since the on-set of the current financial crisis, and the vigorous pursuit of activist fiscal policy by the Obama Administration, is that if the U.S. economy goes into a period of extended and severe deflation, real debt burdens would increase, and when accompanied by declining asset values (falling housing and the stock prices), the conditions are put in place for a depression scenario. So far, the core inflation rate (net food and energy), though low, has not, as of yet, turned negative. If the core CPI were to go into deflation, then that would be a worrisome development for the economy—an already serious financial crisis would intensify.

Labor Markets and the Prospects for Recovery: The Wealth-Effect and Labor Supply— In addition to the newly graduating students that enter the labor force every late Spring/early Summer, this recession is also seeing uncharacteristic increases in the labor force participation of demographic groups that, in previous recessions, withdrew from the labor force as economic activity declined. This seems to have been driven by the unprecedented losses in wealth, in conjunction with barriers to credit access, that have characterized the current financial and economic crisis. This implies that the unemployment rate over this recession/crisis could well exceed 10% before it declines. As of May 23rd, the U.S. Unemployment Insurance (UI) Claims data were sending a mixed signal about the prospects for the U.S. Labor Market. Initial Claims appear to have peaked in April 2009. The 4-Week Moving Average of Continued Claims has continued to increase through May 2009. It appears, that though layoffs seem to be subsiding, those that are filing for benefits are not finding new jobs, or being recalled to their old ones. Further, there could be another round of job reductions in the Fall, which typically has a pick-up in lay-off activity.

The ARRA of 2009 and the Prospects for Recovery— If the \$787 billion ARRA appropriation is adjusted by excluding the \$70 billion Alternative Minimum Tax (AMT) patch and the spending of \$146 billion that takes place in years after the end of calendar year 2010, the two-year, total stimulus in the package falls to \$571 billion (\$285.5 billion per year), or approximately 1.9% of GDP. As of 2009Q1, household wealth had fallen by \$13.8 trillion, since the beginning of the current crisis. Research indicates that for every \$1 change in wealth, household spending changes by 5 to 6 cents. That translates into a spending decline of \$690-\$830 billion from the wealth effect alone (not counting the spending declines based on the fall in income). The actual stimulus part of the ARRA falls dramatically short of closing the negative wealth effect alone. An even bigger diluting of the stimulus impact is the significant reduction to aid going to the states in the final version of the bill. Thus, the absolute size of the stimulus, and in particular, an insufficient size for the direct-spending portion, in conjunction with inadequate aid to the states to offset their constitutionally mandated requirement to balance their operating budgets, may imply that the ARRA might fall short of jump starting the economy out of the current recession.

Financial Market Reforms and the Prospects for Recovery— In response to the current financial crisis, the Obama Administration announced a sweeping overhaul of the financial system on June 17, 2009. Critics have lined up on both sides: those who say that it goes too far, and those who say it does not go far enough. One thing is clear, if a sustained recovery is to be achieved, then stability, fairness, and transparency must be restored to financial markets. Though each crisis has its unique characteristics, there are also some common themes that appear in the run-up to every financial crisis. The “Three Horsemen” of financial crisis are: Conflicts of Interest, Asymmetric Information, and Principal-Agent Problems.



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OUTLOOK FOR 2008-2010

Four forecasts are used as the basis for the outlook for the U.S. Economy to 2010: the International Monetary Fund, the University of Michigan, Ray C. Fair, and the Blue Chip Economic Indicators. Table 1 summarizes the four latest forecasts (at the time of writing) used for the outlook. All but the IMF expect weak-to-moderate growth in 2010. The IMF expects U.S. GDP growth to still be slightly negative in 2010. From the above discussion, it is clear that whether or not the U.S. economy begins to turn around in the last half of this year, or the beginning of next, depends on whether or not the household sector begins rebuilding its net worth, on how serious the second wave of foreclosures (driven by job losses and rises in the unemployment rate) gets (which directly effects house prices), on how much spending the stimulus from the ARRA of 2009 is able to generate in the economy, and most critically, whether or not PPIP can effectively bring about pricing of toxic/legacy assets on the books of financial institutions, and then effectively remove those assets from their balance sheets. Finally, it is critical that the Obama Administration's new regulatory and anti-trust reforms of the financial industry are able to return trust and stability to financial markets. In other words, addressing the "Three Horsemen" of financial crisis is critical to restoring stability to the World's financial and economic system. Otherwise, the second shoe of this crisis may drop in 2010 or

TABLE 1: YTY % CHANGE IN U.S. Real GDP

FORECAST	2008	2009	2010
Ray C. Fair*	1.11	-2.20	1.62
IMF**	1.11	-2.75	-0.05
UMich***	1.11	-3.05	1.40
BCEI****	1.11	-2.71	1.97
Average	1.11	-2.68	1.24

*April 2009 Forecast

**April 2009 Forecast

***March 2009 Forecast

****June 2009 Forecast



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I. THE PANIC OF 2008 AND ITS AFTERSHOCKS

A. INTRODUCTION: THE PANIC OF 2008

On September 10, 2008, Lehman Brothers Investment Bank reported a record \$3.9 billion quarterly loss and announced that it would sell off assets to shore up its capital³. This came just three days after the “free-market” Bush Administration announced that they were nationalizing Fannie Mae and Freddie Mac, the two Federally chartered underwriters in the secondary mortgage market. The Bush Administration decided to let Lehman Brothers fail, and two days after Lehman’s announcement of a \$3.9 billion loss, Barclay’s Bank picked up some of the choice pieces for \$1.75 billion⁴. The answer to the administration’s “let it fail” policy toward Lehman’s came quite swiftly, in the wake of imminent collapse the Fed gave AIG Group, the World’s largest insurer, \$85 billion on September 16th. This effectively nationalized AIG by giving the U.S. Government, and therefore, U.S. taxpayers, 79.9% control of the company⁵. This rapid succession of events promptly ushered in The Panic of 2008 as Wall Street suffered its worst weekly percent decline in history, (in just two days, September 15th to 17th, the Dow dropped by 7%), topping the former record set in 1933⁶. For the first time in the post World War II era, the “D” word was uttered. Further, like the 1929 Crash, and the Panic of 1907, the financial panic was transmitted around the World. And like those two financial crises, the epicenter was in the U.S.

In response to the crisis, Treasury Secretary Henry Paulson and Fed Chairman Ben Bernanke both urged Congress to pass the \$700 billion bailout plan that the Bush Administration had put together to address the financial panic. After a first round defeat, on October 3, 2008, Congress passed the *Emergency Economic Stabilization Act of 2008* (EESA), and it was signed into law by President George Bush⁷. The EESA created the *Troubled Asset Relief Program* (TARP).

TARP allowed the Treasury to purchase non-liquid, difficult to value assets from banks and other financial institutions. The targeted assets could be CDO’s (Collateralized Debt Obligations), which were sold in a booming market until 2007 when they were hit by widespread foreclosures on the underlying loans. TARP was intended to improve the liquidity of these assets by purchasing them through secondary market mechanisms, thus allowing participating institutions to stabilize their balance sheets and avoid further losses⁸. TARP gave the U.S. Treasury purchasing power of \$700 billion to buy up mortgage backed securities (MBS) from institutions across the country, in an attempt to create liquidity and unseize the money markets. The Treasury was given \$250 billion immediately, and the President was to certify additional funds as they were needed. The additional funds were to be distributed as \$100 billion, and then as the final \$350 billion is given, Congress has the right to not approve the additional amounts⁹.

B. AFTERSHOCKS: FROM RECESSION TO STEEP CONTRACTION

The consequences of the financial panic on the real economy were almost immediate. What

³ *FANNIE, FREDDIE...LEHMAN?* BUSINESSWEEK (September 22, 2008) McGraw-Hill: New York, p. 004

⁴ *Desperate Days in the Canyons of Finance*, BUSINESSWEEK (September 29, 2008) McGraw-Hill: New York, p. 006

⁵ *Wall St. Staggers*, BUSINESSWEEK (September 29, 2008) McGraw-Hill: New York, pp. 028-032

⁶ *Desperate Days in the Canyons of Finance*

⁷ *The Whole World is Watching Washington*, BUSINESSWEEK (October 6, 2008) McGraw-Hill: New York, p. 006

⁸ Wikipedia.

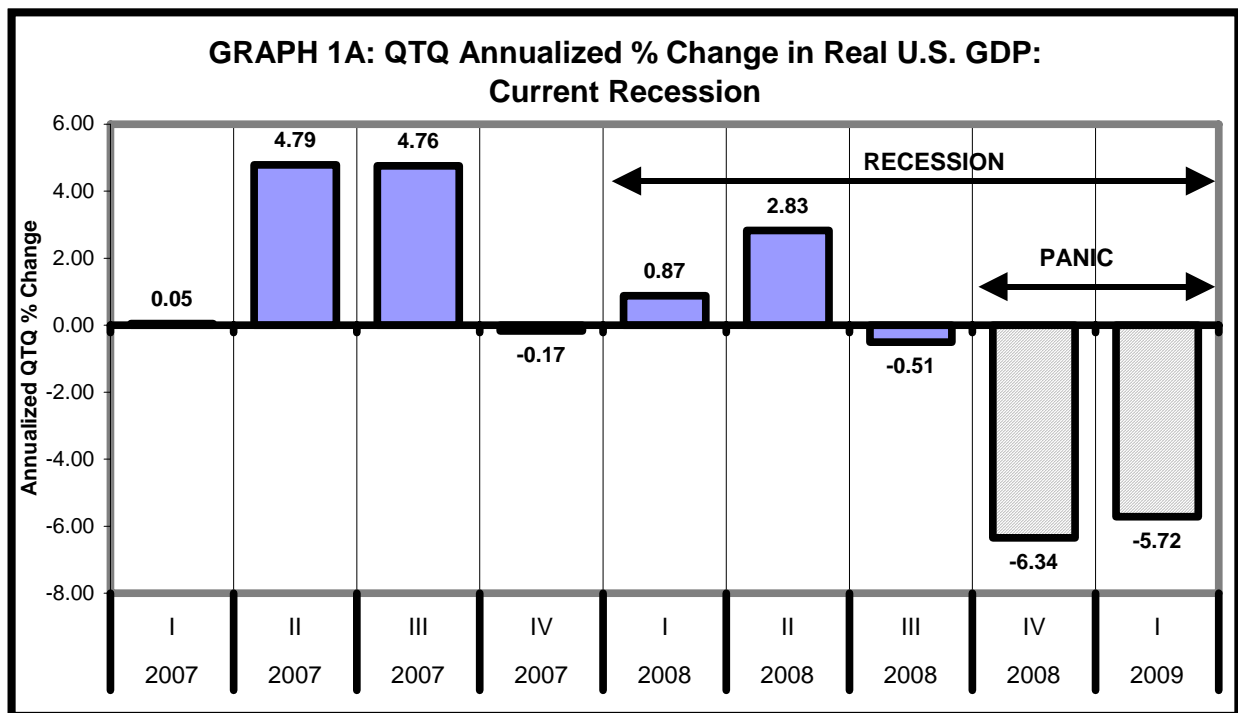
⁹ INVESTOPEDIA < <http://www.investopedia.com/terms/t/troubled-asset-relief-program-tarp.asp>> (Accessed on March 20, 2009)



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had been a steadily declining economy as a result of the collapse of the housing bubble, which ushered in recession beginning in December 2007, abruptly accelerated into a steep economic contraction. This is dramatically apparent in the behavior of some critical indicators of economic activity. Graph 1A depicts the quarter-to-quarter (QTQ) annualized percent change in U.S. real GDP, the measure of the value added of goods and services over the current period. Graph 1B details the contributions to the change in nominal U.S. GDP. Graph 2 presents the month-to-month (MTM) annualized percent change in Gross Output, or GO (value added plus intermediate inputs) in manufacturing, as measured by the Industrial Production Index (IPI). Both measures of output (GDP for the overall economy, and GO for the manufacturing sector), had a dramatic acceleration in their declines in the fourth quarter of 2008 and into 2009. Graph 3 shows the month-to-month (MTM) change in U.S. non-farm employment over the current period.

From graph 1A, there was a slight decline in GDP in the fourth quarter of 2007, the last quarter of the last recovery/expansion. GDP growth was positive, but flat in the first quarter of 2008, with a moderate increase in growth in the second quarter due to the 2008 stimulus. With the effects of the stimulus dissipated by the third quarter, GDP declined again slightly. It was the fourth quarter, the period of the Panic of 2008, in which GDP went from a mild decline of 0.51%, on an annualized basis, to a steep contraction of 6.34%, followed by a revised 5.72% annualized decline. Though the revised estimate for the decline in GDP is not as bad as the initial estimate of 6.14%, it is nevertheless, a steep decline¹⁰.



SOURCE: U.S. BEA and calculations by CTDOL-Research.

Graph 1B shows the contributions the major components made to the change in U.S. nominal GDP over the current recession/contraction. Because of the adding up problem

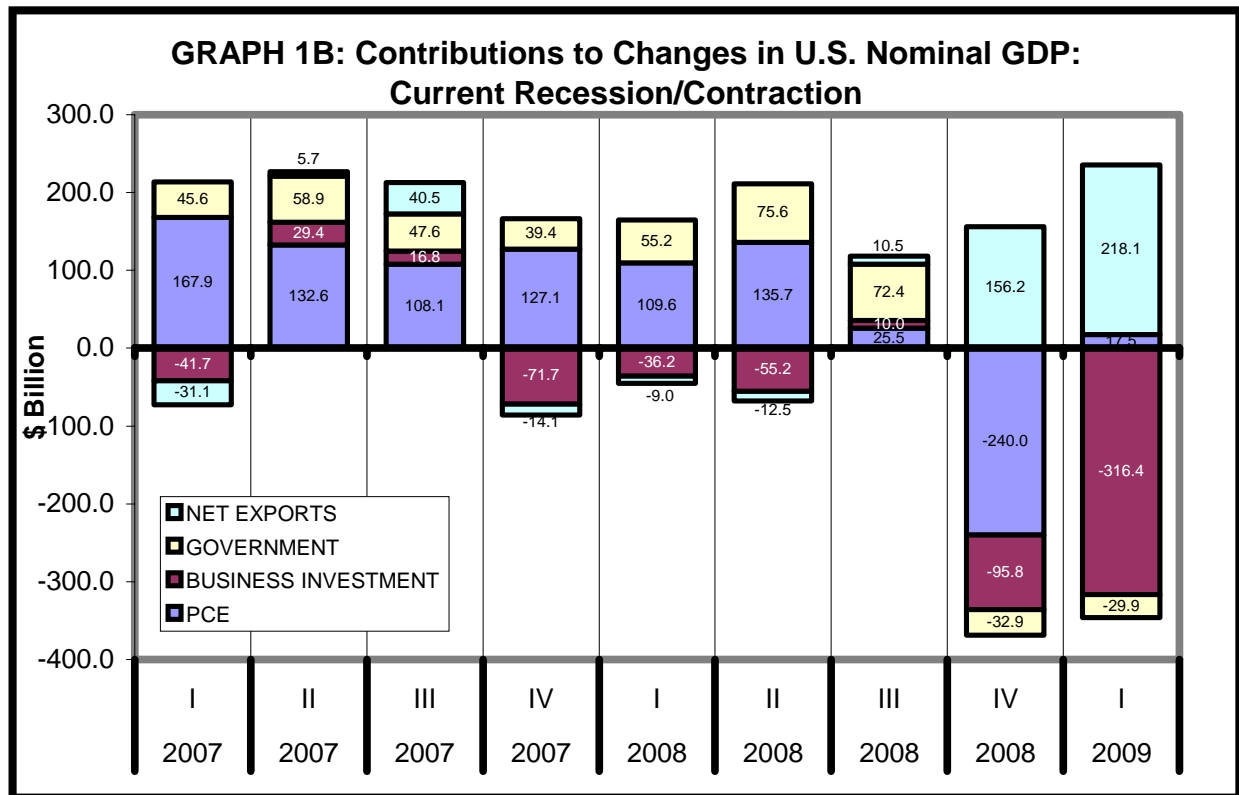
¹⁰ U.S. BEA, *Gross Domestic Product, 1st quarter 2009 (preliminary) Corporate Profits, 1st quarter 2009 (preliminary)*, May 29, 2009



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with using chained dollar GDP, nominal rather than real GDP is used to analyze the contributions to the quarter-to-quarter (QTO) change in GDP between 2007Q4 and 2009Q1.

In four of the seven quarters preceding the September 2008 Panic, Gross Private Domestic Investment (GPD) and net exports were subtractions from GDP growth. In the post-Panic Segment (2008Q4 and 2009Q1), PCE, GPD, and Government were the components of aggregate demand that subtracted from GDP growth. The \$240.0 billion collapse in consumer spending drove the contraction in GDP in the fourth quarter of 2008, while the \$316.4 billion¹¹ drop in GPD led the steep GDP decline in 2009Q1. Net exports made positive contributions, in nominal terms, in both quarters.



SOURCE: U.S. BEA and calculations by CTDOL-Research.

In graph 2, the steep decline in manufacturing output in four of the last five months of 2008 is also apparent. Though the steepest, annualized decline, at 37.4%, was in August just before the September Panic, declines have exceeded 20% in four of the six months following September 2008, and 25% in three of those four months.

Finally, graph 3 tracks the acceleration in job losses from September through December 2008, which continued into 2009, with non-farm employment declining by 741,000 in January and just under 700,000 in February and March, moderating to 539,000 in April.

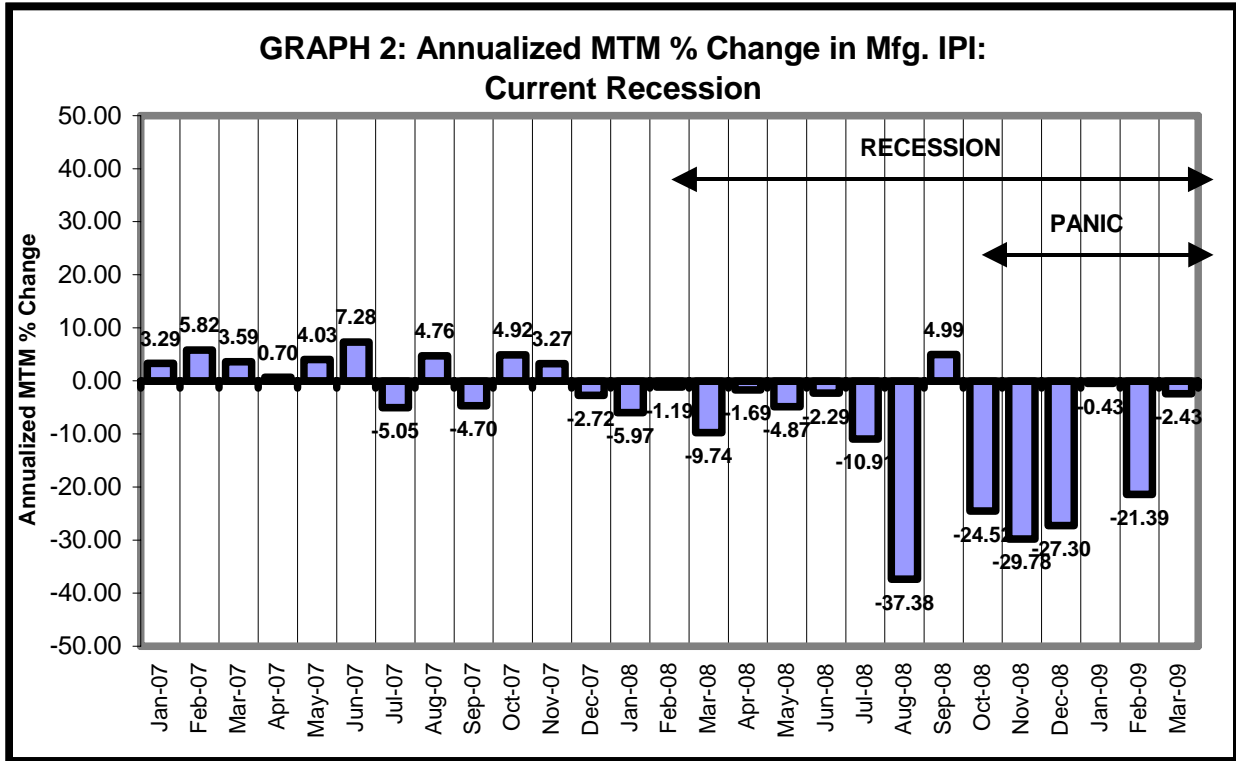
C. PANICS AND THE BUSINESS CYCLE

Interestingly, in those recessions/depressions that were accompanied by a banking panic,

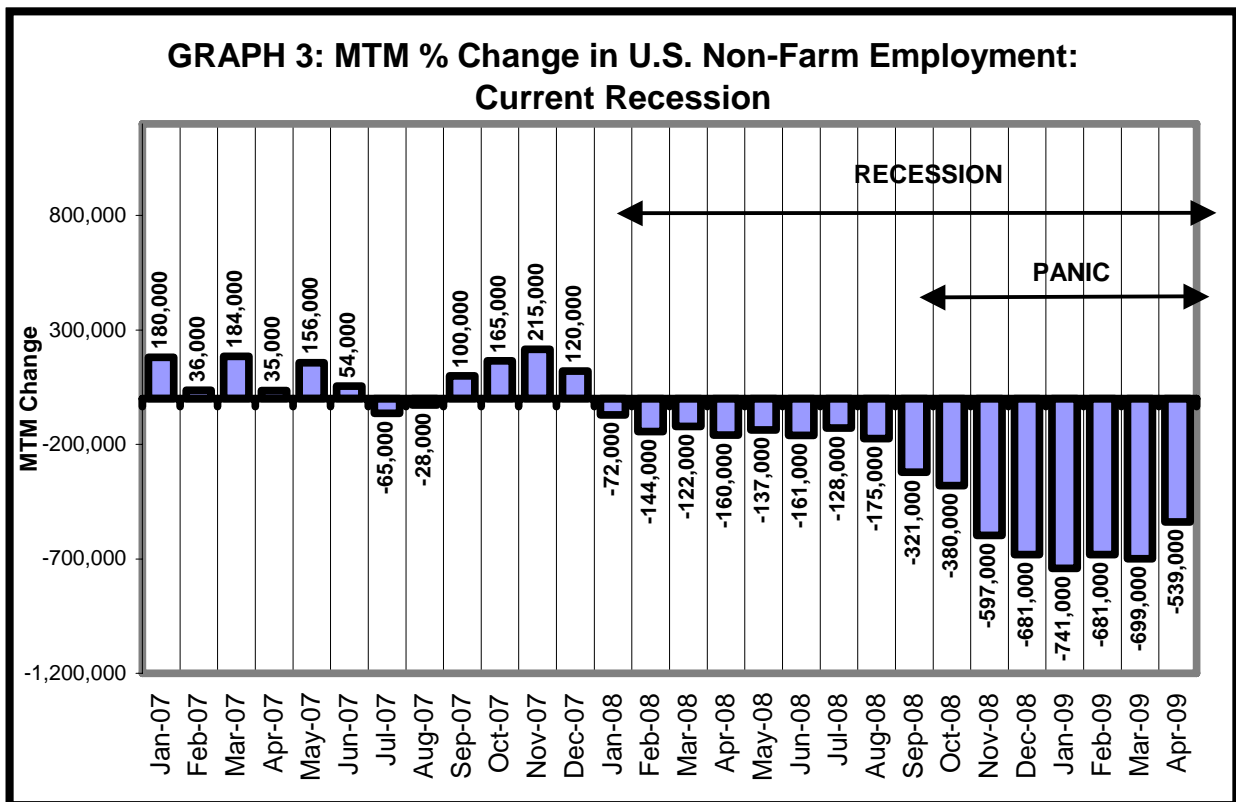
¹¹ Revised upward from the initial estimate of a \$335.3 billion drop in GPD for the first quarter of 2009 (U.S. BEA, May 29, 2009).



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SOURCE: U.S. Federal Reserve Board and calculations by CTDOL-Research.



SOURCE: U.S. BLS and calculations by CTDOL-Research.

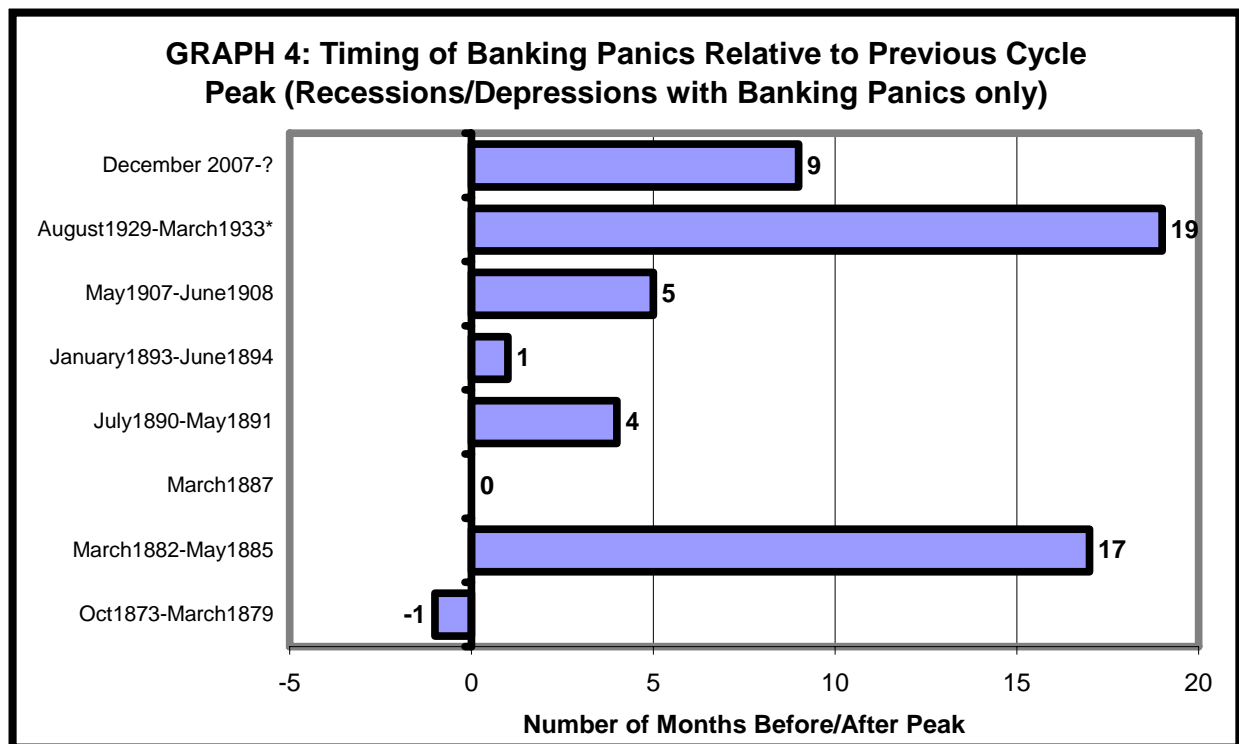


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from 1873 on, the panic did not initiate the downturn (save 1873). In all other cases, as depicted in graph 4, in recessions/depressions accompanied by a banking panic, the panic occurred anywhere from one to 19 months after the peak of the previous expansion. And, in the case of the March 1887 recession, the panic occurred after the economy was already in recovery phase—that is, the recession had ended.

D. TECTONIC SHIFT: A NEW ADMINISTRATION AND A NEW PARADIGM

The historic November 2008 Presidential Election ushered in a sea of change in the United States. Not only was Barack Obama the first African American presidential candidate for one of the two major political parties, but also the electorate chose him to be the first African-American President. But, there were other historical changes that came about before the close of the year 2008, particularly in the guiding paradigm to economic policy. It marked the end of the nearly 30-year reign of the Chicago-Free Market School of economics (ushered in by the Reagan Administration) as a guide to the relationship between government and the economy. This was not just because President Obama is a Democrat (the Clinton Administration pretty much accepted most of the Free-Market School's tenants—



SOURCE: Adapted from Wicker, 1996, Table 5-1, p. 155

especially in his second term), but, just as the Panic of 1907 ushered in a new era that resulted in the creation of the Federal Reserve System¹², so too, the Panic of 2008 has ushered in a new era. However, what exactly that “new era” will be is still in the making, and in its infancy. One thing is for sure it will involve a more activist government (which actually began in the final months of the Bush Administration with the nationalizations of FANNIE MAE and FREDDI MAC), and the return of John Maynard Keynes’s economics to the forefront.

¹² Bruner, Robert F. and Sean D. Carr, THE PANIC OF 1907: Lessons Learned from the Market’s Perfect Storm (2007), John Wiley & Sons: New York



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II. WHY THIS CRISIS IS SO SEVERE

A. INTRODUCTION: PUTTING IT IN CONTEXT

How bad is it? How does the current economic crisis compare to the two most severe, post-World War II/post-Bretton Woods contractions: 1973-75, when real GDP contracted by 3.10%, and 1981-82, when real GDP contracted by 2.63%? How does it compare to the initial contraction that ushered in the Great Depression (August 1929-March 1933)? To put the current crisis in context, two perspectives on the economy's performance will be employed. All quantitative variables can be viewed within two perspectives: flows and stocks. In economics, *flows* look at the flow over time of resources in to, or out of, a household, business, or government agency. In-flows are referred to as income and outflows as expenses. The *stock* approach measures the accumulation of resources or assets as of a given point in time, measured against any claims on them by others, called liabilities.

The first perspective on putting the current situation into context is from the flow standpoint. This implies an analysis of Gross Domestic Product (GDP), the output of goods and services per unit of time (in this case a quarter), and its components, and its flip side, income (and its components), the payments received per quarter by the factor-inputs (labor, capital, and natural resources) for producing the GDP for that period. The second perspective is from the stock view. This will look at the total assets and liabilities of the major sectors in the aggregate economy at various points in time. In other words, this perspective will involve the analysis of sectoral balance sheets.

B. GAUGING THE SEVERITY OF THE CURRENT DOWNTURN

a. Economic Flow Perspective

i. Final Demand-Output and Income Measures from the NIPA's

To see how the current recession stacks up this section looks at GDP, income, and other flow performance measures from the National Income and Product Accounts (NIPA) to see how serious this downturn is when compared to two severe post-Bretton Woods recessions and the initial contraction that ushered in the Great Depression. Because business cycles are of different lengths, in the following analysis, all cycles are put on the same footing by comparing the compounded, annualized growth rate over each cycle. Thus, whether a cycle was five quarters or 15 quarters, the performance of both is standardized to an annualized rate. This mitigates the proverbial "apples-and-oranges" problem.

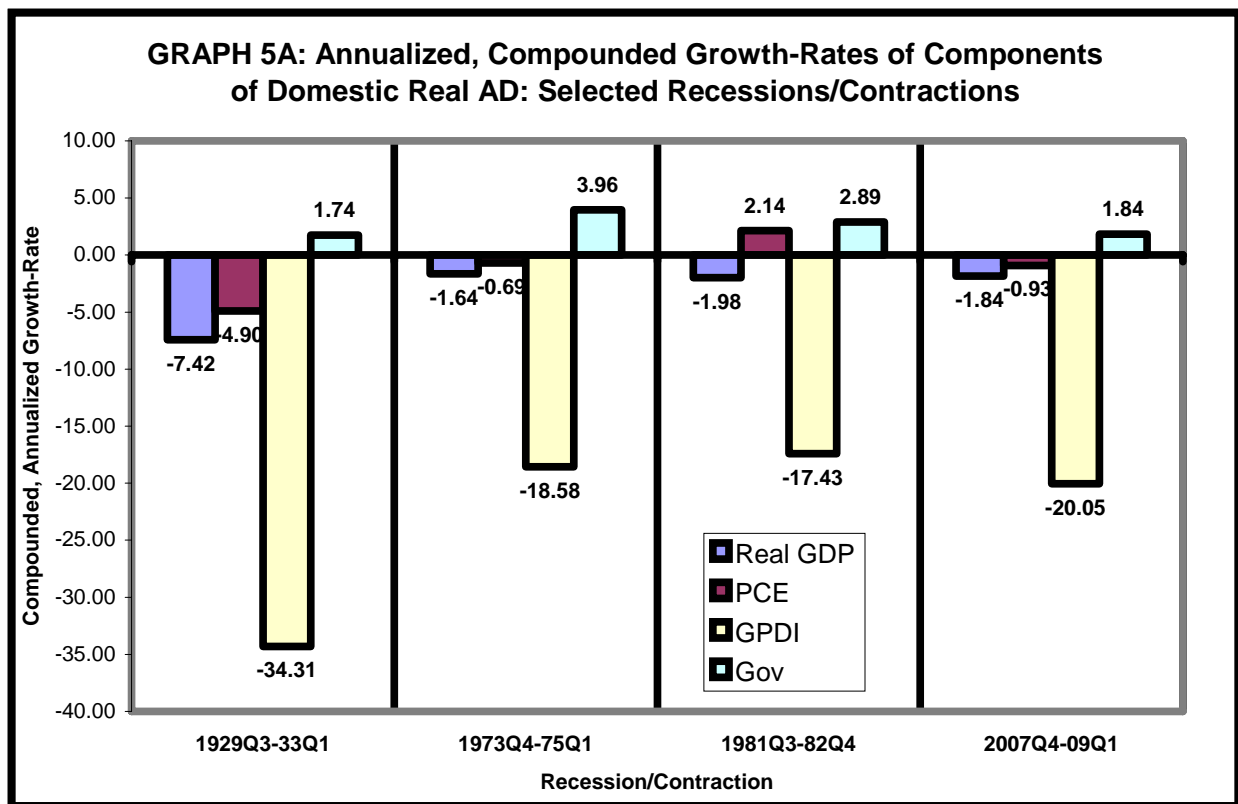
Graph 5A shows the compounded, annualized growth rate for real GDP and the major components of domestic Aggregate Demand (AD) for the initial contraction that ushered in the Great Depression, and the two most severe post-World War II contractions: 1973-1975 and 1981-82, as well as the current recession/contraction. It should be noted that only annual data is available for the 1929-1945 period, whereas the post-World War II data is available on a quarterly basis. Consequently, the analysis for the 1929-33 contraction is confined to annual data. The first contraction, from left to right on graph 5A, is that of August 1929 to March 1933. The GDP data for this cycle covers the annual data available for the years 1929 through 1933. It is this contraction that ushered in the Great Depression. None of the post-World War II recessions have matched the severe decline in real GDP that the U.S. economy experienced over the 1929-33 contraction that ushered in the Great Depression.

The steepest, annualized decline in the selected post-war recessions in graph 5A is the



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1.98 compounded, annualized decline over the 1981-82 recession¹³. This is followed by the current downturn where real GDP has contracted at an annualized rate of 1.84% between 2007Q4 and 2009Q1. Besides the steep rate of descent of real GDP, at 7.42% per year, what really stands out in the 1929-33 contraction is the collapse in Real Gross Private Domestic Investment (GPDI). Business investment declined at a rate of 34.31% per year, far steeper than even the most severe post-World War II contractions (see Graph 5A). However, the decline in GPDI, at an annualized rate of 20% over this downturn, is the steepest contraction in investment in the post-World War II era. The decline in investment over the initial contraction that ushered in the Great Depression far exceeded the 4.90% annual contraction in households' Personal Consumption Expenditures (PCE). This would be expected given that the amplitude of the investment cycle is far greater than that of the PCE cycle. Nevertheless, the decline in PCE also exceeded the declines of the steepest downturns of the post-World War II era. However, the decline in PCE in the current contraction (-0.93% per year) not only exceeds the -0.69% per year during the 1973-75 recession,



SOURCE: U.S. BEA.

but PCE actually grew by 2.14% per year over the 1981-82 recession. The growth in Real Government Expenditures was the highest during the 1973-75 downturn. Government spending grew at a 3.96% per year rate. The next highest rate was the 2.89% during the 1981-82 recession. So far, over the current recession between 2007Q4 and 2009Q1, government spending has been only growing at a 1.84% annualized rate; this is not much higher than the growth rate of public sector spending over the initial contraction that ushered in the Great Depression. The highest growth in government spending, of the three

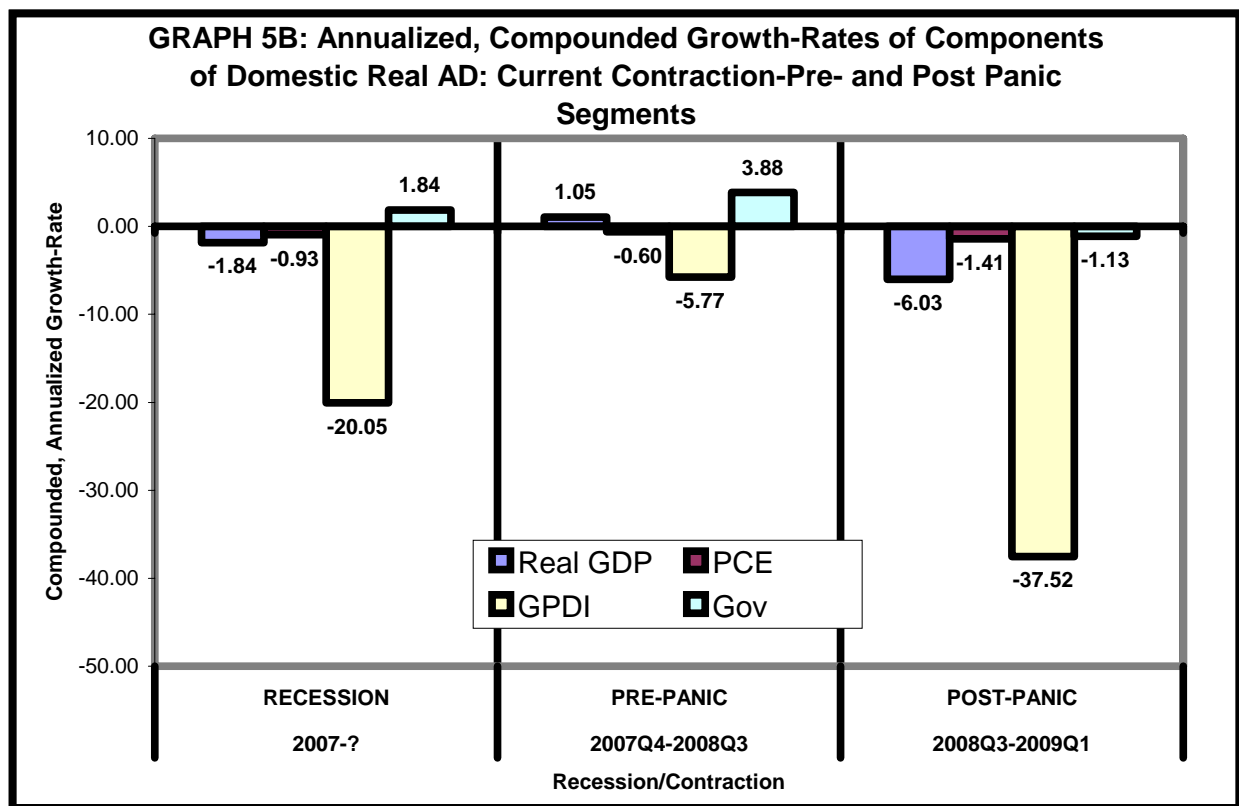
¹³ It should be noted that though it was a short recession (two quarters), GDP contracted steeply at an annualized rate of 4.32%/year in the 1980 Recession.



CURRENT CONDITIONS AND OUTLOOK FOR THE U.S. AND CONNECTICUT ECONOMIES: 2008-2010

highlighted post-World War II recessions in graph 5A, was the 2.89% per year growth rate of government spending during the 1981-82 recession. Not only was government spending growth low over the 1929-33 contraction, at 1.74% per year, but it was also coming off of a much smaller base—both, relatively and absolutely.

Segmenting the current recession into two parts, the period before the September 2008 Financial Panic, and the period afterward (see Section I, Part A, *INTRODUCTION: The Panic of 2008*) dramatically illustrates the turn this recession took after the September Panic. As discussed in Section I, this downturn took on a dramatically different character after Lehman Brothers's bankruptcy and the collapse of AIG. This is illustrated in graph 5B. The 6.03% annualized, decline in real GDP¹⁴ over the post-Panic segment is by far the steepest decline in the post-war era (compared to 7.42% between August 1929 and October 1933, see above). But, most startling is investment. While pre-Panic real GPD was declining at a compounded, annualized rate of 5.77%, after the September Panic real GPD declined at a rate of 37.5% per year, exceeding the 1929-33 rate of -34.3% per year (see graph 5A above). Again, it must be noted that, the pre-World War II data is annual, and quarterly data, if it were available, might show a much steeper decline over the 1929-33 contraction than does the annual data. Given what we know about what followed, that would not be surprising. Nevertheless, the collapse in domestic investment between 2008Q3 and 2009Q1 was unprecedented in the post-World War II era.



SOURCE: U.S. BEA

The severity of the current downturn is in line with research findings. That is, recessions

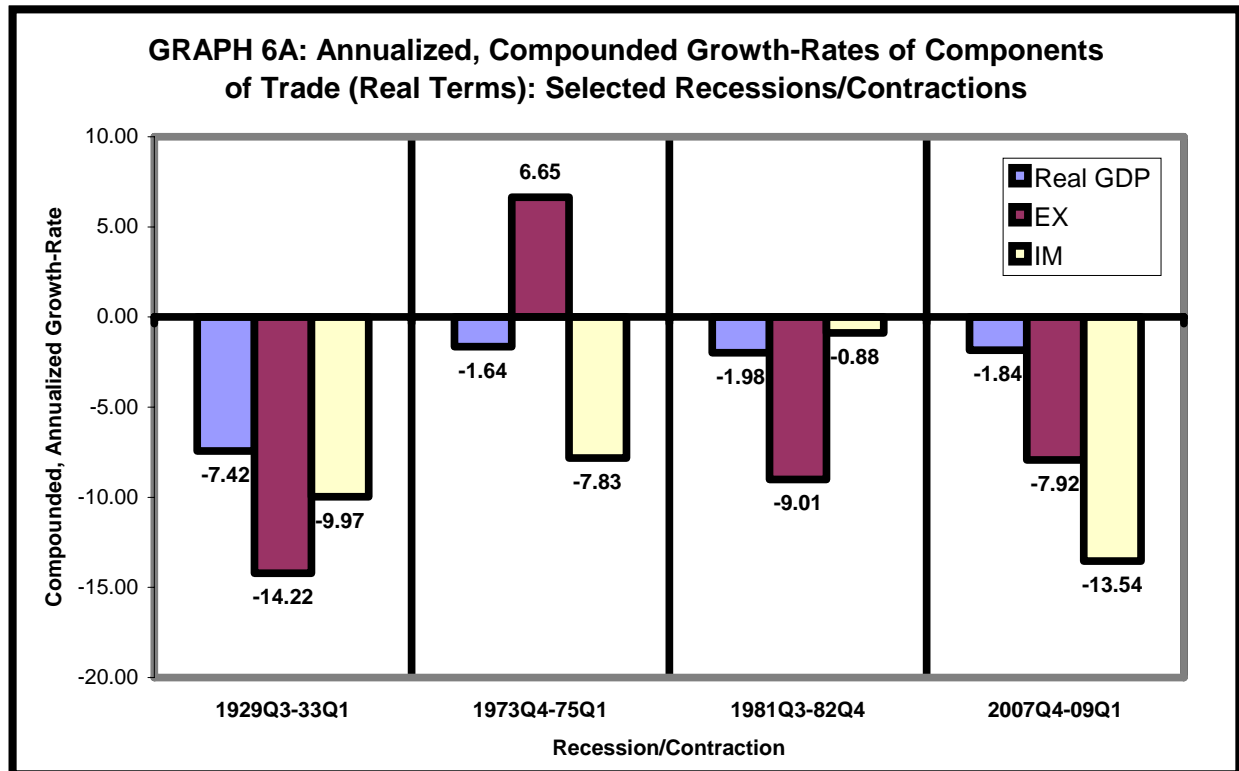
¹⁴ Based on BEA's release of revised GDP estimates on May 29, 2009.



CURRENT CONDITIONS AND OUTLOOK FOR THE U.S. AND CONNECTICUT ECONOMIES: 2008-2010

accompanied by financial crises tend to be longer, steeper, and followed by weaker recoveries¹⁵. A final note of interest on the behavior of real GDP and the components of domestic aggregate demand over this cycle is on public sector spending. When adding up Federal and state and local spending, the net result was a 3.88% annualized rate of growth in government spending over the pre-Panic segment of the current recession. However, the net effect of all government spending in the economy over the post-Panic 2008Q3-2009Q1 segment was *a subtraction from aggregate demand!* Government spending, in real terms, declined at an annualized, compounded rate of 1.13% per year. Over the entire recession period (2007Q4-2009Q1), the annualized growth rate in all public sector spending was not much higher than the annualized growth rate of all government spending over the 1929-33 initial contraction that ushered in the Great Depression (1.74% per year over 1929-33 versus 1.84% per year over 2007Q4-2009Q1).

Graph 6A shows the performance of the export sector over the selected downturns in graph 5A. As would be expected, the 1929-33 downturn had a steep contraction in both exports and imports. However, whether including the 1929-33 contraction, or the selected post-World War II recessions, the current recession has had the steepest drop in imports (-13.5% per year) compared to the 1929-33 contraction (-10% per year) or the 1975-76 recession (-7.83% per year). Imports declined slightly, at a rate of 0.88% per year, during the 1981-82 recession. Exports actually grew at a 6.65% per year rate during the 1973-75 recession, but contracted steeply, at a 9.01% per year rate, during the 1981-82 recession. During the current recession, exports have declined at a 7.92% per year rate, compounded. Over the 1929-33 contraction, exports declined by 14.22%.



SOURCE: U.S. BEA and calculations by CTDOL-Research.

¹⁵ See International Monetary Fund WORLD ECONOMIC OUTLOOK (April 2009), IMF: Washington, CH 3. p. 98

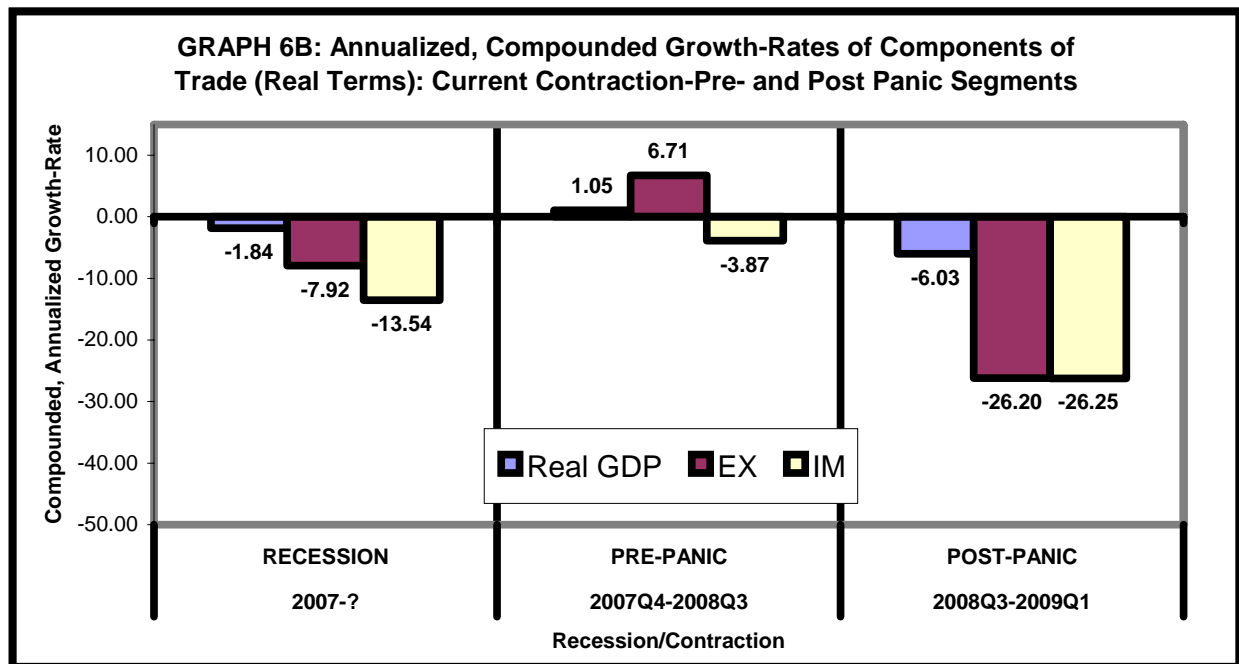


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As was done in graph 5B for domestic AD, graph 6B segments the growth in real exports and imports over the current recession into two parts, the period before the September 2008 Financial Panic, and the period afterward (see above, and Section I, Part A, *INTRODUCTION: The Panic of 2008*). The trade components of GDP also took on a dramatically different character in their behavior after Lehman Brothers' bankruptcy and the collapse of AIG.

Both real imports and exports declined steeply in the post-Panic segment of the current downturn. Real exports declined at a rate of 26.20% per year between 2008Q3 and 2009Q1, and real imports declined by a rate of 26.25%. This exceeded the declines in the selected recessions/contractions depicted in graph 6A—including the declines over the 1929-33 contraction. This reflects the worldwide contagion of the sub-prime crisis, which has resulted the steepest contraction in World economic growth in the post-World War II era¹⁶.

It may also be helpful to investigate the recovery/expansions that preceded the four contractions highlighted in graph 5A. Unfortunately, no data is available for the 1927-29 expansion that preceded the 1929-33 contraction. There is, however, quarterly data available for the post World War II recovery/expansions. Again, restricting the focus to the post-



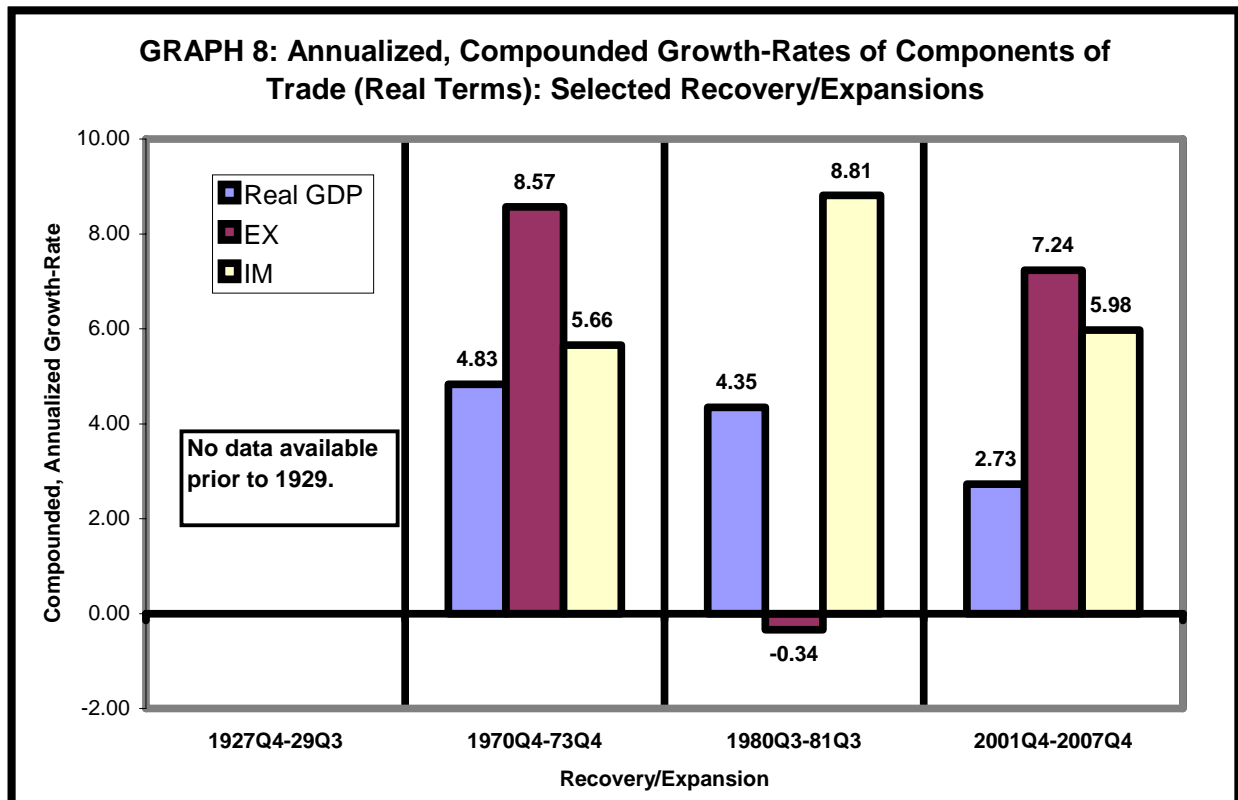
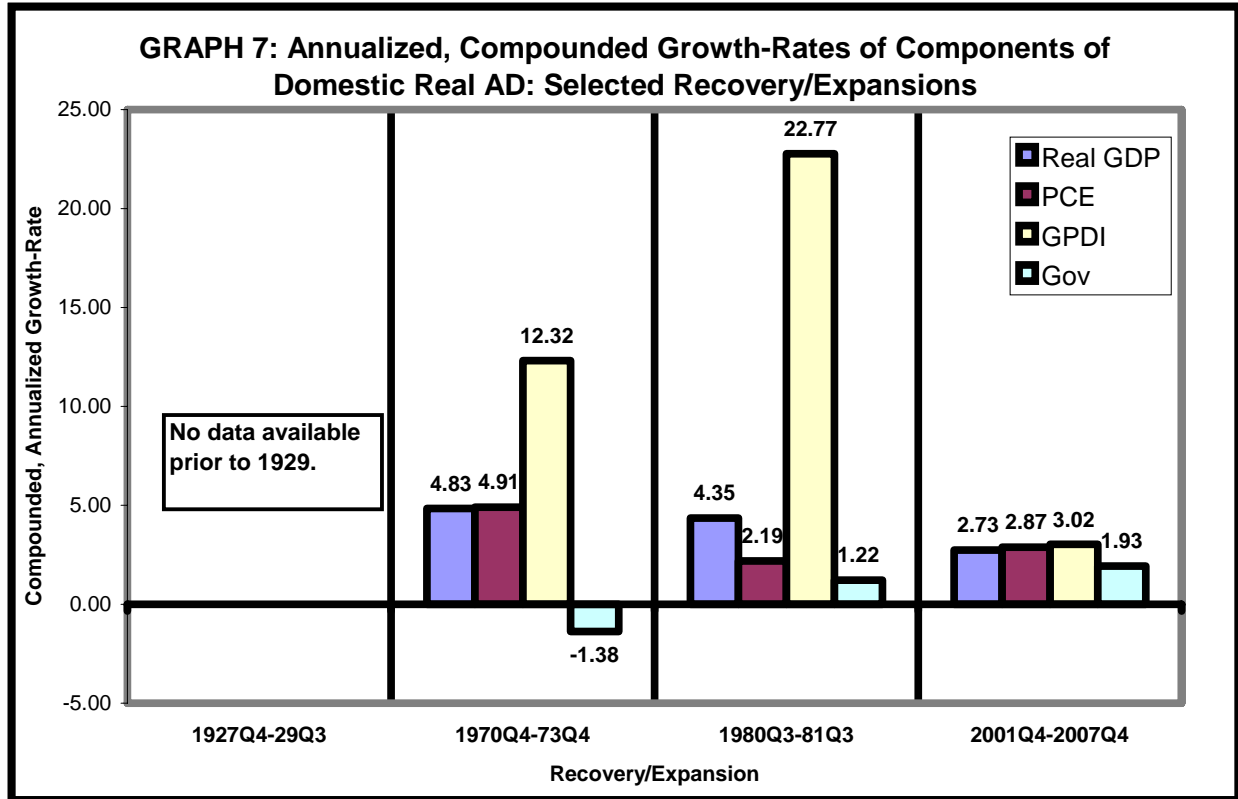
SOURCE: U.S. BEA and calculations by CTDOL-Research.

Bretton Woods segment of the post-World War II era, there is quarterly data available for the three expansions preceding the recessions analyzed in graphs 5A and 6A. They are depicted in graphs 7 and 8. What stands out right away in graph 7 is the strong growth in GPD in the expansions that proceeded the 1973-75 and 1981-82 recessions. GPD grew by a compounded, annualized rate of 12.32% over the 1970-73 recovery/expansion, and by 22.77% over the 1980-81 short (some say aborted) expansion. Equally as striking is the anemic growth in business investment over the 2001-07 recovery/expansion. GPD grew at a compounded, annualized rate of 3.02%. What is even more telling about the re

¹⁶ IMF, WORLD ECONOMIC OUTLOOK (2009), p. xii



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SOURCE: U.S. BEA and calculations by CTDOL-Research.



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covery/expansion that preceded the current recession is that more than 70% of the growth in AD was driven by consumers (i.e., PCE). Yet, between 2001Q4 and 2007Q4, household spending grew by 2.87% per year, compounded. Though higher than the 2.19% of the short 1980-81 expansion, it was far below the compounded, annualized 4.91% growth rate over the 1970-73 recovery/expansion.

Overall GDP growth was also slower in the 2001-07 recovery/expansion (+2.73% per year) when compared to the other two recovery/expansions with at least one quarter of steep contraction. Real GDP grew at an annualized, compounded rate of 4.83% over the 1970-73 recovery/expansion and 4.35% over the 1980-81 expansion. Government spending did grow more strongly over the 2001-07 recovery/expansion (+ 1.93% per year), compared to 1.22% per year over the 1980-81 expansion, and a contraction of -1.38% per year over the 1970-73 recovery/expansion. This, of course, reflects the increased military expenditures for the invasions and subsequent wars in Afghanistan and Iraq after 2001.

As shown in graph 8, exports did grow by 7.24% per year between 2001 and 2007, compared to a contraction of 0.34% per year over the 1980-81 period. The 1970-73 recovery/expansion had the strongest growth in exports: + 8.57% per year rate of growth. Imports grew the strongest from 1980 to 1981, at an 8.81% per year rate. Imports grew the slowest over the 1970-73 recovery/expansion (+5.66% per year), while over the most recent recovery/expansion, imports grew at a 5.98% annualized, compounded rate.

In summary, it appears that for those recovery/expansions with data, indicators of the performance of the real economy suggest that the current recession was preceded by the weakest recovery/expansion. In addition, like the 1990-91 recession (and the Great Depression), this downturn has been the result of excesses in the housing sector, the financial sector, the connections between those two sectors, and credit driven consumer demand in the preceding expansion¹⁷. Although the 1990-91 recession, like the current recession/contraction, was also preceded by a financial crisis brought on by the Savings and Loan debacle and junk bond binge, as well as rising energy prices, unlike the Great Depression, the Panic of 1907, and the current crisis, it was not accompanied by a systemic financial crisis that spread contagion on a global scale. And though high, unsustainable debt loads had been accumulated over the 1980's recovery/expansion, unlike on the eve of the Great Depression, or at the onset of the current crisis, the financial imbalances were not accompanied by a national collapse in asset values¹⁸, both financial and tangible, and it did not spread to the rest of the World economy.

As pointed out in the introductory section above, the nature of this recession changed with the Panic of 2008 in September. Graph 9 reinforces the point illustrated in graphs 1 to 3. Graph 9 tracks the trajectories of the post-Bretton Woods (and post-oil embargo) recessions from the peak of the previous expansion (Period 0 on the horizontal axis). Again, it is apparent that the current downturn turned into a much steeper contraction after the collapse of Lehman Brothers and AIG in September. The 6.24% decline in real GDP in the fourth quarter of 2008 and 6.14% decline in the first quarter of 2009 were the first back-to-back two quarter declines in U.S. real GDP, in which each exceeded 6%, in the post-World War II era.

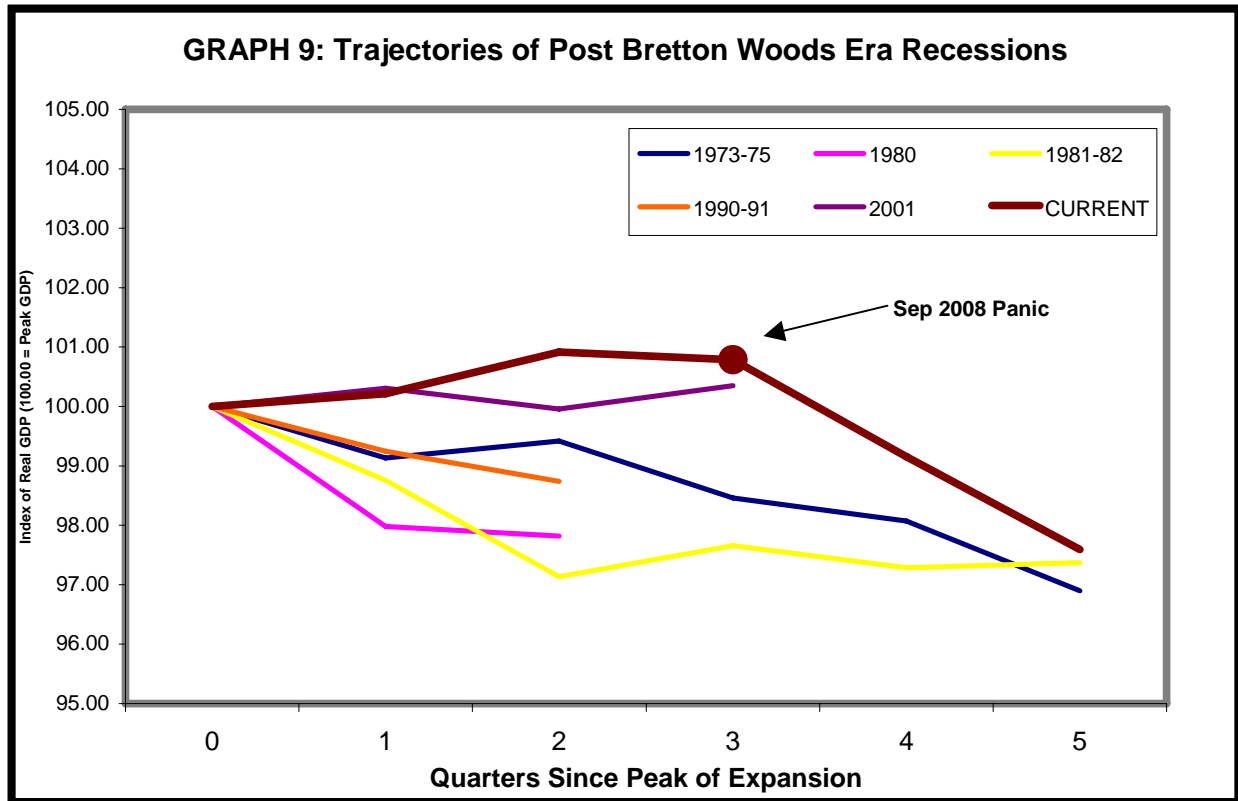
Finally, it is instructive to see how the current recession fits into the two post-Cold War

¹⁷ See Eichengreen, Barry and Kris Mitchener, *The Great Depression as a Credit Boom Gone Wrong*, (Sep 2003) Bank for International Settlements: Basal: Working Paper No. 137

¹⁸ Though the Savings & Loan crisis and real estate bust of the late 1980's and early 1990's did cause housing values to decline in a number of regions, they did not decline on a nationwide basis. The early 21st Century nationwide decline in house values is the first such decline since the Great Depression.



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SOURCE: U.S. BEA and calculations by CTDOL-Research

U.S. business cycles.

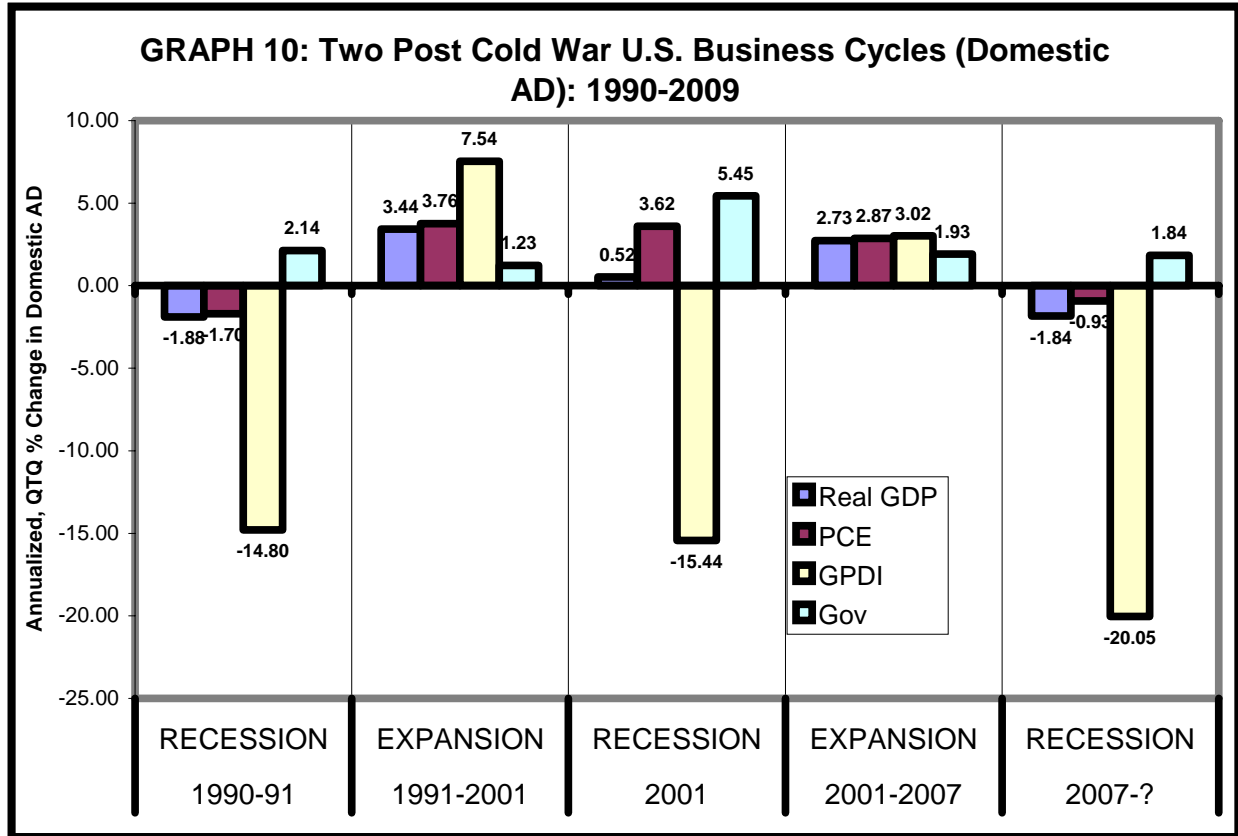
Graph 10 presents the compounded, annualized growth rate in GDP and the components of domestic Aggregate Demand (AD) over the two post-Cold War cycles. Again, because cycles of are different lengths, putting them on a standardized, annualized, compounded growth-rate allows comparison across cycles of different length without comparing the proverbial apples to oranges.

As noted above, there has been a much steeper contraction in Gross Private Domestic Investment (GPD) over the current contraction (-20.05%) then during the 1990-91 (-14.80%) and 2001 recessions (-15.40%), on an annualized, compounded basis, at least, so far. It is also of note, that the growth in GPD in the recovery/expansion that preceded the current recession was quite weak (3.02%), and in fact, it was less than half the growth rate of the expansion that preceded the 2001 recession, and less than half the 6.32% of GPD growth in the 1980's expansion (not shown). Though this could have been affected by the bursting of the housing bubble, the 2001 recession was also affected by a bubble (the stock market/dot-com Bubble), as was the 1990-91 recession (the 1980's Real Estate Bubble and Savings & Loan Crisis).

Though consumer spending declined in both the current and 1990-91 recessions, it did not decline in the 2001 recession. In fact, because of aggressive Fed stimulation, consumer spending during the 2001 recession grew at a rate of 3.62%, nearly as fast as the 3.76% rate of the 1990's expansion. And, it grew at a faster rate than the 2.87% rate during the 2001-07 recovery/expansion. Government spending, particularly in defense, grew with the



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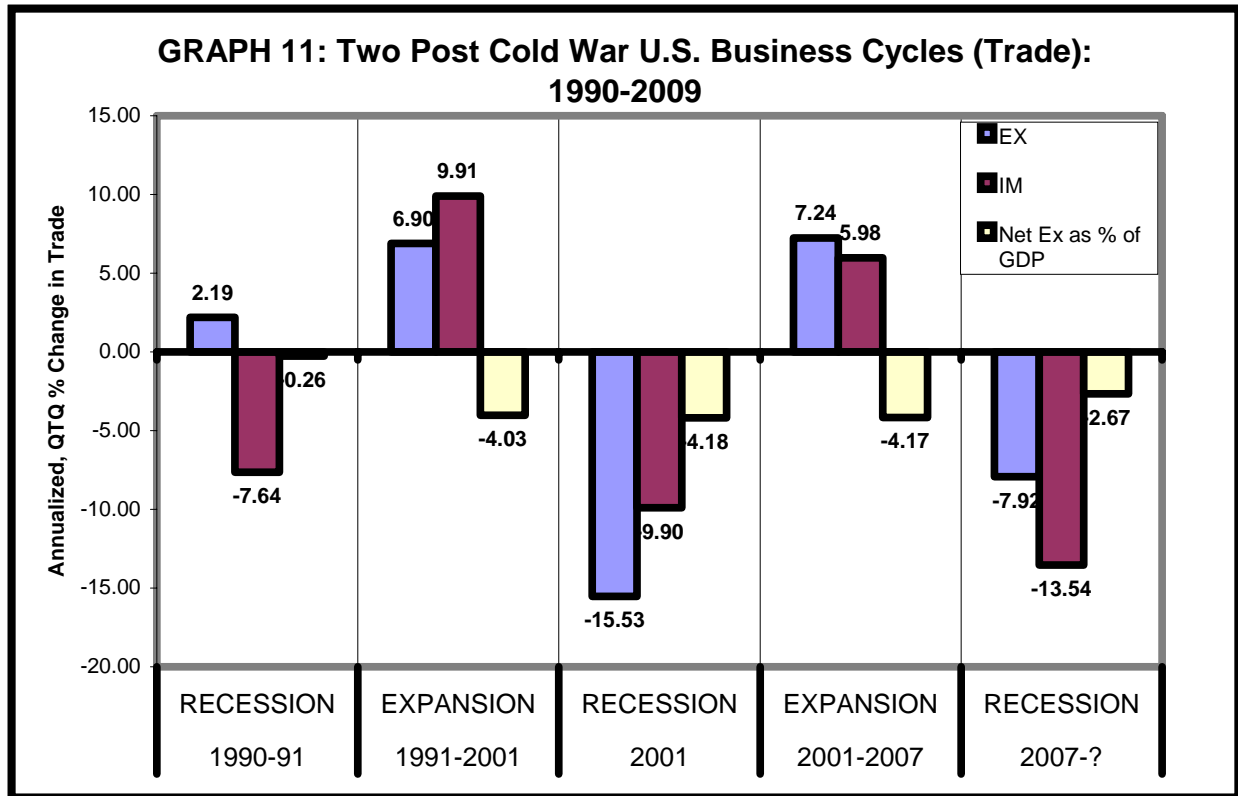
SOURCE: U.S. BEA and calculations by CTDOL-Research.

recession, and especially after the September 11th attacks, in preparation for invading Afghanistan.

Graph 11 looks at the trade component of GDP. Exports actually increased at a 2.19% annualized rate during the 1990-91 recession, but they contracted steeply at a 15.53% rate during the 2001 recession, which included the September 11th attacks. Over the 1990's expansion, exports and imports both grew, but imports grew faster than exports. And, the trade deficit, as a percent of GDP, deteriorated from -0.26% at the trough of the 1990-91 recession in 1991Q1 to -4.03% at the peak of the 1990's expansion in 2001Q1. By the trough of the 2001 recession, 2001Q4, the trade deficit had deteriorated further to -4.18% . At the peak of the 2001-07 recovery/expansion, the trade deficit, as a percent of GDP was still at -4.17% . Fifteen months or five quarters into the current recession (2009Q1), it had declined slightly to -2.67% . And, the annualized decline in exports (-7.92%) has been half the decline over the 2001 recession. Imports however, have declined much more steeply (-13.54% annualized rate) over the current crisis, reflecting the retrenchment in consumer spending.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
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SOURCE: U.S. BEA and CTDOL-Research calculations.

**ii. Gross Output-Industrial Production from the Federal Reserve's
Statistical Series**

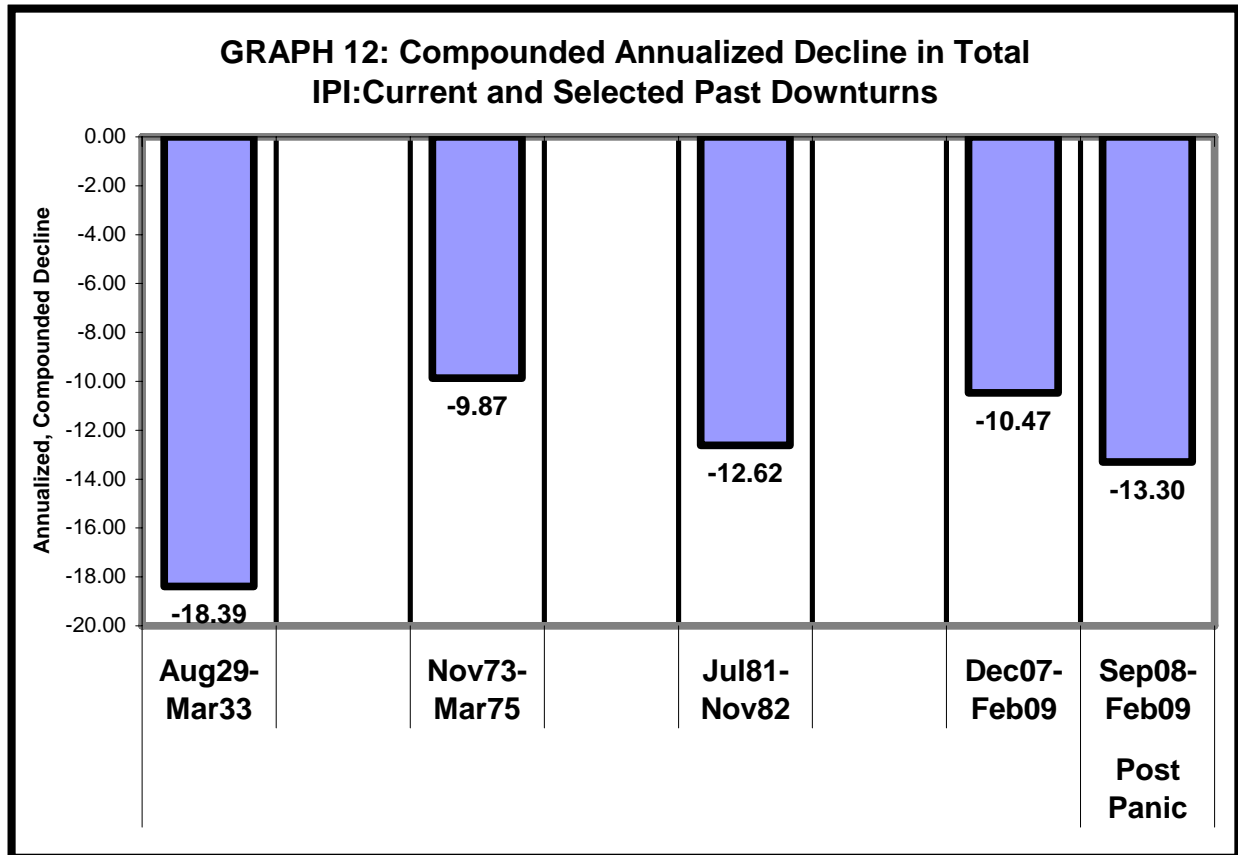
Another view from the flow perspective is Gross Output (GO). While GDP measures the value added, or final demand, of the goods and services produced over a given time period (in this case, a quarter), a flow concept, GO measures the total output over a given period. That is, GO measures final demand plus intermediate inputs that go into producing GDP. The most widely watched indicator of GO is the Industrial Production Index (IPI). This section tracks Total and Manufacturing Output to see how serious this downturn is when compared to two severe post-Bretton Woods/post-oil embargo recessions and the initial contraction that ushered in the Great Depression.

In graph 12, the most severe of the post-Bretton Woods/post-oil embargo downturns is compared to the initial contraction that ushered in the Great Depression and the current crisis. Again, since each downturn is a different length, the comparisons in graph 12 are all put on the same footing so as not to compare the proverbial apples and oranges. All comparisons are based on the compounded, annualized contraction in industrial output over the life of the recession/contraction.

From August 1929 to March 1933, the total IPI published by the Federal Reserve, contracted by 51.71%. On a compounded, annualized basis, total industrial output declined at a rate of 18.39% per year over the 43 months of the initial contraction that ushered in the Great Depression. Note that the first stock market crash in September, occurred one month after industrial production began contracting, and the October crash was two



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SOURCE: U.S. Federal Reserve Board and calculations by CTDOL-Research.

months after the beginning of the decline in the IPI. The National Bureau of Economic Research (NBER) puts the peak of the 1927-29 Expansion at August. NBER defines the initial contraction that ushered in the Great Depression as: Peak (August 1929) and Trough (March 1933).

Looking at the two steepest contractions in the post-Bretton Woods/post-oil embargo era¹⁹, 1973-75 and 1981-82, it is the 1981-82 Recession that had the steepest rate of contraction in total output at 12.62% per year. The current, at 10.47% per year is next. However, when isolating the post-Panic period (after September 2008), the picture changes. The rate of contraction from September on is 13.30%, the steepest of the selected recessions in the post-Bretton Woods/post-oil embargo era.

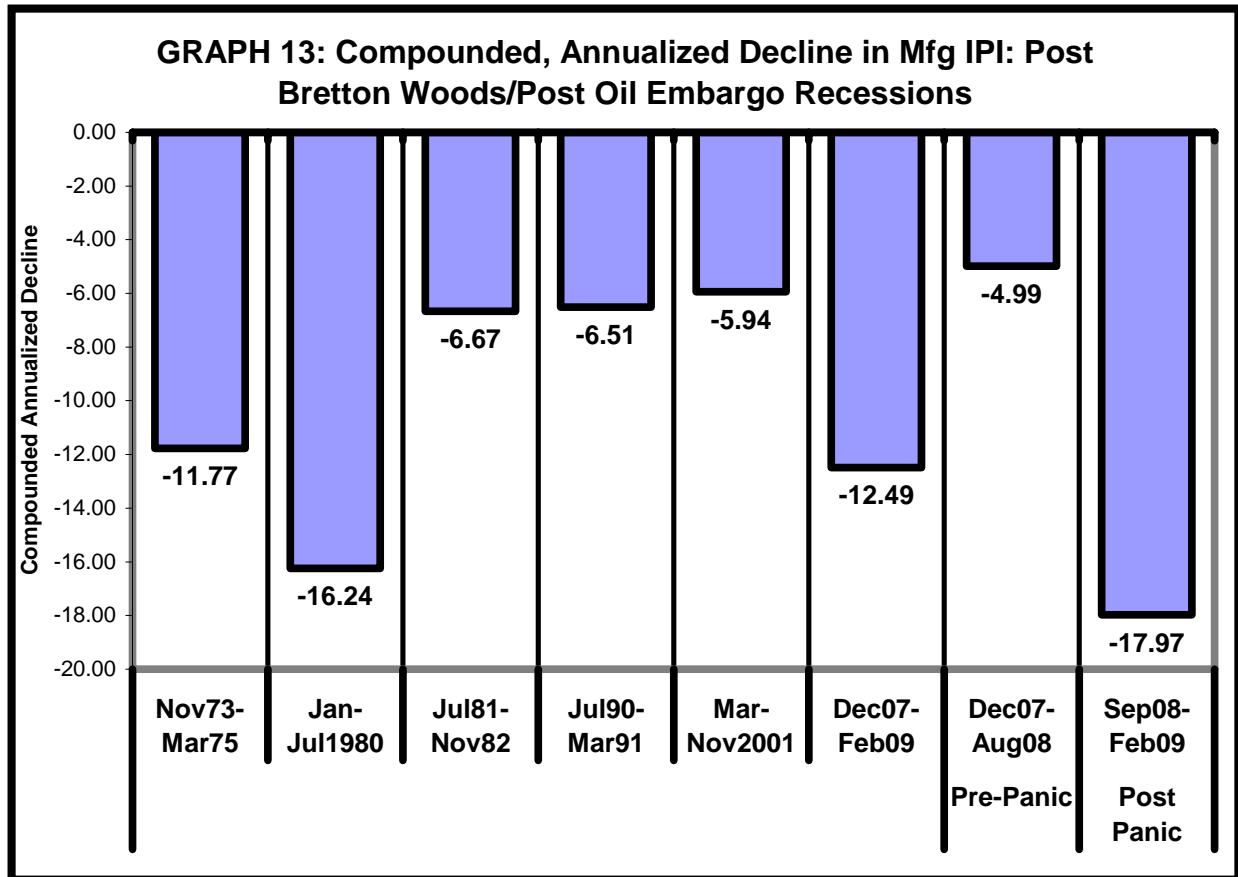
Graph 13 looks at all the post-Bretton Woods era recessions, including the current crisis. Graph 13 tracks the decline in manufacturing output (as opposed to total output in graph 12). As discussed in footnote 1 above, the 1980 recession was short, but steep.

At an annual rate of 16.24% the 1980 contraction in manufacturing output was the steepest. At first, it appears that the current recession may, so far, have had the second steepest contraction in the Manufacturing IPI, at a rate of 12.49% per year, of the post-Bretton Woods era. However, when separating the current downturn into pre- and post-panic segments (the crosshatched bars) the severe turn of events after the Panic of 2008 is glaringly apparent. From December 2007 (the peak of the last recovery/expansion) to August

¹⁹ Though short, the 1980 Recession was a steep contraction. It is included in the analysis in Graph 13, below.



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SOURCE: U.S. Federal Reserve Board and calculations by CTDOL-Research.

2008, manufacturing output declined at a compounded annualized rate of 4.99%. After the September Panic, the rate of decline accelerated to nearly 18% per year through February 2009.

**iii. The Labor Market-The Establishment Survey (U.S. BLS) and the Current
Population Survey (U.S. BLS and Census)**

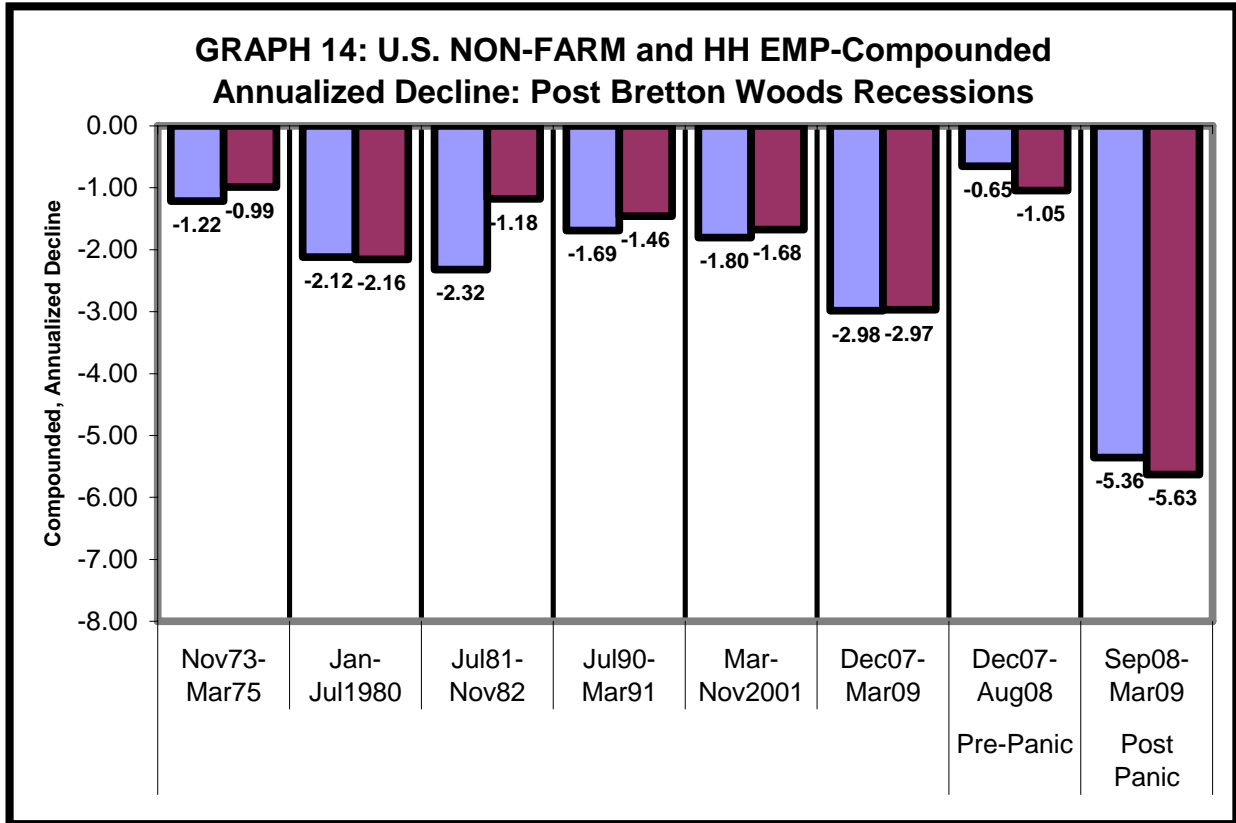
EMPLOYMENT AND HOURS

The labor market reflects the declines in GDP and industrial production over the current crisis. The same pattern is apparent in the behavior of both non-farm employment (Establishment Survey) and household employment (Current Population Survey). Again partitioning the current downturn into pre- and post-panic segments reveals the turn the current recession took after the September financial panic. Graph 14 shows the compounded, annualized decline in both U.S. non-farm and household employment over the post-Bretton Woods/oil embargo recessions. The annualized contraction in employment over the current recession is steeper than any of those over the post-1973 era. When the current downturn is partitioned into the pre- and post- Panic segments, the dramatic change in the nature of this cycle before and after the September financial panic really stands out. Both non-farm and household employment were declining at relatively shallow rates, compared to previous recessions up until September. Then, jobs and employment began contracting at an unprecedented steep decline for a U.S. recession over the last 35



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years. U.S. non-farm employment declined at a 5.4% annualized rate between September 2008 and March 2009, and household employment contracted at a rate of 5.6% per year.



SOURCE: U.S. BLS and calculations by CTDOL-Research.

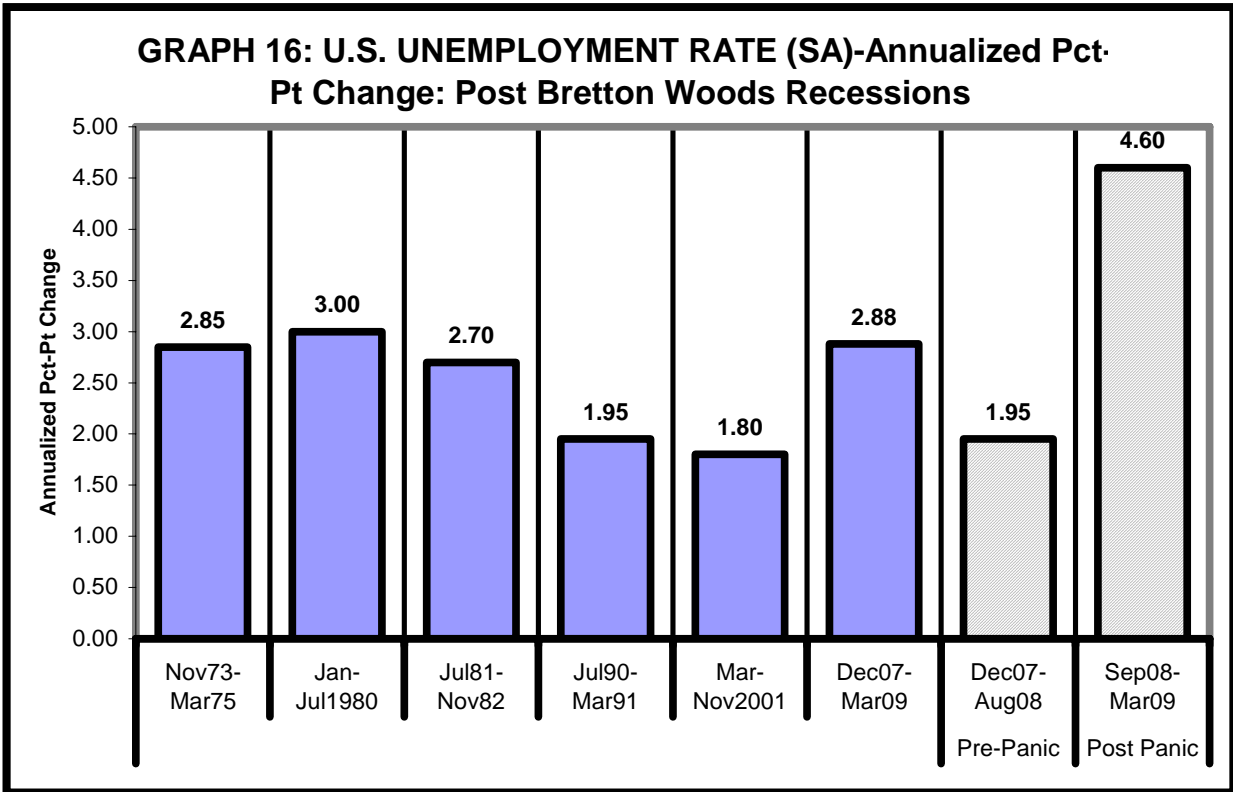
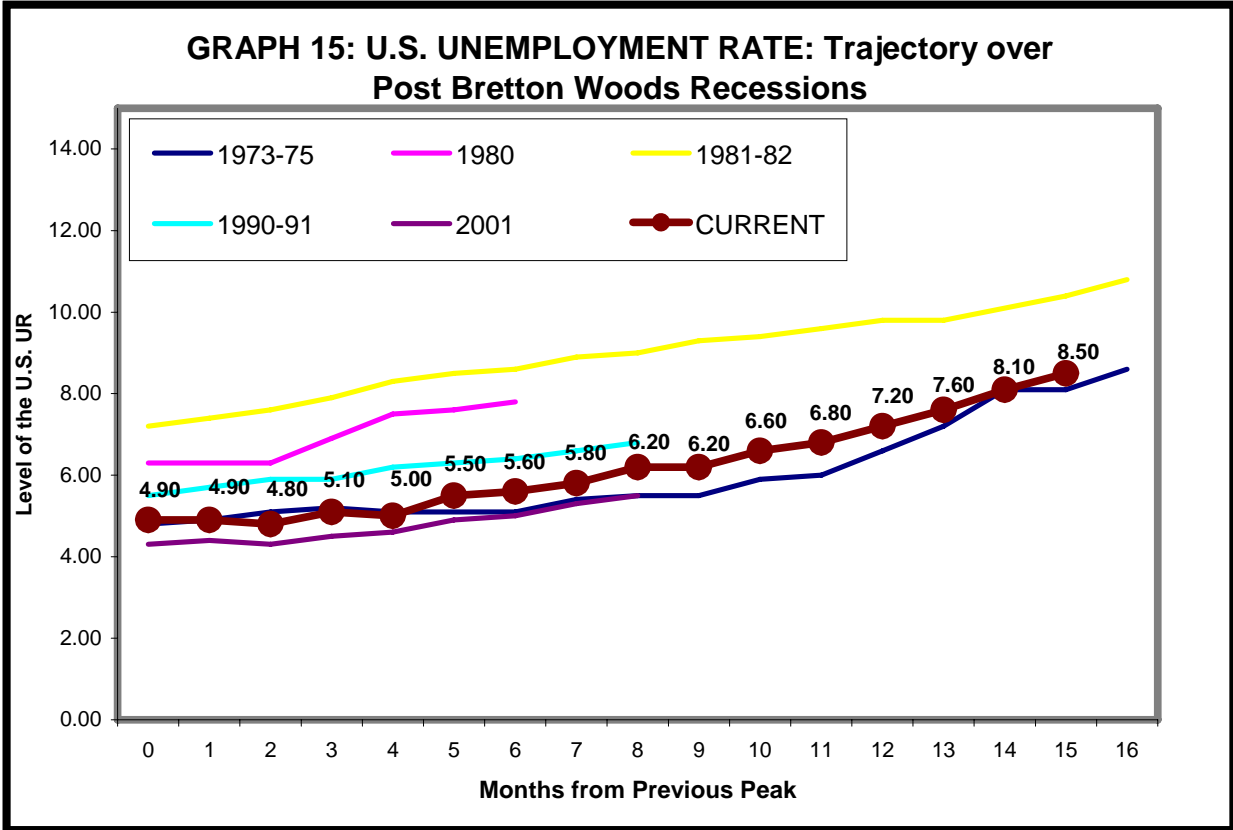
UNEMPLOYMENT AND THE LABOR FORCE

Graph 15 tracks the trajectory of the Unemployment Rate (UR) over the post-Bretton Woods/oil embargo recessions, and places the current recession within that context. It appears that the current path is toward the lower end of the paths depicted in graph 15. In fact, the 1980 and 1981-82 recessions had consistently higher UR levels than the current contraction. In fact, they started out with higher UR at the peaks of their previous cycles. Scratching below the surface produces a different picture. As presented in graph 16, the annualized, percentage point increase in the UR, at 2.88 pct-pts (288 basis points) per year is the second fastest rise in the UR in the post-1973 era²⁰. Further, from September 2008 to March 2009, the UR over this contraction was increasing at a 4.60 percentage-point (460 basis points), annualized rate. In the May 2009 release of the *Employment Situation*, the U.S. BLS report for U.S. non-farm employment (Establishment Survey) and household employment, unemployment, and labor force statistics (Current Population, or Household Survey) showed that in April, the U.S. Unemployment Rate (UR) had increased to 8.9%.

²⁰ The 1980 recession was a short, but steep recession. As depicted in graph 15, the UR increased at an annualized percentage-point change of 300 basis points.

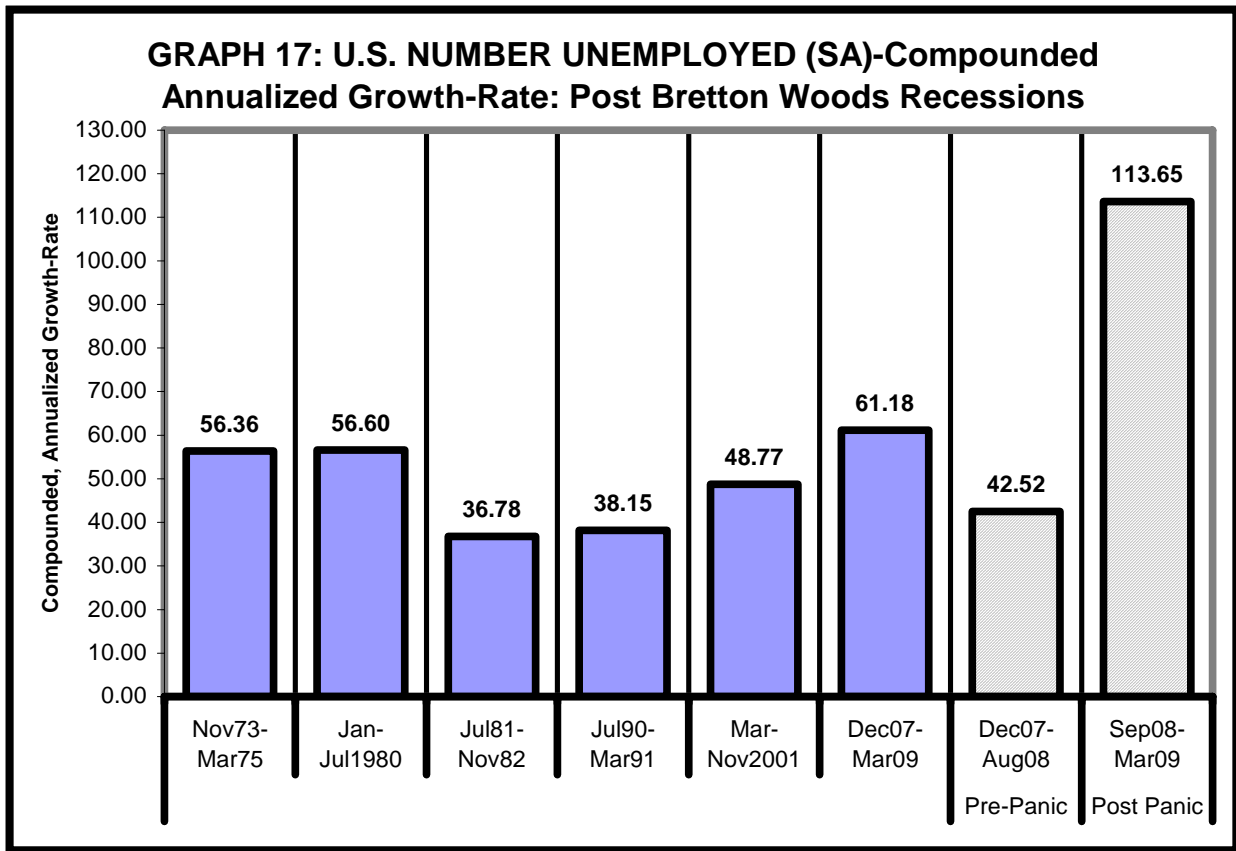


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And when looking at the growth rate of the number unemployed, the unemployment picture becomes even clearer. Graph 17 shows the annualized, percent growth in the number of unemployed over the post-Bretton Woods recessions. At 61.18%, the annualized, com-



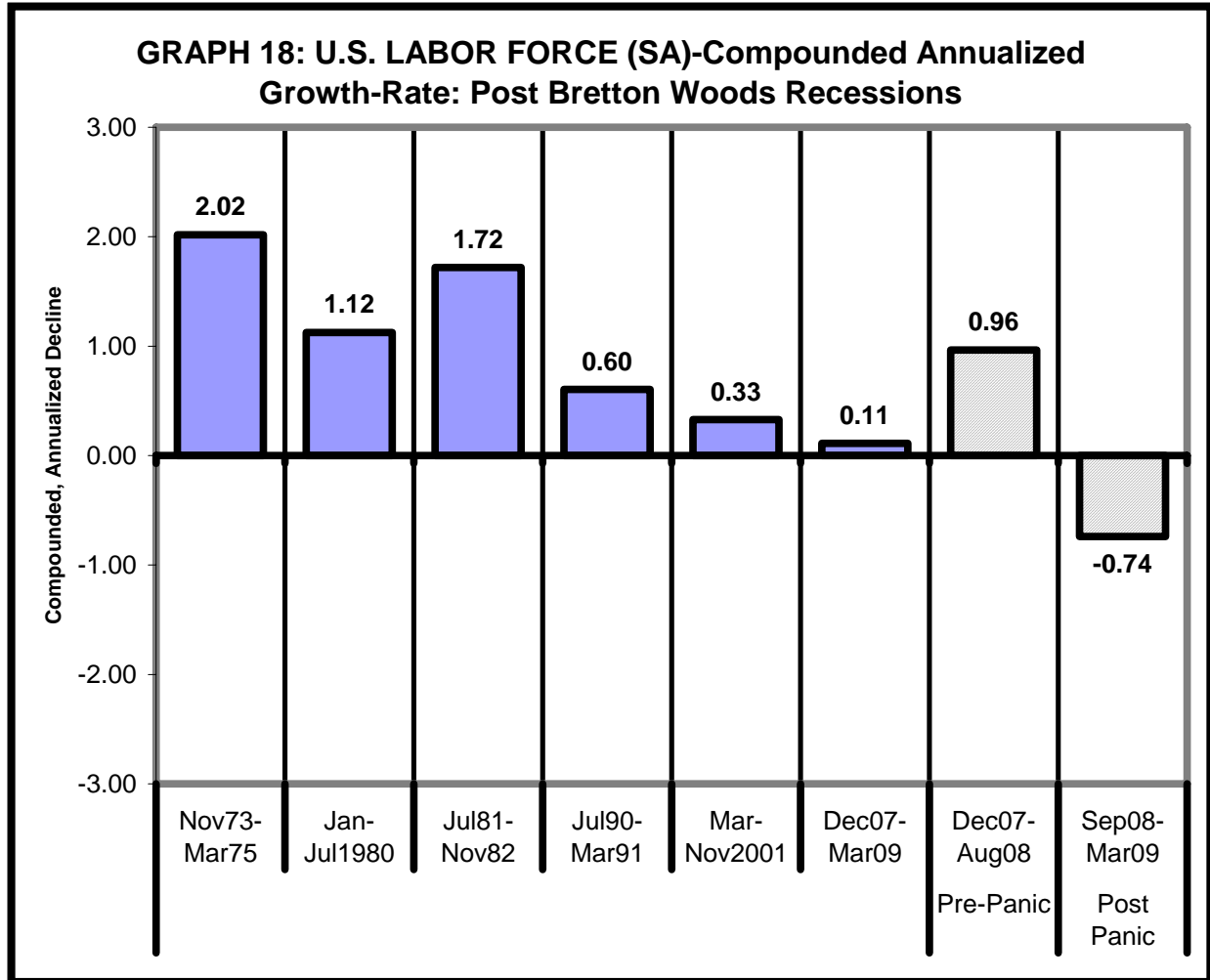
SOURCE: U.S. BLS and CTDOL-Research calculations.

pounded growth rate in the number of unemployed has been the highest over the current recession. But when segmented into pre- and post-Panic periods, the explosive 113.65% annualized growth rate over the post-Panic segment is unprecedented in the post-Bretton Woods/oil embargo era.

In graph 18, what stands out is the strong growth in the labor force, even over the recession, over the 1973-75, 1981-82 recessions, and even over the short, but steep, 1980 recession, the labor force grew at an annualized, 1.12% growth rate. This, of course, was due to the huge demographic bulge of the Baby Boom generation entering the job market from the late 1960's to the 1980's—particularly in the 1970's. As can be seen, by the 1990-91 recession, the labor force growth starts to flatten out during recessions, and fell close to zero over the current downturn. And when partitioning the current contraction into pre- and post-Panic segments, the stark change in the labor force dynamics comes through. In the pre-Panic segment, the growth in the labor force actually reversed its trend and was growing by almost 1% per year, on a compounded, annualized basis. However, in the post-Panic segment, after September, the labor force began contracting at a 0.74% annualized rate.



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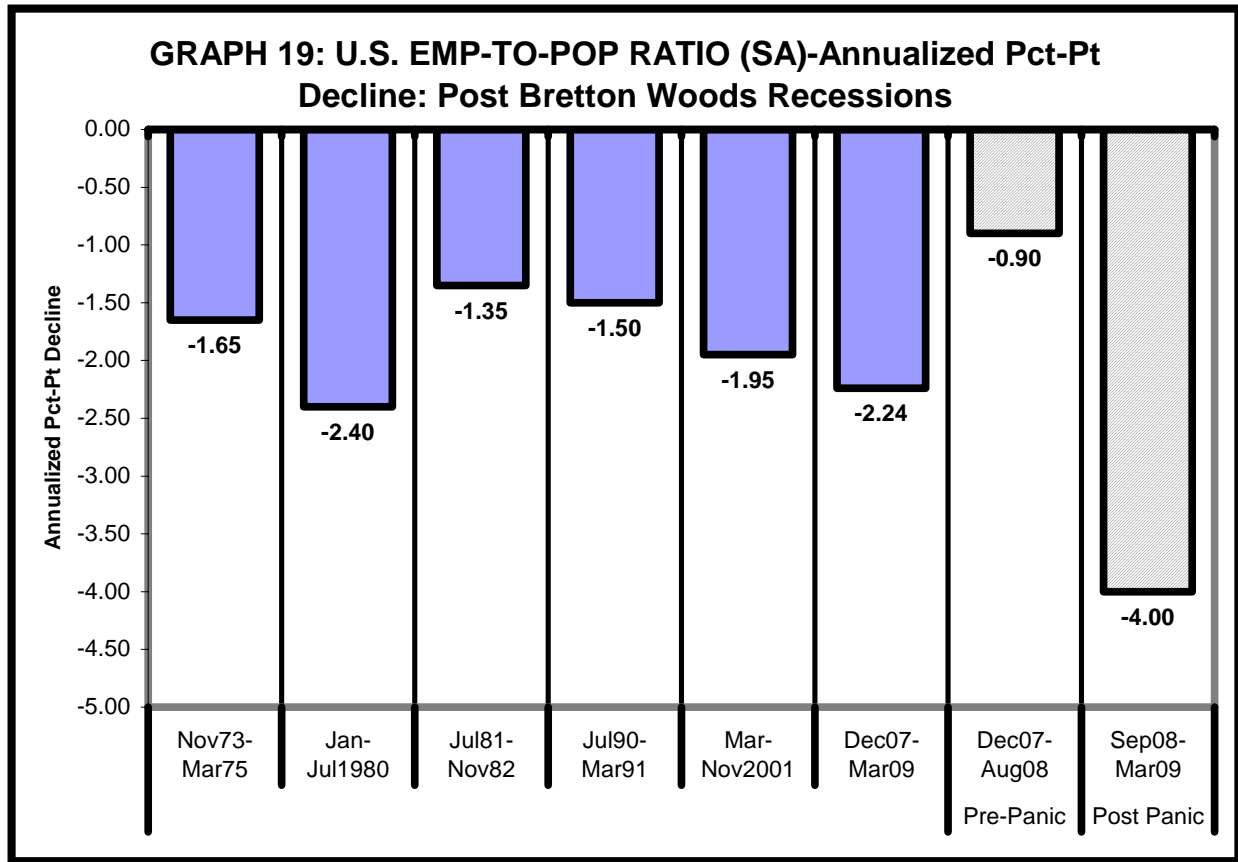


SOURCE: U.S. BLS and CTDOL-Research calculations.

One of the reasons that the 1970's and 1980's recessions started off with a higher level of the UR from the previous cycle's peak was due to the Baby Boom driven trend growth in the labor force that kept it growing at a robust pace even during recession, thus, putting upward pressure on the level of the UR. With the end of the Baby Boomers' entrance into the labor force, that pressure subsided, resulting in a lower "background" UR. However, it should be noted that the labor force did grow strongly over the pre-Panic portion of this downturn (see graph 18). And, that may be significantly affected by, not only the Baby Boomers, but also, the negative wealth effect (discussed next).



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SOURCE: U.S. BLS and CTDOL-Research calculations.

Another gauge of how the labor market has been impacted by this recession and panic is the Employment-to-Population Ratio (EPR). As presented in graph 19, at the peak of the last recovery/expansion (December 2007), the EPR was 62.7, down from the post World War II era high of 64.3 in March 2001, the peak of the 1990's expansion. Between December 2007 and March 2009, the EPR declined at a 2.24 percentage point (224 basis points) annualized rate. This was the second largest percentage point decline behind the short, steep, 1980 recession. Again, when partitioned into pre- and post-panic segments, the decline is even more ominous. Between September 2008 and March 2009, the EPR declined at a 4.00 percentage-point (400 basis points) annualized rate.

Finally, as shown in graph 20 Initial Claims and Continued Claims have continued to grow at an exponential rate through the week of March 7th, 2009 (save the temporary dip in Initial Claims the week of January 3, 2009).

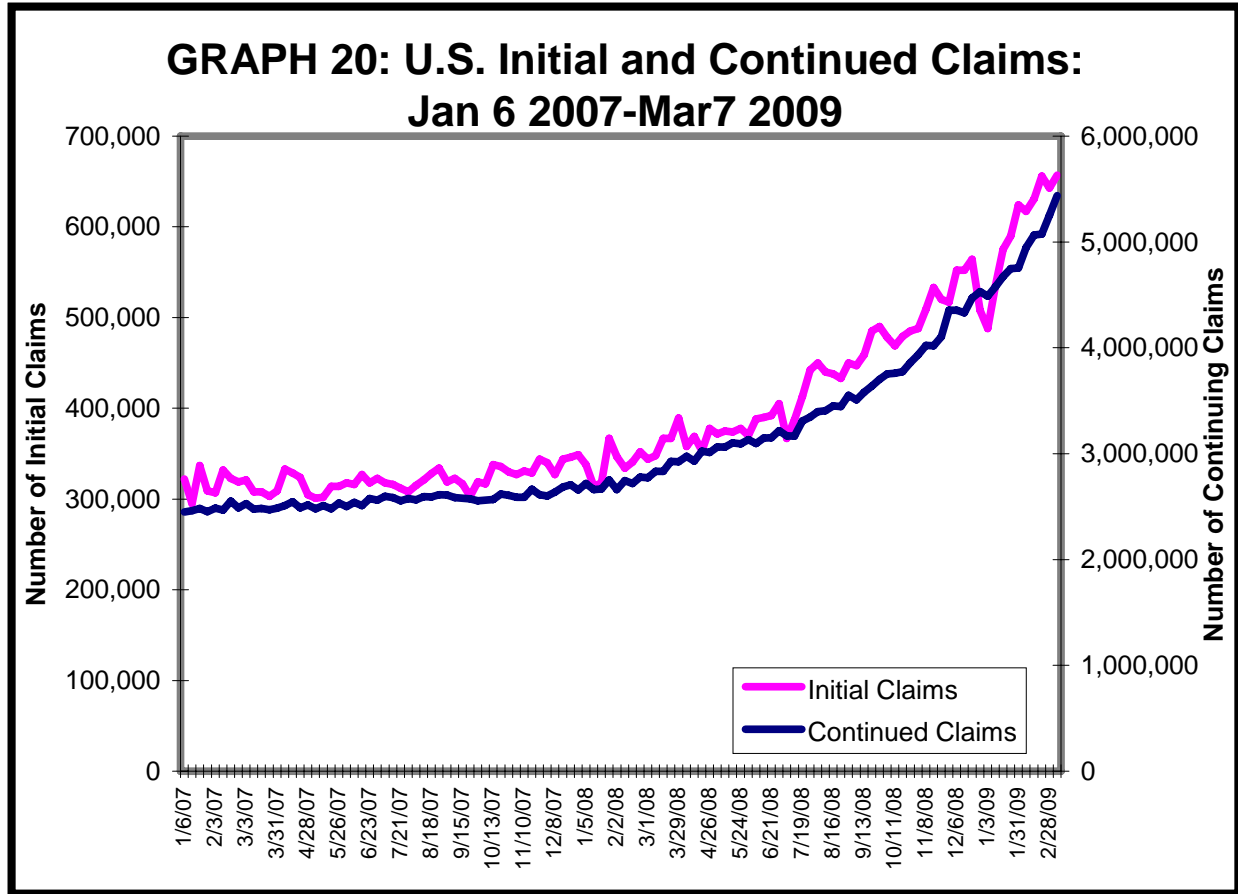
b. Economic Stock Perspective

i. Household Balance-Sheet Measures from the Flow of Funds Accounts

The analysis now turns from analyzing the economy from the flow perspective to the stock perspective. The analysis from this perspective focuses on the *balance sheet*, which shows the assets (resources), liabilities (claims on assets) and *Net Worth* (= Assets – Liabilities). Net worth represents the stock of assets, or reservoir of resources at the disposal of the



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household (HH), business, government, or other organization after netting out all claims on their assets (i.e., What do they own?), at a point in time.

According to the *Flow of Funds Accounts* published by the U.S. Federal Reserve System, U.S. HH's assets were worth \$65.7 trillion in the fourth quarter of 2008, and their liabilities totaled \$14.4 trillion. Thus, net worth in 2008Q4 for U.S. HH's was:

$$\text{ASSETS} - \text{LIABILITIES} = \text{NET WORTH}$$

$$\$65.7 \text{ Trillion} - \$14.2 \text{ Trillion} = \$51.5 \text{ Trillion}$$

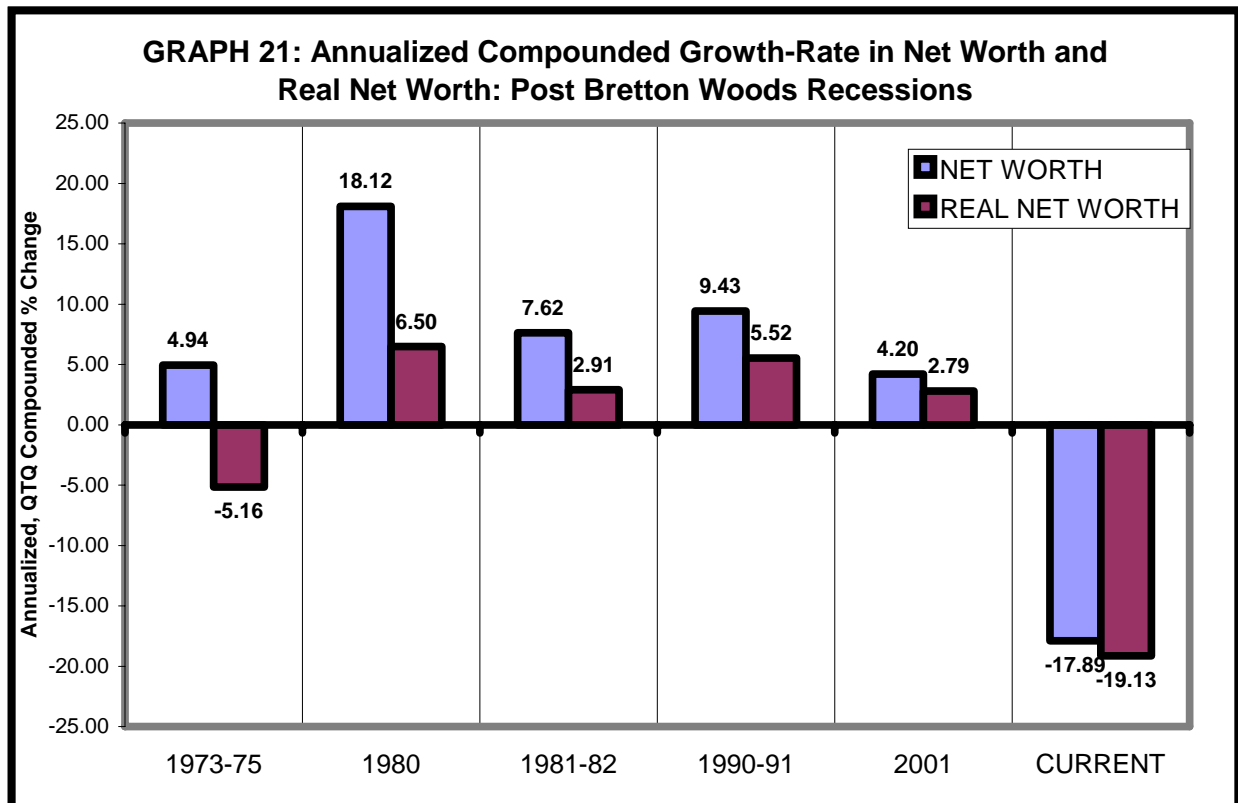
Whether or not a net worth of \$51.5 trillion for the U.S. economy's HH sector is good, bad, or somewhere in between, the implications for the severity of the current crisis is the focus of the following discussion. Graph 21 reveals a lot about what is behind the severity of this recession, at least from the consumer spending standpoint (the other aspects of the current crisis, including the housing and financial sectors are discussed below). Further, as serious as the current contraction looked from the flow/NIPA perspective, some critical aspects of the current recession and their implications for any recovery, cannot be obtained from the analysis of the flow indicators from the NIPA's in the discussion above. Particularly, the significant implications of the decline in wealth and net worth, as well as the growth inhibiting effects of excessive debt burdens, can only be observed from analyzing the changes in wealth (stocks perspective).

As depicted in graph 21, until the current crisis, there has been no nominal decline in net



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worth in any recession in the post-Bretton Woods era (or in the post-World War II era for that matter), and the only real decline in net worth (i.e., adjusted for changes in the general price level) was the 5.16% rate of decline during the 1973-75 recession. Over the current crisis, nominal net worth (i.e., before adjusting for changes in the general price level) declined at a 17.89% clip between 2007Q4 and 2008Q4. This alone is unprecedented over the post-World War II/post-Bretton Woods era, but even more significant is the 19.13% rate of decline in *real* net worth. This far exceeds the real decline in the 1973-75 recession. This represents the most significant deterioration in the U.S. HH aggregate balance sheet since the beginning of the Fed's flow of funds accounts in 1952Q1.



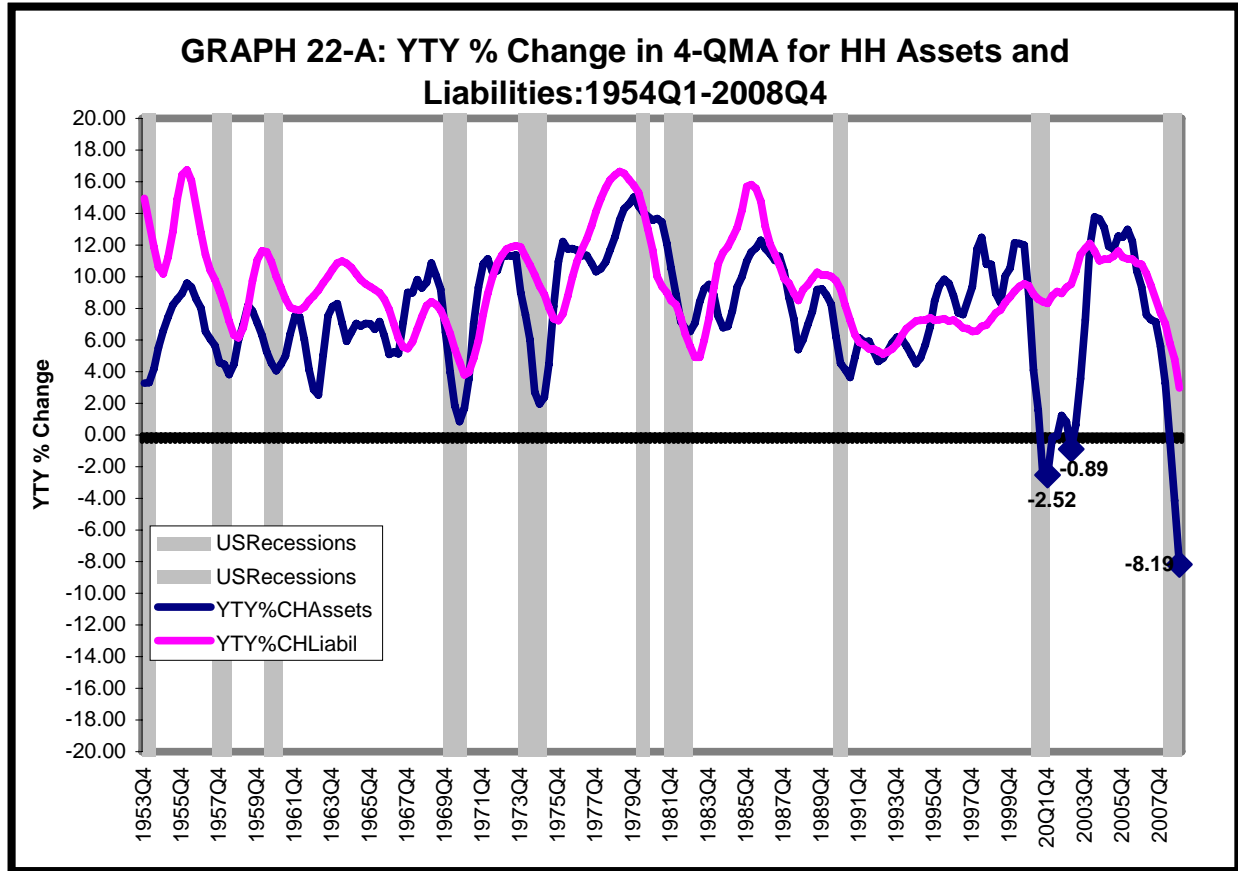
SOURCE: U.S. Federal Reserve Board and CTDOL-Research calculations.

ii. What is Behind the Collapse in Net Worth?

The first avenue to follow in discovering what is behind the collapse in net worth is to look at the year-to-year (YTY) growth rate in assets and liabilities for the U.S. HH sector. Graph 22-A tracks the YTY percent change in assets and liabilities over the entire range of data available from the Federal Reserve's flow of funds account: 1952Q1-2008Q4. Graph 22-B tracks the YTY growth rate in net worth. In order to filter out the noise in the data series, the four quarter moving average of each series is used. All series are in nominal (current dollar) values.



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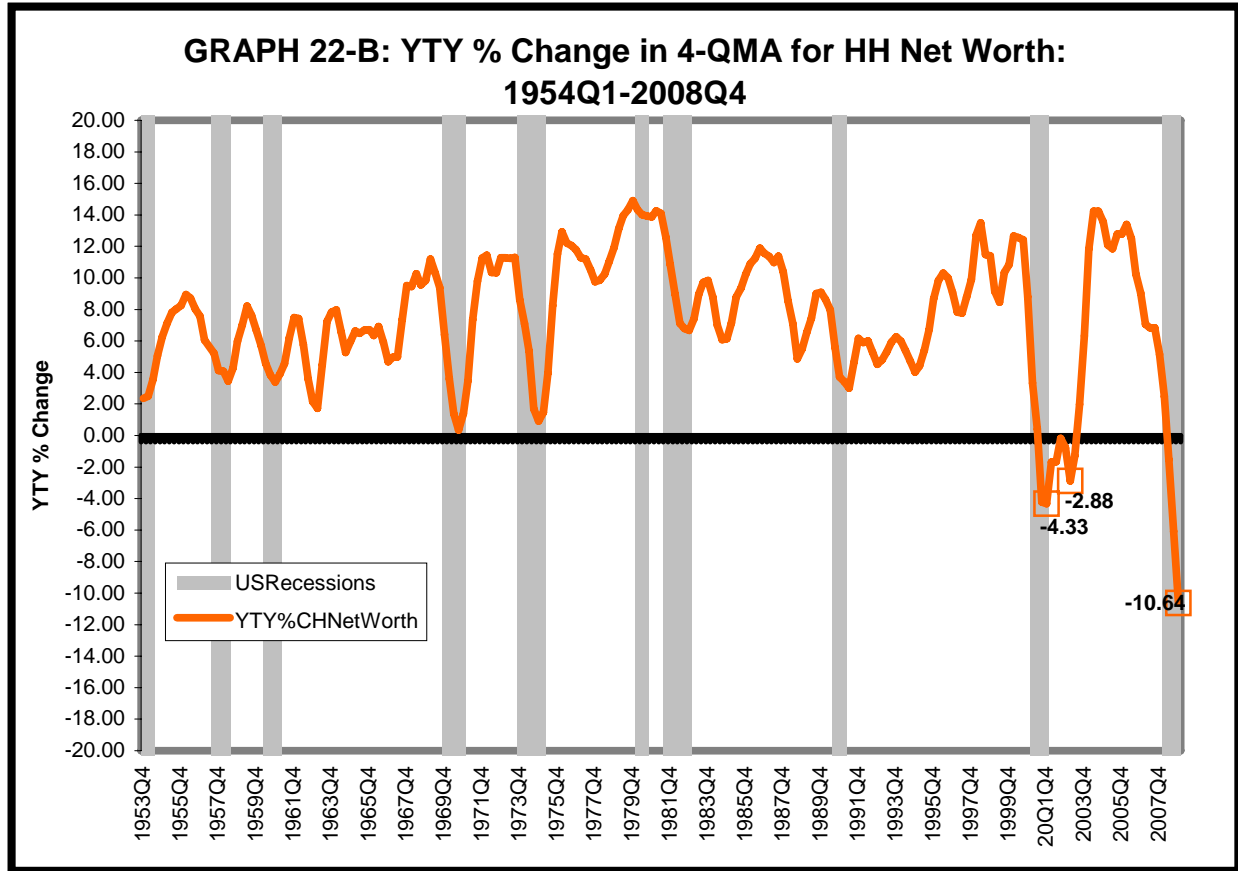
SOURCE: U.S. Federal Reserve Board

BLINDED BY THE BALANCE SHEET?

Tracking the growth in assets and liabilities in graph 22-A from 1952Q1 to 2008Q4 (with recessions in gray) reveals that the YTY growth rate in liabilities exceeded the YTY growth rate in assets throughout the 1950's and 1960's, up until 1967. Asset growth then passed above liabilities growth until the 1969 and 1973 recessions, when asset growth decelerated significantly but remained positive. Over this entire period, the YTY growth rate in net worth rose and fell with expansions and contractions but never turned negative. In fact, there was a slight upward trend in the YTY growth rate in net worth (see graph 22-B). Notice that in the late 1990's (graph 22-A), the YTY growth rate in assets consistently exceeded the growth rate in liabilities. This, of course, was the period of "Irrational Exuberance" when the economy was experiencing an asset bubble in the form of a stock market/financial asset bubble, fueled by the dot-com craze and "New Economy" euphoria. Thus, assets to liabilities ratios will look quite good during the bubble, but will suddenly deteriorate once the bubble bursts. Further, as can be seen on graphs 22-A and 22-B, it appears that changes in asset values are what drive changes in net worth. The assets line in graph 22-A exactly tracks the net worth line in graph 22-B (but, shifted downward on the vertical scale).



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SOURCE: U.S. Federal Reserve Board

From graph 22-A, it can be seen that after the stock market bubble burst, in addition to the September 11th attacks, the YTY growth rate in the 4QMA of assets turned negative for the first time in the post-World War II era. Meanwhile, the YTY growth rate in liabilities continued to be positive, and to trend upward. With the growth in the new housing bubble (or did the same bubble just move from the stock market to housing?) in the early 2000's, once again, the growth rate in assets exceeded the growth rate in liabilities and balance sheets looked solid. Net worth after plunging by 4.33%, on a YTY basis, in 2001Q4 (just after the September 11th attacks came on top of the deflating stock market), and by 2.88% in 2003Q1, it then skyrocketed by 14.23%, on a YTY basis, by 2004Q3. As the housing bubble peaked, the YTY growth rate in net worth continued to surge until the first quarter of 2006, when net worth grew at a 13.40% rate. At this point, the housing bubble's unraveling was becoming apparent at the national level. With assets evaporating as the housing asset bubble popped, the YTY growth rate in the 4QMA of assets contracted by 8.19% in 2008Q4 (graph 22-A), and net worth fell by 10.64% (graph 22-B)--both declines unprecedented in the post-World War II era.

WERE THERE ANY CLUES?

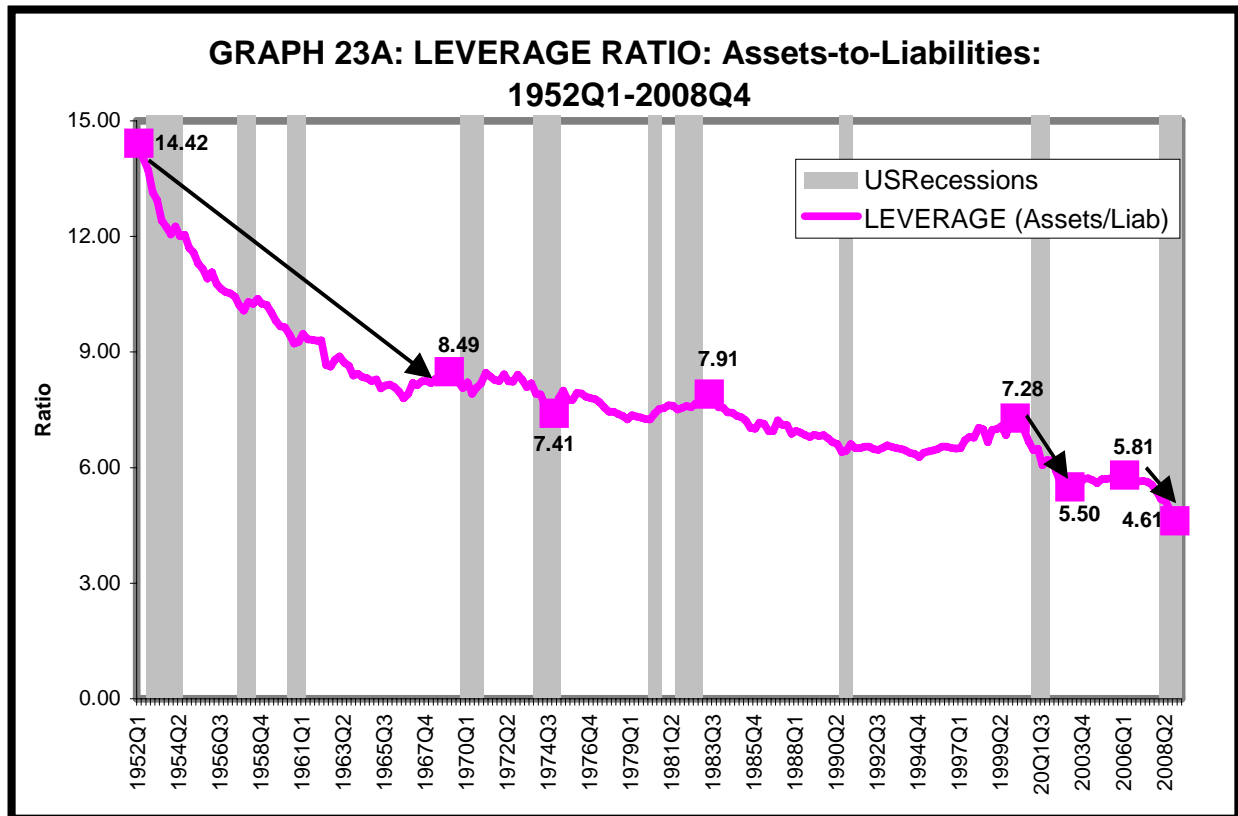
What were the clues that all was not as it seemed? Even from the balance sheet itself, there were some indications that "the ice was getting thinner". The first place to look for some clues is the *leverage ratios* from the balance sheet itself. Leverage ratios measure the debt burden and the carrying capacity for that burden. Two leverage ratios are pre-



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sented in graphs 23A and 23B.

Graph 23A presents the ratio of assets-to-liabilities. The first thing of note is the significant decline in the assets/liabilities ratio from 1952 to the end of the 1960's, as U.S. HH's became more leveraged as the post-World War II era of financial innovation began to reduce barriers to consumers' access to liquidity. This of course, has been a double-edged sword. In 1952Q1, U.S. HH's assets/liability ratio was 14.42. By the first quarter of 1969, it had dropped to 8.49. It then hovered between 7.00 and 8.00 until 2000, the last year of the 20th century and the peak of the century's last, and biggest, stock market bubble.



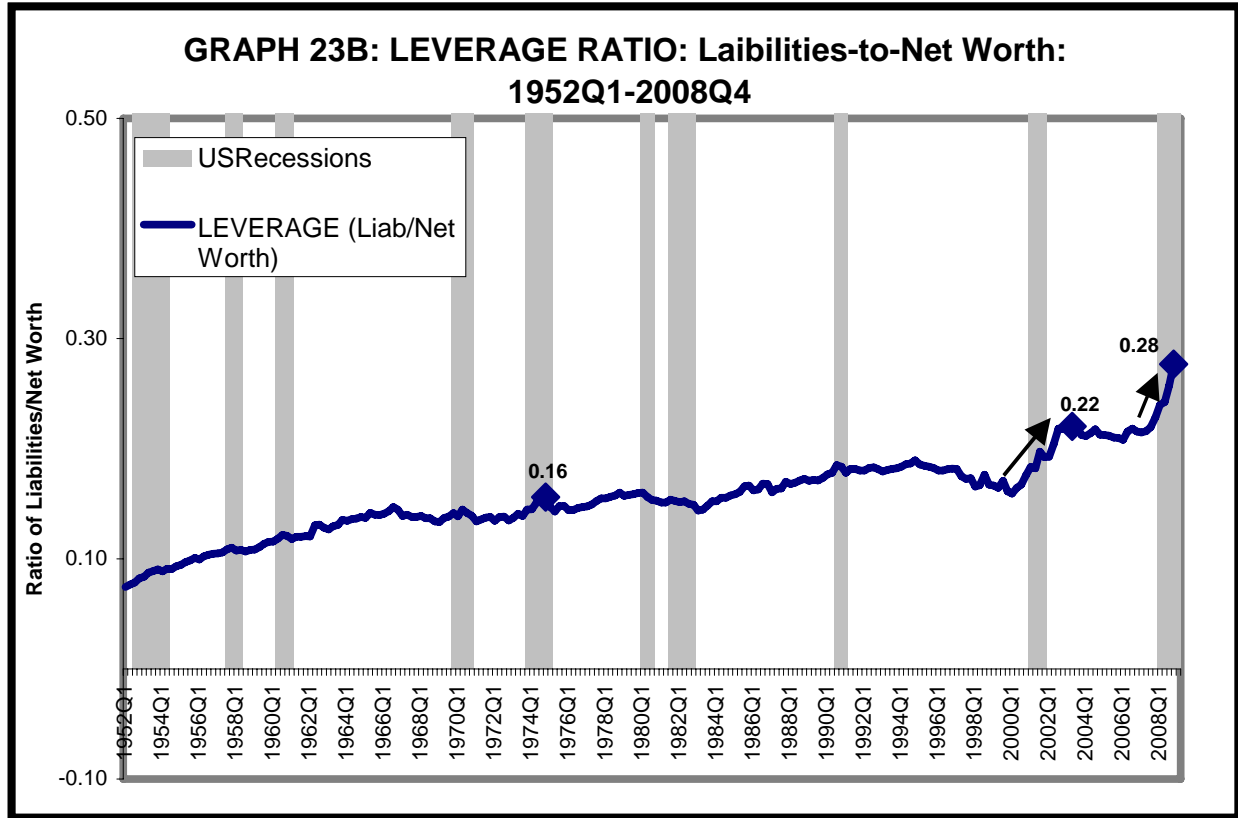
SOURCE: U.S. Federal Reserve Board

Then, between 2000 and the first quarter of 2003, the most rapid decline in the assets/liabilities ratio took place (see the black arrow on graph 23A). It quickly dropped from 7.28 to 5.50. This, of course, can be explained by the popping of the stock market/dot-com bubble, and the September 11th attacks. In fact, at the peak of the bubble the ratio was 7.28, giving the appearance that HH balance sheets were solid. But things changed after 2003. Despite rising asset values due to the housing bubble, the asset/liability ratio only rises to 5.81 at the peak of the bubble in 2006Q1. Why did it remain at historically low levels? This can be explained by the significant accumulation of HH debt (i.e., liabilities) over this period. Even the balance sheet was sounding an alarm over the most recent bubble.

Another leverage ratio, Liabilities-to-Net Worth, shown in graph 23B, was sounding the same alarm about unsustainable debt levels. Between 2000 and 2003, there was a historically sharp rise in HH's liability/net worth ratio (indicated by the black arrow over the 2000Q1-2003Q3 period in graph 23B). Of course, the popping of the housing bubble and

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the rapid decline in home prices is reflected by the deterioration of the assets/liabilities ratio over 2008 (graph 23A) and the concurrent sharp rise in the liabilities/net worth ratio (graph 23B), as well as the decline in the stock market, specifically the S&P 500, after October 2007.

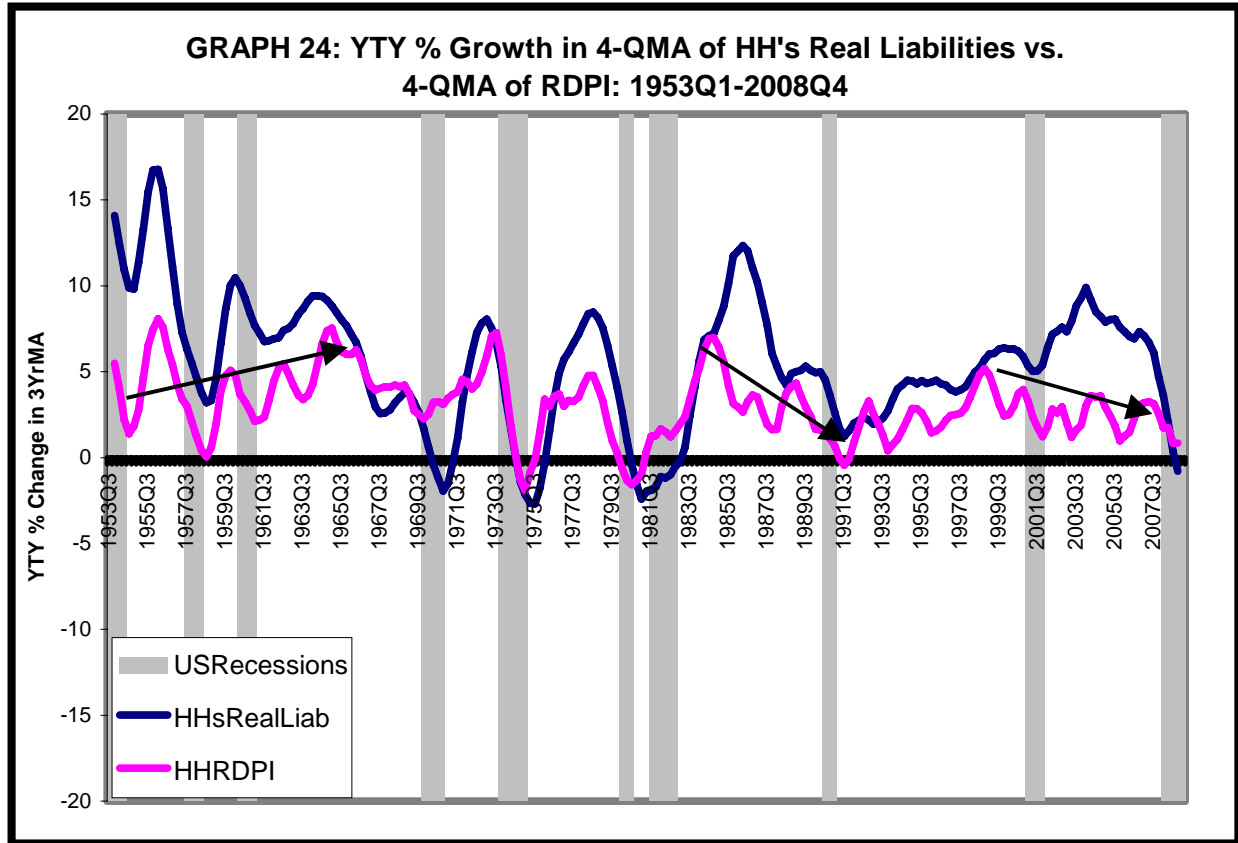


SOURCE: U.S. Federal Reserve Board

One of the most informative indicators of the sustainability of accumulating debt is a debt-to-income ratio. If liabilities (claims on assets) are accumulating faster than the inflow of resources (i.e., income), for an extended period of time then the further accumulation of debt is probably unsustainable. Graph 24 constructs a ratio of the YTY percent change in the 4QMA (to filter out the noise in the series) of Real Liabilities (adjusted for the general price level), from the stock perspective and the YTY percent change in HH Real Disposable Personal Income (DPI = PI - Taxes + Transfer Payments), from the flow perspective, both series are from the flow of funds accounts. From graph 24, it can be seen that though there are two spikes in the YTY growth rate in liabilities, 16.78% in 1956Q1 and 12.08% in 1986Q3, and a smaller spike of 9.90% in 2004Q1, the important result for the current crisis is that the YTY growth rate in the 4QMA of real liabilities outpaces the YTY growth rate in real DPI since the fourth quarter of 1984 (save 1992Q4). Since 1998Q4, real liabilities have persistently grown faster than real DPI (on a YTY basis) until the rapid decline in the growth of liabilities with the advent of the current downturn in 2007Q4. Though the 1953-66 period was another long stretch in which liabilities grew faster than DPI, the recent run-up coincided with a period of particularly weak growth in DPI (highlighted by the arrows showing the upward trend in DPI growth over the 1953-66 period versus the downward trend over the 1998Q4-2008Q4 period). One last note, 1981Q3-1991Q4 was also a period of declining YTY real DPI growth.



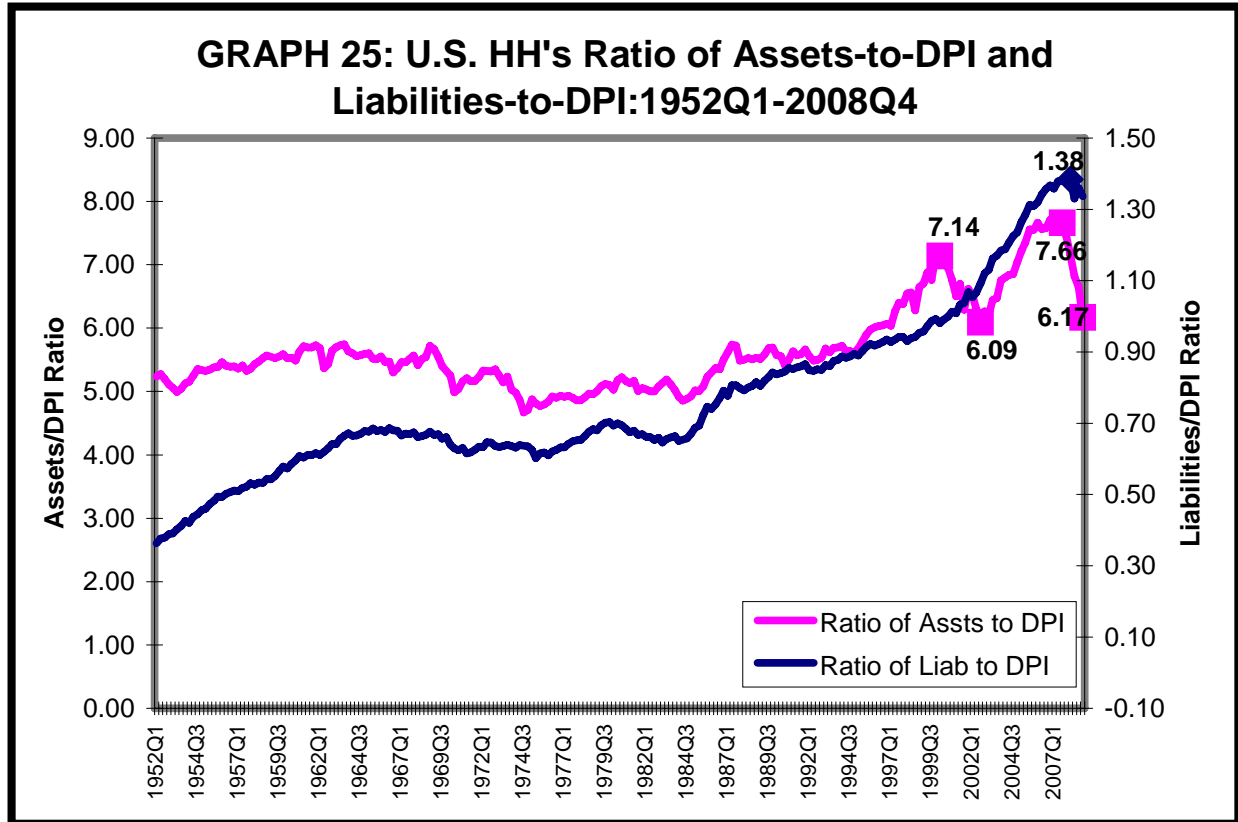
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Finally, graph 25 sums up what is different about this downturn, compared to other post-World War II recessions. Again comparisons are made to DPI. However, in graph 23A and 24B, all values are current dollar (i.e., not deflated by a price index). Both asset bubbles are apparent, the jump in the Asset-to-DPI ratio to 7.14 in 2000Q1 during the stock market/dot-com bubble, and the, even higher, 7.66 Asset-to-DPI ratio at the peak of the housing bubble in 2007Q2. But, what is really striking is even during the 1990's bubble there is a strong growth, but not a surge in the Liabilities-to-DPI ratio. The Liabilities-to-DPI ratio continues to grow and peaks at an all-time post-World War II high of 1.38 in 2008Q1. Unlike the double peaks in the Assts-to-DPI ratio at the heights of the two bubbles, there is just one global peak for the Liabilities-to-DPI ratio, and that is during the recent housing bubble.



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SOURCE: U.S. Federal Reserve Board

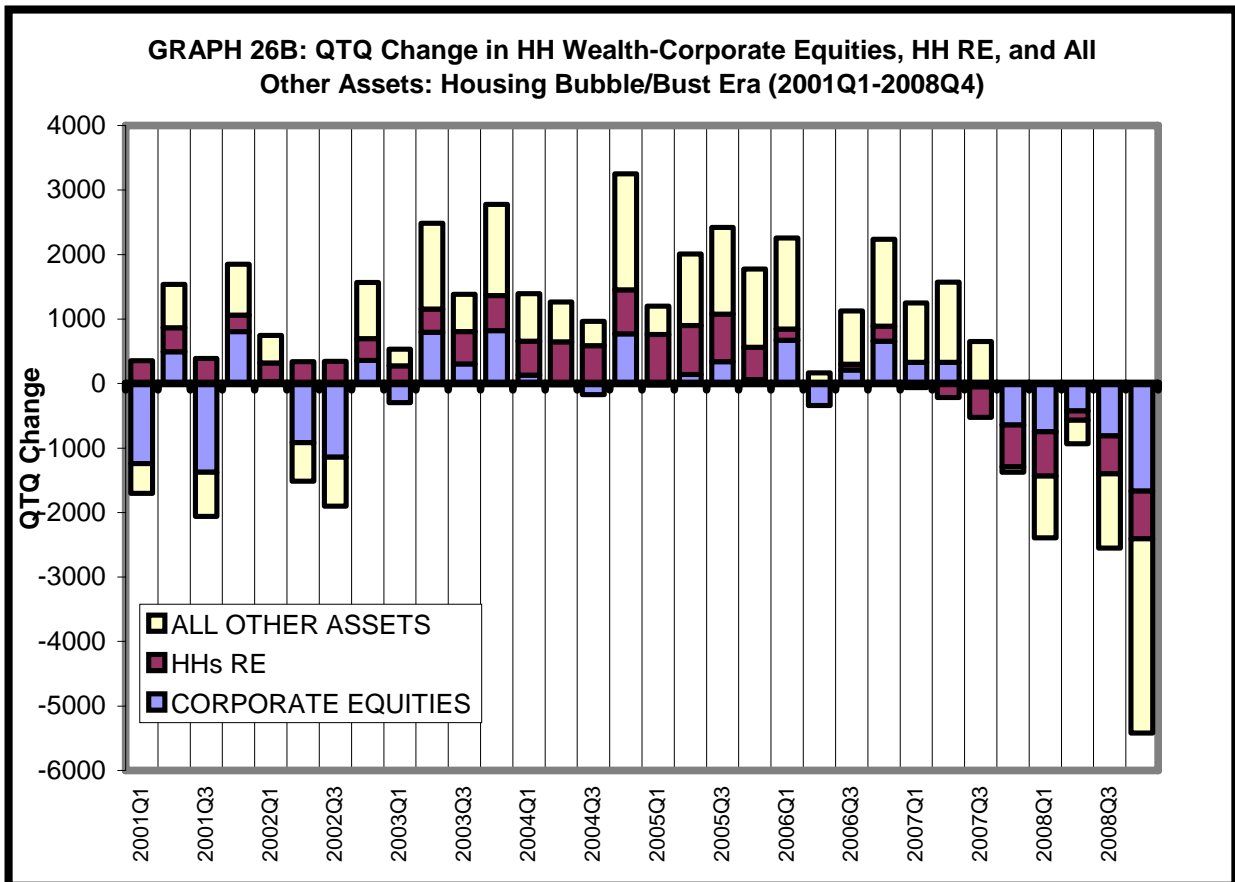
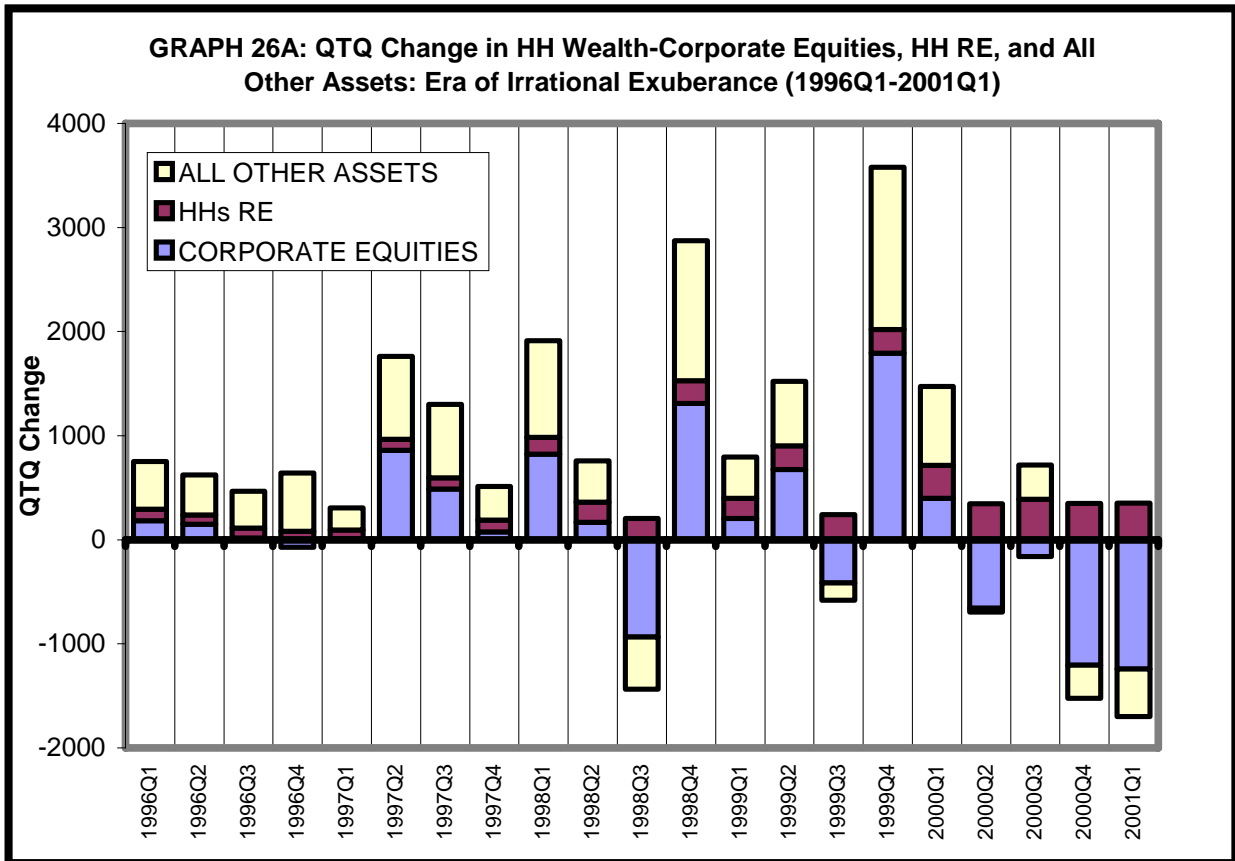
**iii. ANSWER: A Complete Collapse in Asset Values in Conjunction with
Unsustainable Debt-Loads**

Graph 26A and graph 26B compare the decline in assets, with a focus on household owned equities and household owned real estate. The Era of Irrational Exuberance, which led up to the stock market/dot-com bubble bursting in 2000, is compared to the recent housing bubble/bust era. What stands out, and is different about this crisis, is the collapse of *all* asset values over the recent bust. Graph 27A and graph 27B look at the behavior of tangible versus financial assets over the same two periods tracked in graphs 24-A and 24-B. Again, unlike the bursting of the bubble in 2000, when tangible assets held up, over the current housing/financial crisis, both tangible and financial assets have declined. And, research indicates that the variation in housing wealth has a much larger effect on consumption than the variation in stock-market wealth. Thus, the fall in tangible wealth, not a factor in the tech/stock-market bust in 2000, in conjunction with record high debt loads, has had a significant impact on consumer spending during the current downturn²¹.

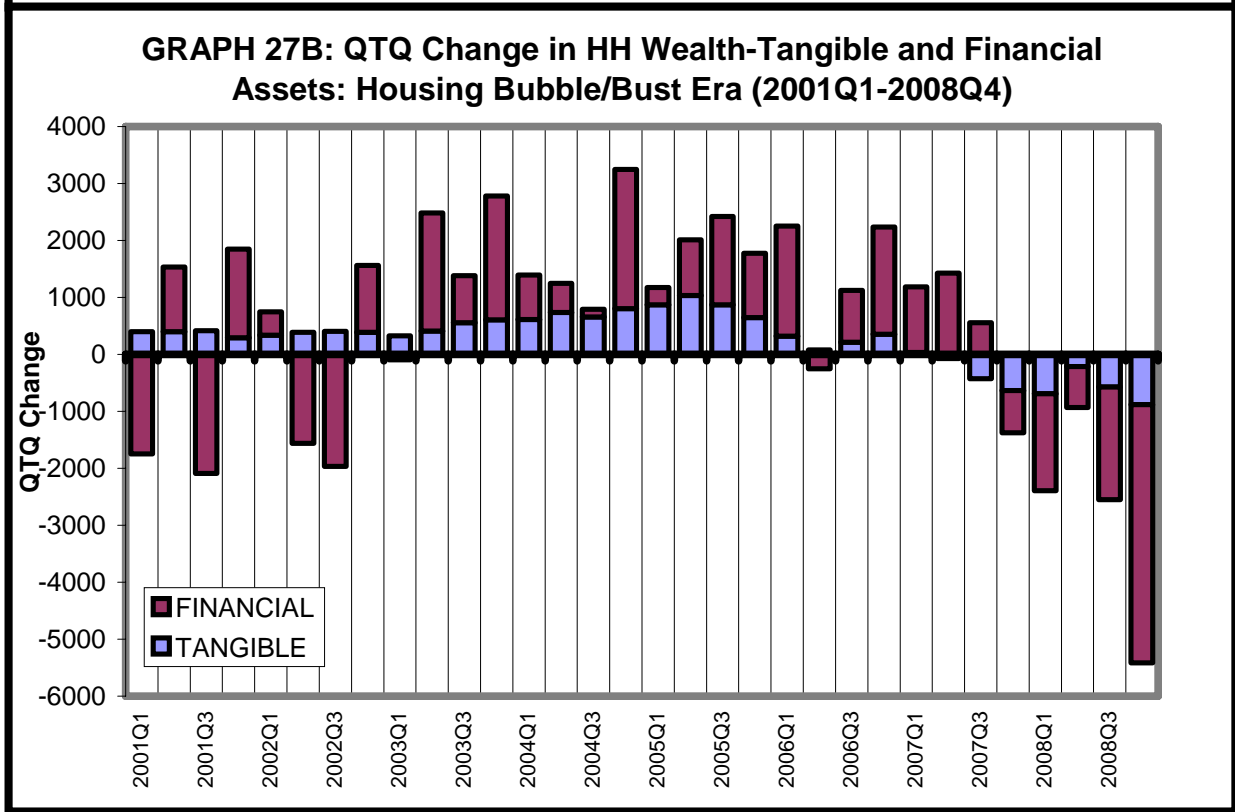
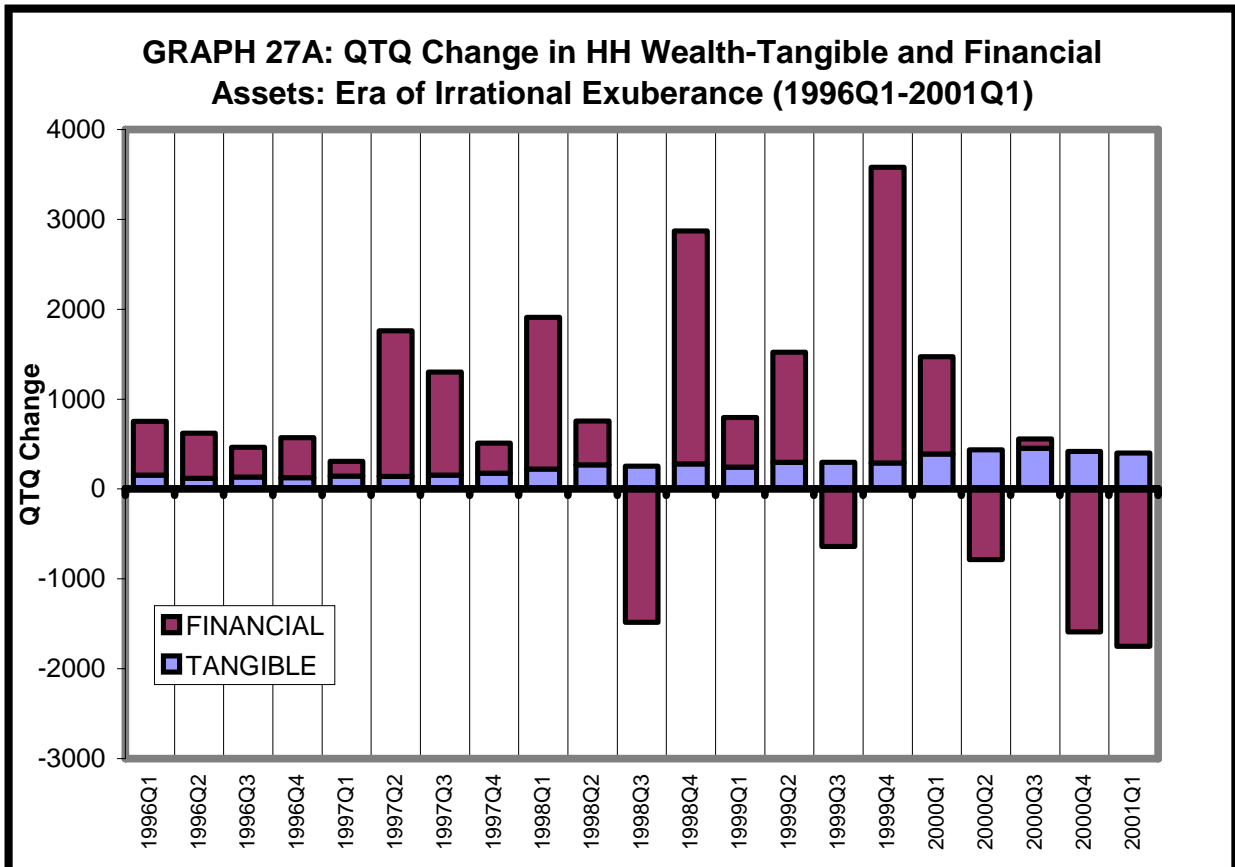
²¹ Case, Karl E. , John M. Quigley and Robert J. Shiller, *COMPARING WEALTH EFFECTS: THE STOCK MARKET VERSUS THE HOUSING MARKET* (October 2001), COWLES FOUNDATION DISCUSSION PA-



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SOURCE: U.S. Federal Reserve Board



III. ORIGINS OF THE CURRENT CRISIS

A. INTRODUCTION: A Confluence of Developments

As discussed in the 2008 outlook, the first sign that the housing bubble in the U.S. economy popped was in 2005, as housing permits fell in September, which was the first significant drop since 1990²². This followed the Fed's bumping up of short-term rates. However, there were other factors that also played an important role in marking the end of the early 21st century housing and credit bubble. In the 2008 outlook, the bubble was divided into two parts: primary (foreclosures) and secondary (liquidity crisis)²³. However, given the post- Panic of 2008 vantage point, it may be more insightful to cast the current crisis as one that was brought about by a *confluence of developments*, such that each development interacted with the others to produce the negative synergies that generated the most serious financial and economic crisis since the 1930's²⁴. To that end, it is helpful to construct a "family tree", as is done in subsection C below, to follow the lineage of several developments that converged to produce the financial and economic crisis that has brought the World's economies to the brink. The principal developments that have played a critical role are: the expansion of derivatives from the commodities markets to financial markets due to increased exchange rate volatility, after the collapse of the Bretton Woods System in the early 1970's; the securitization of residential mortgage pools in the secondary mortgage market after 1970; the rise of warehouse financing of mortgage originations, especially what are now called sub-prime mortgages, by Wall Street; the flood of independent mortgage brokers in aftermath of the Savings and Loan Crisis; the triumph of Chicago-School free-market economics and its consequent aggressive deregulation policy, particularly as it impacted the financial services industry, including the removal of cross-border capital flows; and persistent, unsustainable trade imbalances. Some specific features of the above noted factors that led to the current crisis include financial "innovation". In particular, the rise of the private secondary mortgage market, and the sub-prime mortgage originators such as Countrywide and Ameriquest, in conjunction with the development of structured finance and its extension to the sub-prime, residential secondary mortgage market in 1995. Another specific feature along one of the major paths to the current crisis is financial deregulation, beginning in 1980 and culminating with the *Gramm-Leach-Bliley Act of 1999*, which repealed the *Glass-Steagall Act* that put up a wall between commercial banking and investment banking, insurance, and other financial service activities, and thereby allowed the formation of CitiGroup out of Citibank and Travelers to go through. With the rise of the private secondary mortgage market, in conjunction with financial deregulation and "innovation", new credit derivatives were designed to supposedly spread the credit risk on loans. As introduced above, this was brought to the residential mortgage market in 1995, with the introduction of Structured Finance and Collateralized Debt Obligations (CDO) to the private secondary, mortgage market.

B. DRESS REHEARSALS FOR THE CURRENT CRISIS: *The S&L Crisis, The Junk-Bond Binge, and the Collapse of LTCM*

In considering the origins and causes of the current crisis the natural comparisons come to mind: The Great Depression and the Panic of 1907. There are, of course, valuable lessons,

²² Kennedy, Daniel W., CURRENT CONDITIONS AND OUTLOOK FOR THE U.S. AND CONNECTICUT ECONOMIES: 2007-2009 (January 2008, Updated May 2008) Office of Research, CT Labor Department: Wethersfield, CT, p. 1.

²³ *ibid.* p.4.

²⁴ And, there is some evidence that the Great Depression may have also been preceded by a credit bubble (see See Eichengreen, Barry and Kris Mitchener, The Great Depression as a Credit Boom Gone Wrong, (Sep 2003) Bank for International Settlements: Basal: Working Paper No. 137).



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relevant to the current crisis, to be learned from both of these pivotal events in the first half of the 20th century (and, they are considered below), but there may also be some events in our own lifetimes, in the last two decades of the 20th century, that have been overlooked that may also serve as sources of guidance on the origins and solutions to the current financial panic and economic contraction.

i. THE SAVINGS AND LOAN CRISIS²⁵

In many ways the current meltdown of the financial system can be viewed as the Savings and Loan (S&L) Crisis “writ big”. The S&L’s began in the United Kingdom (UK) and came to the U.S. in the 1830’s as the Building and Loan (B&L) societies. The industry went through many crises and transformations over the 19th and 20th centuries. Modern Federal regulation of, what is known as the “thrift” industry, began in the 1930’s with the *Federal Home Loan Bank Act of 1932*, which established the Federal Home Loan Bank System as a source of liquidity and low cost financing for the B&L’s²⁶ [The industry also had a name change in the 1930’s and became known as Savings and Loans (S&L’s)]. The S&L Crisis of the 1980’s/1990’s, as it is called, had its origins in the free-market/deregulation response to the stagflation of the 1970’s and early 1980’s²⁷.

Financial institutions, and in particular banks and S&L’s make their profit by making loans long term and borrowing short term. With a higher interest rate received from making long term loans, and the lower interest rate paid on short term deposits and savings accounts the *Net Interest Margin* (NIM) is positive. However, during the high inflation of the 1970’s and early 1980’s, past loans made were paying a lower interest rate than what they had to currently pay the depositors on short term accounts. This resulted in a negative NIM. The consequence was a breakdown in the function of an S&L as a financial intermediary called *disintermediation*. Blocking the solution to the problem was Regulation Q, which put a ceiling on how much S&L’s could pay their depositors on their savings accounts²⁸. Eliminating Regulation Q, but maybe even more importantly, interest rates dropped significantly after 1983, resulted in many S&L’s returning to profitability and the industry gained back about 60% of their depositors. It looked like the thrifts were on the mend²⁹. However, deregulation was in the air.

Under the Carter Administration, *The Depository Institutions Deregulation and Monetary Control Act (DIDMCA) of 1980* was enacted and signed into law. It sought to eliminate many of the distinctions among different types of depository institutions and ultimately removing interest rate ceiling on deposit accounts (Regulation Q). Authority for Federal S&Ls to make Acquisition, Development, and Construction (ADC) loans was expanded, and the deposit insurance limit was raised to \$100,000 from \$40,000³⁰. Further, to forestall actual insolvency, the Federal Home Loan Bank Board (FHLBB) lowered net worth (capital) requirements for Federally insured S&L’s from 5% of insured accounts to 4% in November

²⁵ This section draws heavily on Federal Deposit Insurance Corporation, *The S&L Crisis: A Chrono-Bibliography* (Last update: December 20, 2002) < <http://cryptome.info/fdic-snl.htm> > Accessed on March 26, 2009.

²⁶ Federal Deposit Insurance Corporation, *HISTORY OF THE EIGHTIES-LESSONS FOR THE FUTURE* Volume I, FDIC: Washington, Ch. 4, p. 170

²⁷ Interestingly, the movement toward deregulation actually began under the Carter Administration when Congress passed, and President Carter signed into law, the deregulation of the airline and trucking industries. Also, of interest, is when interviewed in *BUSINESSWEEK* in February 2009, Alfred Kahn, the father of deregulation, said that though he was, and is, all for the deregulation of industries that produce goods and provide non-financial services, he does not support the deregulation that has taken place in the financial-services industry.

²⁸ Muolo Paul and Mathew Padilla, *CHAIN OF BLAME* (2008), John Wiley & Sons: New York, pp. 51-52

²⁹ *ibid*, p. 52

³⁰ Federal Deposit Insurance Corporation, *The S&L Crisis: A Chrono-Bibliography* (Last update: December 20, 2002) < <http://cryptome.info/fdic-snl.htm> > Accessed on March 26, 2009.



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1980 and then to 3% in January 1982. At the same time, the existing 20-year phase in rule for meeting the net worth requirement, and the 5-year averaging rule for computing the deposit base, were retained. The phase in rule meant that S&Ls less than 20 years old had capital requirements even lower than 3%. This made chartering *de novo* Federal stock institutions very attractive because the required \$2.0 million initial capital investment could be leveraged into \$1.3 billion in assets by the end of the first year in operation³¹. This excessive leveraging played an important role in the current crisis. The lower the required capital, holding assets constant, the higher the *Equity Multiplier* (EM), which raises the return on capital, however, it also raises the risk of insolvency³².

Enter the Reagan Administration, which came into power with a "Government-is-the-problem" approach to addressing the stagflation of the 1970's/early 1980's and ushered in a new age of Chicago-School style free-market economics. In that spirit, Congress passed the *Garn - St Germain Depository Institutions Act of 1982*. This carried the above actions aimed at the disintermediation problem much further. And, for the first time, the government pursued measures intended to increase S&L profits as opposed to promoting housing and homeownership. Also in 1982, FHLBB eliminated the minimum number of stockholders restriction, and allowed a single-owner to own an S&L³³.

The Reagan-Administration initiative, through the *Garn - St Germain Depository Institutions Act of 1982*, was designed to complete the process of giving expanded powers to Federally chartered S&Ls and enable them to diversify their activities with the view of increasing their profits. Major provisions included³⁴:

- Elimination of deposit interest rate ceilings (Regulation Q)
- Elimination of the previous statutory limit on loan-to-value ratio
- Expansion of the asset powers of Federal S&Ls by permitting up to 40% of assets in commercial mortgages, up to 30% of assets in consumer loans, up to 10% of assets in commercial loans, and up to 10% of assets in commercial leases.

To summarize, the safety and soundness of the thrift industry was greatly weakened in three ways:

1. The capital (net worth) requirements for S&L's were greatly decreased
2. The accounting framework (which provided regulators with the crucial information about a savings and loan's financial position) was weakened, so as to allow more savings and loans to portray themselves as healthy.
3. The number of in-field examiners and supervisors was decreased³⁵.

Deregulation of asset powers at the Federal level prompted a number of states to enact similar, or even more liberal, legislation. This "competition in laxity" has been attributed to a conscious effort by state legislatures to retain and attract state-chartered institutions that otherwise might apply for Federal charters, thereby reducing the states' regulatory roles and fee collections³⁶. In response to the massive defections of state chartered S&Ls

³¹ LESSONS FROM THE 80's-LESSONS FOR THE FUTURE, P.173 and Barth, James R, *The Great Savings and Loan Debacle* (1991), p. 54

³² There is an important relationship between the Return on Equity (ROE) and the Equity Multiplier (EM) via the Return on Assets (ROA) expressed as follows: $ROE = ROA \times EM$. Thus, boosting the value of the EM, holding ROA constant, raises ROE. See Mishkin, Frederic S. and Stanley G. Eakins, *FINANCIAL INSTITUTIONS AND MARKETS*, 6th Ed. (2009) Addison Wesley: White Plains, NY, CH 13

³³ FDIC, *The S&L Crisis: A Chrono-Bibliography*.

³⁴ *ibid*

³⁵ White, Lawrence J., *THE SAVINGS AND LOAN DEBACLE: A Perspective from the Early Twenty-First Century* (No date.) Stern School of Business, New York University (Former Board Member, Federal Home Loan Bank Board), p. 15.

³⁶ HISORY OF THE 80's-LESSONS FOR THE FUTURE, p. 177.



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to the Federal system, the *Nolan Bill* passed in California in 1983. It allowed California-chartered S&Ls to invest 100% of deposits in any kind of venture.

During the early years of the Reagan Administration, responsibility for the unfolding thrift crisis lay with the Cabinet Council on Economic Affairs, chaired by Treasury Secretary Donald Regan. Its members included senior officials from OMB and the White House. Firm believers in free markets this group crafted the policies of deregulation and forbearance and adamantly opposed any governmental cash expenditures to resolve the S&L problem. Furthermore, the administration did not want to alarm the public unduly by closing a large number of S&Ls. Therefore, the Treasury Department and OMB urged the Bank Board to use FSLIC notes and other forms of forbearance that did not have the immediate effect of increasing the Federal deficit³⁷.

The savings and loan industry changed swiftly and dramatically after the deregulation of asset powers and interest rates. The period from year end 1982 to year end 1985 was characterized by extremely rapid growth, as the industry responded to the new regulatory and legislative climate. Total S&L assets increased from \$686 billion to \$1.068 trillion, or by 56%, more than twice the growth rate at savings banks and commercial banks (approximately 24%). As discussed below, S&L growth was fueled by an influx of deposits (often via money brokers) into institutions willing to pay above-market interest rates. In 1983 and 1984, more than \$120 billion in net new money flowed into S&L's³⁸.

Sharp entrepreneurs realized the large potential profit from owning an S&L, whose charter now allowed a wide range of investment opportunities without the corresponding regulation faced by commercial banks. Little capital was required to purchase or start an S&L, and the growth potential was great. A variety of non-bankers entered the S&L industry, ranging from dentists, with no experience in owning a financial institution, to real estate developers, who had serious conflicts of interest. To gain entry into the S&L industry, one either acquired control of existing institutions (many of which had converted from mutual to stock) or started de novo institutions. Between 1980 and 1986 nearly 500 new S&L charters were issued, with more than 200 of these issued in just two years—1984 and 1985. In 1981, stock S&Ls had constituted 21% of the industry; by 1986 they constituted 38% and controlled 64% of the industry's total assets.

Another major change resulting from deregulation was that, beginning in 1982, S&L investment portfolios rapidly shifted away from traditional home mortgage financing and into new activities. This shift was made possible by the influx of deposits and also by sales of existing mortgage loans. By 1986, only 56% of total assets at savings and loan associations were in mortgage loans, compared with 78% in 1981.

In 1983, even when a sharp drop in interest rates returned many traditional S&Ls to profitability, 10% of the industry was still insolvent on a Generally Accepted Accounting Principles (GAAP)³⁹ basis and 35% of the industry's assets were controlled by S&Ls that were insolvent on a tangible basis— yet these institutions were permitted to grow along with the rest of the industry, and to substitute credit risk for interest rate risk. The high growth period between 1982 and 1985 was also the period when examination and supervision were weakest. States that had enacted liberal S&L laws, such as California, Florida, and Texas,

³⁷ *ibid*, p. 177

³⁸ *ibid*, p.178

³⁹ Generally Accepted Accounting Principles are the common set of accounting principles, standards and procedures that companies use to compile their financial statements. GAAP are a combination of authoritative standards (set by policy boards) and simply the commonly accepted ways of recording and reporting accounting information (INVESTOPEDIA, < <http://www.investopedia.com/terms/g/gaap.asp>>



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were soft on supervision; and in some cases, state-chartered institutions had close political ties to elected officials and to a state's regulators⁴⁰.

Further, the enactment of *Garn–St Germain* and the deregulation of asset powers by several key states led many S&Ls to change their operating strategies. These changes substantially intensified the competitive environment of commercial banks and placed downward pressure on bank profitability. Although in a free-market economy competition is normally considered healthy, regulatory forbearance in the thrift industry and moral hazard created marketplace distortions that penalized well-run financial institutions. On the liability side of the balance sheet, the bidding up of deposit interest rates by aggressive or insolvent, or both, S&Ls increased the cost of funds, adversely affecting both commercial banks and conservatively run thrifts. On the asset side of the balance sheet, commercial banks were negatively influenced by the entrance of inexperienced and, in some cases, rogue S&Ls into commercial and real estate lending⁴¹.

Throughout the decade, losses in the S&L industry continued to mount as the decline in real estate values deepened and affected various regions of the country. Efforts to recapitalize the Federal Savings and Loan Insurance Corporation (FSLIC) in 1986 and 1987 were bitterly fought by the industry, which had considerable influence with members of Congress. Although the *Competitive Equality Banking Act of 1987* provided the FSLIC with resources to resolve insolvent institutions, the amount was clearly inadequate. Nevertheless, under the new FHLBB chairman, Danny Wall, the FSLIC resolved 222 S&Ls, with assets of \$116 billion, in 1988. These transactions were effected with minimal cash outlays and maximum use of notes, guarantees, and tax advantages, all of which made these transactions more expensive than they would have been had the FSLIC had adequate funds. But despite these resolutions, at year end 1988 there were still 250 S&Ls with \$80.8 billion in assets that were insolvent based on regulatory accounting principles. Resolution of the S&L crisis did not really begin until February 6, 1989, when newly inaugurated President George Bush announced his proposed program, whose basic components were enacted later that year in the *Financial Institutions Reform Recovery and Enforcement Act* (FIRREA).

FIRREA abolished the Federal Home Loan Bank Board and FSLIC, switched S&L regulation to newly created Office of Thrift Supervision. The deposit insurance function shifted to the FDIC, and a new entity, the Resolution Trust Corporation (RTC) was created to resolve the insolvent S&Ls. Other major provisions of FIRREA included:

- \$50 billion of new borrowing authority, with most financed from general revenues and the industry
- Meaningful net worth requirements and regulation by the OTS and FDIC
- The allocation of funds to the Justice Department to help finance prosecution of S&L crimes

Additional bank crime legislation the next year (i.e., the *Crime Control Act of 1990*) which mandated a study by the National Commission on Financial Institution Reform, Recovery and Enforcement to uncover the causes of the S&L crisis, and come up with recommendations to prevent future debacles⁴².

White (no date) suggests four lessons learned and four lessons *not* learned from the S&L

⁴⁰ *ibid*, p. 180

⁴¹ *ibid*, p.181

⁴² FDIC, The S&L Crisis: A Chrono-Bibliography



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debacle⁴³:

Lessons Learned⁴⁴

- The importance of capital
- Prompt Corrective Action (PCA)
- Safety and soundness regulation as protection for the deposit insurer
- The importance of adequate numbers of well-trained examiners and supervisors

Lessons NOT Learned

- The importance of market value accounting (i.e., mark-to-market valuation)
- Forward looking stress tests (i.e., how does the institution's capital hold up under various pessimistic/worst-case scenarios)
- The importance of long-run, subordinated debt [Long-run subordinated debt brings to the institution a set of market-based, sophisticated stakeholders whose interests are similar to (although not identical to) those of the deposit insurer].
- The appropriate structure for a depository (The logic of a safety and soundness approach would argue for the following: Anything that is examinable and supervisable – i.e., activities and assets about which depository regulators can make judgments as to the competence of the depository in managing the activity or the asset, and for which the regulators can set informed capital requirements – should be permitted within the depository)

ii. THE JUNK BOND BINGE

On August 15, 1981, Ronald Reagan signed the Kemp-Roth Bill, officially known as the *Economic Recovery Tax Act of 1981*, into law. Among other things, it lowered the top capital gains tax rate from 28% to 20%. This made high risk investments even more attractive⁴⁵. That, in conjunction with developments in leveraged buy-outs and private-equity and venture-capital financing, in the 1960's and 1970's, contributed to the creation of the environment that was conducive to the development of the 1980's private equity/leveraged buyout/junk bond boom. The "first shot fired" was the well-publicized success of the Gibson Greetings acquisition in 1982. From that point on, the LBO-junk bond boom would roar ahead through 1983 and 1984 with the soaring stock market driving profitable exits for private equity investors. Further, within months of the passage of *Garn-St. Germain* members of Michael Milken's circle were taking over S&L's using Drexel, Burnham, Lambert junk bond money. The S&L's then became major markets for junk bonds. A \$30 million outlay for a S&L could easily lead to the sale of \$500 million of junk bonds by Drexel for which it would charge a commission of \$20 million⁴⁶.

In many ways the era resembled the conglomerate merger craze of the late 1960's/early 1970's, but ratcheted up a couple of notches. In an article in *Fortune*, Edmund Faltermayer lamented that:

If the tale had only ended in mid-decade, the verdict on the Eighties would be favorable. But a kind of San Andreas fault separates the comparatively sane, often

⁴³ White (No date), pp. 19-22.

⁴⁴ Given the current financial crisis, one wonders if any of these lesson have really been learned (Author's comment).

⁴⁵ *History of private equity and venture capital*, Wikipedia, Accessed on June 1, 2009 < http://en.wikipedia.org/wiki/History_of_private_equity_and_venture_capital >

⁴⁶ San Jose State University, Department of Economics, *The Network of Junk Bond Financiers* < <http://www.applet-magic.com/junkbonds.htm> > Accessed on June 25, 2009



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constructive earlier half from the bizarre later years when most of the deals were done. New takeover ammunition changed everything. Originally junk bonds were not used for hostile takeovers. But in 1984, Michael Milken, the Drexel Burnham Lambert junk bond czar who towers over the Eighties as Napoleon once loomed over Europe, tapped his network of junk buyers -- *savings and loans*⁴⁷, insurance companies, corporations, other raiders -- and began to form multibillion-dollar blind pools⁴⁸.

iii. THE COLLAPSE OF LONG-TERM CAPITAL MANAGEMENT

In the early 1990s, Salomon Brothers trader John Meriwether assembled a tightly knit group of brilliant analysts whose use of complex predictive models enabled them to make a fortune off of bond arbitrage. Despite its success, however, the unit eventually caused friction in the company, and Meriwether himself left after his implication in a treasuries trading scandal. Down but not out, Meriwether cashed in on the great results of his former colleagues, who were extremely loyal to him, and in 1994, they went into business for themselves in a new hedge fund they called Long-Term Capital Management (LTCM)⁴⁹. To get the firm off the ground, two of the world's top economists were brought in as principals, Myron Scholes, who co-developed the Black-Scholes option pricing model, and Robert Merton, who developed a theory of continuous pricing as a means of hedging against stock losses. Together they provided LTCM with a highly complex mathematical formula for pricing the markets and betting against gains and losses, which proved to be an accomplishment important enough to later win them the Nobel Prize for Economics in 1997⁵⁰.

Foreshadowing the complex inter-relationships of the Structured-Finance, Collateralized Debt Obligations (CDO's) and their role in the securitization of sub-prime mortgage pools, coinciding with the rise of the private secondary mortgage market in the current crisis, LTCM was located physically in Greenwich, Connecticut⁵¹. The first was the structure of the partnership: Long-Term Capital Management, L.P., which was organized as a Delaware limited partnership, but the fund it operated, Long-Term Capital Portfolio, L.P., was organized as a Caymans Island limited partnership. This structure would later complicate any resolution or buyout of the fund, and it is possible that the two entities would have declared bankruptcy in different jurisdictions, which would have added to the complications and expenses of the proceedings⁵².

Long-Term's success gave it a capital base so large that it needed new markets to move into, however, and that is where things went south. Long-Term extended its model-based form of trading to unfamiliar markets, such as S&P 500 options and mergers and acquisition arbitrage. Because enormous trades needed to be made in these markets to make any profit, the firm leveraged itself to extraordinary degrees, enabled by a banking industry cowed by the firm's audacity and numbed by its performance. By 1998, with only \$4.72 billion in equity, the firm had borrowed some \$125 billion against \$129 billion in assets and

⁴⁷ Author's emphasis.

⁴⁸ Faltermayer, Edmund, *THE DEAL DECADE: VERDICT ON THE '80s*, FORTUNE (August 26, 1991) < http://money.cnn.com/magazines/fortune/fortune_archive/1991/08/26/75408/index.htm > Accessed on June 2, 2009.

⁴⁹ Coffin, Bill, *Ten Lessons Learned from the Collapse of Long-Term Capital Management*, (2008) RISK MANAGEMENT MAGAZINE < <http://www.rmmagazine.com/MGTemplate.cfm?Section=RMMagazine&NavMenuID=128&template=/Magazine/DisplayMagazines.cfm&IssueID=327&AID=3746&Volume=55&ShowArticle=1> > Accessed on March 26, 2009

⁵⁰ Lowenstien, Roger, *WHEN GENIUS FAILED* (2000) Random House Trade Paperback Edition: New York, p. xix.

⁵¹ Department of Economics, San Jose' State University, *Summary of the Nature of LTCM* < <http://www.sjsu.edu/faculty/watkins/lcm.htm> > Accessed on March 26, 2009.

⁵² Haubrich, Joseph G. *Some Lessons on the Rescue of Long-Term Capital Management* (April 2007) POLICY DISCUSSION PAPER NUMBER 19, Federal Reserve Bank of Cleveland: Cleveland, p. 2



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had an off-balance sheet derivatives position worth about \$1.25 trillion⁵³.

Long-Term's position had been pummeled in 1997 by the Asian financial crisis, but it was the 1998 global market downturn after the Russian government defaulted on its bonds that strained the fund beyond repair. LTCM was convinced that Russia was "too big to fail". And while others bailed out of Russian debt, LTCM significantly increased its exposure⁵⁴. Suddenly, the bond business that Long-Term was neck-deep in turned bad and, within four months, the fund lost nearly \$5 billion. By September, the firm was almost out of equity and faced the possibility of defaulting on its debts to the rest of the banking world⁵⁵.

Fearing that the collapse of Long-Term would further exacerbate global turmoil in the financial markets, the New York Fed facilitated a buyout by a consortium of 19 banks and other financial firms. Together, these companies would absorb Long-Term's losses gradually and maintain enough liquidity in the banking system to prevent this catastrophe from overwhelming the entire financial sector. It worked. And eventually, those that came to Long-Term's rescue made out. One of the banks that was asked to help, but did not, was Bear Stearns, which had served as Long-Term's "clearing house" and figured that helping Long-Term now would be throwing good money after bad. It seems a great irony, then, that a bank of Bear's size and experience, one that had seen first-hand the consequences of poor financial risk management, would itself be destroyed by a similar lack of foresight almost a decade later during the sub-prime lending crisis. Those who studied Bear's actions during Long-Term's downfall might think that the bank simply got what was coming to it. But the truth is that Bear is just one of the bigger casualties of the ongoing world credit crisis kicked off by the sub-prime meltdown. Many banks poisoned themselves with sub-prime lending, but Bear more so than others, and its failure to note that it was killing itself with imprudent financial deals mirrors Long-Term's own demise⁵⁶.

Bill Coffin in an article in *Risk Magazine* enumerated 10 lessons that should have been learned from the collapse of LTCM⁵⁷. All are instructive for today's crisis. But, of particular interest is the mark-to-model method, as opposed to market-to-market, used to price the more exotic sub-prime mortgage based credit derivatives, whose unraveling ushered in the current financial crisis. The common link, of course, is "model hubris".

C. ROOTS OF THE CURRENT CRISIS: A Confluence of Developments—Financial Deregulation and "Innovation" (A Belief in Unfettered Markets), Rapid Credit Expansion, the Rise of Financial Derivatives, the proliferation of Sub-Prime and Predatory Lending, and Trade Imbalances

There are several lines of developments that converged to produce the climate that generated the most recent financial bubble. For purposes of the following narrative, the lines of development, are subsumed under the following major headings: Financial Deregulation and "Innovation" (A Belief in Unfettered Markets), Rapid Credit Expansion, the Rise of Financial Derivatives, the proliferation of sub-prime and Predatory Lending, and Trade Imbalances.

The first development that put the financial system and the economy on a path that led to the Panic of 2008 in September was deregulation and financial "innovation". Along the fi-

⁵³ Coffin (2008)

⁵⁴ Lowenstein (2000), Chapters 7 and 8.

⁵⁵ Coffin (2008)

⁵⁶ *ibid*

⁵⁷ *ibid*



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nancial innovation path was the rise of the private secondary mortgage market, and the sub-prime mortgage originators such as Countrywide and Ameriquest, in conjunction with the development of structured finance and its extension to the sub-prime, residential secondary mortgage market in 1995. The second major path, under this heading, was financial deregulation, beginning in 1980 and culminating with the *Gramm-Leach-Bliley Act of 1999*, which repealed the *Glass-Steagall Act* that put up a wall between commercial banking and investment banking, insurance, and other financial service activities, and allowed that formation of CitiGroup out of Citibank and Travelers to go through. With the rise of the private secondary mortgage market, in conjunction with financial deregulation and “innovation”, new credit derivatives were designed to supposedly spread the credit risk on loans. As introduced above, this was brought to the residential mortgage market in 1995, with the introduction of Structured Finance, Collateralized Debt Obligations (CDO) to the private secondary, residential mortgage market⁵⁸. In addition, the reigning free-market ideology argued against government interference in markets. Beginning with the Reagan Administration⁵⁹, then with George H. W. Bush, and including the policies in the second Clinton Administration, both of George W. Bush’s administrations, and the Chairman of the Federal Reserve, Alan Greenspan, were predicated on the idea that “markets know best”. This will be discussed in more detail below. The final piece to all of this is the massive expansion of credit over the first half the new century’s first decade. There were two major sources of massive expansion of credit into the economy. The first, by the Federal Reserve after the popping of the stock market/dot-com bubble in 2000, the subsequent 2001 recession, and the September 11th attacks. The second source was the persistent, structural trade imbalances, in which the U.S. was consuming more than it was producing, which sucked in foreign capital to finance the trade deficit and, in addition to the Fed, flooded the economy with cheap credit.

The confluence of the above developments, along with the belief that there would be never-ending increases in house prices (“Animal Spirits”)⁶⁰, and that unaffordable mortgages could be refinanced with equity gains from house price appreciation (Ponzi Finance⁶¹) produced the positive feedback and contagion effects that are critical ingredients in an asset bubble.

i. OVERLEVERAGED: Financial Deregulation, Financial “Innovation”, and the Rise of Structured Finance

Financial Deregulation— Although the increase in the volatility of the financial sector in the post-World War II era can be traced back to the collapse the Bretton Woods System in 1971⁶², the beginning of the modern era’s march toward financial deregulation can be traced back to *The Depository Institutions Deregulation and Monetary Control Act (DIDMCA) of 1980*⁶³. With regard to commercial banking, further deregulation included the *Interstate Banking and Branching Efficiency Act of 1994*, which repealed the interstate pro-

⁵⁸ Douglas, Frank Fazzio, and Lauri Goodman, *COLLATERALIZED DEBT OBLIGATIONS* (2006) John Wiley & Sons: New York

⁵⁹ Actually, deregulation began under the Carter Administration (e.g., the deregulation of the airline industry, trucking industry, and the *Monetary Decontrol Act* were all done under President Carter).

⁶⁰ See Akerlof, George and Robert Shiller, *ANIMAL SPIRITS* (2009), Princeton University Press: Princeton, NJ for a social/economic explanation of the transmission of bubble psychology from one investor to another in an asset-bubble environment.

⁶¹ Hyman Minsky classified financing into three types: Hedge Financing, Speculative Financing, and Ponzi Financing (which is the riskiest of the three). See Minsky, Hyman, *STABILIZING AN UNSTABLE ECONOMY* (1986), 20th Century Foundation: New York.

⁶² Kindleburger Charles and Robert Aliber, *MANIAS, PANICS, AND CRASHES: A History of Financial Crises* (2005), Wiley Classics: New York, Ch. 1.

⁶³ See Section III, this outlook.



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visions of the *Bank Holding Company Act of 1956* that regulated the actions of bank holding companies. But a critical piece was the *Gramm-Leach-Bliley Act of 1999* that repealed The *Glass-Steagall Act of 1933*, which established the Federal Deposit Insurance Corporation (FDIC) in the United States and included banking reforms, some of which were designed to control speculation. Among other things, it separated commercial from investment banking.

The *Gramm-Leach-Bliley Act*, also known as the *Gramm-Leach-Bliley Financial Services Modernization Act*, enacted November 12, 1999, repealed part of the *Glass-Steagall Act of 1933*, opening up competition among banks, securities companies and insurance companies⁶⁴. The *Glass-Steagall Act* prohibited a bank from offering investment, commercial banking, and insurance services. The *Gramm-Leach-Bliley Act* (GLBA) allowed commercial and investment banks to consolidate. For example, Citibank merged with Travelers Group, an insurance company, and in 1998 formed the conglomerate Citigroup, a corporation combining banking and insurance underwriting services under brands including Smith-Barney, Shearson, Primerica and Travelers Insurance Corporation. This combination, announced in 1993 and finalized in 1994, would have violated the *Glass-Steagall Act* and the *Bank Holding Company Act* by combining insurance and securities companies, if not for a temporary waiver process. The law was passed to legalize these mergers on a permanent basis. Historically, the combined industry has been known as the financial services industry⁶⁵.

Turning Point?—A critical juncture in the development of financial regulation (or deregulation, as it were) policy came in 1993. In 1978, an international body of leading financiers and academics was founded and called the Consultive Group on International Economic and Monetary Affairs, Inc.; it is known as *The Group of Thirty*, or The G30⁶⁶. It is a private, international non-profit body⁶⁷. The G30 is headquartered in Washington, and is led by Paul Volker, former Fed chairman, and currently an advisor to President Obama. They produced a study in 1993 by their Global Derivatives Study Group⁶⁸. They then released a follow-up to that study in 1994⁶⁹. The Chair of the derivative study group was Dennis Weatherstone, the CEO of J.P. Morgan Bank, the creator of the first credit derivative⁷⁰. Officials from other large banks were also members of the study⁷¹. The main recommendations of the report were that the financial services industry and the credit markets, left alone, would by acting in their own self-interest produce the best outcome for the derivatives market, and that regulation would stifle financial innovation. Alan Greenspan, Chairman of the Federal Reserve, completely agreed with the report's findings and the Clinton Administration felt that no new financial, or revamped regulatory policy was needed, which was consistent with the G30 report and Greenspan's free-market views⁷². However, the U.S. General Accounting Office (GAO) did not agree.

Following the G30 report, the GOA released their report in May 1994⁷³. Among other observations, the GAO presciently noted:

Federal regulatory authority over the derivatives-dealing affiliates of major securi-

⁶⁴ WIKIPEDIA, http://en.wikipedia.org/wiki/Gramm-Leach-Bliley_Act Accessed on March 30, 2009

⁶⁵ *ibid.*

⁶⁶ GROUP OF THIRTY-Wikipedia

⁶⁷ GROUP OF 30 Website <<http://www.group30.org/about.htm> > Accessed on June 3, 2009.

⁶⁸ Global Derivatives Study Group, *DERIVATIVES: Practices and Principals* (1993), Group of 30: Washington.

⁶⁹ Global Derivatives Study Group, *DERIVATIVES: Practices and Principals: Follow-Up Surveys of Industry Practice* (1994), Group of 30: Washington.

⁷⁰ See Chart 1, in Appendix A, and Tett, Gillian, *FOOLS GOLD* (2009), Free Press: New York, pp. 27-34.

⁷¹ *ibid.*, p. 29.

⁷² Hansell, Saul, *G.A.O. Seeks Sweeping Rules for Derivatives* (May 19, 1994) NEW YORK TIMES

⁷³ Bowsher, Charles A, Comptroller General, *FINANCIAL DERIVATIVES: Actions Needed to Protect the Financial System* (May 1994), U.S. General Accounting Office: Washington



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ties firms and insurance companies is limited or nonexistent. The information that regulators collect is insufficient for adequate monitoring; capital standards are lacking, and no comprehensive regulatory examinations are performed to ensure the adequacy of the risk-management practices of securities and insurance affiliates. These firms are large and have financial linkages to an increasing number of markets and other firms through a rapidly growing number of derivatives transactions. A direct federal interest exists in the safety and soundness of major bank derivatives dealers because of the Bank Insurance Fund guarantee. However, derivatives transactions carry the same risks to the financial system whether the major OTC dealer is a bank, securities firm, or insurance company. Existing differences in the regulation of derivatives dealers limit the ability of the federal government to anticipate or respond to a crisis started by or involving one of these institutions⁷⁴.

Presaging the current call by some to take a holistic approach to financial regulation, the GAO report recommended:

The immediate need is for Congress to bring the currently unregulated OTC derivatives activities of securities firm and insurance company affiliates under the purview of one or more of the existing federal financial regulators and to ensure that derivatives regulation is consistent and comprehensive across regulatory agencies,...⁷⁵

It is clear that the approach advanced by the G30 report won the day and that the free-market, hands-off policy approach was strengthened by the outcome of the 1993-94 debate. But, as noted in the GAO report, the reason for the absence of empirical evidence, often cited by critics, was due to lack of a crisis to motivate the gathering of data on derivatives trading. And, of course, the gathering momentum of *lassie faire*-driven economic and financial philosophy and policy, ushered in by the Reagan Revolution a decade earlier, reinforced by the recent collapse of the Soviet Union, and accepted by both the Bush Administration and the Clinton Administration.

Financial “Innovation”— At the same time that the financial services industry was being recreated through deregulation, both, driving, and being driven by, financial deregulation were new developments in the repackaging and supposed spreading of risk. This gave rise to structured securitization of pools of loans and the development of financial derivatives markets. Derivatives had been used in the commodities markets for, at least a century⁷⁶, until the 1970’s. With the collapse of the Bretton Woods System and the advent currency-exchange volatility, the derivatives concept was then first applied to financial markets⁷⁷.

The key to the development of the securitization of the secondary mortgage market was the Mortgage-Backed Security (MBS) first issued by FANNIE MAE in 1970. Known as a pass-through, mortgages are pooled together and pro rata bonds were issued using the mortgage-pool as collateral on the bonds. They were called “pass-throughs” because the principal and interest payments were passed through to investors who held the bonds.

A major innovation for the MBS market occurred in 1983 when Freddie Mac issued the first Collateralized Mortgage Obligations (CMOs). These new instruments appealed to investors with special maturity and cash-flow requirements. However, the first CMO issues faced complex tax, accounting, and regulatory obstacles. Much of those legal issues were re-

⁷⁴ *ibid*, p. 124.

⁷⁵ *Ibid*, p. 127.

⁷⁶ In fact, a primitive form of a commodities-derivative has been traced back to Mesopotamia in 1750 B.C. See Tett, Gillian, *FOOL’S GOLD* (2009), Free Press: New York, p.10

⁷⁷ Tett (2009), p. 10



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solved with the passing of the *Tax Reform Act of 1986*, which included the Real Estate Mortgage Investment Conduit (REMIC) tax vehicle. After 1986 the issuance of CMOs grew enormously. The new tax law also allowed for the creation of other mortgage instruments such as STRIPs, floaters and inverse floaters⁷⁸.

Two trends in the banking industry contributed significantly to the lending boom and housing bubble that laid the foundations for the current crisis:

- ***Structured Finance and Collateralized Debt Obligations (CDO's) Come to the Residential Secondary Mortgage Market***—The first CDO's were created in 1987, they were brought to the residential mortgage market in 1995⁷⁹. There are three motivations for creating CDO's⁸⁰:
 1. Balance Sheet Purposes in order to:
 - Shrink the balance sheet
 - Reduce required regulatory capital
 - Achieve cheaper capital.
 2. Arbitrage
 - An asset manager can gain assets under management to increase fees
 - Asset-management services can be provided to investors through management of CDO's
 3. Origination
 - Banks and insurance companies that wish to increase their equity capital
- ***Residential Mortgage-Backed Securities*** are securities backed by a pool (collection) of mortgages. But, unlike pro rata bonds issued under non-structured securitization, securities issued under an MBS-type CDO are structured. That is, tranches, or pieces, of the pool are structured according to the quality of the securities issued under a given tranche. Thus, senior, of the AAA-rated tranche has the lowest risk, and lowest return. Subordinated tranches include the middle or mezzanine risk-adjusted securities, with the highest-yielding bottom tranche, usually, the equity tranche, known as "toxic waste", bears the most risk⁸¹.

This process essentially manufactured AAA-rated securities, which required tailoring the cash flow risk of the securities to satisfy the guidelines set forth by the credit-rating agencies. Structured Finance (SF) allows originators to accomplish this goal by a two step procedure which involves pooling and tranching⁸². One of the attractions of SF is that the increase in the notational value could be brought about by reapplying the securitization process to the junior tranches that were created in the first round. This process where a CDO is created from a CDO produces what is called a CDO². All RMBS's are CDO²'s⁸³. But, critical

⁷⁸ Kolev, Ivo, PRIMER: MORTGAGE-BACKED SECURITIES (July 29, 2004) FINANCIAL POLICY FORUM, Derivatives Study Center: Washington

⁷⁹ Lucas, Douglas, Laurie S. Goodman, and Frank J. Fabozio, COLLATERALIZED DEBT OBLIGATIONS, 2nd Edition (2006) John Wiley & Sons: New York, p. 5

⁸⁰ *ibid*, p. 9

⁸¹ *ibid*, p. 103

⁸² Coval, Joshua, Jakub Jurek, and Erik Stafford, *The Economics of Structured Finance*, J. OF ECONOMIC PERSPECTIVES (Winter 2009) (23): 1 3-25, pp. 5-7.

⁸³ *ibid*. p. 7



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to the stability of the whole inverted pyramid constructed from successive generations of CDO's is the assumption of a *zero default correlation*.

For example, if two mortgage-backed bonds are the basis for creating an hypothetical CDO, and each has a default rate of 10%, then if their default correlation is zero, the probability of both defaulting is the probability of two independent events. In that case, the probability that both would default is $10\% \times 10\% = 1\%$. This is the basis of the structured-finance alchemy. Thus, the holders of the senior tranche can obtain a AAA rating on that tranche, and further, the default rate for the senior tranche is lower than the default rate for the underlying securities that make up the CDO⁸⁴. This is, of course, a very simple example. But, it illustrates how it was thought that structured-finance securitization was spreading and deluding the risk—all part of the "Great Moderation". However, there was a fly in the proverbial ointment.

The entire result was predicated on a zero default correlation among the securities that made up the CDO. It was the keystone in the foundation of the "Great House of Cards". The first red flag had to do with the ability to even calculate the default correlation, especially in the case of securitized pools of mortgages⁸⁵. But, even without being able to quantify the correlation, mortgages that made up these mortgage-backed CDO's typically came from the same, or contiguous regions, and were of the same vintage. This almost guaranteed that defaults would not be isolated, independent, rare events, but dependent events that would rapidly spread contagion throughout the system, once the default process began. Thus, instead of deluding and spreading the risk, structured finance, in conjunction with excessive leveraging, hid the risk and passed it around.

Further, Collateralized Debt Obligations (CDO), which packaged pools of mortgages into structured products (see below), were launched from banks' off-balance-sheet entities called Structured Investment Vehicles (SIV's). Not only were these off-balance-sheet entities not regulated, but they formed a complex set of on- and off-shore entities that made the trail difficult, if not nearly impossible to follow. A commercial bank, subject to regulation, would sell its mortgages to an on-shore SIV (off its balance sheet), in many instances the on-shore SIV would be headquartered in Delaware it would, in turn, sell the assets it bought from the bank that set it up, to another SIV off shore, usually headquartered in the Cayman Islands. And, this would be the simplest arrangement⁸⁶. This allowed the development of a shadow banking system beyond the reach of regulation, and thus allowed the presumably regulated banks to engage in regulatory arbitrage.

It's the Equity Multiplier, Stupid!

Again, the point was to manufacture AAA-rated assets, which allowed banks to reduce the capital they needed to cover a given level of assets, on a risk-adjusted basis. This accomplished two things: it freed up funds to make more loans and buy more assets, and it boosted the *Equity Multiplier* (EM). In many respects, this was the name of the game. The lower the required capital, holding assets constant, the higher the *Equity Multiplier* (EM), which, in turn, raises the return on capital (equity)⁸⁷, however, it also comes with a cost.

⁸⁴ See Coval, et al (2009), pp. 6-7 and Lucas, et al (2006), CH. 16.

⁸⁵ Tett (2009), p. 68

⁸⁶ Travakola, Janet, STRUCTURED FINANCE, COLLATERALIZED DEBT OBLIGATIONS (2009), John Wiley & Sons: New York, CH. 2.

⁸⁷ There is an important relationship between the Return on Equity (ROE) and the Equity Multiplier (EM) via the Return on Assets (ROA) expressed as follows: $ROE = ROA \times EM$. Thus, boosting the value of the EM, holding ROA constant, raises ROE. See Mishkin, Frederic S. and Stanley G. Eakins, FINANCIAL INSTITUTIONS AND MARKETS, 6th Ed. (2009) Addison Wesley: White Plains, NY, CH 13



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Raising the EM also raises the risk of insolvency. But it looked good for the managers if the owners of the bank were getting a high Return on Equity (ROE).

The Credit-Rating Agencies “Default”

The function of credit rating agencies is to measure the ability of issuers, or entities, to meet their future financial commitments by making timely principal and interest payments. In addition to some conflict of interest problems, the credit rating companies also ventured into uncharted waters. Their experience had been with single issuers, *monocline* insurers. This was not the case with structured finance in which securities are being issued under different tranches, and different generations of structured finance products. Since many of these securities were not traded very often, and many not at all, the risk adjusted price was determined by modeling. That is, these assets' prices were based on “mark-to-model” rather than “mark-to-market”. Based on this, the ratings agencies gave the highest tranches of the mortgage-backed CDO²s (i.e., RMBS) AAA ratings. Two Achilles heels were fatal to this model-based asset-pricing system. First, the models assumed that the distribution of risk-returns is normal. But, since empirical evidence shows that the actual distribution has fatter tails than the normal, the models underestimated tail events⁸⁸. The second fatal flaw was the historical data used to estimate the model. Though there is over 50 years of data on the default rate for conventional mortgages, the data for sub-prime mortgages goes back over the period that pretty much coincides with the sub-prime bubble. For these two reasons, the models significantly underestimated the default rate on sub-prime mortgages, and therefore overestimated the risk-adjusted price of sub-prime-based assets. A third fatal flaw, not being able to quantify the default correlation of the underlying securities, was discussed above.

ii. THE HOUSING BUBBLE: Rapid Credit Expansion, The Rise of Sub-Prime and Predatory Lending, and “Animal Spirits”

*Generating a Housing Bubble*⁸⁹

Until reality reared its ugly head, along about the end of 2005, as frequently happens during a financial crisis, many caught up in the bubble-contagion⁹⁰ invariably misinterpret the bubble as a “new, unprecedented, golden-age of growth” (remember Dow 36000?). In a 2006 article, *Fortune* editor-at-large, Shawn Tully recounted some of the myths that helped blind many to the latest bubble⁹¹. And, Reinhart and Rogoff, in their research, presented before the 2008 American Economic Association meetings, noted:

Nevertheless, even in the smaller sample considered in this paper, the refrain that “this time is different” syndrome has been repeated many times. First come rationalizations. This time, many analysts argued, the huge run-up in U.S. housing-prices was not at all a bubble, but rather justified by financial innovation (including to sub-prime mortgages), as well as by the steady inflow of capital from Asia and petroleum exporters. The huge run-up in equity prices was similarly argued to be

⁸⁸ see Bookstaber, Richard, *A DEMON OF OUR OWN DESIGN* (2007), John Wiley & Sons: New York; Lowenstein, *WHEN GENIUS FAILED* (2000), Random House Paperback Trade: New York; and Cooper, George, *ORIGINS OF FINANCIAL CRISES* (2008), Vintage Books: New York

⁸⁹ This sub-section draws on Kennedy, Daniel W., *CURRENT CONDITIONS AND OUTLOOK FOR THE U.S. AND CONNECTICUT ECONOMIES: 2007-2009* (January 2008, Updated May 2008), Connecticut Department of Labor, Office of Research: Wethersfield, CT., pp. 1-3.

⁹⁰ See Shiller, Robert, *THE SUB-PRIME SOLUTION* (2008), Princeton University Press: Princeton, NJ, CH. 3

⁹¹ Tully, Shawn, *Getting real about the real estate bubble*: Fortune's Shawn Tully dispels four myths about the future of home prices. (August 25, 2006, 5:42 AM, EDT) MONEY.CNN.COM http://money.cnn.com/2006/08/24/real_estate/pluggedin_tully.fortune/index.htm



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sustainable thanks to a surge in U.S. productivity growth a fall in risk that accompanied the “Great Moderation” in macroeconomic volatility⁹².

Nationally, the stage was set for the current housing boom, bust, as the introduction of new financial innovations and their supposed spreading of risk (see above discussion) such that any given portfolio would be subject to small exposure, and with the expansion of credit, lenders began to aggressively (sometimes unscrupulously) offer mortgage credit to borrowers who previously did not qualify for a standard mortgage. As noted by the Congressional Research Service in their December 2006 report:

Although such products were used in the past by sophisticated borrowers as cash management tools, the recent housing boom saw alternative mortgages offered as affordability products to less sophisticated borrowers. Alternative mortgages were used by less wealthy borrowers in areas of high expected appreciation⁹³.

With the expansion of credit, in general, due in part to the trade deficit, but also as the Federal Reserve responded to the 2001 recession and the 9/11 attacks, the consequent easier credit conditions stimulated borrowing. The feedback from these processes began an acceleration in housing prices after 2001. Once a psychology of “never-ending” home price appreciation became entrenched, many borrowers took out alternative mortgages with the belief that when it came time for them to reset, the appreciation of their home would allow them to refinance into a standard, conventional mortgage⁹⁴. For instance, if a borrower took out a zero-down loan to buy a home, with a *loan-to-value ratio* (LVR) of 100%, but the house appreciated in value by 20% over, say the next two years, then the LVR would decline to 80%. This would then make the borrower eligible for a 30-year conventional mortgage (assuming all other requirements were met). The catch, of course, is that housing prices had to keep increasing. Once prices stopped increasing, many borrowers were left with loans whose monthly payments were scheduled to reset at levels that were beyond their ability to pay. The broker system for originating mortgages also contributed significantly to the problem⁹⁵. Mortgage lenders would pay commissions to brokers based on the number of loans originated and the level of the interest rate paid by the borrower. Thus, many borrowers who qualified for conventional mortgages at lower rates, were put into more expensive, non-conventional loans, with looming resets they could not afford to meet⁹⁶.

Many were caught off guard by the sudden turn in the residential real estate market. While many observers were focused on looking for a mismatch between the supply and demand for housing units, from the asset-market perspective, or between the supply and demand for space (use), from the property market perspective⁹⁷, the Achilles Heel was actually in housing finance. But for many, the rise in home prices in conjunction with stagnant median incomes, caused them to be priced out of the market, even during a climate of easy credit and lax lending standards. These, and other factors, resulted in the slowing of home sales and a deceleration in price increases.

⁹² Reinhart, Carman M. and Kenneth S. Rogoff, *Is the 2007 U.S. Sub-Prime Financial Crisis So Different? an International Historical Comparison* (January 14, 2008) DRAFT, p. 2.

⁹³ Murphy, Edward Vincent, ALTERNATIVE MORTGAGES (December 27, 2006) U.S. Congressional Research Service: Washington, p. CRS-6.

⁹⁴ Ibid, pp. CRS-11-13 and Congressional Budget Office, HOUSING WEALTH AND CONSUMER SPENDING (January 2007), U.S. CBO: Washington

⁹⁵ The large pool of independent brokers was a legacy of the S&L Crisis. When S&L's failed in large numbers, out-of-work mortgage brokers hung out their shingles.

⁹⁶ Der Hovanesian, Mara, *Nightmare Mortgages* BUSINESS WEEK (September 11, 2006), McGraw-Hill: New York

⁹⁷ Although the increasing gap in the growth in the median house price, relative to the growth in the median rent, should have been a red flag that there were imbalances residential property markets.



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Further, purchasing second, or even third homes, as investment properties was encouraged by *The Taxpayer Relief Act of 1997*, which expanded the capital-gains exclusion to \$500,000 (per couple) from \$125,000. This is another important piece of the housing bubble. It especially encouraged higher-end taxpayers to purchase second, or even third homes, as investment properties. This had some important consequences. Historically, about 80% of those selling their homes are buying another one. So there is a one-to-one correspondence between the number of units put on the market, and the number of units demanded, with the remaining 20% of participants either just entering the market, or leaving the market. With a significant percentage of those owning second or third homes as a portfolio decision, then, with a decline in prices, they would increase the supply of units for sale, as they re-allocate their portfolios, without providing a corresponding demand to buy housing units, thereby causing a rapid increase in excess supply⁹⁸. This was a new phenomenon in the housing market.

The Housing Bubble Pops

Graph 28 pinpoints the turning point in U.S. housing permits at November 2005. Save some local peaks and troughs, housing permits had been steadily increasing from January 1991, when they bottomed during the 1990-91 recession, until they peaked in November 2005. Housing permits have steeply declined since then through the last available datum point in February 2009. U.S. existing home sales tell a similar story, except that they declined several months before housing permits. As indicated on graph 29, like housing permits, existing home sales bottomed during the 1990-91 recession (1991Q1), and then began an upward trend in growth, before flattening out over the popping of the stock/dot-com bubble, the onset of the 2001 recession, and the September 11th attacks. Between 2002Q2 and 2005Q2, existing home sales increased steeply until the peak. From 2005Q2 through 2008Q4, existing home sales have declined steeply.

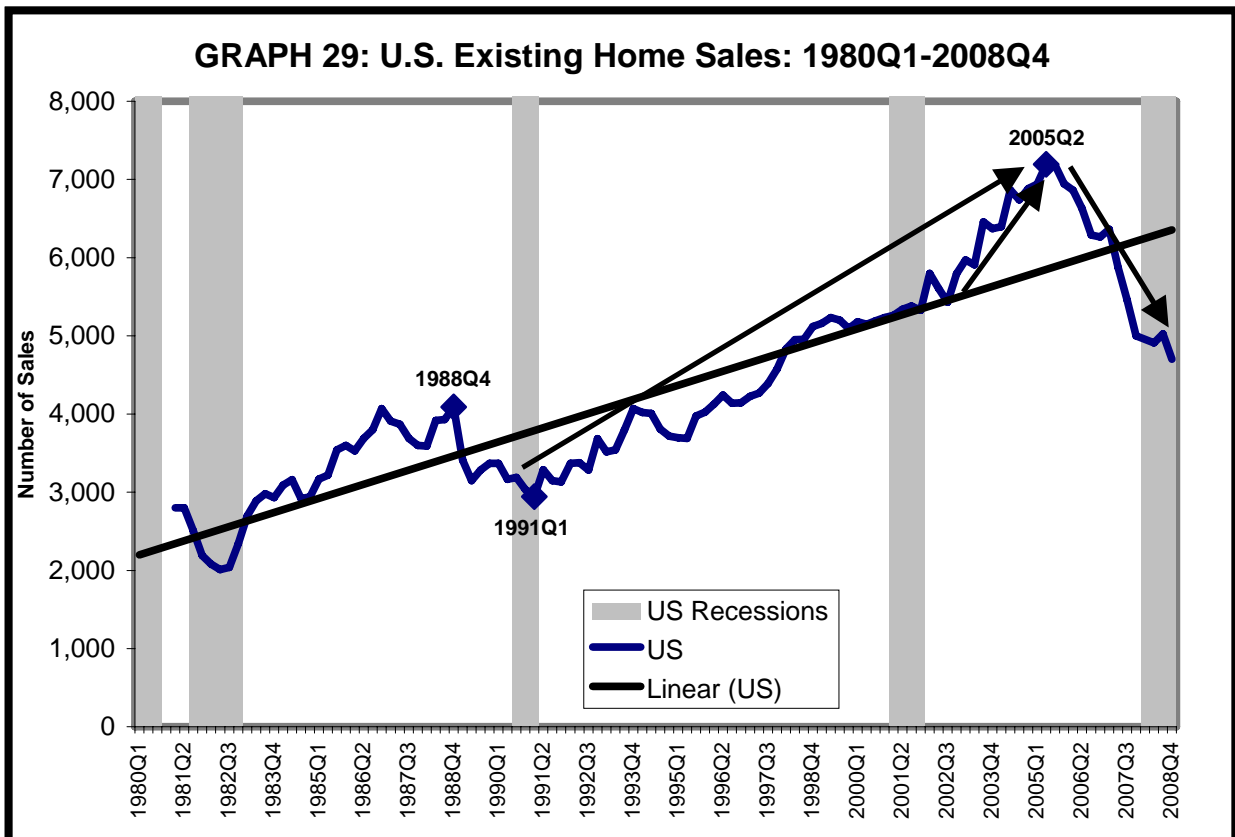
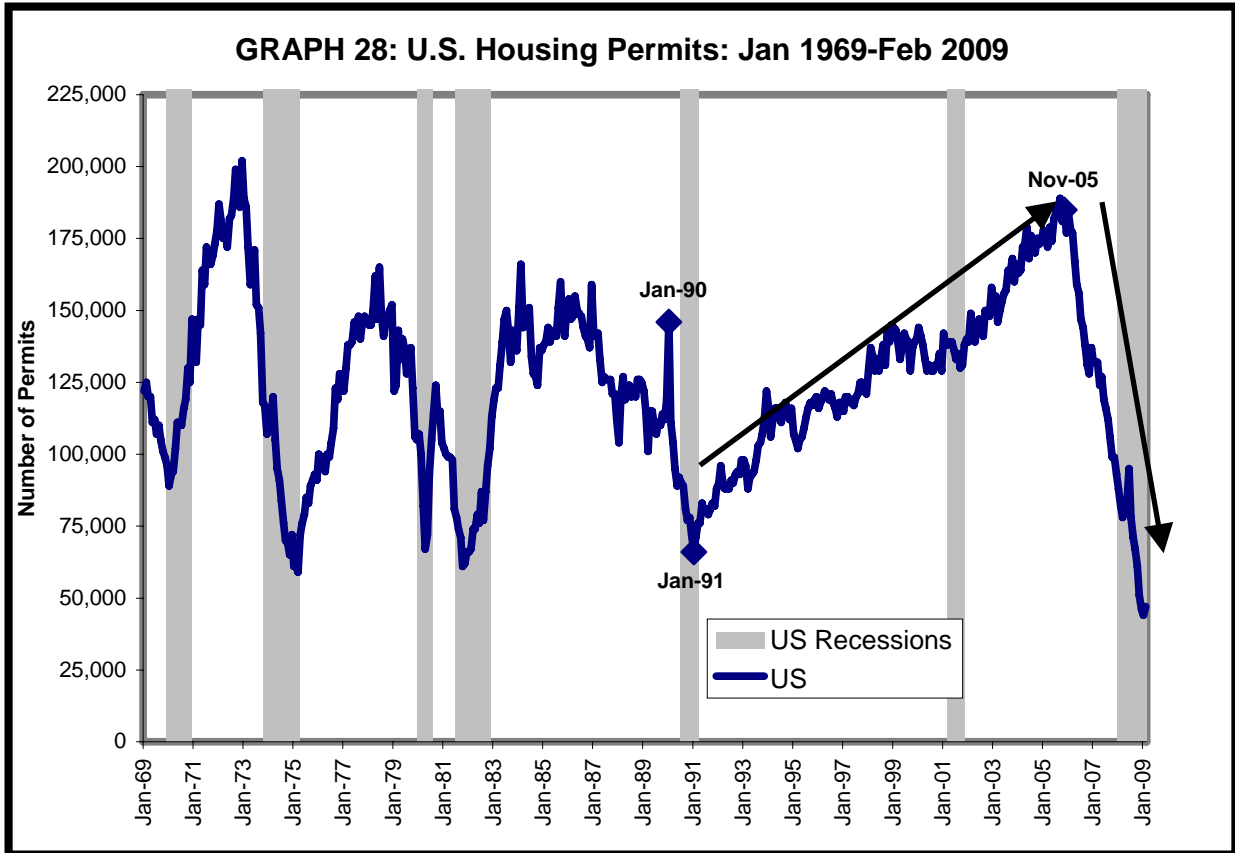
At least from the standpoint of observable, and regularly reported housing statistics, the year 2005 appears to be the turning point. That is, the year the housing bubble began to pop. It took six months or more for this turn to be reflected in actual housing prices, as reflected by the decline in the Case-Shiller Index in 2006Q1, and depicted in graph 30. This is consistent with studies that show that an Adaptive-Expectations model most closely approximates the behavior of housing prices over the cycle in metropolitan housing markets⁹⁹.

⁹⁸ Wheaton and DePasquale, *URBAN ECONOMICS AND REAL ESTATE MARKETS* (1996), Prentice-Hall: Englewood Cliffs, NJ, CH 9, Especially p. 227 and pp. 230-235

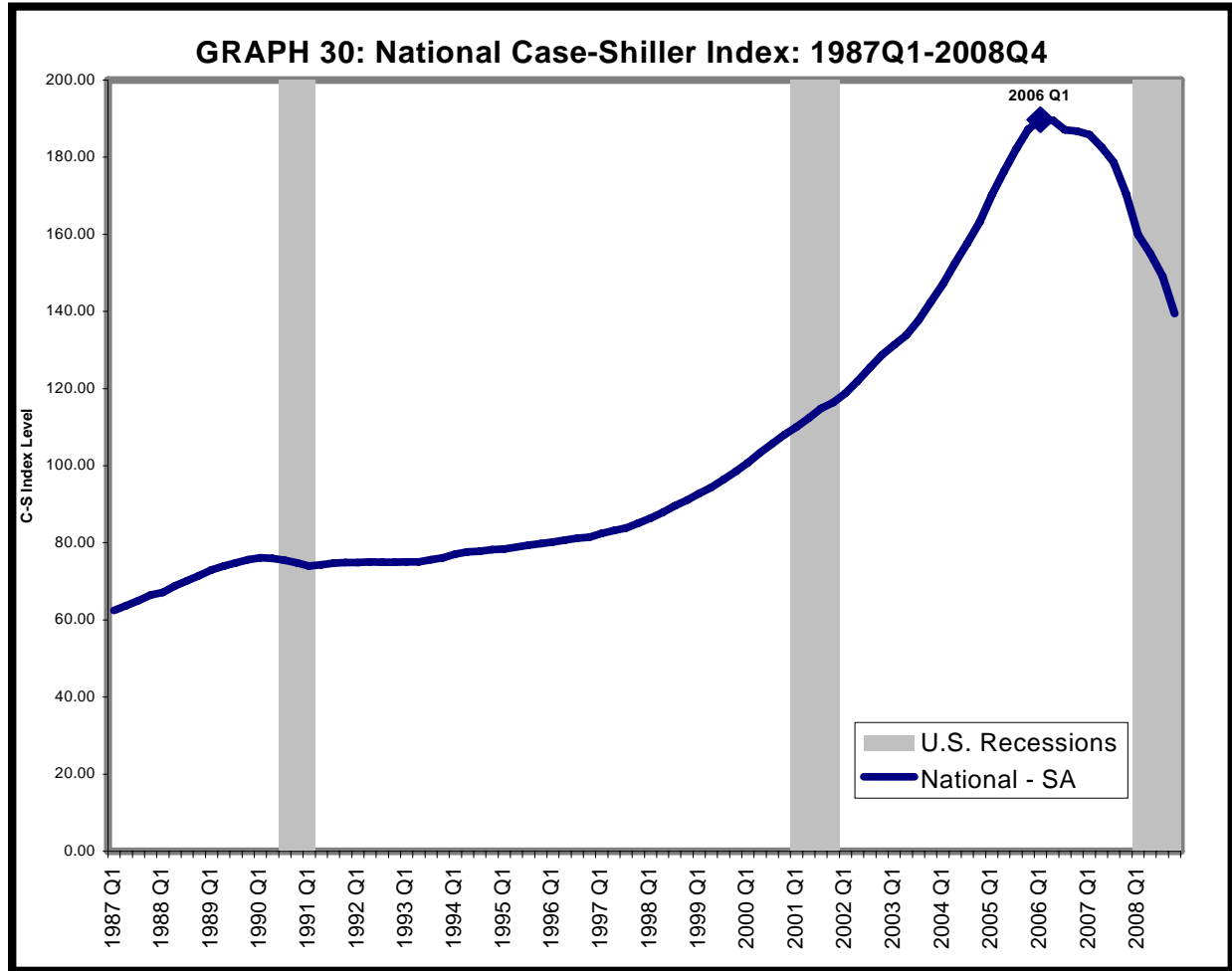
⁹⁹ *ibid* CH 10.



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SOURCE: Case-Shiller Home Price Indices, MACROMARKETS

A Detailed Look at Factors Inflating the Housing Bubble

This section explores in more detail the two critical factors that directly contributed to the inflation of the early 21st century housing bubble. First, the rapid expansion of credit is examined. There were two principal sources: the Federal Reserve’s expansion of credit and the sucking in of foreign capital by the U.S. economy to finance the trade deficit as the U.S. continued to consume more than it produced. The second was the rise of sub-prime and predatory lending fueled by the structured-finance securitization of mortgages. The securitization process severed the connection between the mortgage originator and the ultimate holder of the mortgage. Thus, the feedback signals that would have sent up red flags on defaults were short-circuited.

Rapid Credit Expansion

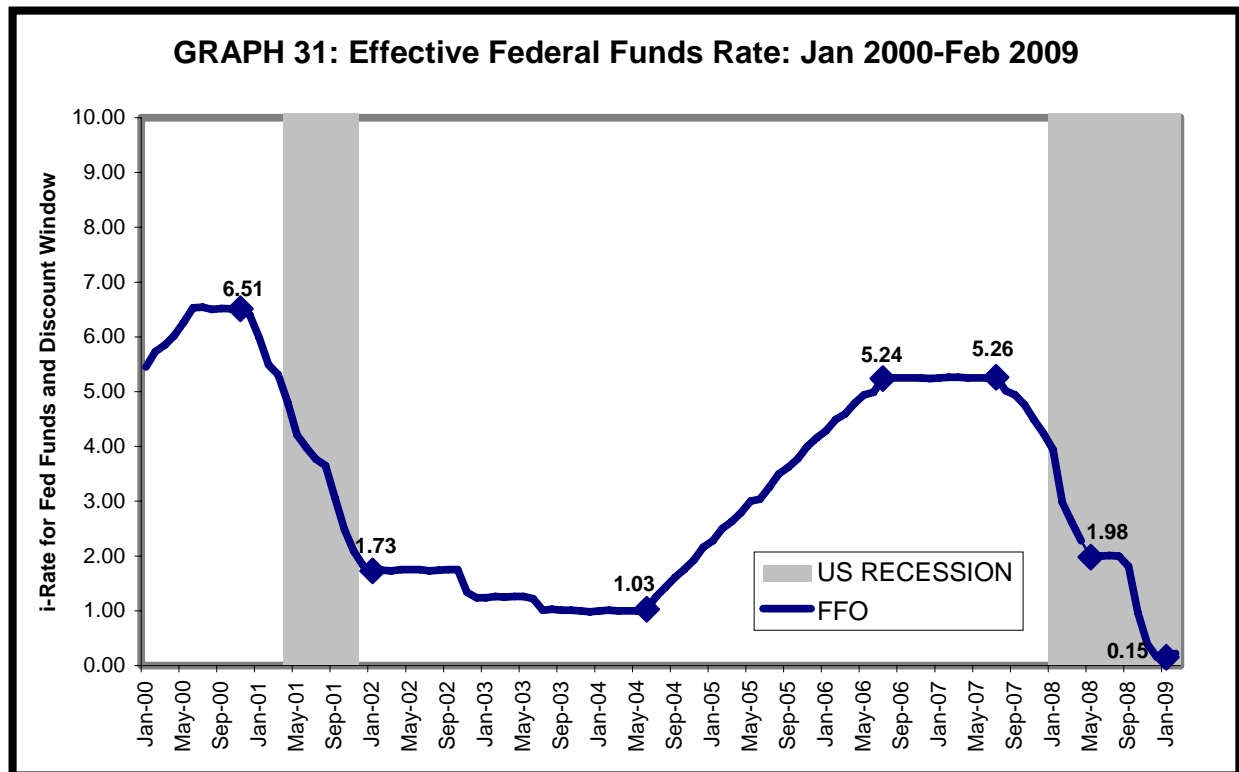
In response to the popping of the stock market/dot-com bubble in 2000, the resulting recession, and the September 11th attacks, the Federal Reserve was concerned about the specter of deflation. Under chairman Alan Greenspan, the Fed took aggressive moves to inject liquidity into the economy to prevent the onset of a self-reinforcing cycle of declining



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prices¹⁰⁰. This can be seen in graph 31, which tracks the effective Federal Funds Rate from January 2000 to February 2009. In February 2000, the rate stood at 6.51%, then the Fed began its aggressive rate reductions in light of the financial, economic, and national-security crises. By January 2002, the effective Federal Funds rate was down to 1.73%. And, many would argue that this was necessary to prevent the onset of deflation. But then, as the economy recovered, the Federal Funds rate continued to fall reaching a low of 1.03% in June 2004. At this point, the Fed reversed course and jacked up the Federal Funds rate, and by July 2006, the effective Federal Funds rate was up to 5.24%. This no doubt, inadvertently, played a role in popping the housing bubble. "Inadvertently", because Greenspan claimed that there was no way of knowing we were in a bubble, and even if we did, the Fed should not interfere with the market¹⁰¹.

The Fed, under Bernanke, then aggressively lowered rates again in the face of the unfolding financial crisis in 2007, and financial panic in 2008. Thus, there was plenty of liquidity to fuel the housing bubble. Of course, other pieces were also needed to generate the credit bubble, and they, in fact, fell into place. Since the U.S. has been consuming more than it is producing, trade deficits with, especially China and Japan, resulted in a massive in-flow of capital as China and Japan purchased U.S. Treasuries. This produced the long-run decline in the long-term rate as reflected by the U.S. 10-Year T-Bill in graph 29. Nevertheless, even though the trend in long-term rates was downward over the 1990's and 2000's, as depicted in graph 32, from 2003 to 2007, the rate on the U.S. 10-Year T-Bill increased from 3.33% in June 2003 to 5.00% by July 2007. This, along with the Fed's boosting short-term rates, resulted in increases in mortgage rates. Of course, with the on-set of financial crisis in 2007, long-rates fell (see graph 32).



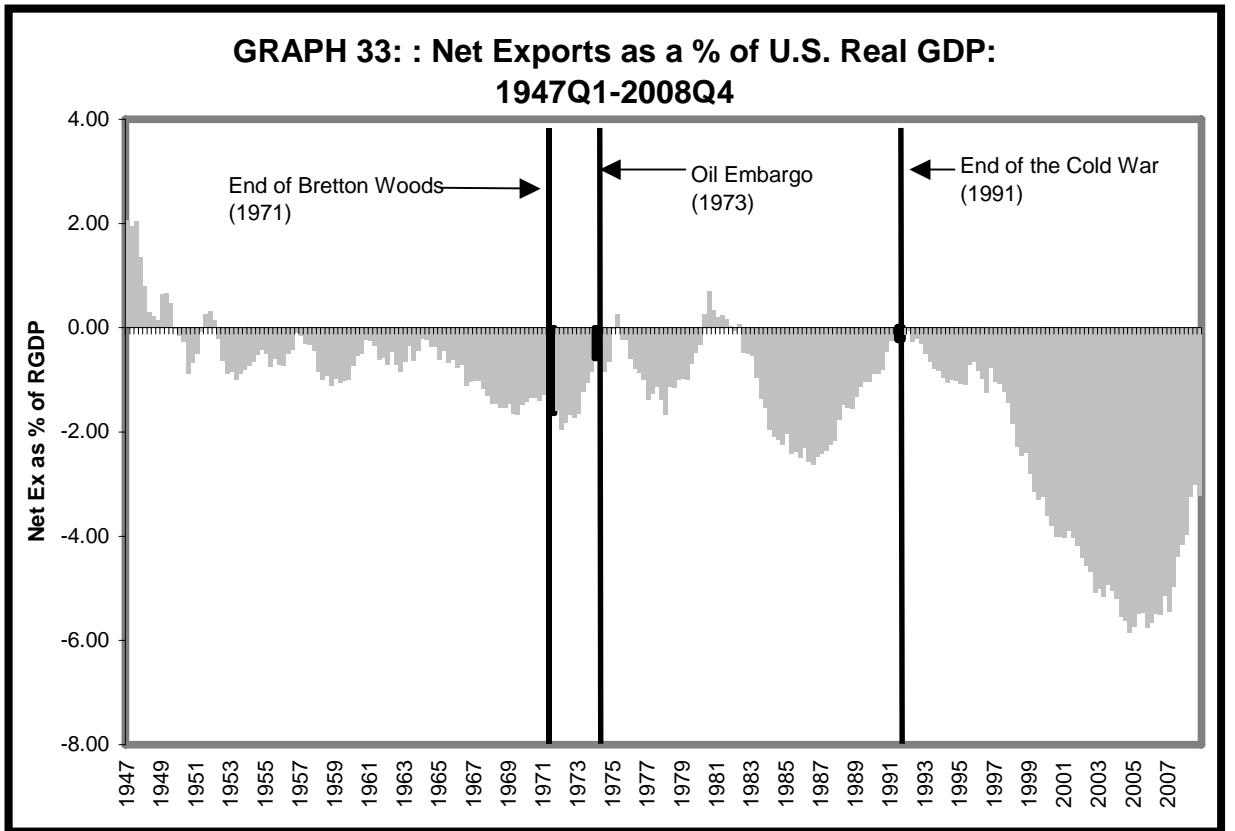
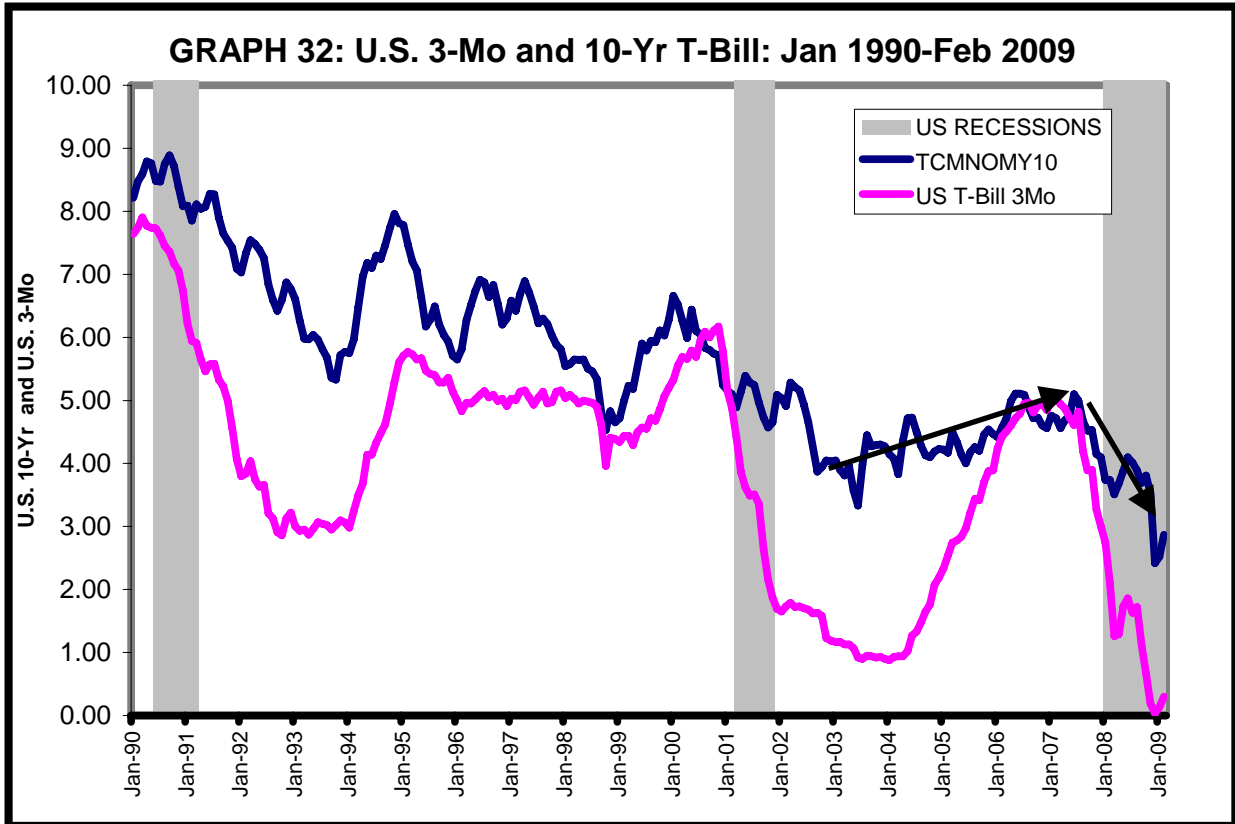
SOURCE: U.S. BEA and calculations by CTDOL-Research.

¹⁰⁰ See Fleckenstein, William A., GREENSPAN'S BUBBLES (2008), McGraw-Hill: New York, pp. 48 and 66 and Zandi, Mark, FINANCIAL SHOCK (2008), FT Press: Upper Saddle River, NJ, p. 64

¹⁰¹ *ibid* pp. 69-72



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The second source of credit expansion was the trade deficit. The U.S. trade deficit, as a percent of GDP is tracked in graph 33 from 1947Q1 to 2008Q4. After 1952, the U.S. began to run small, persistent trade deficits. They began to accelerate during the Vietnam War and peaked in 1969 and 1.67% of GDP. After subsiding somewhat, the trade deficit approached 2% of GDP after the collapse of the Bretton Woods System. It began growing again after the oil embargo, and then turned to surplus in the 1980 recession. With the advent of the twin deficits, the U.S. trade deficit grew to 2.64% of GDP by 1986. Once again, with the Plaza Accord and the onset of the 1990-91 recession, the deficit abated. Then, beginning with the recovery from the 1990-91 recession on, the trade deficit began blazing new territory as it surpassed 3% of GDP in 1999, and hit a modern record of 5.86% of GDP in the fourth quarter of 2004. The relative size of the U.S. trade deficit was now approaching that usually observed in developing countries. By the fourth quarter of 2008, the trade deficit had fallen to 3.23% of GDP—still high by historical standards. Over the entire period of analysis, as the trade sector became a larger component of U.S. GDP, imports grew faster than exports¹⁰². Thus, along with wealth effects and other factors, the trade deficit¹⁰³ contributed significantly to the decline in savings. This required that the U.S. suck in foreign capital to finance the deficit. However, unlike in the 19th century when foreign capital financed investment and the railroads, when the U.S. sucked in foreign capital to balance its current account in the late 20th/early 21st century trade deficits, it used those funds for current consumption. The implication is that the U.S. will have to reduce its standard of living to repay foreign creditors¹⁰⁴. Further, the U.S. credit/consumption binge has contributed to unsustainable imbalances in World trade and been one of the underlying reasons for the worldwide transmission of the U.S. financial crisis¹⁰⁵. And, as a source of the expansion of credit to fuel the consumption boom/bubble, it is also a contributor to the causes of the crisis itself. The U.S. budget deficit, through nations with a trade surplus purchasing U.S. Treasuries, has been a source for funding the trade deficit and expanding domestic credit¹⁰⁶.

The Rise of Sub-Prime and Predatory Lending

The rise of what is now called sub-prime lending began in the late 1970's with sub-prime mortgage originator, Ames Financial replacing its many smaller investor financing of its mortgage lending money with warehouse loans from Prudential Securities¹⁰⁷. This was one of the pieces that began the long and winding road that, in combination with other, later, developments, would lead to the current financial and economic crisis. What was immediately apparent from this proto-relationship between a non-bank mortgage originator and a Wall Street investment house was that it was very profitable. First, sub-prime mortgages carried much higher yields, and second, it allowed Wall Street to bypass FANNIE MAE and FREDDIE MAC¹⁰⁸. Immediately, others were anxious to jump in and get a piece of the action. Until the advent of the development of structured finance, and the wave of financial-sector deregulation, the sub-prime business, at first, grew slowly, and then picked up steam. And, the passing on of the risk (i.e., "take-the-money-and-run") was extremely attractive, especially with the development of the structured finance part of it.

¹⁰² Wen, Yi and Luke M Shimek, *The U.S. Consumption Boom and Trade Deficit* (October 2007) NATIONAL ECONOMIC TRENDS: Federal Reserve Bank of St. Louis: St. Louis

¹⁰³ Perelstein, Julia S, *Macroeconomic Imbalances in the United States and Their Impact on the International Financial System* (January 2009), The Levy Economics Institute: Annandale-on-Hudson, NY, p. 10

¹⁰⁴ Wen and Shimek (October 2007)

¹⁰⁵ Perelstein (January 2009), p. 11 and pp. 12-15

¹⁰⁶ *ibid*, pp. 11-12

¹⁰⁷ Muolo, Paul and Mathew Padilla, *CHAIN OF BLAME* (2008) John Wiley & Sons: New York, p. 39

¹⁰⁸ *ibid*, p. 40



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From the beginning, FANNIE MAE and FREDDIE MAC could not participate in the sub-prime mortgage market as they are forbidden by their charters from purchasing non-conforming mortgages. Thus, securitization of sub-prime mortgages took place in the private secondary mortgage market. These securities carried the dual risk of high rates of default due to the low credit quality of the borrowers, and high levels of default correlation as a result of pooling mortgages from similar geographic areas and vintages¹⁰⁹.

“Animal Spirits”: Ponzi Finance and Never-Ending House-Price Appreciation

Hyman Minsky identified three types of finance in his Financial Instability Hypothesis: (1.) Hedge Finance; (2.) Speculative Finance; and (3.) Ponzi Finance¹¹⁰. As recounted in the 2008 Outlook¹¹¹, with the expansion of credit, in general, due in part to the trade deficit, but also as the Federal Reserve responded to the 2001 recession and the 9/11 attacks, the consequent easier credit conditions stimulated borrowing. The feedback from these, and the other processes discussed above, resulted in an acceleration of housing prices after 2001. Once a psychology of “never-ending” home price appreciation became entrenched¹¹², many borrowers took out alternative mortgages with the belief that when it came time for them to reset, the appreciation of their home would allow them to refinance into a standard, conventional mortgage. For instance, if a borrower took out a zero-down loan, to buy a home, with a loan-to-value ratio (LVR) of 100%, but, the house appreciated in value by 20% over, say the next two years, then the LVR would decline to 80%. This would then make the borrower eligible for a 30-year conventional mortgage (assuming all other requirements were met). The catch, of course, is that housing prices had to keep increasing. Once prices stopped increasing, many borrowers were left with loans whose monthly payments were scheduled to reset at levels that were beyond their ability to pay. The broker system for originating mortgages also contributed significantly to the problem¹¹³. Banks would pay commissions to brokers based on the number of loans originated and the level of the interest rate paid by the borrower. Thus, many borrowers, who qualified for conventional mortgages, at lower rates, were put into more expensive, non-conventional loans, with looming re-sets they could not afford to meet. Many were caught off guard by the sudden turn in the residential real estate market. Many observers were focused on looking for a mismatch between the supply and demand for housing units, from the asset-market perspective. However, they were looking at the “wrong” market. Two markets that were sending up red flags were the residential property market, where the supply and demand for space (use), determines the rental rate for living space, and the Achilles Heel in housing-finance market.

In addition, for many, the rise in home prices, in conjunction with stagnant median incomes, caused them to be priced out of the market, even during a climate of easy credit

¹⁰⁹ Coval, et al, p. 16

¹¹⁰ Kindleburger, Charles P. and Robert Adiler, MANIAS, PANICS, AND CRASHES: A History of Financial Crises, 5th Ed. (2005), Wiley Investment Classics: New York and Minsky, Hyman, JOHN MAYNARD KEYNES (2008), McGraw-Hill: New York (First published in 1975) and STABILIZING AN UNSTABLE ECONOMY (1986), 20th Century Foundation: New York

¹¹¹ Kennedy, Daniel W., Volume I: U.S. Economy, CURRENT CONDITIONS AND OUTLOOK FOR THE U.S. AND CONNECTICUT ECONOMIES: 2007-2009 (January 2008, Revised May 2008) Office of Research, Connecticut Department of Labor: Wethersfield, CT., pp. 2-4

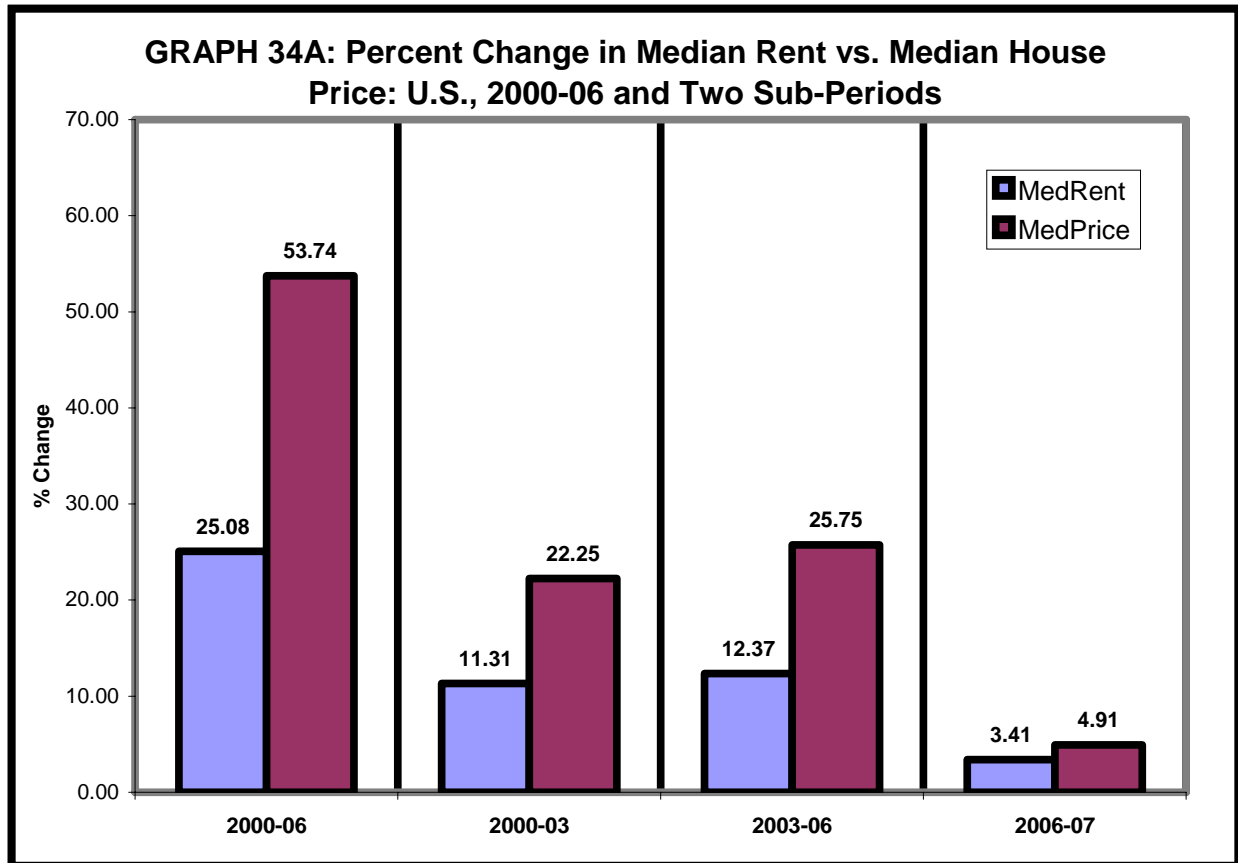
¹¹² This psychology, during a financial bubble, tends to spread from person-to-person like spreading disease during an epidemic or pandemic, resulting in social contagion [see Akelof, George A. and Robert J. Shiller, ANIMAL SPIRITS (2009), Princeton University Press: Princeton, New Jersey].

¹¹³ The independent mortgage brokers were another legacy of the S&L Crisis. When S&L's failed in large numbers in the late 1980's/early 1990's, thousands of mortgage brokers lost their jobs and subsequently set up shop as independent brokers. Independent mortgage brokers had been around since the 1940's, but they were small in number until the S&L Crisis (See Muolo Paul and Mathew Padilla, CHAIN OF BLAME (2008), John Wiley & Sons: New York, pp. 59-66).



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and lax lending standards. These, and other factors, resulted in the slowing of home sales and a deceleration in price increases. This becomes apparent when the focus is shifted to the growth in the median price of a home relative to the growth in median household income—especially over the most recent boom/bubble. This is depicted in graphs 34A and 34B, which reproduce and update graphs 1 and 2 in the 2008 Outlook¹¹⁴.



SOURCE: U.S. Decennial Census; 1970, 1980, 1990, 2000 and the American Community Survey; 2000, 2003, 2006, 2007 and CTDOL-Research calculations

As shown in graph 34A, over the 2000-06 period, and the two sub-periods depicted, the median house price was growing at twice the rate of the median rent. After the bubble began popping over the 2006-07 period (the last year of annual data in the American Community Survey) that ratio fell to 1.4.

What does this tell us? A house is both an asset and a durable good. One of the arguments to justify the surge in home prices was the increased immigration, in conjunction with demographics and lifestyle changes that were putting demand pressures on residential living space. However, if there were demand pressures on residential living space then that demand should have shown up as increases in the price for living space in residential property markets, whether for owner or renter occupied units. That is, rents should have been rising at a rate close to that of the median house price. There are two tightly connected markets here: the asset market (the supply and demand for residential structures) and property markets (the supply and demand for space to occupy)¹¹⁵. In general, an asset is

¹¹⁴ *ibid.* p. 3

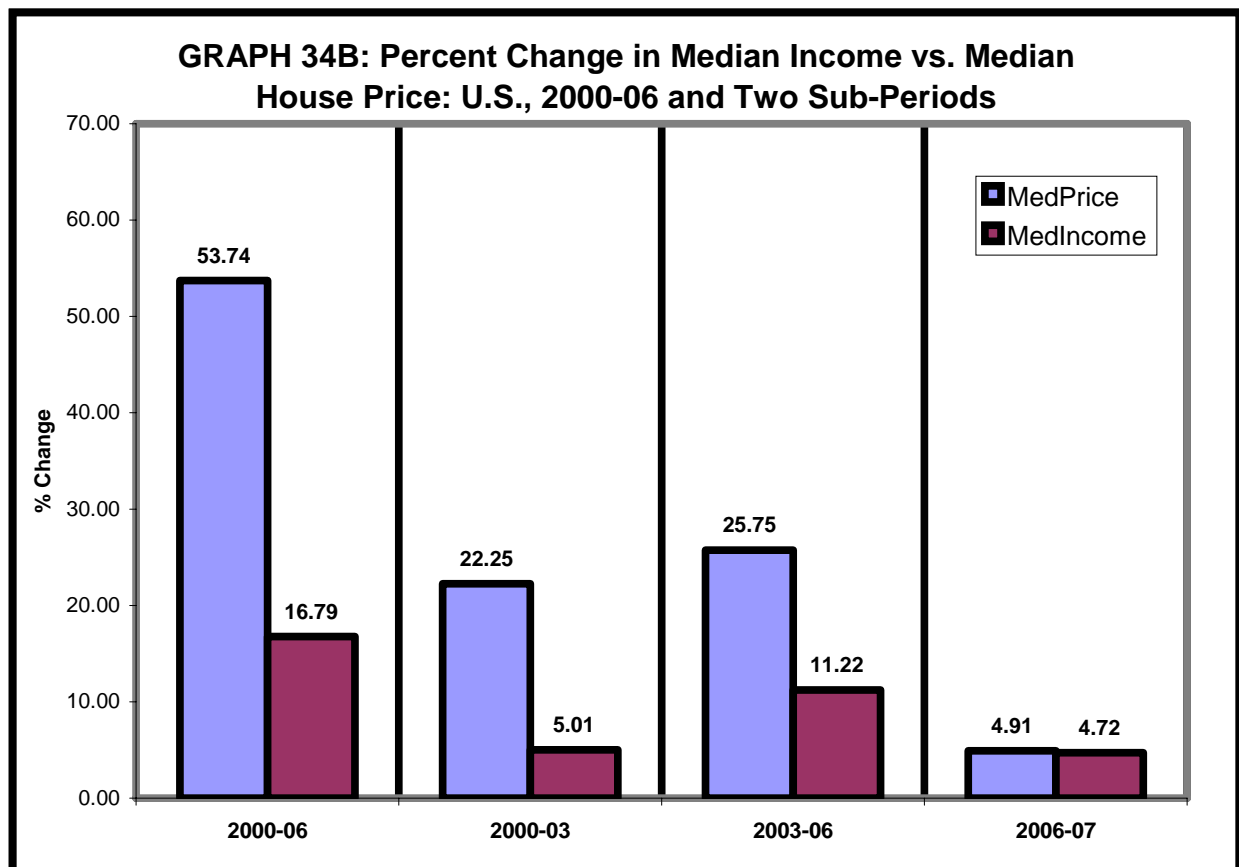
¹¹⁵ Wheaton and DiPasquali (1996), CH 1



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any natural or produced resource that earns income. An asset price, grounded in a fundamental valuation, should be closely connected to the capitalized value of its expected cash-flow stream over its life. To the extent that the demand for an asset is driven exclusively, by its expected near-future appreciation (i.e., *speculation*) rather than its earnings potential, then that may be an indication of an asset bubble. Further, as discussed below, with house prices growing rapidly, while median income growth was essentially flat, the specter of Minsky's Ponzi Finance environment loomed large.

Even more telling, in terms of the current sub-prime crisis, is the growth in the median house price relative to the growth in household median income. Graph 34B compares the growth in the U.S. median house price to the growth in U.S. median household income over the same selected periods in graph 34A. The median house price grew 3.2 times faster than household median income over the 2000-06 period, and 4.4 times faster over the 2000-03 segment. Compare that to the stagflation 1970's when the median house price grew 1.8 times faster than household income. That ratio was 0.80 between 1980 and 1990 and 1.35 between 1990 and 2000 (see Graph 2, p. 3, 2008 Outlook¹¹⁶)



Examining the data reveals that the level of permits turns down before the Yield Curve actually inverts, because inversion is preceded, by the flattening of the curve, which signals an impending period of disintermediation. Since banks earn returns on loaning long-term, and pay their depositors for loanable funds in short-term deposits, when the slope of the Yield Curve flattens, the interest margin closes up and credit tightens. Because it is no longer profitable for banks to loan money, this chokes off funds for construction loans and mortgage loans in the housing market. Thus, significant downturns in housing activity usu-

¹¹⁶ Kennedy, Daniel, W. (May 2008), p. 3



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ally presage a recession¹¹⁷. Some studies have found similar evidence when studying the behavior of housing starts. And, in fact, housing activity declined significantly in the 1920's before the onset of the Great Depression.

Ripple effects are transmitted through the economy as multiplier effects of homeownership (e.g., from purchasing furniture, hiring landscapers, home improvement, etc.) begin to work in reverse as housing market activity declines, resulting in reductions in employment, income, and output via direct, indirect, and induced effects from declining housing-related purchases by homeowners, or former homeowners. In addition, studies have found that the wealth-induced consumer spending tends to be stronger for increases in housing wealth than for non-housing wealth¹¹⁸. And, this seems to be true across developed countries. In addition, increases in housing wealth may also play a role in the decline in the savings rate¹¹⁹. In light of this evidence, the 2008 Outlook suggested that "Thus, there could be significant implications for consumer spending over the next year. Especially, since more than any post-World War II cycle, this recovery/expansion has depended heavily on consumer spending"¹²⁰. In fact, in the face of the unprecedented decline in household net worth during the current contraction (see graph 11 above, "Why This Crisis is so Severe"), consumer spending has steeply declined over the current recession.

The September 2005, turning point in U.S. housing permits was one of the important indicators signaling the beginning of the current housing bust, and subsequent sectoral recession, and its consequent financial contagion (see graph 4). This is close to the period when real housing prices peaked, based on the inflation-adjusted HPI, published by the OFHEO.

IV. MONETARY AND FISCAL POLICY RESPONSES

The policy responses to the current crisis can be looked at from the standpoint of three distinct approaches: (1.) The Federal Reserve acting as *Lender of Last Resort*; (2.) The U.S. Treasury acting as *Buyer of Last Resort*, and (3.) the Federal Government as *Spender of Last Resort*.

A. THE LENDER OF LAST RESORT: The Federal Reserve

The "warning shot" signaling impending financial crisis was fired in March 2007, when the stock market in Shanghai dropped by 1.6%¹²¹. But the actual beginning of the end of the early 21st century financial bubble was ushered in with the French Bank BNP Paribas on August 9, 2007. It halted redemptions from three of its funds because it could no longer calculate Net Asset Values (NAV) for its assets that were backed by U.S. sub-prime mortgage debt¹²². This caused other financial institutions, around the World, to question the value of a variety of collateral they had been accepting in their lending operations, and to wonder about their balance sheets¹²³. This resulted in a sudden hoarding of cash and the halting of

¹¹⁷ See Leamer, Edward E., HOUSING, HOUSING FINANCE, AND MONETARY POLICY (August 30 - September 1, 2007) Symposium-Federal Reserve Bank of Kansas City: Jackson Hole, WY and Kindleburger, Charles, THE WORLD IN DEPRESSION 1929-1939 (1986), University of California Press: Berkeley

¹¹⁸ Congressional Budget Office, HOUSING WEALTH AND CONSUMER SPENDING (January 2007), U.S. CBO: Washington

¹¹⁹ Klyuev, Vladimir and Paul Mills, *Is Housing Wealth an "ATM"? The Relationship Between Household Wealth, Home Equity Withdrawal, and Saving Rates* (2006), International Monetary Fund: Washington,

¹²⁰ Kennedy (2008) p. 4

¹²¹ Kurtenbach, Elaine, *Chinese shares slide amid investor doubt* (March 5, 2007), BOSTON.COM < http://www.boston.com/business/markets/articles/2007/03/05/shanghai_index_drops_16_percent/>

¹²² Cecchetti, Stephen G., Crisis and Responses: *The Federal Reserve in the Early Stages of the Financial Crisis* J. OF ECONOMIC PERSPECTIVES (Winter 2009) (23): 1 51-75, p. 57.

¹²³ *ibid*, p. 57



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inter-bank lending leading to the August 2007 liquidity crisis.

Graph 35 tracks the TED Spread. It was the difference between the three-month Eurodollar and the three-month “safe-haven” rate on U.S. Treasury Bills. This difference, or spread, measures the risk premium. Hence, the acronym “TED”: “T” Treasury, and “ED” for Euro-dollar. Recently, the Eurodollar rate was replaced by the London Inter-bank Offering Rate (LIBOR), which is published by the British Bankers Association (BBA), which is the rate that banks charge each other to borrow funds. The name “TED Spread” has been retained. Upper panel, graph 35, tracks the U.S. three month T-Bill and the LIBOR from 1995 to 2009. Lower panel tracks the spread between the two: the TED Spread.

After increasing from 0.33 in February 2007 to 0.75 in June after the drop in the Shanghai Stock Market, the TED spread jumped to 1.60 in September, and 1.98 in December, the highest since the beginning of the data series based on the LIBOR. This spread would be surpassed during the Panic of 2008 when the TED spread peaked at 3.39 in October 2008. The contraction in the supply of short-term funds caused overnight interest rates in Europe to shoot up. The European Central Bank (ECB) responded the same day by the largest short-term injection of liquidity in its nine year history; €94.8 billion (\$130 billion at the time). The expired Overnight Repurchase (Repos) Agreements were renewed the next day for €61.1 billion. The New York Fed’s trading desk followed by injecting \$24 billion and \$38 billion into the U.S. banking system¹²⁴.

In response to the financial crisis, which was sparked by the rise in sub-prime mortgage defaults and the subsequent collapse in housing values, Fed Chairman Ben Bernanke has responded in an aggressive and some say “creative” approach to staving off another Great Depression. Bernanke is a student of the Great Depression. The reigning view on the propagation of the Great Depression has been the Monetary Hypothesis as advocated by Milton Friedman and Anna Schwartz. However, another hypothesis, based along the lines of Fisher (1933)¹²⁵, Keynes (1936)¹²⁶, and Minsky (1975)¹²⁷, as well as, research done by Bernanke and others proposes the Debt Deflation/Credit Hypothesis. Fackler (1998)¹²⁸ finds support for the Debt-Deflation/Credit view of the propagation of the Great Depression. Friedman faults the Fed for contractionary monetary policy for propagating the Depression, and puts great emphasis on the collapse of the Bank of the United States. However, Wicker (1996)¹²⁹ finds that bank crises prior to 1933 were regional in nature. The truly “national” banking crisis was that of 1933, that involved the National banks, and carried a substantial portion of real estate loans on their balance sheets.

¹²⁴ *ibid*, p. 57

¹²⁵ Fisher, Irving, *Debt Deflation Theory of Depression* (1933) *ECONOMETRICA*: pp. 337-357

¹²⁶ Keynes, J.M., *THE GENERAL THEORY OF EMPLOYMENT MONEY AND INTEREST* (1964) First Harburger Edition: New York (First published in 1936)

¹²⁷ Minsky, Hyman, *JOHN MAYNARD KEYNES* (2008), McGraw-Hill: New York (First published in 1975)

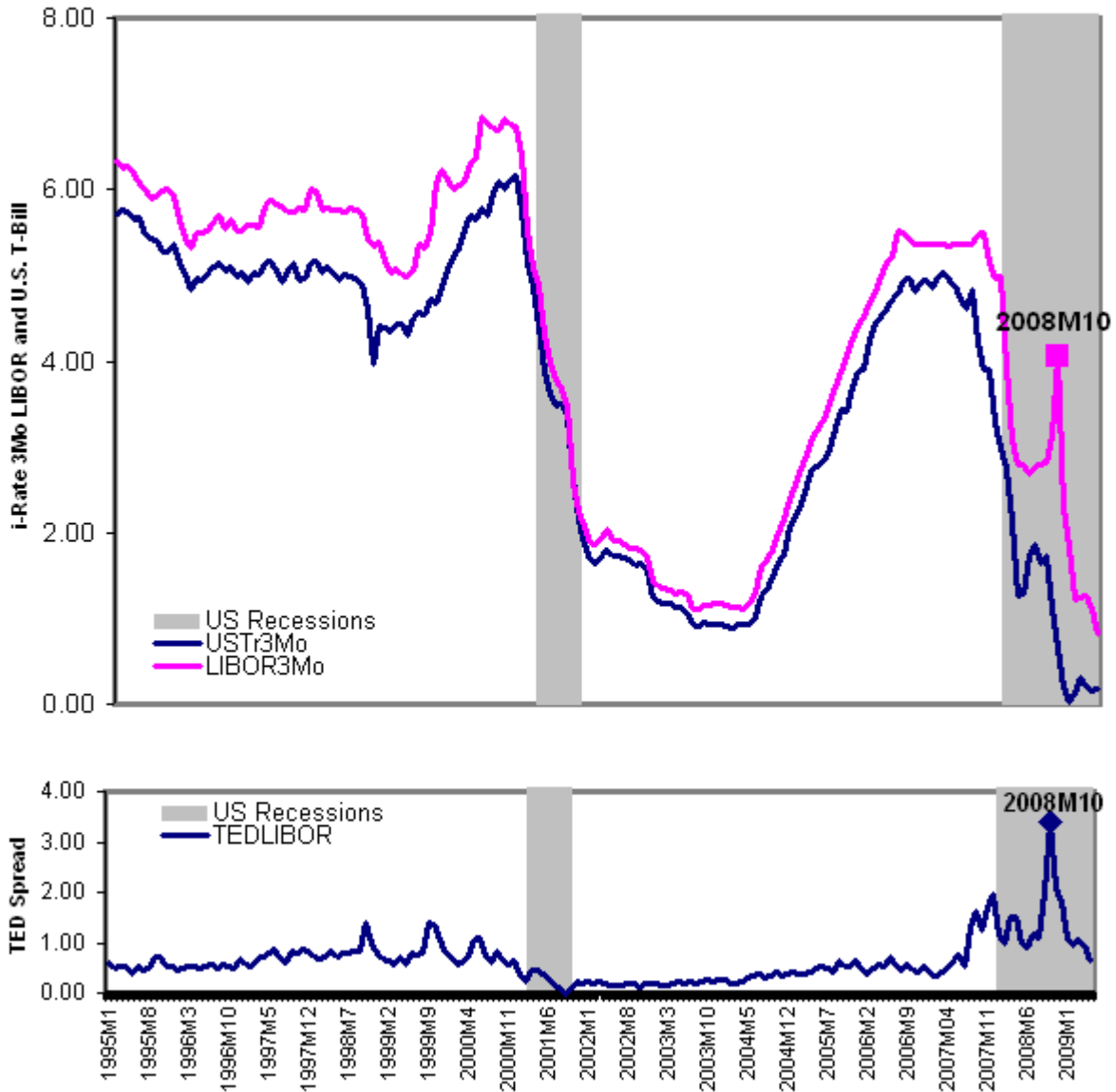
¹²⁸ Fackler, James S., *Propagation of The Great Depression: Theory and Evidence* in *THE ECONOMICS OF THE GREAT DEPRESSION* (1998) Upjohn Institute: Kalamazoo, MI

¹²⁹ Wicker, Elmus, *THE BANKING PANICS OF THE GREAT DEPRESSION* (1996) Cambridge University Press



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GRAPH 35: Three Month LIBOR and U.S. T-Bill Rates (Upper Panel), and Three Month TED Spread (Lower Panel)



SOURCE: U.S. Federal Reserve Board and the British Bankers Association.



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The monetary hypothesis focuses on the monetary base, or the liabilities side of the aggregate balance sheet for the banking sector, whereas, the credit hypothesis focuses on the asset side of the banking sector's aggregate balance sheet. This is illustrated by a simplified balance sheet of the U.S. Banking Sector in Table 1. (Capital = Assets – Liabilities, not shown)

<u>TABLE 1: AGGREGATE BALANCE SHEET: U.S. Banking Sector</u>	
<u>ASSETS</u>	<u>LIABILITIES</u>
Long-Term Securities	Deposits
Loans and Leases	Borrowings
Short-Term Securities	Net Due (Related Foreign Offices)
Interbank Loans	<u>Other Liabilities</u>
Cash Assets	
<u>Other Assets</u>	
TOTAL ASSETS	TOTAL LIABILITIES
SOURCE: Federal Reserve Board	

As introduced above, the monetary hypothesis focuses on the liabilities side of the balance sheet (depicted in Table 1), particularly *Deposits*. It basically assumes that if money is pumped in one end of the pipe it necessarily comes out the other (i.e., V , the velocity of money is constant). Conversely, the credit hypothesis focuses on the asset side of the balance sheet (Table 1). How are banks allocating, or reallocating their assets? If banks are reducing their loans to each other (*Interbank Loans*), or to consumers and businesses (*Loans and Leases*), or both, and increasing their purchases of U.S. Government and government agency securities (*Long-Term Securities*), and reserves, then any increase in deposits or injection of new reserves is not being translated into the creation of credit. That is, money injected into one end of the pipe (new deposits and increases in reserves) is not coming out the other end as credit creation (i.e., V is not constant). This result can be evidenced in the behavior of the three month U.S. T-Bill, upper panel of graph 35. After the onset of the Panic in the last quarter of 2008, the secondary market rate plunged from 4.82% in July to a low of 0.03% in December—credit dried up. The Fed's massive injections of money into the banking system, was not being translated into a corresponding growth in credit: V was approaching zero¹³⁰.

The focus now turns to Bernanke's aggressive moves to fulfill the Fed's role as *Lender-of-Last-Resort* in times of financial crisis.

<u>TABLE 2: FEDERAL RESERVE SYSTEM BALANCE SHEET</u>	
<u>ASSETS</u>	<u>LIABILITIES</u>
Securities	Federal Reserve Notes
Loans	Bank Reserves
Foreign Exchange Reserves	Foreign and U.S. Treasury Deposits
Gold	<u>Other Liabilities</u>
<u>Other Assets</u>	
TOTAL ASSETS	TOTAL LIABILITIES
SOURCE: Cecchetti (2009) and the Federal Reserve Board	

¹³⁰ Keynes referred to this situation as the *Liquidity Trap*. See reference in Footnote 124 above.



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The Fed affects the quantity of funds available in the financial system by manipulating the assets and liabilities it holds on its balance sheet. A simplified version of the Fed's balance sheet is depicted in table 2 (Capital = Assets – Liabilities, not shown). There are two major principals associated with the management of a central bank's balance sheet¹³¹:

1. Policymakers control its size.
2. The Fed controls the composition of its assets on its balance sheet.

To control the size and composition of its balance sheet, the Fed has three so-called quantitative tools available. The Fed uses these tools to conduct monetary policy. These three tools are:

1. Changes in the Reserve Requirements
2. Open Market Operations
3. Discount Window Lending (Primary Lending Facility).

The Fed's aggressive interventions to stave off depression in this crisis have taken the following forms:

1. *Term Auction Facility (TAF)*
2. *Revival of Operation Twist*
3. *Term Asset-Backed Securities Lending Facility (TALF)*
4. *Primary Dealer Credit Facility (PDCF)*

Term Auction Facility (TAF)— During the August 2007 Credit/Liquidity Crisis, it was clear that the changes in the discount window lending policy were not working. The TED spread continued to widen (see graph 18). In their search to find a way to inject funds into the financial system, they began to reconsider some proposals discussed in 2001. With the Federal Budget in surplus in 1999 and 2000, the need to issue U.S. Securities to finance deficit spending was no longer required to the extent it had been. This would remove that tool available to the Fed for conducting monetary policy. One suggestion was to supply funds through an auction mechanism. The first hurdle to the TAF was to remove the stigma attached to borrowing from the discount window. By allowing anonymous borrowing, banks did not have to be marked as weak. This was accomplished by choosing a uniform, or single-price auction where no one bidder can be allocated more than 10% of the total amount being auctioned off. In addition, the Fed reduced the amount of securities by an equal amount of its lending, leaving the size of the balance sheet unchanged, but redistributing the composition of assets. Though it only changed the composition, and not the size, of the Fed's balance sheet, it still seemed to work because the anonymity allowed those banks most in need of the funds to come forward. This allowed a "surgical" injection of funds targeted to the points of most critical need¹³².

Revival of Operation Twist— In the 1960's, during the Kennedy Administration, the Fed attempted to flatten out the yield curve by selling short-term securities (raising short-term rates) and buying long-term securities (lowering long-term rates). It was widely believed that the policy did not work because it only changed the composition of the Fed's balance sheet, and not its size. However, a variation of Operation Twist was implemented by the Fed, in March 2009, where it sought to bring down long-rates, while keeping short-term rates low, to increase the demand for mortgage lending. It appears to have worked, as there was a decline in mortgage rates and demand did pick up somewhat¹³³.

¹³¹ Cecchetti (2009), p. 55

¹³² Cecchetti (2009), p. 66

¹³³ *ibid*, p. 67



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Term Asset-Backed Securities Lending Facility (TALF)— If a primary dealer borrows securities and agrees to buy them back on a certain date, but cannot fulfill its obligation, for a small fee, the Fed will loan them the funds to repurchase the securities. The TALF takes this existing lending program and transforms it in three ways¹³⁴. While the traditional program lends overnight, TAF provides securities for 28 days. The TALF dramatically broadens the collateral accepted. Like the TAF, the TALF changes the composition of the Fed's asset-holdings without changing the size of the balance sheet. Essentially, the Fed is selling Treasury holdings and buying RMBS's. Like other changes in asset composition, the TALF is aimed at reducing the relative price of various securities. The TAF was aimed at reducing the gap between term and overnight inter-bank lending rates. Specifically, the TALF is aimed at the premium paid to hold U.S. securities relative to RMBS's.

Primary Dealer Credit Facility (PDCF)— On March 16, 2008, the Federal Reserve used its Article 13(3) powers for a second time in three days to create the *Primary Dealer Credit Facility (PDCF)*. The 19 dealers authorized to participate in daily open-market operations and the Treasury, were at the time, investment banks and brokers, not commercial banks. Thus, they did not have access to the discount window or the TAF. The PDCF allowed investment banks and brokers to obtain what were essentially discount-window loans just like commercial banks¹³⁵. Further, they could pledge a broad set of collateral to obtain loans. The PDCF was immediately popular. Lending directly to the primary dealers served two objectives:

1. It ensured short-term funding for investment banks. The Bear Stearns experience made the Fed realize that the "lender-of-last-resort" safety-net needed to be extended from commercial banks to investment banks.
2. The PDCF sought to reduce interest-rate spreads between the asset-backed securities that can be used for collateral in PDCF loans, and U.S. Treasuries, thereby improving the ability of investors to buy and sell asset-back securities in financial markets.

B. THE BUYER OF LAST RESORT: The U.S. Treasury

Troubled Asset Relief Program— The *Emergency Economic Stabilization Act of 2008* (EESA or the Act) was enacted on October 3, 2008. This legislation was a reaction to the turmoil in the U.S. economy arising from the sub-prime mortgage crisis. This crisis erupted when the market for securities that were based on "sub-prime" mortgages collapsed after these mortgages began defaulting at unexpectedly high rates. Many financial institutions in the United States and abroad had purchased large amounts of these securities on the assumption that they were relatively low-risk investments. When the market for the securities collapsed, the institutions holding these mortgage-backed securities found themselves with billions of dollars worth of now worthless assets. This caused a global domino effect of institution failures (or near-failures) and government rescues on a case-by-case basis. It also caused banks to stop lending money generally¹³⁶.

After initially defeating it, on the second try, Congress passed the EESA with the goal of stabilizing the economy by thawing the frozen credit markets, both for consumer lending

¹³⁴ *ibid*, p. 68

¹³⁵ Since then, the remaining investment banks filed with regulators to form bank holding companies. Their petitions were granted. This essentially, ended investment banking as a separate stand-alone industry, save a few boutique firms.

¹³⁶ Nothwehr, Erin, *Emergency Economic Stabilization Act of 2008* (December 2008) The University of Iowa Center for International Finance and Development: Aims, IW.



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and for lending between banks. It also hoped to avoid further failures of “too-big-to-fail” financial institutions and to restore investor confidence in the markets by creating a market for these institutions’ so-called “toxic” sub-prime mortgage-related assets. The legislation first established the Troubled Asset Relief Program (TARP) and spelled out how it will function in general terms. It also addressed concerns about the use of taxpayer money by requiring companies that participate in the program to issue equity warrants to the government, so that the government will share in any benefit the institutions accrue as a result of the bailout. Additionally, the recoupment provision was designed to protect against abuse of taxpayer money by permitting the government to recoup from the financial industry any losses TARP suffers after five years of operation. Legislators also included restrictions on executive compensation for those institutions that participate. The Act includes additional measures for economic stabilization, such as (1) the provision giving the Federal Reserve (the Fed) the right to pay interest on bank reserves deposited with it and (2) the guarantee program to allow companies to insure their assets. Finally, the Act addressed “Main Street” economic concerns by increasing the Federal Deposit Insurance Corporation’s (FDIC) consumer bank deposit insurance limit to \$250,000. It also expanded eligibility for the HOPE Act and requires the Department of the Treasury (Treasury) to make an effort to modify the terms of “troubled” mortgages so as to reduce foreclosures.

According to the U.S. Treasury’s Website:

On October 14, 2008, the U.S. government announced a series of initiatives to strengthen market stability, improve the strength of financial institutions, and enhance market liquidity. Treasury announced a voluntary Capital Purchase Program to encourage U.S. financial institutions to build capital to increase the flow of financing to U.S. businesses and consumers and to support the U.S. economy. Under the program, Treasury will purchase up to \$250 billion of senior preferred shares on standardized terms.

Treasury’s Capital Purchase Program and the FDIC’s Temporary Liquidity Guarantee Program complement one another. Through these programs, fresh capital and liquidity are available to foster new lending in our nation’s communities¹³⁷.

On February 6, 2009, the Special Inspector General for the Troubled Asset Relief Program released his report on the state of the TARP program. Six major points are summarized¹³⁸:

1. On groundwork laid by the Special Inspector General in anticipation of fraud: [The Special Inspector General for TARP] is already working closely with FBI’s Washington Field Office on joint projects and has met with representatives of the New York Field Office as well.
2. *On the black hole the government created when it did not initially establish reporting and monitoring systems:* TARP agreements generally do not require recipients to report or to track internally the use of TARP funds.
3. *Some of the definitions provided throughout the report, in sidebars and in a glossary to make is easier for laypeople to read:*
 - Clawback: Recovery by the company of bonuses or incentive compen-

¹³⁷ U.S. Department of the Treasury Website < <http://www.financialstability.gov/> > Accessed on March 30, 2009

¹³⁸ Pickert, Kate, *TARP Oversight Report*, TIME (Feb. 06, 2009) <<http://www.time.com/time/nation/article/0,8599,1877511,00.html>> Accessed on March 29, 2009



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- sation paid to a senior executive
 - Golden Parachute: Compensation to (or for the benefit of) a Senior Executive Officer made upon severance from employment that exceeds specified thresholds. Under EESA [The *Emergency Economic Stabilization Act*], such compensation is limited to three times the executive's annual base salary
 - Haircut: Difference in the value of the collateral and the value of the loan (the loan value is *less* than the collateral value).
4. On *funds disbursed to banks to motivate them to extend credit to borrowers and communities*: There was no requirement for recipients to monitor their use of the funds, and it has been widely reported that banks have been "hoarding" the money, acquiring other banks, and paying off debt. Treasury has recently begun to establish periodic reporting guidelines for certain TARP recipients.
 5. On *how much the government will spend administering TARP* (it had already spent nearly \$4 million in administrative costs by the end of 2008)
 6. On *a particularly troubling TARP program called Term Asset-Backed Loan Facility that lets companies borrow money using asset-backed securities as collateral*: Treasury should consider requiring that some baseline fraud prevention standards be imposed (such as minimum underwriting standards or some other combination of provisions that will minimize the risk of fraud).

TARP and the Re-Structuring of the U.S. Auto-Industry— On November 2008, the U.S. Congress failed to pass a bill, which would have provided \$25 billion in aid to two of the remaining three U.S. carmakers, GM and Chrysler¹³⁹. Then, on December 19th, President Bush announced that he would authorize a \$13.4 billion bailout of GM and Chrysler using TARP funds¹⁴⁰. To help stabilize the U.S. automotive industry and avoid disruptions posing systemic risks to the nation's economy, the U.S. Treasury established the *Auto Industry Financing Program* (AIFP), which provided Chrysler with \$4 billion and GM with \$13.4 billion in loans. In addition, Ford requested a \$9 billion line of credit as a cushion against further industry downturns, but indicated that they probably would not use it¹⁴¹. These loans were intended to allow the automakers to continue operating through the first quarter of 2009, while working out details of their plans to achieve and sustain long-term viability, recognizing that after that point, additional loans or other steps would be needed. Initially, Chrysler and GM used the loans to cover routine operating costs¹⁴².

As a condition of the December loan agreements, Chrysler and GM were required to submit restructuring plans to the U.S. Treasury in February that show how the automakers would achieve and sustain long-term viability, and how they would repay the loans, as well as comply with federal fuel economy requirements, develop a product mix and cost structure that are competitive in the U.S. marketplace, and become viable¹⁴³. After submitting their plans on February 17, 2009, GM requested an additional \$5 billion and Chrysler an additional \$16.6 billion in federal financial assistance¹⁴⁴.

¹³⁹ Lightman, David, *Congress 'bails' on helping the auto industry. Now what?* (Nov. 20, 2008), McClatchy Newspapers < <http://www.mcclatchydc.com/227/story/56227.html> > Accessed on June 25, 2009

¹⁴⁰ Sternberg, Laura, *Summary of President Bush's Bailout Plan for Auto Companies* (Dec 22 2008), ABOUT.COM: Detroit < http://detroit.about.com/od/bigthreebailout/a/auto_bailout.htm > Accessed on June 25, 2009

¹⁴¹ Report to Congressional Committees, AUTO INDUSTRY: Summary of Government Efforts and Automakers' Restructuring to Date (April 2009), U.S. Government Accountability Office: Washington, p. 11

¹⁴² *ibid*, p. 11

¹⁴³ *ibid* pp. 11-12

¹⁴⁴ *ibid*, p. 12



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On February 20, 2009, President Obama announced that he was establishing the *Presidential Task Force on the Auto Industry* to advise him and the Secretary of the Treasury on issues impacting the financial health of the industry. Under the terms of the loan agreements, the Secretary of the Treasury will make decisions on all matters involving financial assistance to the automakers, including future decisions about providing additional assistance to Chrysler or GM. On March 30, 2009, the President announced that the restructuring plans submitted by Chrysler and GM were not a credible path to viability and did not justify new investment of taxpayer dollars. The President outlined a series of actions that each company must undertake to receive additional federal assistance¹⁴⁵:

Chrysler: According to the Task Force, Chrysler was not viable as a stand-alone company and must find a partner to achieve long-term viability.

GM: The Task Force concluded that GM could be a viable company if it developed a more aggressive restructuring plan and implementation strategy.

On May 1, 2009, President Barack Obama announced that Chrysler would enter a surgical bankruptcy that would let the storied American carmaker shed debts that it could not negotiate away. In addition to the \$4 billion in loans already provided, the Federal government would extend Chrysler up to \$8 billion more to carry the company through bankruptcy. The administration said it did not expect significant white- or blue-collar job cuts. The government provided about \$3 billion in debtor-in-possession financing so the company can continue to operate normally. Once Chrysler restructures, the company would receive \$4.5 billion in financing to restart its operations. Chrysler has already received \$4.5 billion from the government. The Canadian government could give Chrysler an additional \$2.6 billion. When Chrysler emerges from bankruptcy, the United Auto Workers union will own 55%, the U.S. government will own 8% and the Canadian and Ontario governments will share a 2% stake. Fiat, which the Obama administration hoped could jump start Chrysler with its fuel-efficient and lower emission technology, would initially get 20% of the company but could end up the majority stakeholder¹⁴⁶.

Then, on June 1st, General Motors filed for Chapter 11 bankruptcy protection in an attempt to strip it of debts, other obligations and unsalvageable parts and then emerge from the bankruptcy court stronger and viable. Particularly, a deal with the United Auto Workers allows GM to forgo a \$10 billion payment to a union healthcare fund in return for a 17.5% stake in the new GM. Aggrieved bondholders are likely to emerge with 10% of the new firm for loans totaling \$27 billion. The UAW and GM's other likely new owners—the U.S. and Canadian governments with 72.5%—have said that they want to sell out as soon as possible after GM emerges from bankruptcy. But, that will mean that any divestiture would have to recoup the \$50 billion so far sunk into GM.

Cuts will take some of the overcapacity out of the North American car market. However, GM still must compete with Asian manufacturers that make cheap and reliable cars. Chrysler, set to emerge from bankruptcy with Fiat as a partner and Ford, still loaded with debt and other liabilities, will also provide car buyers with more choices. GM now makes some decent vehicles but its reputation is still suffering from the decades when it made bad cars. If GM cannot revive its good name, and if the cycle of falling market share and piecemeal readjustment begins again then GM, in any form, looks doomed¹⁴⁷.

¹⁴⁵ *ibid* pp. 12-13

¹⁴⁶ McClatchy Newspapers, *Chrysler going into bankruptcy* (May. 01, 2009), THE STATE: South Carolina's Home Page < <http://www.thestate.com/business/story/770163.html?RSS=business> > Accessed on June 25, 2009

¹⁴⁷ *GM declares bankruptcy, at last. The challenge is to save something useful from the wreckage* (June 1, 2009) ECONOMIST.COM < http://www.economist.com/businessfinance/displayStory.cfm?story_id=13764993&source=features_box1 > Accessed June 25, 2009



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In the wake of the GM and Chrysler bankruptcies, thousands of car dealerships were closed throughout the U.S. This was on top of the dealerships closed as a result of the financial crisis. Nevertheless, the hope is that the U.S. auto industry restructuring will prevent the loss of many more jobs including the 240,000 hourly and salaried workers that GM, Ford, and Chrysler employed in the United States (as of the end of 2007), and the more than 500,000 workers are employed by companies in the United States that manufacture parts and components used by automakers—both domestic automakers and transplants¹⁴⁸. These losses would represent a significant loss in the skill base/human capital to the U.S. economy, as the expertise would be lost.

Public-Private Investment Partnership

On March 23, 2009, the U.S. Treasury, in conjunction with the Federal Deposit Insurance Corporation (FDIC) and the Federal Reserve, announced the Public-Private Investment Partnership (PPIP) program. This program was developed to address the problem of Legacy Assets. These assets include both, real estate loans held directly on the books of banks (“legacy loans”) and securities backed by loan portfolios (“legacy securities”). These assets create uncertainty around the balance sheets of these financial institutions, compromising their ability to raise capital and their willingness to increase lending¹⁴⁹.

Legacy *Assets* are the toxic leftovers from the bubble years that are clogging up bank balance sheets, creating uncertainty about the solvency of financial institutions and deterring new lending¹⁵⁰.

The Treasury announced that it will be using \$75 to \$100 billion in TARP capital and capital from private investors in the Public-Private Investment Program (PPIP), which is expected to generate \$500 billion in purchasing power to buy legacy assets, with the potential to expand to \$1 trillion over time. The PPIP Program is designed around three basic principles:

1. *Maximizing the Impact of Each Taxpayer Dollar*, by using government financing in partnership with the FDIC and Federal Reserve and co-investment with private-sector investors, substantial purchasing power will be created, thereby making the most of taxpayer resources.
2. *Shared Risk and Profits With Private Sector Participants* by insuring that, through the PPIP Program, private-sector participants invest alongside the taxpayer, with the private sector investors standing to lose their entire investment in a downside scenario and the taxpayer sharing in profitable returns.
3. *Private Sector Price Discovery* to reduce the likelihood that the government will overpay for these assets, by private sector investors competing with one another to establish the price of the loans and securities purchased under the program¹⁵¹.

The two key elements of the plan are:

Legacy Loans Program: a program to combine an FDIC guarantee of debt financ-

¹⁴⁸ Report to Congressional Committees, AUTO INDUSTRY (April 2009), p. 6

¹⁴⁹ U.S. Treasury, FACT SHEET: PUBLIC-PRIVATE INVESTMENT PROGRAM (March 23, 2009).

¹⁵⁰ Guha, Krishna, *Geithner tackles 'legacy assets'*, FT.Com (March 23, 2009) < http://www.ft.com/cms/s/0/41edecbc-17da-11de-8c9d-0000779fd2ac.html?nclick_check=1 > Accessed on June 3, 2009.

¹⁵¹ U.S. Treasury (March 23, 2009).



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ing with equity capital from the private sector and the Treasury to support the purchase of troubled loans from insured depository institutions.

Legacy Securities Program: a program to combine financing from the Federal Reserve and Treasury through the Term Asset-Backed Securities Loan Facility ("TALF") with equity capital from the private sector and the Treasury to address the problem of troubled securities¹⁵².

The equity co-investment component of these programs is designed to align public and private investor interests in order to maximize the long-run value for U.S. taxpayers. TARP funds will be invested alongside private capital on similar terms, which should reduce the likelihood that taxpayers will be overpaying. At the same time, taxpayers will have the opportunity to participate in the asset's upside along with private investors¹⁵³. Together, these two programs are intended to restart markets for troubled assets, begin the process of repairing balance sheets, and eventually lead to an increase lending activity compared to levels that would have occurred without the PPIP Program.

C. THE SPENDER OF LAST RESORT: Activist Fiscal Policy

With the onset of the most serious financial and economic crisis since the Great Depression, there has been a revival of the economics of John Maynard Keynes. Many economists have contended that the policy tools available to the Fed even given Bernanke's bold response, is not enough to avoid another depression. Economists such as Robert Solow, George Akerlof, and Paul Krugman¹⁵⁴, as well as Martin Feldstien, President Reagan's Chairman of the Council of Economic Advisors. Krugman draws three lessons from the current crisis¹⁵⁵:

- 70 years of conventional wisdom since the Great Depression has been wrong: The Fed can't head off depressions with easy money. Thus, Milton Friedman's argument that the Fed's preventing a sharp contraction in the money supply could have prevented Great Depression I is wrong, and therefore relying on monetary will not prevent Great Depression II.
- The only chance to avoid Great Depression II is massive government spending (i.e., Keynesian fiscal stimulus).
- Finally, the government is about to blow it. Republican posturing suggests President Obama will be forced to cut back or delay, or both, his spending plans in the name of "prudence" and "conservatism." This will serve to water down the House version of the bill.

In other words, Krugman, and others, feel that the final compromise bill signed into law is too watered down to prevent us from going over the edge. If they are right, then the *American Recovery and Reinvestment Act of 2009* is too light on public works and other direct public sector spending and too heavy on tax cuts. Further, aid to the states would appear critical to avoid canceling out Federal stimulus. States are constitutionally required to balance their budgets, and must therefore raise taxes, cut spending, or both in order to avoid operating deficits. These policies to balance their budgets result in economic contrac-

¹⁵² U.S. Treasury, *Public-Private Investment Program*, WHITE PAPER (March 23, 2009), p. 2.

¹⁵³ *ibid*, p. 2.

¹⁵⁴ Coy, Peter, *What Good are Economists Anyway?* BUSSINESSWEEK (April 27, 2009), McGraw-Hill: New York

¹⁵⁵ Krugman, Paul, *Fighting Off Depression* NEW YORK TIMES (January 4, 2009) http://www.nytimes.com/2009/01/05/opinion/05krugman.html?_r=2 Accessed March 30, 2009



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tion. Federal money to the states to minimize “anti-stimulus”, Draconian cuts are essential if the multiplier effects of Federal, direct spending is not to be cancelled out.

In its January 27, 2009 assessment of the economy, its near-term outlook, and effective policy responses the Congressional Budget Office (CBO) summarized the near-term outlook as:

The forecast also assumes that the Federal Reserve will act to address any adverse developments that threaten the liquidity or stability of the financial system.

Under those assumptions, CBO anticipates that the current recession, which started in December 2007, will last until the second half of 2009, making it the longest recession since World War II. (The 1973–1974 and 1981–1982 recessions both lasted 16 months; if the current recession continues beyond midyear, it will have lasted at least 19 months.) It could also be the deepest recession during the postwar period in terms of the difference between actual and potential output. By CBO’s estimates, economic output over the next two years will average 6.8 percent below its potential. The unemployment rate will increase to 9.2 percent by early 2010, up from a low of 4.4 percent at the end of 2006. The peak figure would still be below the 10.8 percent unemployment rate seen near the end of the 1981–1982 recession, because the unemployment rate was much lower at the start of this recession than it was before the downturn in the early 1980s. According to CBO’s forecast, real gross domestic product (GDP) in 2009 will average 2.2 percent below its level in 2008 and in 2010 will average only 1.5 percent above the 2009 level¹⁵⁶.

The CBO then offers suggested criteria for an effective fiscal stimulus¹⁵⁷:

- **Timing.** The economic effects of fiscal stimulus should occur during the period of economic weakness, all else being equal. When, as now, a recession is clearly already under way and aggregate demand is declining, it is better if stimulus affects spending quickly in order to mitigate further deterioration in the economy.
- **Cost-Effectiveness.** Other things being equal, it is preferable for stimulus to provide the greatest possible economic impact per dollar of budgetary cost. Stimulus may be generated through policies that boost the spending by households, businesses, or government, and the cost-effectiveness of stimulus varies within those categories of policies as well as across them. The same dollar amount of spending increases or tax reductions can have significantly different effects on overall demand depending on how the money is provided and to whom. Policies that accelerate costs that the government will ultimately incur in any event (for example, delaying tax liabilities or accelerating planned spending) may be par-

¹⁵⁶ Statement of Douglas W. Elmendorf Director, *The State of the Economy and Issues in Developing an Effective Policy Response* (January 27, 2009) CONGRESSIONAL BUDGET OFFICE: Washington, p. 7

¹⁵⁷ *ibid.* pp. 20-24.



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ticularly cost-effective; they have little net cost but might provide economic benefits.

- ***Households.*** In general, tax cuts or increases in government transfer payments increase household demand by providing consumers with additional spending power. The bigger the portion of that additional income that consumers choose to spend instead of save, the more stimulus there will be. But households do not predictably spend a fixed proportion of the extra income left in their hands when taxes are reduced or transfers are increased. Rather, a household's propensity to consume appears to vary with its income, with its members' expectations of what will happen to that income over the longer term, and with other factors that are not well understood.
 1. Households are particularly likely to spend a greater share of a temporary reduction in taxes or additional transfer payments if they are "credit constrained" (that is, if they have borrowed as much money as creditors will lend them). Because such households would probably borrow additional money if given the opportunity, they are unlikely to save additional income. Lower-income households are more likely to be in such circumstances and more likely to have a higher propensity to spend. Therefore, policies aimed at lower-income households tend to have greater stimulative effects. For similar reasons, policies that increase current income are likely to have greater effects than those that affect only future income, because the expectation of higher income in the future will not change consumption by credit-constrained households.
 2. Economic theory suggests that households are likely to spend more of a permanent increase in after-tax income than a temporary one. For example, in response to a temporary tax cut, households that are not credit constrained may choose to increase spending by a small amount over many years, but a tax cut that is expected to be permanent enables households to increase spending by the full amount in every year; that greater impact on spending comes at a much higher budgetary cost, though.
- ***Businesses.*** The fiscal policy mechanism generally used to stimulate business demand is to reduce the costs associated with investment in what is termed new plant and equipment. Reducing taxes on the income from new investment increases the return on investment and, therefore, firms' willingness to make capital outlays. Increasing the after-tax income of businesses without changing the incentive for new investment typically does not induce more hiring or production because production normally depends on the ability to sell output. But increasing business income can stimulate investment or other



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spending by firms that have difficulty obtaining outside financing. That effect tends to be relatively more important for smaller firms than for larger ones, because smaller firms often have a harder time accessing such financing, and it is likely to be more important in the current financial crisis, when outside financing has become more limited or more expensive for many firms.

3. Tax cuts for business investment may be more effective in boosting short-term demand if they are temporary than if they are permanent. Firms may view them as one-time opportunities for tax savings, which may induce the firms to accelerate some of their future plans to invest. They might not take that step if they knew that the tax advantage would remain in place and be available to them later.
- Government. Another type of stimulus involves government purchases of goods and services (such as infrastructure spending). That type of spending affects demand directly because the government purchases goods and services from the private sector. The effect that such purchases have on the economy is different from the effect of transfer payments, which increase demand only when the people receiving them increase their consumption by purchasing goods and services themselves.
 - 4. For federal purchases, the primary issue in cost-effectiveness is the speed with which spending can be adjusted. Some kinds of expenditures can be undertaken much more rapidly than others. In general, changes that involve very large increases in outlays for particular programs or particular sectors of the economy—and especially changes that require setting up new programs or that rely on new technologies—will result in slower spending.
 - Aid to State and Local Governments A related stimulus policy involves federal grants to state and local governments. As a transfer between governments, such a grant does not in itself increase the demand for goods and services, but it generally affects the spending and taxing decisions of the government receiving it, which in turn could stimulate the economy. The federal subsidy would increase demand if it generated an increase (or prevented a decrease) in state and local spending or if it triggered a tax reduction (or avoided a tax increase) at the state or local level. By contrast, if federal assistance merely provided fiscal relief by paying for spending that would have occurred anyway and did not affect state and local revenues in the short run, then it would provide no economic stimulus. Aid to states and localities is likely to provide more stimulus when those governments are under budgetary pressure to cut spending or raise taxes, as is the case for many jurisdictions now.
- **Consistency with Long-Run Fiscal Objectives** Because fiscal stimulus boosts aggregate demand through increases in government spending or reductions in taxes, such policies raise budget deficits in the short term. That



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effect is desirable for fiscal stimulus because it reflects the increased demand being delivered to the economy. Contemporaneous changes elsewhere in the budget—tax increases or cuts in spending—designed to offset those short-term effects on deficits would serve to reduce or eliminate the stimulative effect.

- Those higher deficits, however, tend to slow economic growth in the long term if they are allowed to persist, because they tend to reduce capital accumulation and the upward trend in the economy's capacity to produce. Given the large projected shortfall of federal revenues relative to outlays in the medium term and long term, any policy designed to provide short-term fiscal stimulus will have to reckon with long-term consequences. Increases in spending and decreases in taxes that are intended to be temporary may be difficult to reverse later. Moreover, even if taxes and non-interest spending return to their baseline levels, the additional debt service from the period of larger deficits will—unless offset by greater fiscal discipline later—crowd out some amount of future growth
- In addition to their negative long-term effects, policies that substantially worsen the fiscal outlook can have negative short-term effects as well. The nation currently benefits greatly from the fact that investors worldwide tend to flee to U.S. Treasury securities in times of trouble. That tendency provides an important advantage in times of crisis, helping to increase liquidity and decrease interest rates. If investors lost confidence in the government's debt as a safe haven because of deterioration in the long-term fiscal outlook, the U.S. economy would lose that advantage, perhaps permanently.
- **Other Considerations.** Other considerations are also relevant for decisions on fiscal stimulus. One such consideration is who would be helped the most by the policies being considered. Different sorts of spending increases and tax reductions would provide direct benefits to different people and firms receiving the additional outlays or paying less taxes, in addition to the indirect effects of a stronger economy that would benefit many people and firms.
 - Another consideration is what types of additional goods and services society would produce and enjoy the benefits of. The economist John Maynard Keynes said that hiding money in coal mines and letting private enterprises pay to dig it out would be better than doing nothing in a recession because it would give workers income they could spend on things they needed. But it clearly makes more sense to have something intrinsically desirable at the end of the day. Thus, fiscal policies will be, and should be, judged not just for their effectiveness as stimulus but also for the other goals that they accomplish.
 - A wide variety of spending and tax provisions have been advocated as part of fiscal stimulus. Several considerations suggest that a combination of provisions would be most advisable:
 1. First, the timing of the stimulative effects varies among provisions. Some policy changes, such as temporary tax cuts, may provide stimulus relatively quickly but have effects that fade quickly as well. Other policy



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shifts, such as increases in infrastructure spending, may affect the economy only slowly but have salutary effects on demand that continue over several years. Therefore, it may be easier to rely on a mix of policies to design a stimulus package that has a relatively steady effect on the economy during the recession and fades slowly as the economy recovers.

2. Second, many stimulus policies offer diminishing returns. For example, there may be a limited number of infrastructure projects that are ready to go in the next year, and aid to states and localities beyond some level may be used to bolster rainy-day funds or reduce borrowing, rather than leading to the increased spending or reduced taxation that feeds demand.
3. Third, the precise stimulative effects of any individual policy changes are highly uncertain. Consequently, a mix of policies carries less uncertainty about the overall effects on the economy.
4. Fourth, aside from their stimulative effect, various policies may have a differential impact on different groups and produce different sorts of additional output. A stimulus plan with a mix of policies may therefore spread benefits more evenly among the population and accomplish a wider variety of goals beyond stimulating the economy.

On March 2, 2009, the Congressional Budget Office (CBO) sent a a year-by-year estimate they prepared on the macroeconomic effects of the *American Recovery and Reinvestment Act of 2009* (ARRA, Public Law 111-5), which was enacted on February 17, 2009. In the letter to the chairman of the U.S. Senate Finance Committee, the CBO addressed three major areas of macroeconomic effects of the ARRA: Short-Run Effects, Long-Run Effects, and the Net Effects on Output and Employment.

- **Short-Run Effects--** The macroeconomic impacts of any economic stimulus program are very uncertain. Economic theories differ in their predictions about the effectiveness of stimulus. Furthermore, large fiscal stimulus is rarely attempted, so it is difficult to distinguish among alternative estimates of how large the macroeconomic effects would be. For those reasons, some economists remain skeptical that there will be any significant effects, while others expect very large ones.
 - CBO has developed a range of estimates of the effects of stimulus legislation on gross domestic product (GDP) and employment that encompasses a majority of economists' views. By CBO's estimation, in the short run ARRA will raise GDP and increase employment by adding to aggregate demand and thereby boosting the utilization of labor and capital that would otherwise be unused because the economy is in recession. Most of the budgetary effects of the legislation are estimated to occur over the next few years, and as those effects diminish, the short-run impact on the economy will fade.
 - Different provisions in the law differ in both the magnitude and timing of their effects on aggregate demand. To simplify analysis of the overall effects, CBO grouped the various provisions into a number of more general categories. Each category was assumed to have a range of effects on the economy that could be summarized by "multipliers"—the cumulative effect on output of a one-time increase in spending, or reduction in taxes, of one dollar. The numbers in table 1



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indicate the cumulative impact of the provisions in each category, on average, on GDP over several quarters. For example, a one time increase in federal purchases of goods and services of \$1.00 in the second quarter of this year would raise GDP by \$1.00 to \$2.50 in total over several quarters, with most of that effect in the first two quarters and little effect beyond a year.

- The multipliers are applied to outlays when they occur and to changes in taxes or transfer payments when they affect disposable income. CBO's estimates therefore account for the different rates of spending for various types of appropriations and, similarly, for the timing of the different tax cuts or transfers.
- Table 1 also shows the categories to which CBO assigned the major provisions of ARRA. (In some cases, when different elements of a single provision were estimated to have different multipliers, the total cost of a provision was divided among more than one category. In those cases, the provision is shown in the table in the category to which most of its budgetary cost applied.) Provisions affecting outlays (including refundable tax provisions) are identified by the same names used in CBO's cost estimate for the conference agreement on H.R. 1 (see table 2). Provisions affecting revenues are identified by the names used in the Joint Committee on Taxation's revenue estimate for the same legislation.
- **Long-Run Effects--** In the long run, the economy produces close to its potential output on average, and that potential level is determined by the stock of productive capital, the supply of labor, and productivity. Short-run stimulative policies can affect long-run output by influencing those three factors, although such effects would generally be smaller than the short-run impact of those policies on demand.
 - *In contrast to its positive near-term macroeconomic effects, the legislation will reduce output slightly in the long run, CBO estimates.*
 - The principal channel for that effect (which would also arise from other proposals to provide short-term economic stimulus by increasing government spending or reducing revenues), is that the law will result in an increase in government debt. To the extent that people hold their wealth as government bonds rather than in a form that can be used to finance private investment, the increased debt will tend to reduce the stock of productive private capital. In economic parlance, the debt will "crowd out" private investment. (Crowding out is unlikely to occur in the short run under current conditions, because most firms are lowering investment in response to reduced demand, which stimulus can offset in part.) CBO's basic assumption is that, in the long run, each dollar of additional debt crowds out about a third of a dollar's worth of private domestic capital (with the remainder of the rise in debt offset by increases in private saving and inflows of foreign capital). Because of uncertainty about the degree of crowding out, however, CBO has incorporated both more and less crowding out into its range of estimates of the long-run effects of the stimulus legislation.
 - *The crowding-out effect will be offset somewhat by other factors.*
 - Some of the legislation's provisions, such as funding for improvements to roads and highways, might add to the economy's potential output in much the same way that private capital investment does. Other provisions, such as funding for grants to increase access to college education, could raise



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long-term productivity by enhancing people's skills. And some provisions will create incentives for increased private investment. According to CBO's estimates, provisions that could add to long-term output account for between one-quarter and one-third of the legislation's budgetary cost.

- *The effect of individual provisions could vary greatly.*
 - For example, increased spending for basic research and education might affect output only after a number of years, but once those investments began to boost GDP, they might pay off over more years than would the average investment in physical capital (in economic terms, they have a low rate of depreciation). Therefore, in any one year, their contribution to output might be less than that of the average private investment, even if their overall contribution to productivity over their lifetime was just as high. Moreover, although some carefully chosen government investments might be as productive as private investment, other government projects would probably fall well short of that benchmark, particularly in an environment in which rapid spending is a significant goal. The response of state and local governments that receive federal stimulus grants will also affect their long-run impact; those governments might apply some of that money to investments they would have carried out anyway, thus lowering the long-run economic return on those grants. In order to encompass a wide range of potential effects, CBO used two assumptions in developing its estimates:
 - *First*, that all of the relevant investments together will, on average, add as much to output as would a comparable amount of private investment, and
 - *Second*, that they will, on average, not add to output at all.
- *In principle, the legislation's long-run impact on output also will depend on whether it permanently changes incentives to work or save.* However, according to CBO's estimates, the legislation will not have any significant permanent effects on those incentives.
- ***Net Effects on Output and Employment--*** Taking all of the short- and long-run effects into account, CBO estimates that the legislation implies an increase in GDP relative to the agency's baseline forecast of between 1.4 percent and 3.8 percent by the fourth quarter of 2009, between 1.1 percent and 3.4 percent by the fourth quarter of 2010, between 0.4 percent and 1.2 percent by the fourth quarter of 2011, and declining amounts in later years (see Table 3). Beyond 2015, the legislation is estimated to reduce GDP by between zero and 0.2 percent. To illustrate the short- and long-run effects of the legislation on output, with CBO's January baseline projection of potential GDP set as a reference point, Figure 1 shows three different projections of the economy's actual output: CBO's January baseline projection of GDP (which does not include the effects of ARRA), GDP using CBO's high estimate of the effects of the legislation; and GDP using CBO's low estimate of the effects of the legislation
 - Corresponding to the effects on output, CBO estimates that ARRA will increase employment by 0.9 million to 2.3 million by the fourth quarter of 2009, by 1.2 million to 3.6 million by the fourth quarter of 2010, by 0.6 million to 1.8 million by the fourth quarter of 2011, and by declining numbers in later years. The effect on employment is never estimated to be negative, despite lower GDP in later years, because CBO expects that the U.S. labor market will be at nearly full employment in the long run. The reduction in GDP is therefore estimated to be



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reflected in lower wages rather than lower employment, as workers will be slightly less productive because the capital stock is slightly smaller.

V. BACK FROM THE BRINK? Current Conditions and the Outlook for 2008-2010

FINANCIAL STORM: Staving Off a Liquidity Trap

Are we back from the brink? And, if so, is it a “permanent”, or only a temporary reprieve? The answer to that question lies in what happens to housing prices, and particularly, whether or not “toxic” assets held by financial institutions can be priced through the Obama Administration’s Public-Private Partnership (PPIP) Program, and taken off the books of troubled financial institutions. The two are, of course, connected. Stopping foreclosures, which would stop the slide in housing prices is critical to pricing mortgage-backed CDO’s. This, in turn, is critical to the ability of institutions holding mortgage-related loans and securities (known as “legacy” assets) being able to get a handle on their balance sheets. This, in turn, is critical to getting credit to flow again. Where we go from here also depends on whether or not new policies to regulate the Over-the-Counter (OTC) derivatives market can be reigned in with a holistic approach to regulation that guarantees transparency, standardization, and imposes limits on leveraging.

It looks like the recent storm (the Panic of 2008), for the most part, has passed—for now. Bernanke, along with the U.S. Treasury, has pumped trillions of dollars into the U.S. economy since the current financial crisis began back in early 2007. And, as the Credit/Debt-Deflation Hypothesis predicts, since the velocity of money, is not constant, as assumed by the Monetary Hypothesis, injecting money into the banking system does not automatically translate into the growth in credit. As discussed in Section IV above, if the velocity of money is not believed to be constant, then it is critical to concentrate on the asset side of the banking sector’s aggregate balance sheet to discover whether or not money pumped into one end of the pipe, by the Fed, is coming out the other as an expansion of credit. This is why, based on the Breakeven Rate (the difference between the U.S. 5-Year Treasury and the 5-Year TIPS¹⁵⁹ rate) does not show any evidence of inflationary expectations, as evidenced in graph 36.

¹⁵⁹ Treasury Inflation-Protected Securities (they are indexed to inflation so that they pay a constant real rate).



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BOX 1: A MODEL OF FINANCIAL CRISIS

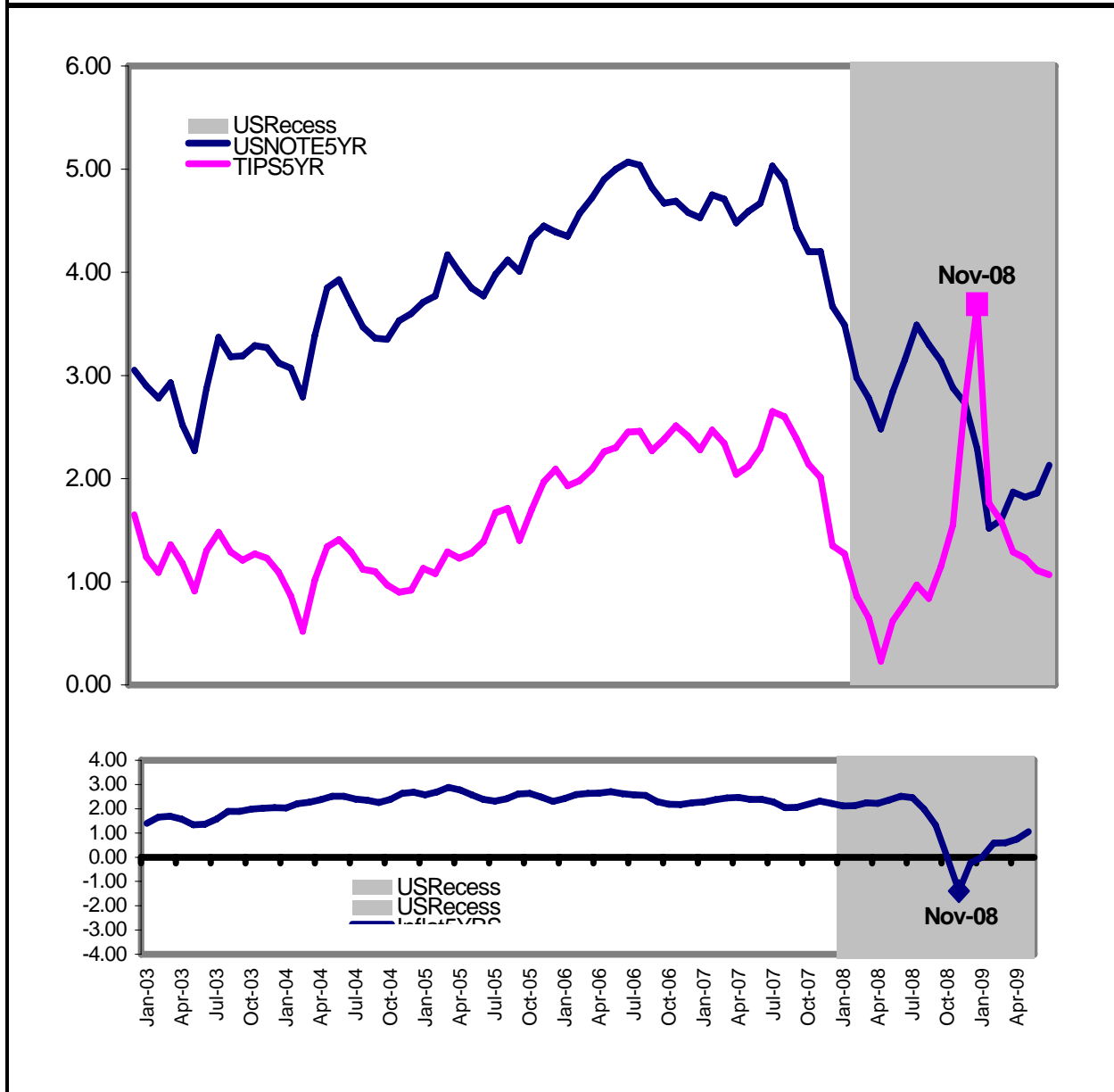
Brunnermeier (2009) summarizes the economic mechanisms through which negative synergies interacted with each other to produce a credit bubble and its subsequent popping. He notes four economic mechanisms¹:

1. **Borrowers' *Balance-Sheet Effects* cause two *liquidity spirals***
 - When asset prices drop, financial institutions' capital erodes, and
 - At the same time, lending standards and margins tighten.
2. **The *lending channel* can dry up when banks become concerned about their future access to capital markets and start hoarding funds (even if the creditworthiness of the borrowers dose not change)**
3. **Runs on *financial institutions*, like those that occurred at Bear Stearns, Lehman Brothers, and Washington Mutual, can cause a sudden erosion of bank capital.**
4. ***Network effects* can arise when financial institutions are borrowers *and* lenders at the same time. In particular, a gridlock can occur in which multiple trading parties fail to cancel out offsetting positions because of concerns about counterparty risk. To protect themselves against the risks that are not netted out, each party has to hold additional funds.**

¹Brunnermeier, Markus K., Deciphering the Liquidity and Credit Crunch 2007-2008 J. OF ECONOMIC PERSPECTIVES (Winter 2009) (23): 1 77-100, p. 78.

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GRAPH 36: U.S. 5-Year T-Bill and TIPS Rates (Upper Panel), and Breakeven Rate (Lower Panel)



SOURCE: U.S. Federal Reserve Board

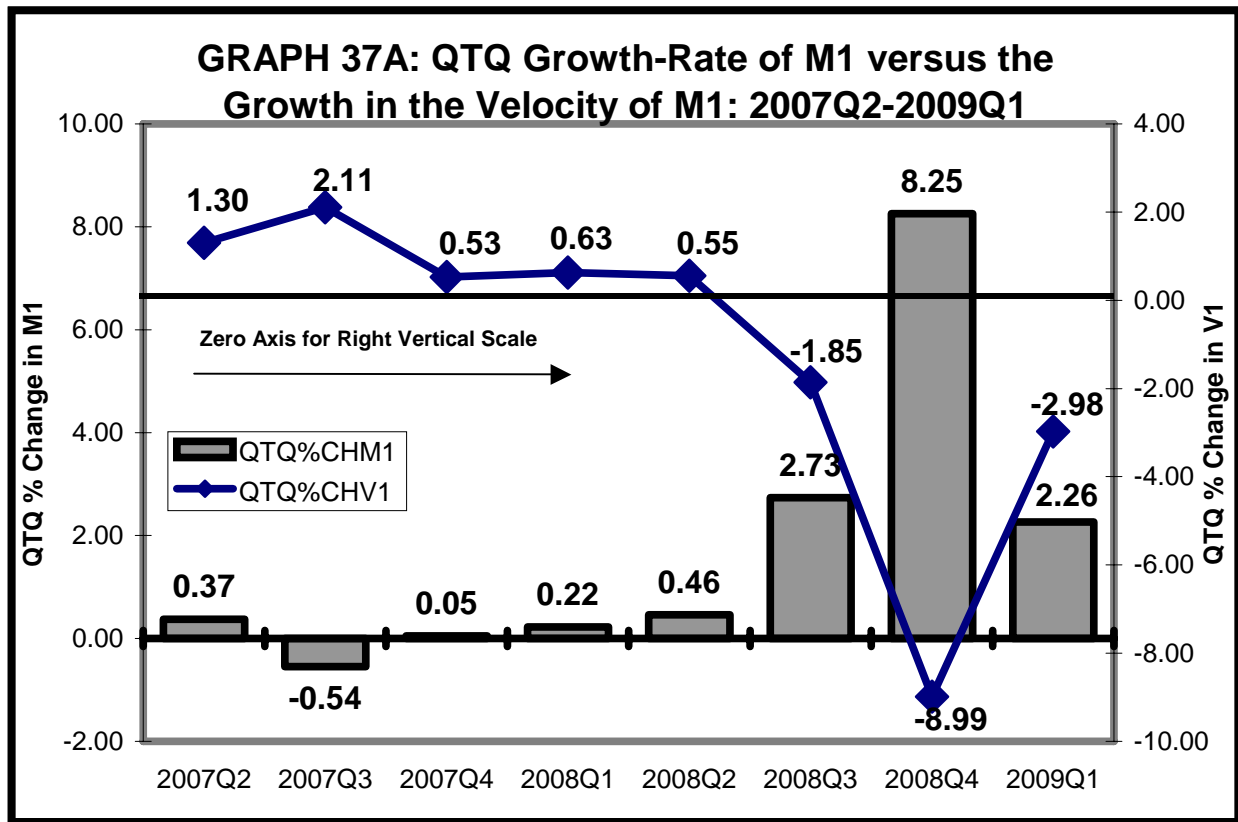


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In fact, as illustrated in graph 36, during the 2008 panic, expectations turned deflationary. Yet, this was at a time when the money supply was growing rapidly. The Velocity of Money¹⁶⁰ is equal to GDP divided by the money stock:

$$V = \text{GDP}/M$$

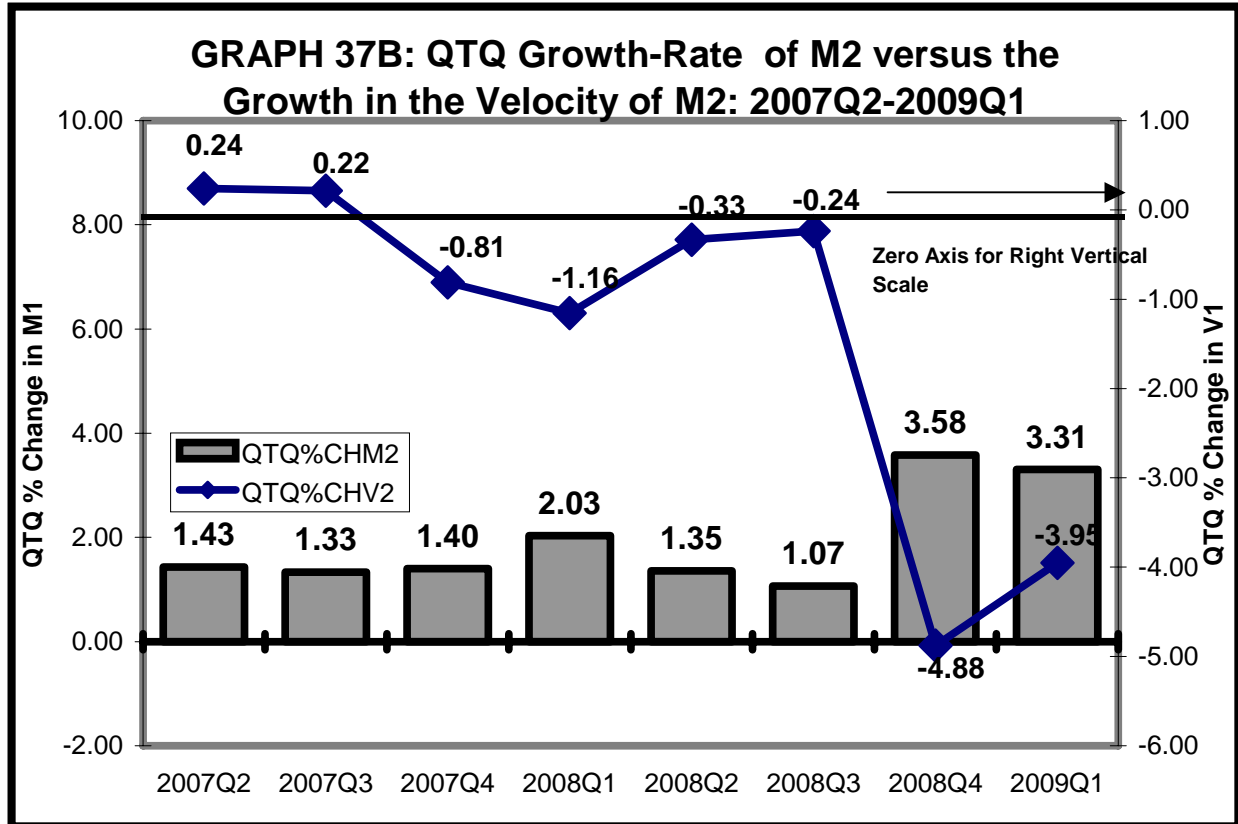
Thus, the money stock multiplied by the number of transactions in the economy (Velocity) is equal to GDP. Graphs 37A and 37B track the growth of the M1 and M2¹⁶¹ money stock compared to the growth in the velocity of money for M1 (V1) and for M2 (V2) from the second quarter of 2007 to the first quarter of 2009. It is clear that as the Panic of 2008 set in, after the bankruptcy of Lehman Brothers, and the collapse of AIG, that the financial system, when not acting pathologically, is the grease that lubricates the wheels of the real economy. In September 2008, that lubricant dried up, and the wheels of the real economy seized up. That is what makes financial crises different from that of a “normal” recession. It is why recessions accompanied by financial crisis are deeper, last longer, and are followed by weaker recoveries.



¹⁶⁰ See Dornbush, Rudiger, Stanley Fischer, and Richard Startz, INTERMEDIATE MACROECONOMICS (2007), McGraw-Hill/Irwin: New York, p. 69 and pp. 386-388 for a discussion of the Velocity of Money.

¹⁶¹ M1, the basic money stock, simply defined is currency in the hands of the public, demand deposits at commercial banks, and other checkable deposits. For a more complete definition, see The Federal Reserve Board's Statistical Release, Money Stock Measures at <<http://www.federalreserve.gov/releases/h6/>>.

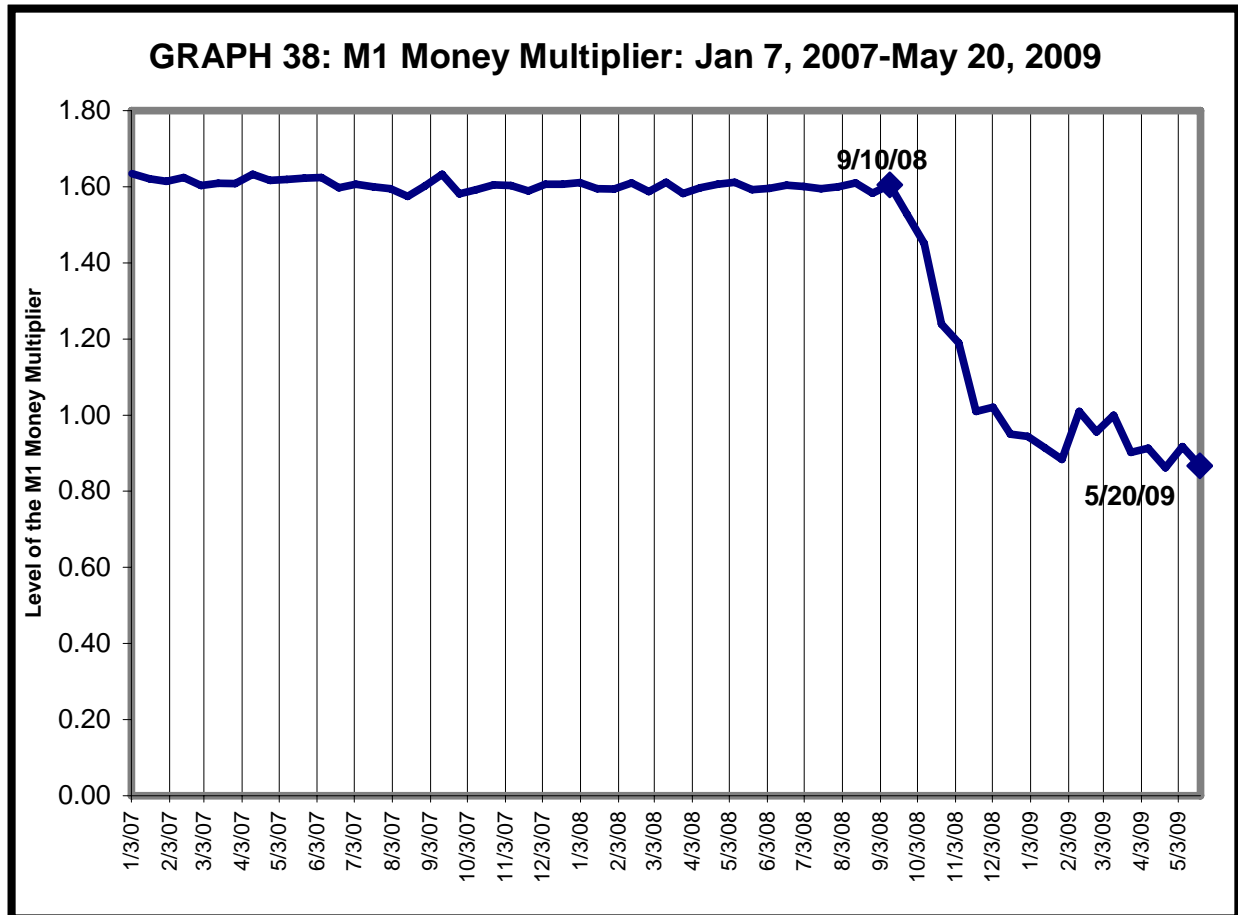
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SOURCE: Federal Reserve Board, U.S. BEA, and calculations by CTDOL-Research.



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SOURCE: Federal Reserve Bank of St. Louis.

As shown in graph 37A, M1 grew at a QTO rate of 8.25% in 2008Q4. That is a compounded, annualized rate of 37.31%. Yet, V1 contracted by an 8.99% quarterly rate, or at an annualized rate of 31.38%. Graph 37B depicts the QTO growth rates for M2 and V2 over 2008Q4—again the same pattern. Another perspective is from that of the Money Multiplier (MM)¹⁶². This is the result of the process by which the base of demand deposits in the banking system is expanded when banks make loans. The MM represents the total possible expansion of credit due to a given demand deposit base. This clearly shows how money pumped into one end of the pipe (increased reserves in the banking/financial system) is not coming out the other, in the form of a net expansion in credit. As depicted in Graph 38, after September 10, 2008, the M1 MM collapsed. From a value of 1.61 on September 10th, the M1 MM fell to 0.88 by January 20, 2009.

After recovering somewhat, it drifted back down to 0.87 on May 20, 2008. It indicates credit creation has still not returned to robust levels.

The proverbial “bottom line” to the above discussion is that we have come the closest to a Liquidity Trap (where V, the Velocity of Money, falls to zero), since the Great Depression. And, as of this writing (June 2009), we are not yet out of those woods, and we could find ourselves heading right back into them. In addition to pricing the toxic, legacy assets criti-

¹⁶² See Cecchetti, Stephen G., MONEY, BANKING, AND FINANCIAL MARKETS (2007), McGraw-Hill: New York, CH.20 For a discussion of the Money Multiplier.



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cal to any recovery is consumer spending, and going forward, exports. Consumer spending accounted for around 70% of the growth aggregate demand over the last expansion, the highest in any expansion in the post-World War II era. Consumers can no longer support that kind of spending, especially since much of it was debt-financed through tapping into home-price appreciation during the housing bubble to fund purchases. Further, to redress the trade imbalance, the U.S. is going to have to depend more on exports for growth, and that in turn, will depend on our competitiveness and the return of growth in the World economy.

THE BATTERED U.S. HOUSEHOLD SECTOR AND THE REAL ECONOMY

Aggregate demand is composed of Consumer Spending (C), Business Investment Spending (I), Government Spending (G), and Net Exports [=Exports (X) minus Imports (M)]. It is expressed as follows:

$$\text{GDP} = \text{C} + \text{I} + \text{G} + (\text{X}-\text{M})$$

This is the spending side of GDP. As discussed above (see Section I), over the last expansion, consumer spending accounted for 70% of the growth in Aggregate Demand (AD). In addition to the financial sector, the U.S. household sector has taken a big hit in this crisis, and unless some other source of demand becomes the driver of recovery, it is difficult to see how a strong recovery would be in the offing. Currently, the Federal Government is trying to make up for some of the deficit in spending through the programs implemented through the stimulus bill. However, it may not be enough.

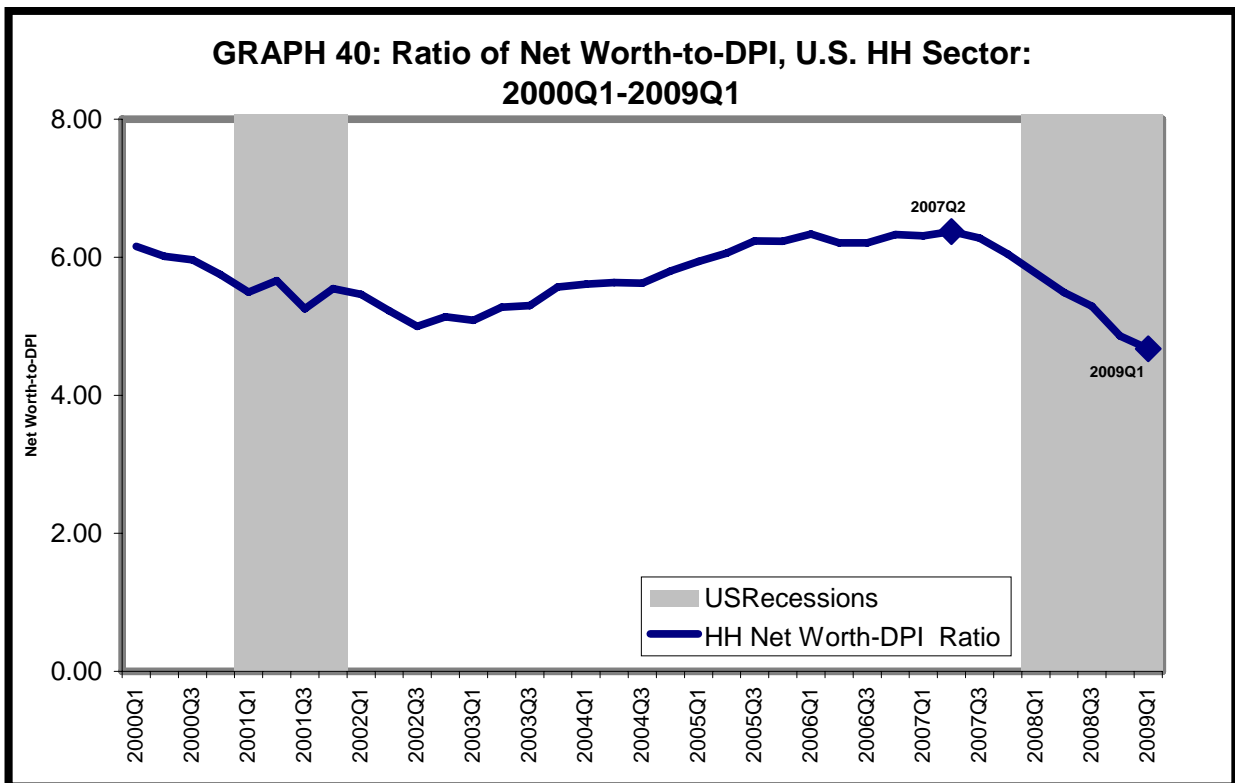
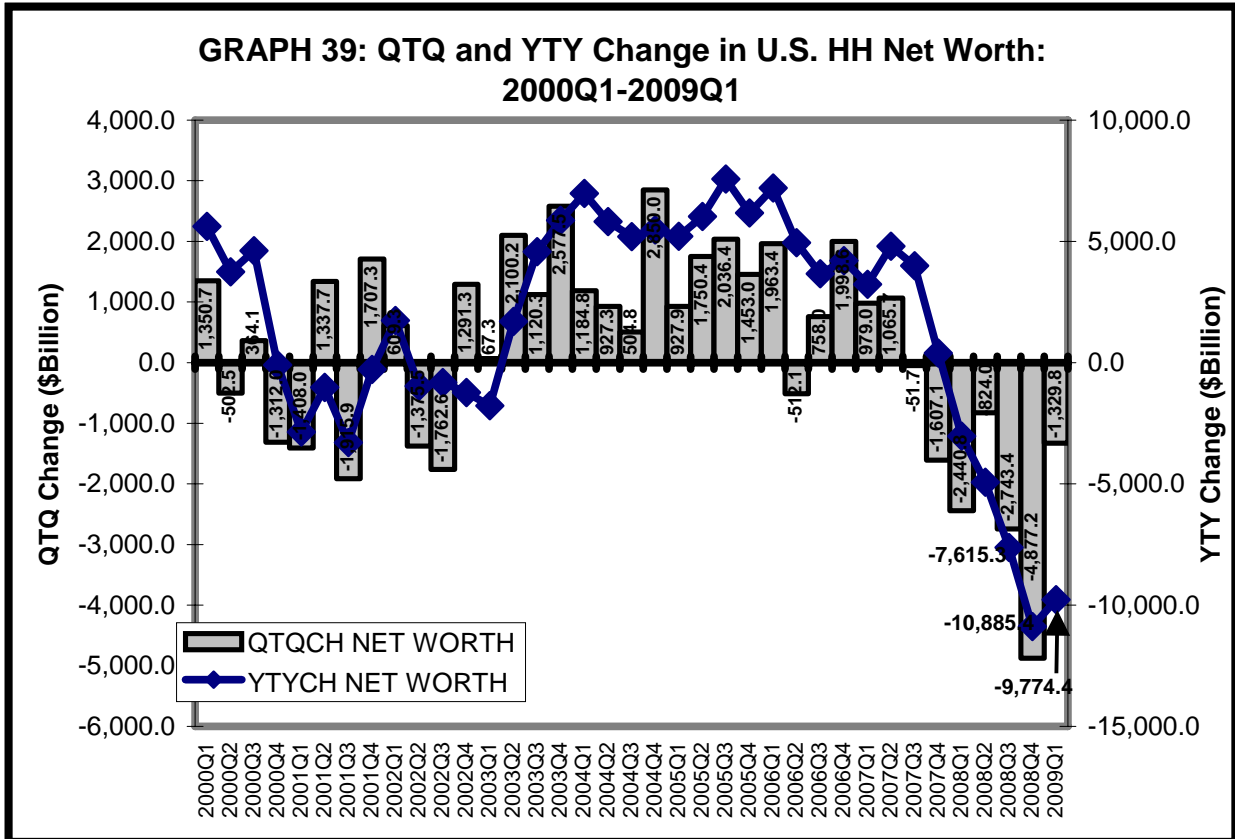
Chart 1 presents a schematic of the connections between the popping of the housing bubble, the decline in the stock market, the accumulation of excessive household debt, their consequent contribution to the collapse in the Household Sector's Net Worth, and the reinforcing contributions of rising unemployment and declining income to bring about the most severe contraction in aggregate demand in the post-World War II era. As shown in Chart 1, once a reinforcing feedback loop of successive declines sets in, successive rounds of the multiplier bring about contractions in income, output, and employment. The latest *Flow-of-Funds* release, by the Federal Reserve Board¹⁶³, shows that U.S. Household Wealth has declined by \$13.8 trillion since it peaked at \$78.3 trillion in 2007Q3 and 2009Q1. Household Real Estate Wealth declined by \$4.0 trillion between 2006Q4 and 2009Q1, and Corporate Equities held by households declined by \$4.7 trillion between their peak in 2007Q2 and 2009Q1.

This has resulted in a continuous decline in Household Sector Net Worth since the third quarter of 2007, as shown in graph 39. Net Worth declined by \$1.4 trillion in 2009Q1, after declining by \$9.8 trillion in 2008Q4. Does this mean that net worth may be recovering, as declines are subsiding? Not necessarily. In 2008Q2, net worth declined by \$824 billion, after declining by \$2.4 trillion in 2008Q1. However, net worth then declined by \$2.7 trillion in 2008Q3 (see Graph 39). Further, as depicted in graph 40, Net Worth-to-Disposable Personal Income (DPI) has continually declined from 2007Q2 through 2009Q1.

¹⁶³ Federal Reserve Board, *Flow of Funds Accounts of the United States (Z.1)*, (June 11, 2009) < <http://www.federalreserve.gov/releases/z1/Current/z1.pdf> > Accessed on June 11, 2009.



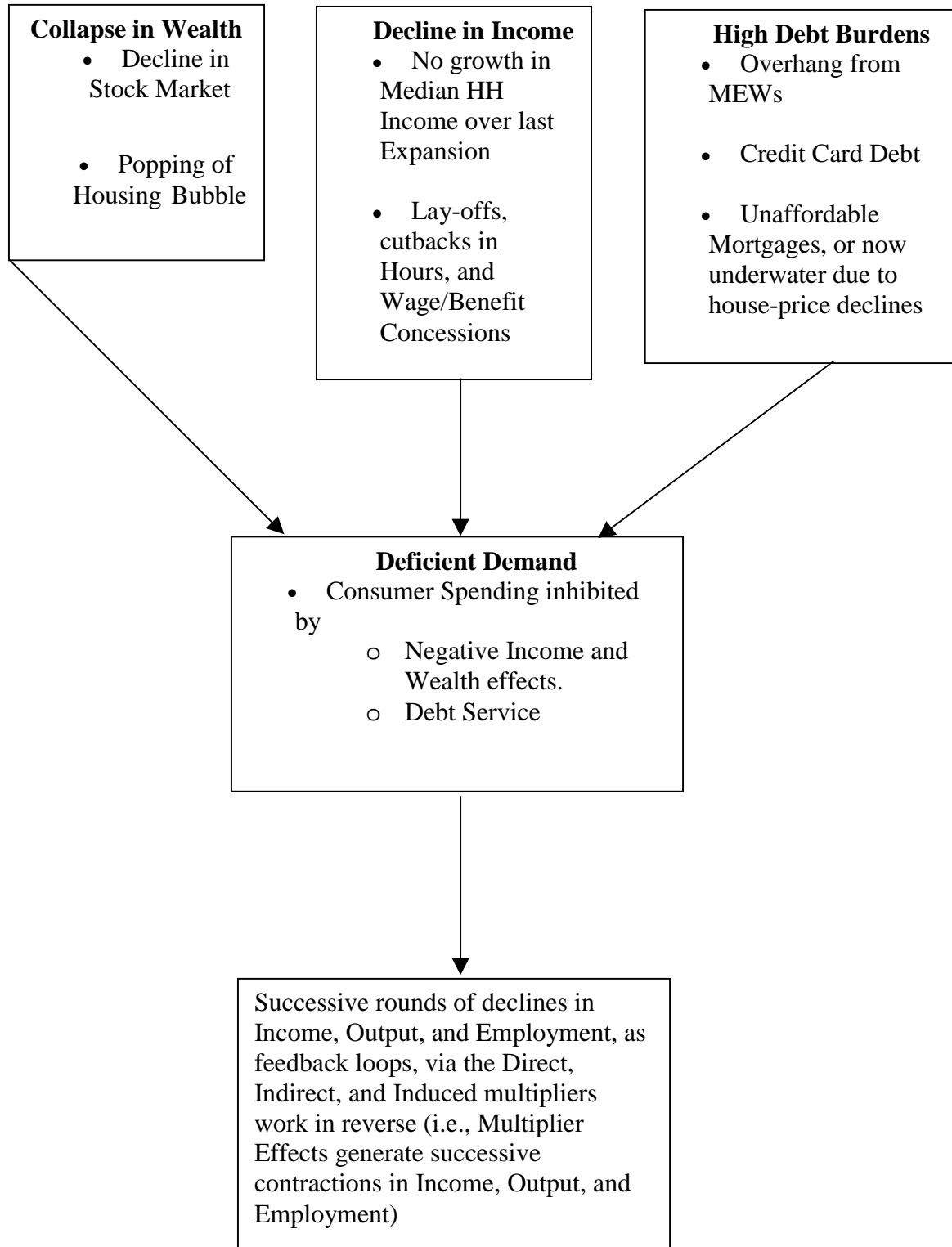
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SOURCE: Federal Reserve Board and CTDOL-Research calculations



CHART 1
IMPEDIMENTS TO RECOVERY
Battered U.S. Household Sector and the Real Economy



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THE PROSPECTS FOR RECOVERY

Housing and the Prospects for Recovery— Returning to housing prices, the crux of the problem, overall they were still declining in the first quarter of 2009. The Federal Housing Finance Agency's (FHFA)¹⁶⁴ Purchase-Only Housing Price Index (HPI) was down 0.5% on a Quarter-to-Quarter (QTQ) basis in the first quarter of 2009¹⁶⁵. However, the All-Transactions HPI was up 0.4%, on a QTQ basis, and the Year-to-Year (YTY) decline abated somewhat to 3.3%. As shown in graph 41, the 0.42% QTQ gain in 2009Q1 comes on the heels of a 0.15% turn-around in 3.35%. On a YTY basis, the decline decelerated from a 3.83% rate in 2008Q4 to a rate in 2009Q1. However, the picture is not as optimistic for the Case-Shiller HPI. 2008Q4. The MTM and YTY percent changes in the CS HPI are depicted in Graph 42. On a MTM basis, based on the CS HPI Composite for the 20 largest U. S. metro areas (Composite-20), home price-declines accelerated from 1.97% in February 2009 to 2.17% in March. YTY, the CS HPI showed that home price declines were 18.66% in February and 18.69% in March, down slightly from 19.00% in January. It should be noted that according to the CS HPI, Composite-20, MTM declines accelerated between April 2007 and February 2008, then decelerated until June 2008, and then home price declines began accelerating again until January 2009, and then holding steady through March. It is the decline in housing values and the stock market that has contributed significantly to the loss of \$13.8 trillion in household wealth between 2007Q3 and 2009Q1.

The Stock Market and the Prospects for Recovery— The other major source of wealth for households is directly, or indirectly, the capital markets—both the stock market and the bond market. Many 401K's have portfolios that are invested in the stock market and in corporate and government bonds. Between the peak of the S&P 500 in October 2007, based on monthly closings, and the possible bottom in February 2009, the market declined by 52.6%. This not only hit those who directly own stocks, but also delayed retirements, as retirement portfolios were battered.

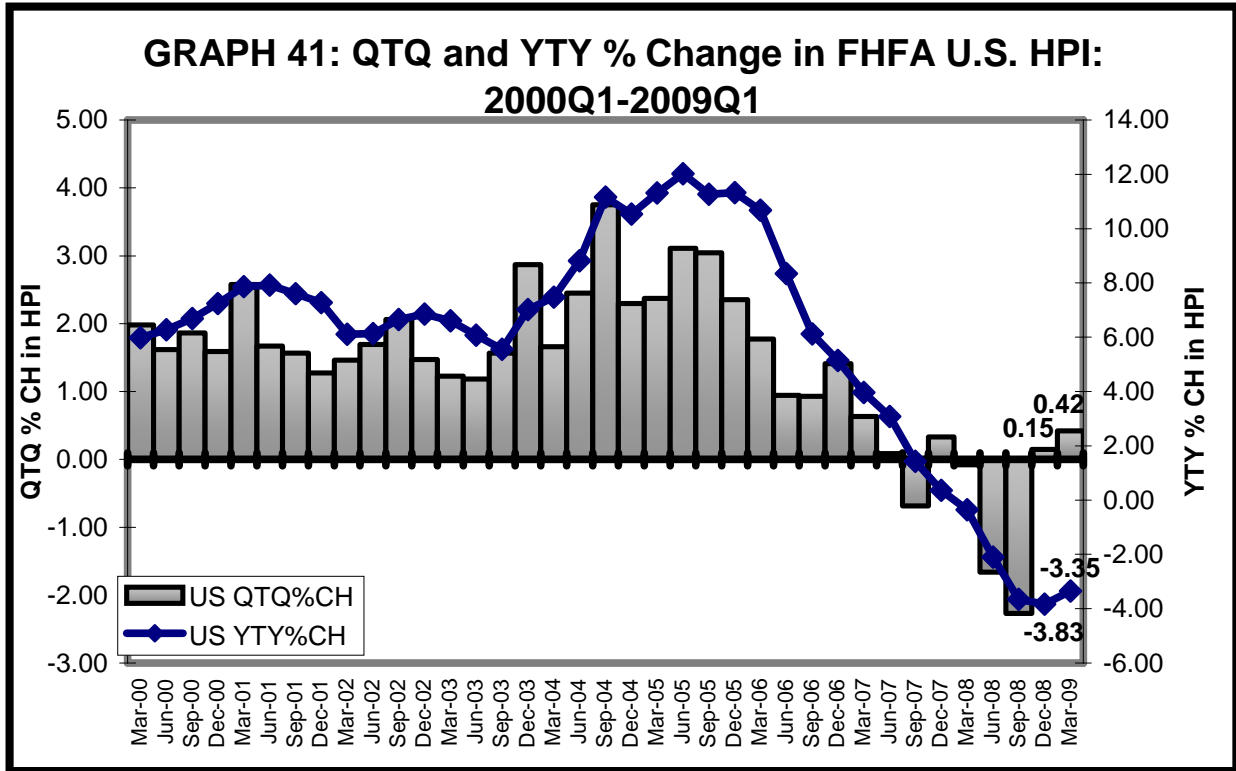
Graph 43 shows the monthly closing, and trading volume of the S&P 500 from January 2000 to June 2009. The peaks and troughs are designated in graph 43. After the monthly closing peaked in August 2000, the market declined until September 2002. Over the period, the S&P 500 lost 46.3% of its value. Over the current cycle, between October 2007 and February 2009, the market has declined by 52.6%. Thus, the current financial crisis has brought about a steeper decline in the market than did the 2001 recession and September 11th attacks. Also of note, the dramatic increase in the volatility in trading volume after April 2007. The question now is: Is the 39.7% recovery in the market between March 3, 2009 and June 11, 2009 a "real" turn-around, or a "Bear-Market Rally"? Turning to graph 44, which presents the daily closing and volume in the S&P 500 between January 3, 2009 and June 11, 2009, and its 10-Day Moving Average (10-DMA), to filter out some of the noise in the data. The turnaround in the market after March 9, 2009 is an encouraging sign, however, that is tempered by the decline in trading volume after March 9th. The 10-DMA of trading volume clearly declines after the S&P 500 Index turns around. Between March 9th and June 11th, trading volume fell by 24.41%. This narrowing of the trading-base is a worrisome sign. If the trading base had increased along with the index, or at least, not declined, then there could be more confidence that this might not a Bear-Market Rally, but that clearly, remains to be seen.

¹⁶⁴ Formally the Office of Federal Housing Enterprise Oversight (OFHEO) index.

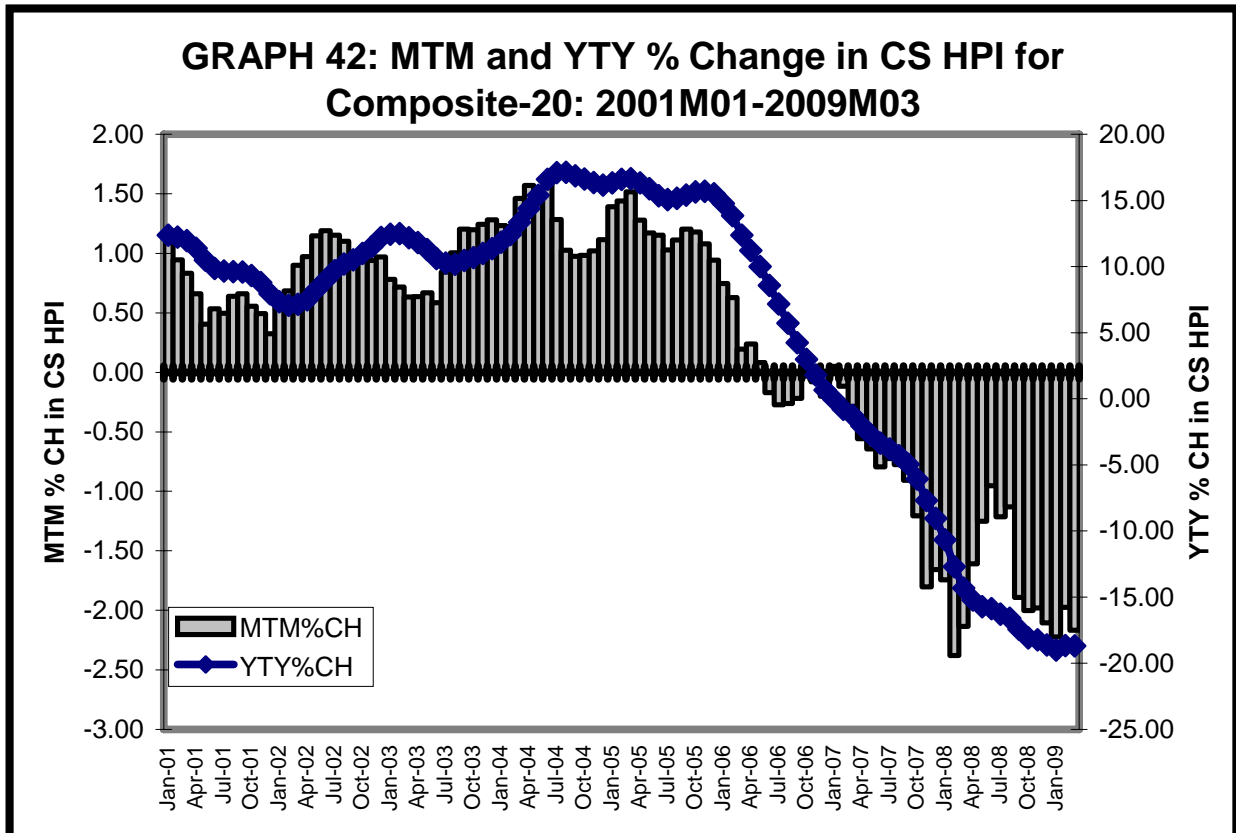
¹⁶⁵ Federal Housing Finance Agency, *Home Prices Fall in First Quarter; Pace of Decline Lessens Considerably* (May 27, 2009).



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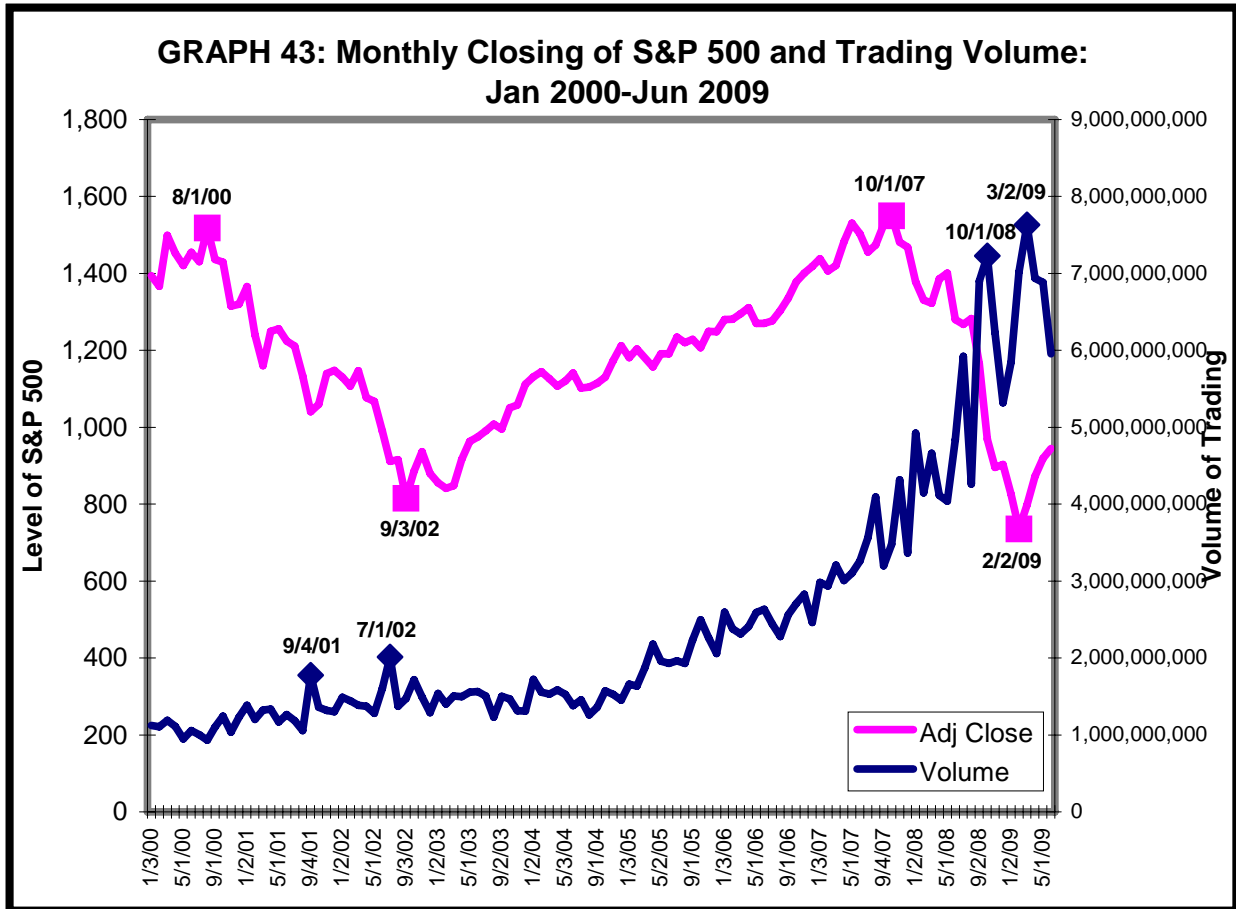


SOURCE: U.S. Federal Housing Finance Agency



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Exports and the Prospects for Recovery— It is not just a recovery from the current crisis that will turn the U.S. economy around and put it back on its long-run growth path. There must be other sources of growth than that of domestic, consumer spending. Innovation and development of new products and processes are a critical component to a dynamic economy¹⁶⁶. And, an increasing importance of exports as a driver of U.S. economic growth is another critical piece to the path to recovery and expansion. The U.S. has been consuming more than it has been producing for nearly three decades. In fact, trade imbalances, where developed nations have been over-consuming, while developing nations have been under-consuming have been a growing source of distortion, which helped fuel the current crisis.



SOURCE: Yahoo Finance

Of course, any prospects that exports will help revive the U.S. economy, is dependent upon the return of growth to the World's economy. The International Monetary Fund (IMF) has forecasted that the World economy is expected to contract in 2009 for the first time in 60 years¹⁶⁷. Thus, it may be 2010 or 2011 before World economic growth can begin to stimulate U.S. export growth.

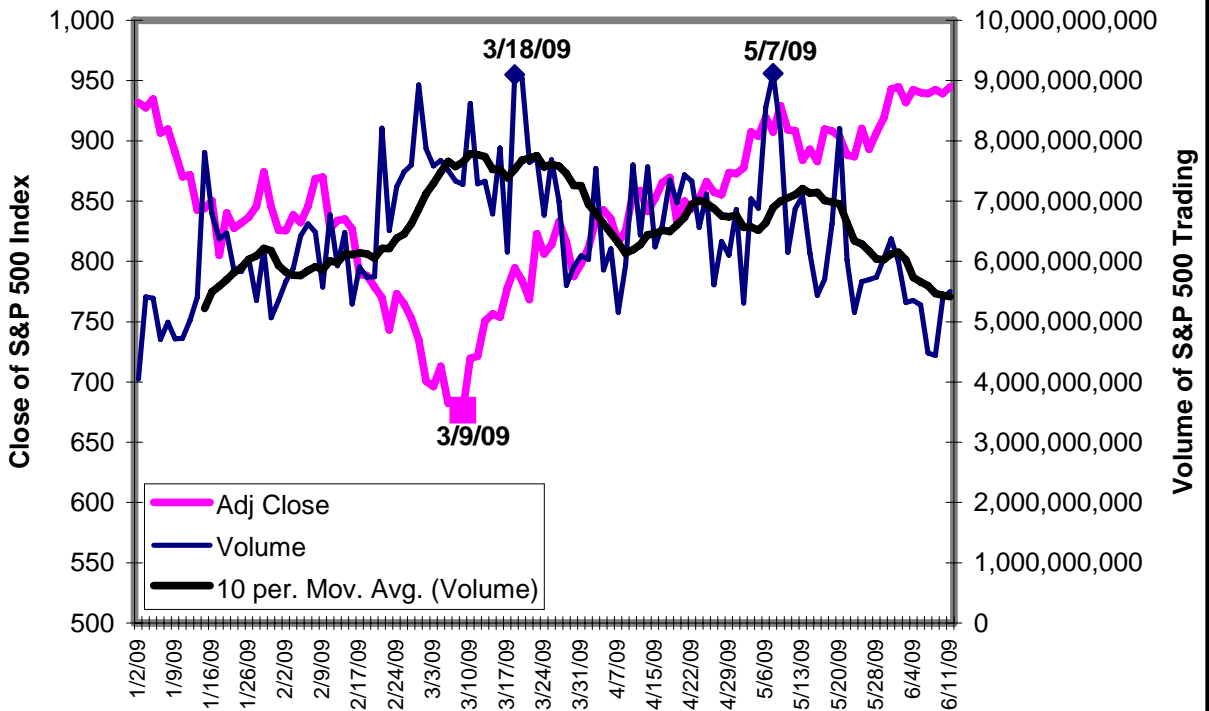
¹⁶⁶ See Mandel, Michael, *Innovation Interrupted*, BUSINESSWEEK (June 15, 2009), McGraw-Hill: New York and SUSTAINABLE DYNAMISM: A Regional Economic Development Strategy of Continuous Reinvention, Vol's 1 and 2 (2008), Connecticut Department of Labor: Wethersfield, CT.

¹⁶⁷ WORLD ECONOMIC OUTLOOK (April 2009), International Monetary Fund: Washington

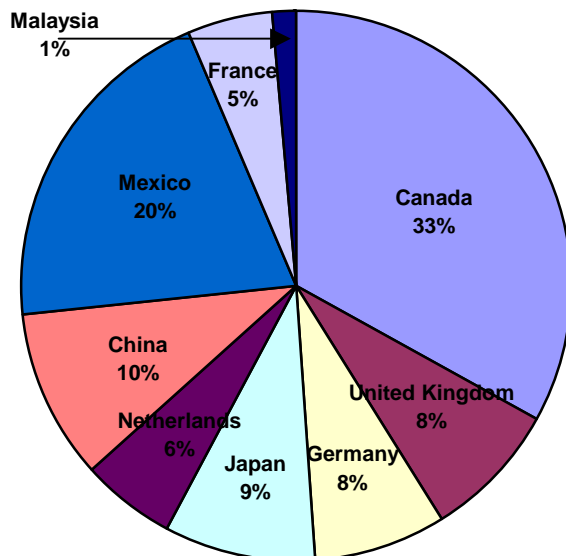


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**GRAPH 44: Daily Close of S&P 500 and Daily Volume:
Jan-Jun 12, 2009**



GRAPH 45: Major U.S. Merchandise Export Destinations: 2009Q1



SOURCE: New England Economic Indicators Database, Federal Reserve Bank of Boston.



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Graph 45 presents the major destinations for U.S. exports in the first quarter of 2009. The nine countries in graph 45 accounted for 58.03% of all U.S. exports in 2009Q1. Further, Canada and Mexico, the two top destination, and North American Trade Agreement (NAFTA) members, accounted for 30.76% of all U.S. exports. Critical to the U.S. export market's ability to playing a major part in reviving the economy is the performance of those economies that represent the major destinations for U.S. exports. Table 3 shows the IMF's¹⁶⁸ forecasts for 2009 and 2010 for the World, U.S., and major U.S. export-destinations economies.

TABLE 3: YTY % CHANGE Real GDP (IMF Forecast)**

GDP*	2008	2009	2010
U.S.	1.11	-2.75	-0.05
World***	2.06	-2.51	1.05
<u>Major U.S. Merchandise Exports Destinations</u>			
Canada	0.46	-2.54	1.16
United Kingdom	0.71	-4.09	-0.40
Germany	1.29	-5.61	-1.00
Japan	-0.64	-6.20	0.52
Netherlands	2.01	-4.77	-0.66
China	9.05	6.52	7.51
Mexico	1.35	-3.67	1.02
France	0.72	-2.95	0.41
Malaysia	4.64	-3.50	1.34

*In constant values of the National Currency

**International Monetary Fund, WORLD ECONOMIC OUTLOOK (April 2009)

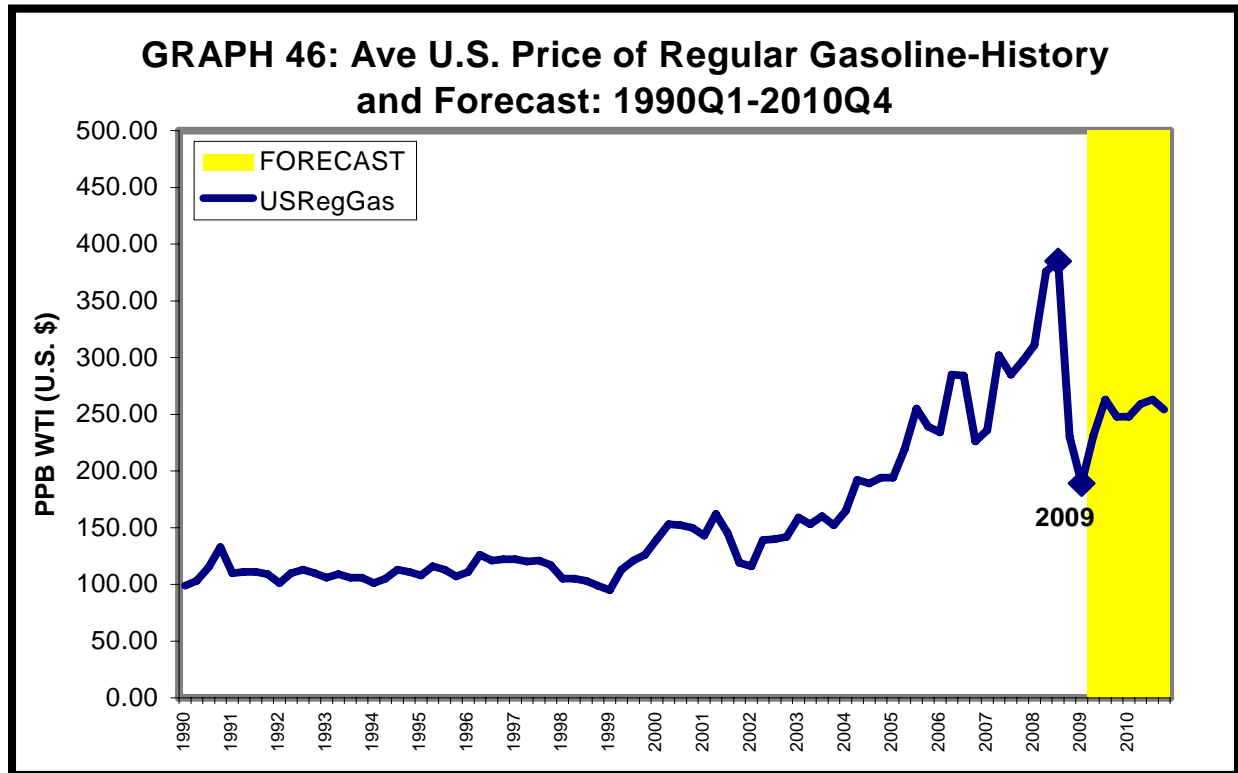
From table 3, the two biggest destinations for U.S. merchandise exports, its two NAFTA partners, Canada and Mexico, like the U.S., are expected to contract in 2009. In fact, Mexico's economy is expected to decline more steeply than either the U.S. or Canada in 2009. However, while the IMF expects the U.S. to contract again in 2010 (although not as steeply as in 2009), it expects modest, but positive growth for both Canada and Mexico in 2010. This may be a sign of possible recovery in U.S. export growth in 2010, since Canada and Mexico are its two biggest trading partners. Save Germany, the other major U.S. destinations are also expected to recover in 2010. Although Japan's "recovery" is expected to be flat, China, though moderate growth by its past performance, is expected to have a 7.51% increase in its real GDP. Germany, on the other hand, like the U.S., is also expected to continue to contract, but at a much steeper 1% decline. On balance, the U.S. economy may get a modest boost from export growth in 2010, whether this would be enough to produce positive, overall, growth remains to be seen.

Oil/Gasoline Prices and the Prospects for Recovery— The recent resurgence in the price of a barrel of oil, and gasoline prices, is a worrisome, and untimely trend. A further hit to consumers' disposable income, in the form of higher gas prices (which acts as a tax increase) would further reduce consumer spending on other goods and services at a time when negative income and wealth effects, in conjunction with high debt loads, have already reduced the consumer's ability to support aggregate demand.

¹⁶⁸ IMF (April 2009)



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SOURCE: U.S. EIA

As depicted in graph 46, the average U.S. price of regular gasoline, after beginning its relentless raise in the second quarter of 2002, peaked at \$3.85/gallon (385 cents in graph 43), taxes not included, in the third quarter of 2008, the quarter of the financial panic. It then plummeted to \$1.89 in the first quarter of 2009¹⁶⁹. The U.S. Energy Information Agency (EIA) forecasts that gasoline prices should peak, on a quarterly basis, at \$2.63/gallon in the third quarter of 2009, the peak of the summer driving season. Then declining somewhat to \$2.48 through the first quarter of 2010, with another bump-up to \$2.59 and \$2.63 in the second and third quarters of 2010. Though not as high as 2007 and 2008 levels, given the vulnerable state of the economy, it could put a dent into consumer spending on other goods and services.

Graph 47 tracks the monthly price of regular unleaded gasoline, based on the average for the U.S. from January 2007 to the last available datum for April 2009¹⁷⁰.

From the monthly perspective, the current trend in gasoline prices can be better discerned. Since the low of \$1.69 in December 2008, regular gasoline prices climbed to \$2.06/gallon by April 2009. That represents a 21.73% increase. Part of the reason for the rise in oil and gasoline prices could be the fall in the recent dollar. Between March and June 2009, the Broad-Based Dollar Exchange-Rate Index has declined by nearly 7%¹⁷¹.

From graph 48, it is apparent that the dollar's exchange-rate surged after July 2008, with

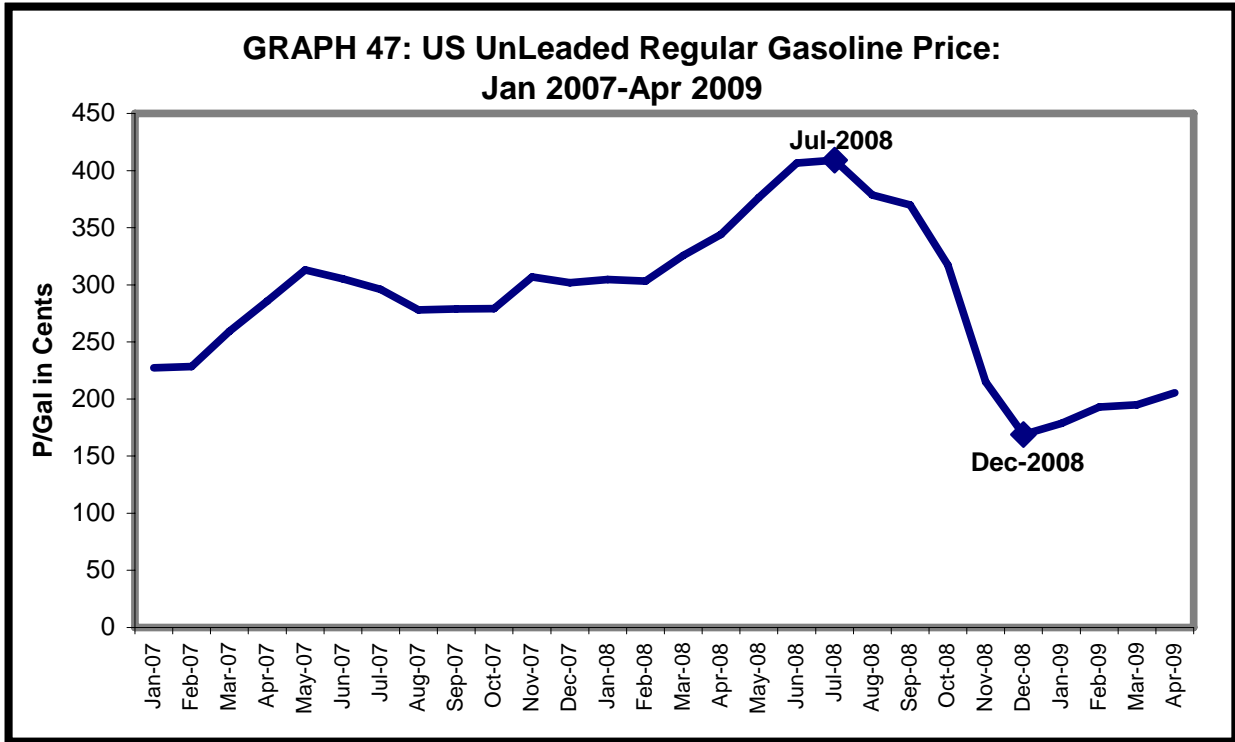
¹⁶⁹ LIQUID FUEL PRICES: Refiner Prices for Re-Sale (Gasoline) History and Forecast to 2010, U.S. EIA (May 2009)

¹⁷⁰ Table 9.4. Motor Gasoline Retail Prices, U.S. City Average, May 2009 Monthly Energy Review (May 2009), U.S. Energy Information Agency: Washington

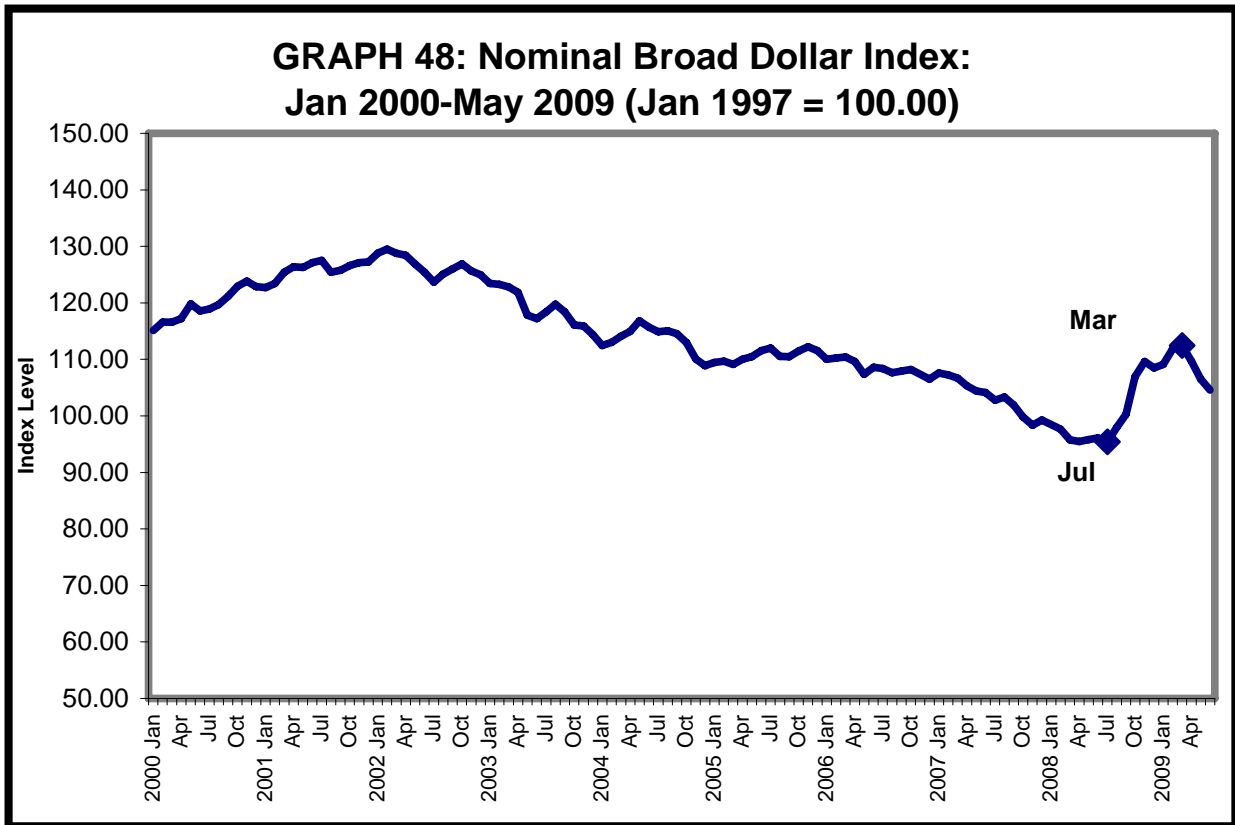
¹⁷¹ U.S. Federal Reserve Board, Summary Measures of the Foreign Exchange Value of the Dollar (Series H.10) < <http://www.federalreserve.gov/releases/H10/Summary/>> Accessed on June 16, 2009.



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SOURCE: U.S. EIA



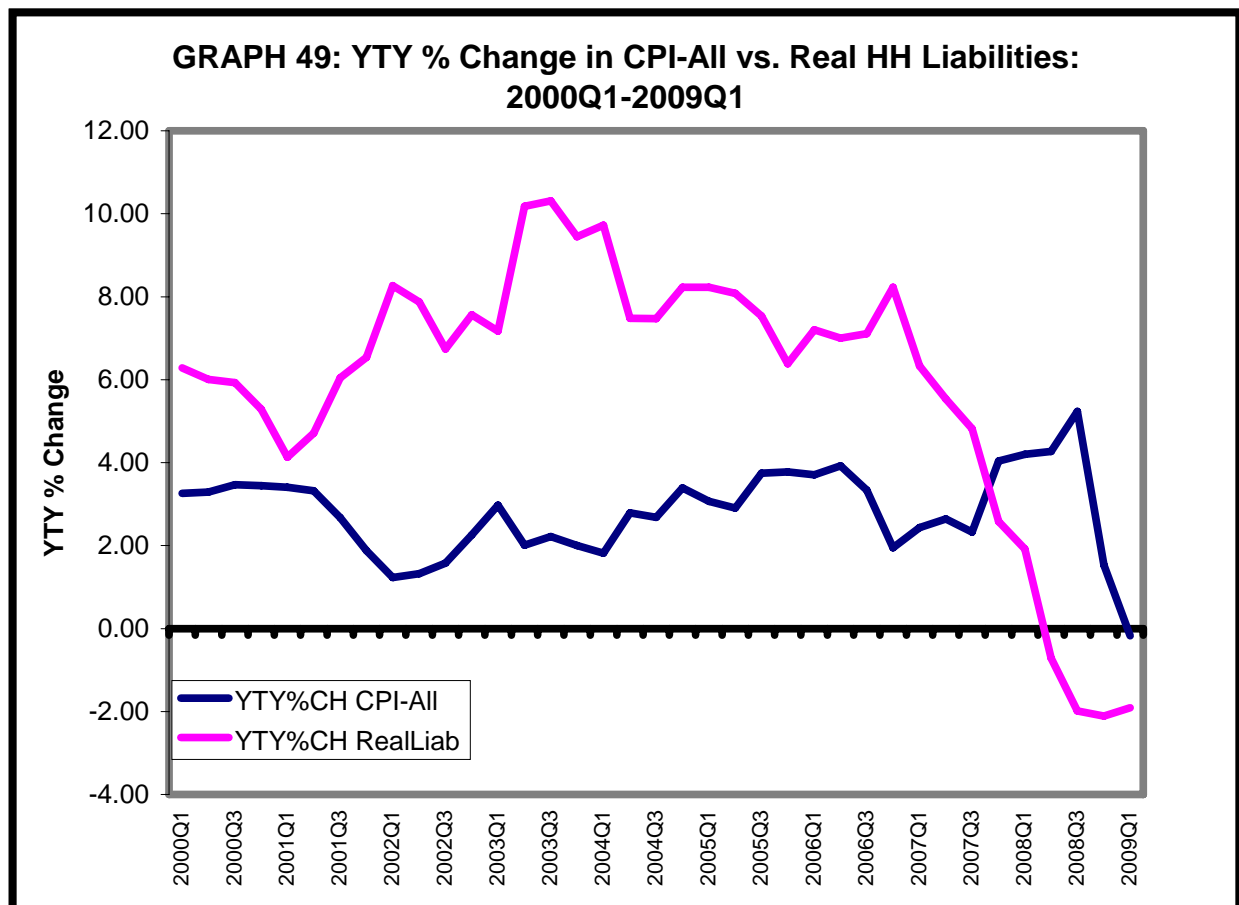
SOURCE: U.S. Federal Reserve Board



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the advent of the financial panic, which drove investors to the safety of U.S. Treasuries. However, the dollar began to fall again after March 2009. On a Month-to-Month (MTM) basis, the dollar's exchange rate declined by 1.92% in April, 5.30% in May, and by 4.61% in June. Although, save March, U.S. gasoline price increases, on a MTM basis, have exceeded 5% begin in January. In addition, speculators have probably played a role. Whatever the reason, continued increases in the price of energy would be a significant threat to the economy's ability to recover from the current contraction.

Inflation/Deflation and the Prospects for Recovery— Critical to how the current crisis unfolds from this point on, is whether or not the economy experiences the onset of deflation. As Fisher (1933)¹⁷² pointed out, three factors are critical to pushing the economy into depression: excessive accumulation of debt, falling nominal asset values, and deflation. The U.S. economy currently has two of those factors in place: falling asset values (see graph 27B, Section II) and excessive accumulation of debt. Graph 49 tracks the YTY percent-change in the average quarterly U.S. CPI, for All Urban Consumers, and Real U.S. Household Liabilities from 2000Q1 to 2009Q1.



SOURCE: U.S. Federal Reserve Board and U.S. BLS and calculations by CTDOL-Research

Notice the inverse relationship between the YTY growth rate in the CPI and real liabilities. In 2008Q1 nominal liabilities grew, YTY, by 6.19%, which exceeded the inflation rate of 4.20%. Thus, real liabilities increased by 1.91%. However, in the second quarter, liabilities grew by 3.52%, which was less than the inflation rate of 4.27%. And, real liabilities de-

¹⁷² Fisher, Irving, *Debt-Deflation Theory of Depression*, *ECONOMETRICA* (1933), pp. 337-357



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clined by 0.72%. Thus, if the inflation rate exceeds the growth rate in liabilities, the real burden of liabilities declines. And, when nominal liabilities declined in the third quarter by 0.61%, but the absolute value of the CPI-increase at 1.53%, exceeded the decline in nominal liabilities, real liabilities fell by more than three times (-2.11%). However, when the absolute value of the decline in nominal liabilities (-2.08%) exceeded the absolute value of the decline in the CPI (-0.18%), real liabilities declined by less than nominal liabilities (-1.91%). Further, if the absolute value of the decline in the CPI exceeds the absolute value of the decline in nominal liabilities, then real liabilities increase. Thus, if the U.S. economy goes into a period of extended, and severe, deflation, in the face of declining asset values, real debt burdens would increase, and this in turn, would increase the chances of a “Fisherian” scenario. Not only is consumption effected by households diverting their disposable income from spending to debt service (i.e., increasing their saving by increasing their net worth), but in addition, their access to credit markets would be further constrained by the reacceleration of the declines in the value of potential collateral (i.e., in particular, further, reaccelerating, declines in the value of their houses). So far, the core inflation rate (net food and energy), though low, has not as of yet, turned negative. If the core CPI would go into deflation, then that would be a worrisome development for the economy—an already series financial crisis would intensify.

Labor Markets and the Prospects for Recovery: The Wealth-Effect and Labor Supply— Research by Daly, Kwok, and Hobijn (2009)¹⁷³ suggests that when the labor market is weak but asset values are high and credit is available, individuals may decide to withdraw from the labor market and invest in school or enjoy leisure, which is what they observed for the previous two U.S. recessions in the early 1990s and in 2001. In fact, the 2001 recession was accompanied by large increases in housing wealth. Consumption growth remained remarkably strong over the entire economic decline. With other means to fund consumption, labor force participation fell over both of these periods as individuals returned to school, focused on home production, or enjoyed time away from work. By contrast, in the current downturn, the decline in housing wealth and credit availability is unprecedented in the post- World War II era. With reduced access to credit, in the face of banks’ reducing credit creation, in conjunction with falling house values (i.e. falling values in potential collateral), many households must generate labor income rather than borrow to finance current consumption. There are certain demographic groups the have been particularly affected. In the case of the 20–24 group, they have not withdrawn to the same extent as in the previous two recessions. Daly, et al, suggest three reasons for this:

1. The decrease in the supply of credit to students and the decline in housing and financial wealth of their parents likely put pressure on young people to take jobs to pay for their studies.
2. The hit to household balance sheets as well as the rapid deterioration in employment opportunities for males stemming from declines in construction and manufacturing likely prompted other household members to enter the labor market.
3. Finally, the abnormally large declines in housing equity and financial wealth could delay retirement dates for older workers, increasing their participation rates relative to previous downturns.

They also looked at the recent behavior of students, aged 20–24, married women, and

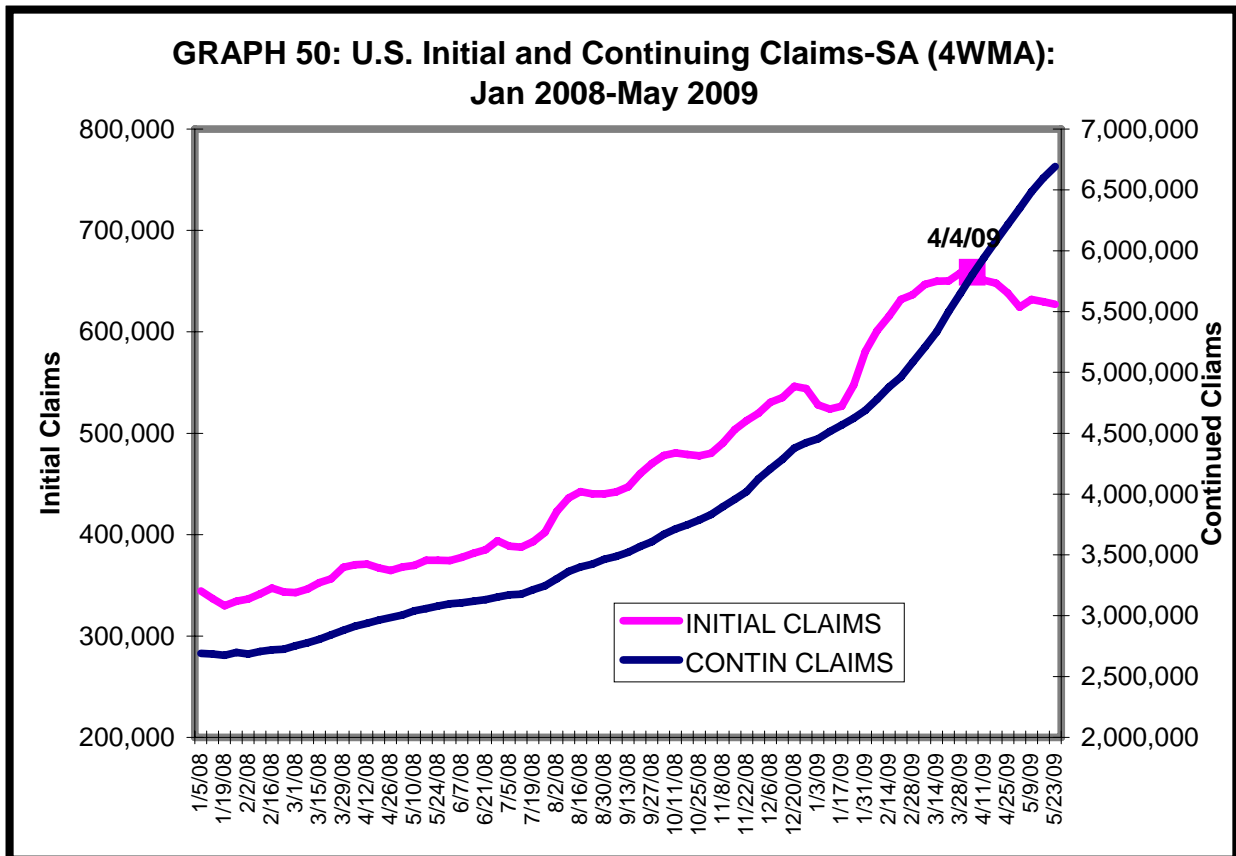
¹⁷³ Daly, Mary, Joyce Kwok, and Bart Hobijn, *Labor Supply Responses to Changes in Wealth and Credit*, FRBSF ECONOMIC LETTER (January 30, 2009), Federal Reserve Bank of San Francisco: San Francisco, Number 2009-05.



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workers aged 55 to 64. Since June 2008, more than 20 banks have suspended their student loan programs and the \$260 billion market for student loan asset-backed securities has come to a virtual standstill. The decrease in the supply of credit to students, and the fall in housing and financial wealth of their parents have led to a much smaller decrease in the LFPR of young adults and, more notably, a substantial increase in the labor force participation of students. Not surprisingly, older workers have a high sensitivity to stock market performance, especially given the shift over the past 15 years from employer-run defined benefit plans to employee-managed defined contribution plans. As the reliance of retirees and near retirees on returns from investments has risen, so has the sensitivity of their labor market behavior to changes in stock market wealth. As in the 2001 recession, the LFPR of those aged 55–64 increased by more than 1 percentage point, coinciding with an almost 40% drop in stock prices over the past year.

Thus, in addition to the newly graduating students that enter the labor force every late Spring/early Summer, this recession is also seeing uncharacteristic increases in the labor-force participation of demographic groups that, in previous recessions, withdrew from the labor force as economic activity declined. This seems to have been driven by the unprecedented losses in wealth, in conjunction with barriers to credit access, that have characterized the current financial and economic crisis. This implies that the unemployment rate over this recession/crisis could well exceed 10% before it declines.



SOURCE: U.S. ETA

As of May 23rd, the U.S. Unemployment Insurance (UI) Claims data were sending a mixed signal about the prospects for the U.S. Labor Market. Graph 50 tracks the seasonally ad-



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justed, Four-Week Moving Average (4WMA) of U.S. Initial and Continued Claims over the current recession/crisis (January 2008 through May 2009, the last period of available data at the time of writing). Though the seasonally adjusted, 4WMA of Initial Claims appears to have peaked in April 2009 (see graph 47), the 4WMA of Continued Claims continues to increase over the entire period. It appears, that though layoffs seem to be subsiding, those that are filing for benefits are not finding new jobs, or being recalled to their old ones. Further, there could be another round of job reductions in the Fall, which typically has a pick-up in layoff activity.

The ARRA of 2009 and the Prospects for Recovery— In April 2009, U.S. Personal Income (PI) increased \$58.2 billion, or 0.5% and Disposable Personal Income (DPI) increased \$121.8 billion, or 1.1%, according to the U.S. BEA¹⁷⁴. BEA also reported that Personal Consumption Expenditures (PCE) decreased \$5.4 billion, or 0.1%. In March, PI had decreased by \$25.9 billion, or 0.2%, while DPI increased \$8.2 billion, or 0.1%, and PCE decreased \$33.0 billion, or 0.3%, based on revised estimates. BEA attributed the changes in income and spending in April to, in part, the pattern of reduced personal current taxes and increased government social benefit payments associated with the *American Recovery and Reinvestment Act of 2009* (ARRA).

Particularly, the April change in DPI (PI less personal Current Taxes) was boosted from provisions of the ARRA. Provisions of the Act reduced personal current taxes and increased government social benefit payments. Excluding these special factors, DPI increased by \$77.1 billion, or 0.7% in April, following a decrease of \$8.7 billion, or 0.1%, in March. Thus, it appears that the ARRA boosted DPI in March. But, will the provisions of the AARA be enough to counteract the huge drop in consumer spending brought about by a collapse in wealth and steep declines in income?

There are three categories of funds in the ARRA¹⁷⁵:

1. Countercyclical or flexible funds
2. Safety Net (i.e., Medicaid, Food Stamps, Unemployment Insurance), and
3. Direct Appropriations

All three are an integral part of the short-run stimulus, and these programs must be implemented quickly to have positive macroeconomic impacts. But, is it going to be enough? And, is the spending effectively targeted?

Critical to passing the ARRA was the reconciliation of the House and Senate versions of the bill, and winning over three Republican Senators¹⁷⁶ to successfully pass the legislation. However, to do that, some substantial changes were made to the House version (which was also the Obama Administration's version) of the bill. Specifically, what became the ARRA of 2009 contained significant increases in the tax cut portion, and substantial reductions in the direct, public workings spending part, and a significant reduction in the aid to the states provisions (some of the cuts to states was later partially restored) compared to the House/Administration version of the bill. Further, the total amount of direct and indirect spending in the House version of the bill was also reduced considerably.

The total size of what became the *American Recovery and Reinvestment Act of 2009* (ARRA) was \$787 billion. This is approximately equal to 2.6% of GDP over the years 2009-2010. However, not all of this money will provide a boost to the economy in calendar years

¹⁷⁴ U.S. Bureau of Economic Analysis, PERSONAL INCOME AND OUTLAYS: APRIL 2009 (June 1, 2009)

¹⁷⁵ National Governors' Association, STATE IMPLEMENTATION OF THE AMERICAN RECOVERY AND REINVESTMENT ACT (March 10, 2009), p. 2.

¹⁷⁶ Since then, Pennsylvania Senator Arlen Specter, has changed parties and has become a Democrat.



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2009-2010¹⁷⁷. Approximately \$70 billion of this appropriation was for a one year patch of the Alternative Minimum Tax (AMT). Though the AMT patch provides a stimulus that would not occur were the AMT not patched, Congress has always provided this fix to the AMT. So the AMT patch does not realistically provide any boost to the economy. Furthermore, some of the spending in the bill continues beyond 2010. For example, the money appropriated for modernizing the electrical grid and computerizing medical records will be spent out over the next decade. Though these expenditures are needed to upgrade our infrastructure, if they are not made until 2015 then there will be no stimulus to the economy in 2009 or 2010. If the \$787 billion ARRA appropriation is adjusted by excluding the \$70 billion AMT patch and the spending of \$146 billion that takes place in years after the end of calendar year 2010, the two-year, total stimulus in the package falls to \$571 billion (\$285.5 billion per year), or, approximately 1.9% of GDP¹⁷⁸. As of 2009Q1, household wealth has fallen by \$13.8 trillion (see graph 36 and page 82, this report, above), since the beginning of the current crisis. Research indicates that for every \$1 change in wealth, household spending changes by 5-6 cents¹⁷⁹. That would translate into a spending decline of \$600-\$700 billion from the wealth effect alone (not counting the spending declines based on the fall in income). The actual stimulus part of the ARRA falls dramatically short of closing the negative wealth effect alone. An even bigger diluting of the stimulus impact is the significant reduction to aid going to the states to offset their constitutional mandates to balance their budgets. According to Key Point 5 in the National Governors' Association report:

The current estimate of total state budget shortfalls over Fiscal Years (FYs) 2009-2011 is about \$250 billion. The ARRA contains some flexible funds to counter these shortfalls, namely \$87 billion from Medicaid and about \$48 billion in the State Stabilization Fund (for a total of about \$135 billion in countercyclical funds). On average, this is just a little over 50 percent of the projected shortfall, which means it will be a big help but no panacea. To bridge the gap, states will have to continue to consolidate and streamline state government¹⁸⁰.

In their study of the impacts of spending cutbacks and tax increases that can be expected by state and local governments in their efforts to meet projected budget shortfalls, The Center for Economic and Policy Research concludes:

The response of state and local governments will offset much of the \$571 billion stimulus in ARRA for 2009 and 2010, leaving an average of \$126 billion a year of government stimulus, less than 0.9 percent of GDP after spending cuts and tax increases are taken into account. As a result of all of this, the net impact of government actions on the economy will be limited and will be a full magnitude of order smaller than the size of the \$2.1 trillion demand shortfall created by the collapse of the housing bubble. The falloff in demand could be as much as 15 times the net average annual stimulus implied by ARRA and could leave the U.S. with a net impact as low as 1.1 to 0.7 percent of GDP for 2009 and 2010 respectively¹⁸¹.

Thus, the absolute size of the stimulus, and in particular, a sufficient size for the direct-spending portion, in conjunction with inadequate aid to the states to offset their constitu-

¹⁷⁷ Baker, Dean and Rivka Deutsch, *The State and Local Drag on the Stimulus* (May 2009), Center for Economic and Policy Research, p. 1.

¹⁷⁸ *ibid*, pp.1-2

¹⁷⁹ Congressional Budget Office, HOUSING WEALTH AND CONSUMER SPENDING (January 2007), U.S. CBO: Washington

¹⁸⁰ National Governors' Association (March 10, 2009), p. 2.

¹⁸¹ Baker and Deutsch (May 2009), p. 7.



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tionally mandated requirement to balance their operating budgets¹⁸², may imply that the ARRA might fall short of jump starting the economy out of the current recession.

Financial-Market Reforms and the Prospects for Recovery— In response to the current financial crisis, the Obama Administration announced a sweeping overhaul of the financial system on June 17, 2009. In the White House whitepaper, *Financial Regulatory Reform: A New Foundation*, the administration proposed five key objectives designed to reform the regulatory oversight of the financial system and return stability and fairness to the system¹⁸³:

(1) *Promote robust supervision and regulation of financial firms.* To achieve this goal, the administration proposes to create a new Financial Services Oversight Council of financial regulators to identify emerging systemic risks and improve interagency cooperation. They propose granting new authority to the Federal Reserve to supervise all firms that could pose a threat to financial stability, even those that do not own banks. There would be stronger capital and other prudential standards for all financial firms, and even higher standards for large, interconnected firms. There would be a new National Bank Supervisor to supervise all federally chartered banks, and the elimination of the federal thrift charter and other loopholes that allowed some depository institutions to avoid bank holding company regulation by the Federal Reserve. Finally, hedge-fund advisors and advisers of other private pools of capital would be required to register with the SEC.

(2) *Establish comprehensive supervision of financial markets.* Under this objective, regulation of securitization markets would be enhanced, and would include new requirements for market transparency, stronger regulation of credit rating agencies, and a requirement that issuers and originators retain a financial interest in securitized loans. There would be comprehensive regulation of all over-the-counter derivatives, and new authority would be given to the Federal Reserve to oversee payment, clearing, and settlement systems.

(3) *Protect consumers and investors from financial abuse.* To achieve this objective, the administration proposes the creation of a new Consumer Financial Protection Agency to protect consumers across the financial sector from unfair, deceptive, and abusive practices. They also propose stronger regulations to improve the transparency, fairness, and appropriateness of consumer and investor products and services, and to insure a level playing field and higher standards for providers of consumer financial products and services, whether or not they are part of a bank.

(4) *Provide the government with the tools it needs to manage financial crises.* In order to address the “Too big to fail” problem, the Obama Administration seeks to create a new regime to resolve non-bank financial institutions whose failure could have serious systemic effects. This would involve revisions to the Federal Reserve’s emergency lending authority to improve accountability.

(5) *Raise international regulatory standards and improve international cooperation.* In order to address the globalization of finance, and the argument that regulating American financial institution will put them at a competitive disadvantage, they propose that international reforms are needed to support efforts at home, including strengthening the capital framework; improving oversight of global financial markets; coordinating supervision of internationally active firms; and enhancing crisis management tools.

¹⁸² For instance, California’s Economy was 13% the size of the U.S. Economy in 2008 (U.S BEA, June 2, 2009). Cuts in spending and income and employment have significant impacts on the total U.S. Economy.

¹⁸³ *FINANCIAL REGULATORY REFORM: A New Foundation* (June 17, 2009), White House: Washington



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Critics have lined up on both sides: those who say that it goes too far, and those who say it does not go far enough. One thing is clear, and that is, if a sustained recovery is to be achieved, then stability, fairness, and transparency must be restored to financial markets. Though each crisis has its unique characteristics, there are also some common themes that seem to run through the run-up to every financial crisis. They are summarized in Box 2.

BOX 2: THE THREE HORSEMEN OF FINANCIAL CRISIS: Conflicts of Interest, Asymmetric Information, and Principal-Agent Problems

CONFLICTS OF INTEREST

There are four major types of conflicts of interest in financial markets¹:

- Underwriting and Research in Investment Banking
- Auditing and Consulting in Accounting Firms
- Credit Assessment and Consulting in Credit-Rating agencies
- Universal banking

Though all four types have played a role in the current crisis, the third type is of particular interest here. Because the issuers of securities to be rated pay the credit-rating agencies, such as Standard and Poor's, Moody's, and Fitch, to name three, these agencies may tend to bias their ratings upward to retain and attract more business.

Further, prior to the current crisis, in some cases, directors of the rating agencies sat on the boards of some of the issuers of CDO's and other structured-finance products that were to be rated.

ASYMMETRIC INFORMATION

A landmark article by Nobel Prize-winning economist George Akerlof related the problem of lemons in the used-car market to buyers and sellers information about the true value of the car and how that related to the ability of the market to function¹. This was reflected in the current crisis when the Asset-Backed Commercial Paper Market (ABCP) collapsed in August 2007, and when credit in all financial markets dried up in September 2008 after the failure of Lehman Brothers and the collapse of AIG. Since the CDO's used as collateral in the ABCP market were model-based, and those models had mis-priced the assets used as collateral, investors were not willing to buy commercial paper because that had no information on prices. As Akerlof predicted, the market collapsed. Similarly, in September 2008, when the assets of Lehman Brothers could not be valued because the derivatives it held could not be priced, there was no information on whether or not they were solvent. Thus, investors perceived a state-change in the market. That is, they perceived it as going from one of *risk*, to one of *uncertainty*¹.

PRINCIPAL-AGENT PROBLEMS

If one does not have any stake in the use of money they have borrowed through a debt contract¹ then there is no incentive not to behave recklessly with the borrowed money by taking irresponsible risks. One solution is for the lender to require that the borrower put up collateral, in the cases of households and businesses, and in addition, for businesses, some minimum amount of net worth. When borrowers must put up collateral for a loan then they have a lot to lose if they cannot repay the loan, because the borrower can sell of their collateral to re-coup the loan¹. This is particularly relevant to the current crisis as many hedge funds, as well as, banks' off-balance sheet entities have been operating by being leveraged many times over. Not only did this encourage reckless behavior, but while the payoff was large if the investment (i.e., read "bet") paid off, the losses were catastrophic if they bet wrong. Consequently, overleveraging has played a crucial role in the current crisis.



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OUTLOOK FOR 2008-2010

Four forecasts are used as the basis for the outlook for the U.S. economy to 2010. The forecasts of the International Monetary Fund, the University of Michigan, Ray C. Fair, and the Blue Chip Economic Indicators are each summarized.

In its April 2009 *World Economic Outlook*, the International Monetary Fund (IMF) notes:

Even with determined steps to return the financial sector to health and continued use of macroeconomic policy levers to support aggregate demand, global activity is projected to contract by 1.3 percent in 2009. This represents the deepest post-World War II recession by far. Moreover, the downturn is truly global: output per capita is projected to decline in countries representing three-quarters of the global economy. Growth is projected to re-emerge in 2010, but at 1.9 percent it would be sluggish relative to past recoveries¹⁸⁴.

And, in the "Outlook and Risks" section, they summarize the outlook as:

The World Economic Outlook (WEO) projections assume that financial market stabilization will take longer than previously envisaged, even with strong efforts by policymakers. Thus, financial strains in the mature markets are projected to remain heavy until well into 2010, improving only slowly as greater clarity over losses on bad assets and injections of public capital reduce insolvency concerns, lower counterparty risks and market volatility, and restore more liquid market conditions¹⁸⁵.

The University of Michigan's June 2009 forecast cite some signs that things may be improving. They note that "This quarter did not bring an end to the current downturn, but it now appears that a number of the building blocks of a turnaround are falling into place¹⁸⁶." They cite as evidence:

Workers have started to see the Making Work Pay tax credit reflected in their paychecks, and the disbursement of federal dollars for state aid and infrastructure projects has begun. Spending should ramp up in the second half of the year to jumpstart demand and production. Although it's not yet healthy, the financial system is improving. A number of the banks that were required to raise additional capital following the Treasury Department's "stress test" have already raised the necessary funds. And several firms that accepted federal help under the TARP program have repaid the funds. The key here is: are healthier banks more willing to make loans?¹⁸⁷

They also note that both consumer and business confidence have improved, payroll employment is no longer in free fall, and that one aspect of the housing market is showing some stability. Since the beginning of the year, monthly housing starts have averaged just over half a million starts. The University of Michigan Forecast expects a slow turn-around to begin this Summer. They expect the turnaround to be supported by:

..... the fiscal stimulus package and improving financial markets. The

¹⁸⁴ WORLD ECONOMIC OUTLOOK: Crisis and Recovery, International Monetary Fund (April 2009), p. xii.

¹⁸⁵ *ibid*, p. xvi.

¹⁸⁶ Research Seminar in Quantitative Economics, *The U.S. Economic Outlook for 2009-2010 Executive Summary: June 2009* (June 19, 2009), University of Michigan: Ann Arbor, MI.

¹⁸⁷ *ibid*



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recovery starts off slowly with modest increases in output. Output growth averages a mere 0.5 percent pace during the second half of the year. And job losses continue beyond the turn of the year.

Consumer spending turns up but remains constrained by the weak labor market and the need to improve household balance sheets. A slowing pace of inventory correction adds to growth in the second half of this year, and residential building begins to recover by the closing quarter of the year¹⁸⁸.

They then expect the U.S. economy to gather momentum in 2010.

In their June 2009 forecast, the Blue Chip Economic Indicators expect U.S. GDP growth to turn positive, but flat, in the third quarter of 2009, with weak-to-moderate growth of 1.9% in the fourth quarter. The Blue Chip Quarterly Supplement expects consumer spending and residential investment to turn positive in the second half of 2009.

Table 4 summarizes the latest forecasts (at the time of writing) that are briefly summarized above. All but the IMF expect weak-to-moderate growth in 2010. The IMF expects U.S. GDP growth to still be slightly negative in 2010. From the above discussion, it is clear that whether or not the U.S. economy begins to turn around in the last half of this year, or the beginning of next, depends on whether or not the household sector begins rebuilding its net worth, on how serious the second wave of foreclosures, driven by job losses and rises in the unemployment rate, gets (which directly effects house prices), on how much spending the stimulus from the ARRA of 2009 is able to generate in the economy, and most critically, whether or not PPIP can effectively bring about pricing of toxic/legacy assets on the books of banks, and then effectively remove those assets from their balance sheets, and whether or not the Obama Administration's new regulatory and anti-trust reforms of the financial industry are able to return trust and stability to financial markets. In other words, addressing the "Three Horsemen" of financial crisis is critical to restoring stability to the World's financial and economic system (see Box 2). Otherwise, the second-shoe of this crisis may drop in 2010 or 2011.

TABLE 4: YTY % CHANGE IN U.S. Real GDP			
FORECAST	2008	2009	2010
Ray C. Fair*	1.11	-2.2	1.62
IMF**	1.11	-2.75	-0.05
UMich***	1.11	-3.05	1.4
BCEI****	1.11	-2.71	1.97
Average	1.11	-2.68	1.24
*April 2009 Forecast			
**April 2009 Forecast			
***March 2009 Forecast			
**** June 2009 Forecast			

¹⁸⁸ *ibid*



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**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2008-2010**

**EXECUTIVE SUMMARY:
Current Conditions and Outlook for the Connecticut Economy
2008-2010**

June 2009

THE PANIC OF 2008: Its Impact on Connecticut's Economy

According to the 2009 benchmarked data, Connecticut went into recession in March 2008, three months after the beginning of the U.S. recession in December 2007. This is a role reversal for the State's economy in the post-Cold War era, as Connecticut's decline in non-farm employment preceded the U.S. decline in both, 1989-92 and 2000-03 recessions. As of March, exactly one year into the current contraction, the State's economy has shed 58,000 jobs—a grim anniversary. The September 2008 Panic, ushered in by the bankruptcy of Lehman Brothers and the collapse of AIG (now searching for a new name), seems to have had a greater impact on Connecticut's job losses. The U.S. has lost 5.133 million jobs since December 2007. Since the September Panic, the nation has lost 3.713 million jobs, which represents 72.3% of the total jobs lost. However, from September 2008 to March 2009, Connecticut has shed 47,500 jobs, representing 81.9% of the entire decline in employment since the beginning of the State's recession in March 2008.

Impact on Connecticut's Sectors— The extended period of job declines in the retail, utilities, and information sectors, which range from 39 to 62 months before the peak in Connecticut's non-farm employment series, extends across cycles. Job losses in these sectors have been driven by trend/structural forces, which have been reinforced by the current economic contraction. This is especially true for the State's manufacturing sector employment, which peaked in March 1998, (120 months before the March 2008 peak of the current cycle) and has steadily declined since. From March 1998 to March 2009, Connecticut has lost 72,800 manufacturing jobs. This represents a 29.17% decline in the State's manufacturing job base. Employment declines in the financial services, business services, leisure super-sectors, and the construction and other services sectors, all preceded the State's peak in employment by 7 to 9 months. Thus, their employment gains and losses over the current cycle have been more tied to the housing bubble/bust, and credit-fueled 2003-08 recovery/expansion. Health Care and Social Assistance (HCSA) employment peaked three months before the Connecticut non-farm employment series. Nevertheless, the decline has been mild, as the growth in HCSA employment has been driven by long-term demographic forces, with brief, and mild, cycle-driven interruptions. This would also apply to education, which peaked eight months after the State's cycle peak. However, demographic forces may begin to constrain job growth somewhat going into the next decade. Wholesale trade employment peaked in June 2008, three months after the State's employment peak. This sector's employment growth has been driven by the non-durable goods sub-sector.

Impact on Connecticut's Income— In nominal terms, Connecticut, Quarterly Personal Income (QPI) increased by \$1.555 billion between the quarter Connecticut went into recession (based on non-farm employment) and the latest quarter of data, the fourth quarter of 2008. That represents an 0.80% increase. U.S. QPI grew by 2.41% over the 2007Q4-08Q4 period, defined by the NBER as the current recession. Accounting for the different lengths of the Connecticut and U.S. recessions by looking at the compounded annualized rates of growth, CT nominal QPI has grown at a 1.07% compounded annualized rate, compared to 2.41% for the U.S. and 1.86% for New England. Thus, Connecticut income has been growing more slowly, in nominal terms, than the U.S. or New England over the current crisis.



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Seven NAICS sectors subtracted a total of \$2.242 billion from Connecticut QPI over the current contraction. The largest drags on income growth over the current recession (between 2008Q1 and 2008Q4) are construction, retail trade, manufacturing, and management of companies and enterprises. On the other hand, thirteen NAICS sectors added \$3.727 billion to Connecticut QPI during the current downturn. Finance and insurance led the pack, which was followed by health care, professional and technical, and government (which includes the Tribal Nations).

QPI subtracted from Transfer Payments gives PI minus Transfers (PI-Trans), which is income generated by current economic activity. Dividing PI-Trans by the CPI-U translates nominal into real PI-Trans. Connecticut's real PI-Trans declined in all three post-Cold War recessions. It declined the steepest in the 2000-03 recession, and real PI-Trans has had the smallest decline, so far, over the current recession. But, an important factor in the behavior of real income is the behavior of inflation over the three recessions. The CPI-U grew at an annualized rate of 4.21% over the Great Recession, and even over the last recession, on the heels of the tech-bubble bust and the September 11th attacks, inflation still grew, though at a low 2.16% annualized rate. Since Connecticut entered the current recession in March 2008, the compounded, annualized growth rate of the CPI-U has been just 0.42%, with some months of deflation included in the interval. This resulted in a smaller subtraction from nominal QPI to obtain real QPI.

THE HOUSING BUST AND THE FINANCIAL PANIC: Connecticut's Exposure

Connecticut's Exposure to the Housing Bust— Though they never reached the levels of the 1980's, in either Connecticut or New England, housing permits have continued their decline, in both the state and the region, through April 2009. Further, existing home sales dropped sooner, and more steeply in Connecticut (54.6% between 2005Q1 and 2009Q1) than in the U.S (39.2% between 2005Q2 and 2009Q1). And, although Connecticut was not as caught up in the housing bubble as were some parts of the country, and even other parts of New England, house prices did grow faster in Connecticut over the 2000-06 Period than in the nation as a whole, though the difference was not anywhere near that of the epicenter markets such as Las Vegas, Miami, and Phoenix. Nevertheless, the significant gap between the growth in the median rent and median house price is greater for Connecticut (nationally, the median house price grew at 1.96 times the rate of rents versus 2.28 times as fast for Connecticut) than for the U.S. By 2007, with the popping of the housing bubble becoming apparent, the growth of the median house price and the median rent were becoming much more aligned for the nation, and the median rent actually grew faster than the median house price in Connecticut in 2007. The change was much more dramatic for Fairfield County, where the housing bubble had its biggest effect compared to other regions of the state

Foreclosures may be abating somewhat in Connecticut, at least for the time being. Based on RealtyTrac data, between February and May 2009, foreclosures declined in Connecticut and in seven of its eight counties. Tolland was the only county to see a slight increase between February and May. Further, the relative declines were steep. Does this mean that the worst of the foreclosures is over for Connecticut? Not necessarily, because, YTY, foreclosures are still up, prices continue to fall, and existing home sales fell 11.1% in 2009Q1. Critical, is how high the unemployment rate goes, as foreclosures rise with increases in the unemployment rate.

Connecticut's Exposure to the Financial Panic—

In the Eye of the Storm In response, to stave off worldwide financial contagion, the Federal



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Reserve purchased warrants that, if exercised, would give the U.S. Treasury 79.9% ownership of AIG. In effect, AIG was nationalized. Then, in March 2009, it was learned that AIG paid out huge bonuses totaling \$218 million. In light of the U.S. taxpayers' \$180 billion bailout of AIG, the news of the bonuses was met with public outrage. To justify paying the bonuses, AIG cited a provision in the *Connecticut Wage Act* that they claimed left the company no choice but to go ahead and pay "retention pay" to the employees who helped drive the company into the ground. The Connecticut Attorney General began an investigation into the AIG bonus payments, and the Connecticut Legislature held hearings on the matter. This incident highlighted the importance of the financial services industry in Connecticut, and particularly in Fairfield County.

Connecticut and the Tri-State Region On November 21, 2008, the Federal Reserve Bank of New York hosted a workshop on the "Impact of the Current Financial Restructuring on the Tri-State Economy." As part of the tri-state region around New York City, New Haven and Fairfield counties make up the Connecticut portion of the region. With the decentralization of the financial services industry from New York City out to the peripheral areas in down-state New York, New Jersey, and Connecticut, Fairfield County in particular, benefited from especially the decentralization of the securities, commodities, and brokers industry, which includes the hedge funds, as well as attracting the North American headquarters of large international banks like the Union Bank of Switzerland (UBS) and the Royal Bank of Scotland (RBS).

Three different methodologies used to assess the impact of the financial crisis on the tri-state region, and its major sub-areas, projected that between 80,000-117,000 jobs directly lost in the region from the financial crisis between 2007 and 2012. Total job losses (including all sectors of the economy) were expected to top 300,000 jobs in the region due to the financial crisis centered around Wall Street. Direct job losses in the Connecticut portion of the tri-state region (New Haven and Fairfield counties) were consistently estimated, by all three methodologies, to be 6,000 over the 2007-12 period.

Connecticut Banking Sector and the Current Crisis Apparently, Connecticut banks were reticent to accept TARP money because of the open-ended conditions that went along with the Federal money. The few exceptions have been Webster Bank, of Waterbury (\$400 million), First Litchfield Financial Corp (\$10 million), and The Connecticut Bank and Trust Company of Hartford (\$5.4 million). Nevertheless, the status of Connecticut's banks is not completely clear. Based on Federal Deposit Insurance Corporation (FDIC) data for the fourth quarter of 2008, Connecticut banks had \$6.7 billion of Tier 1 (core) risk-based capital against \$52.7 billion in total risk-weighted assets. The capital cushion was 12.8% of assets, on a risk-adjusted basis in 2008Q4 for Connecticut's depository institutions, down from 13.6% in 2005. On the other hand, local banks have reduced their exposure to financial derivatives. Connecticut banks reduced the value of derivatives on their balance sheets from \$3.5 billion in 2005 to \$1.4 billion in 2008. That represents a 60% decline.

CURRENT CONDITIONS AND OUTLOOK FOR CONNECTICUT'S ECONOMY: 2009 AND 2010

CURRENT CONDITIONS: Where the Connecticut Economy is Headed— At the time of writing, June 2009, it appears that the freefall in the U.S. and Connecticut economies may have subsided. But, this is far from declaring a recovery. Stabilizing the financial system is critical to laying the groundwork for a sustainable recovery, and avoiding the specter of a second shoe dropping in the form of a return to financial crisis. On the real economy side, some signs indicate that the stimulus may be gaining some traction in the second half of



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2009. However, is it enough? Some are already suggesting that a second stimulus package may be needed to keep the momentum going through 2010, and beyond. The President indicated in his press conference on June 23rd that it is too early to tell, but did not rule it out. The signals at this point are mixed. Focusing on what the Connecticut signals seem to be conveying does not provide any more certainty about where the economy might be heading.

One indicator of the State economy's trajectory into the near future is Unemployment Insurance (UI) Claims. The Four-Week Moving Average (4WMA) of initial claims seems to have peaked the week of January 24, 2009, and the 4WMA of continued claims seems to have peaked the week of April 4th. The decline in the YTY growth in continued claims leveled off in May, and has held steady. Thus, it appears that the growth in UI Claims has subsided. Does this indicate that the worst is over for Connecticut's economy? Maybe, but that does not mean that these positive trends are not subject to reversal before the year is out. Further, what happens to the U.S. economy is critical to where Connecticut's economy is going.

Another important indicator to gauge the current track of the economy is non-farm employment. The May increase of 3,600 was Connecticut's first MTM job gain since the 700-jobs increase in August 2008. Is this a turn around? Possibly, but, a one month gain does not make a trend. Further, the May increase may be an anomaly due to recent methodology changes in the way non-farm employment is estimated. Although the MTM job loss rate has subsided somewhat in 2009, the YTY rate has accelerated. Further, a MTM job loss rate of 6,000/month for 2009 is not exactly a recovery. In fact, it still far exceeds the MTM job loss rate of 1,694 jobs/month during the last recession. Overall job losses for the current recession, between March 2008 and May 2009, have averaged 4,679/month.

Can Exports Drive a Connecticut Recovery?— Though Connecticut's export growth was slightly ahead of that for New England over the most recent expansion¹⁸⁹, it lagged behind the U.S. exports grew by 78.8%, compared to 65.7% for Connecticut. However, Connecticut did have a surge in export growth between 2005 and 2007, and the state's decline in exports over the current recession has been much shallower than the declines for the U.S. and New England. As for the U.S. export outlook, critical to Connecticut's prospects for export growth are the expected demand conditions in the major destinations for the State's export products. Of the top four destinations, France received 29% of Connecticut's exports, Germany 17%, and Canada 15%. The remaining 39% of the State's exports went to all other destinations. Given the distribution of export destinations, what are the prospects of export growth contributing to a possible recovery in the State's economy?

Based on the International Monetary Fund's (IMF) forecast, the 2010 outlook for Connecticut's international exports picture is, at best, flat. Canada, Connecticut's third largest destination country is expected to grow slightly faster than the World's economy in 2010, but that still puts it in the anemic growth range, and France, the State's largest export destination, is forecasted by the IMF to have essentially flat-to-no growth in its GDP in 2010. Germany is expected to continue to contract in 2010. The overall World economy is projected to grow by a weak 1.05% in 2010. This does not bode well for exports to be a driver of the State's recovery through 2010. Of course, stronger World growth, or a significant change in which countries make up Connecticut's principal export destinations could change that outlook.

Outlook for Connecticut's Economy to 2010— So what does all this mean for Connecticut?

¹⁸⁹ Defined by the NBER as November 2001 (Q4) to December 2007 (Q4) for the U.S.



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The current forecast for Connecticut employment expects the State's economy to lose 68,219 jobs over the 2009-10 forecast horizon. From March 2008 (Connecticut's cycle peak) through December 2008, the State's economy shed 35,500 jobs. The State's 2008 job losses, plus the additional 68,219 over the forecast period, result in an expected loss of 103,719 jobs in the State's economy over the current recession--from March 2008 to mid-2010. When do we bottom? Based on the projected trajectory of Connecticut employment over the 2009-2010 forecast horizon, the current recession is expected to bottom in the second quarter of 2010 (2010Q2). However, it is expected that the mid-2010 turning point will be followed by a long jobless recovery, which follows the pattern of the two previous post-Cold War recoveries.

Assumptions and Risks to the Connecticut Forecast— The first thing to note is that any positive effects of the \$611 million Connecticut portion from the Federal stimulus package on the State's economy over the forecast period are not included in the forecast. No hard data on how many jobs may be created over the 2008-10 period were available at the time of writing. This could potentially be a significant upside risk to the forecast and outlook. To the extent that the stimulus funded projects would create, or prevent the loss of, jobs in the State's economy, the forecast would then be overly pessimistic. Most of the effects of the stimulus would take hold in 2010.

However, there are also significant downside risks. A major factor that could end up canceling out some of the effects of the stimulus is the states' having to balance their budgets in the face of constitutional requirements (see discussion above for the U.S. Outlook). Connecticut's budget deficit is expected to be \$967.6 million by the end of the Fiscal Year (FY) on June 30. Though that is a small decrease from a \$968.2 million estimate in May, it will, nevertheless, result in cuts and possible tax increases, or both. Further, the deficit for the full budget cycle is now in the \$8.7 billion range. Closing that gap will take money out of the State's economy as the Federal stimulus is pumping it in.

Finally, because of the significant presence of the financial industry in Connecticut, and particularly in Fairfield County, any possible yet to be nasty surprises in the financial crisis could have serious negative effects on Connecticut's economy, which would make the current forecast overly optimistic.



CURRENT CONDITIONS AND OUTLOOK FOR THE U.S. AND CONNECTICUT ECONOMIES: 2008-2010

I. THE PANIC OF 2008: ITS IMPACT ON CONNECTICUT'S ECONOMY

A. LABOR MARKETS

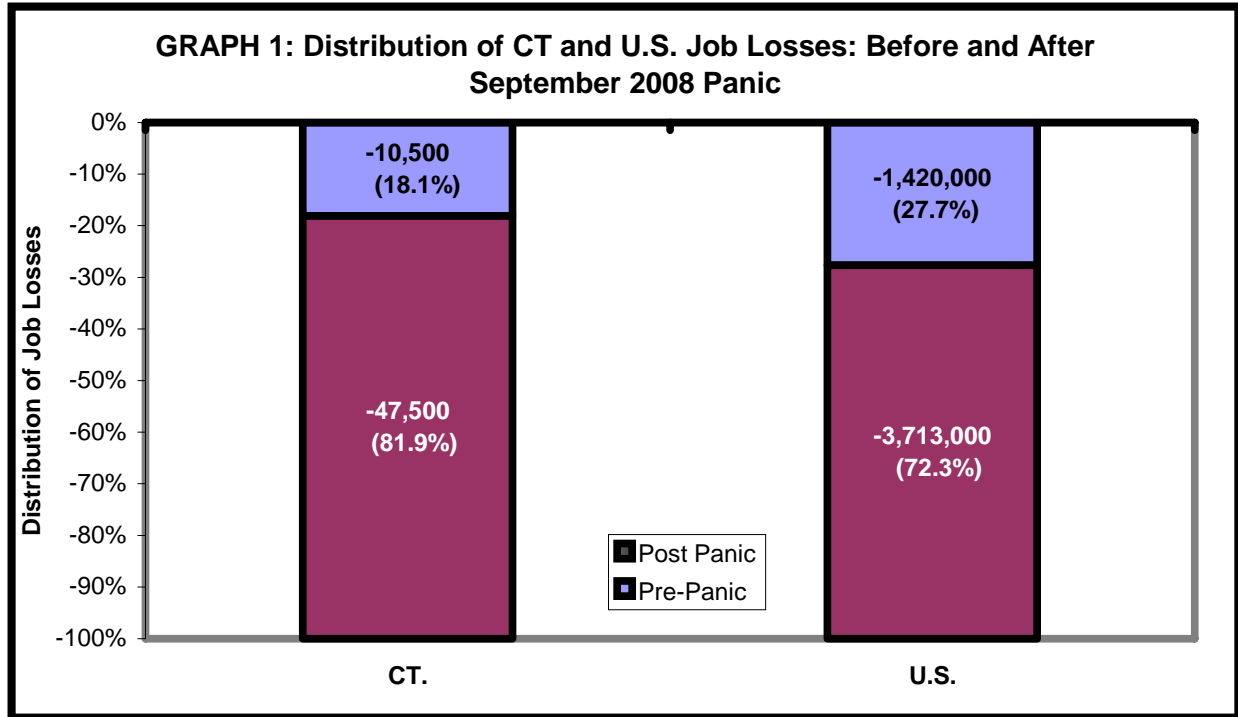
According to the 2009 benchmarked data, Connecticut followed the nation into recession in March 2008, three months after the beginning of the U.S. recession in December 2007. This is a role reversal for the State's economy in the post-Cold War era, as Connecticut's decline in non-farm employment preceded the U.S. decline in both, 1989-92 and 2000-03 recessions. As of March, exactly one year into the current contraction, the State's economy has shed 58,000 jobs—a grim anniversary. The September 2008 Panic, ushered in by the bankruptcy of Lehman Brothers and the collapse of AIG (now searching for a new name), seems to have had a greater impact on Connecticut's job losses. Graph 1 shows the distribution of Connecticut and U.S. job losses from the beginning of their recessions to March 2009. The U.S. has lost 5.133 million jobs since December 2007. Since the September Panic, the nation has lost 3.713 million jobs, which represents 72.3% of the total jobs lost. However, from September 2008 to March 2009, Connecticut has shed 47,500 jobs, representing 81.9% of the entire decline in employment since the beginning of the State's recession in March 2008.

The non-farm employment series is the sum of the behavior of all the State's industries and sectors. Thus, even though total non-farm employment turned down in March 2008, the timing was not uniform across major sectors and super-sectors. Employment in some sectors turned down before the State, and some turned down afterward, while others coincided with the State's downturn in March 2008. This is illustrated in graph 2. The vertical, zero-axis in graph 2 represents the peak of Connecticut's last expansion, March 2008. Positive numbered bars represent the number of months following Connecticut's peak, and negatively valued bars represent the number of months before the State's employment-cycle peak.

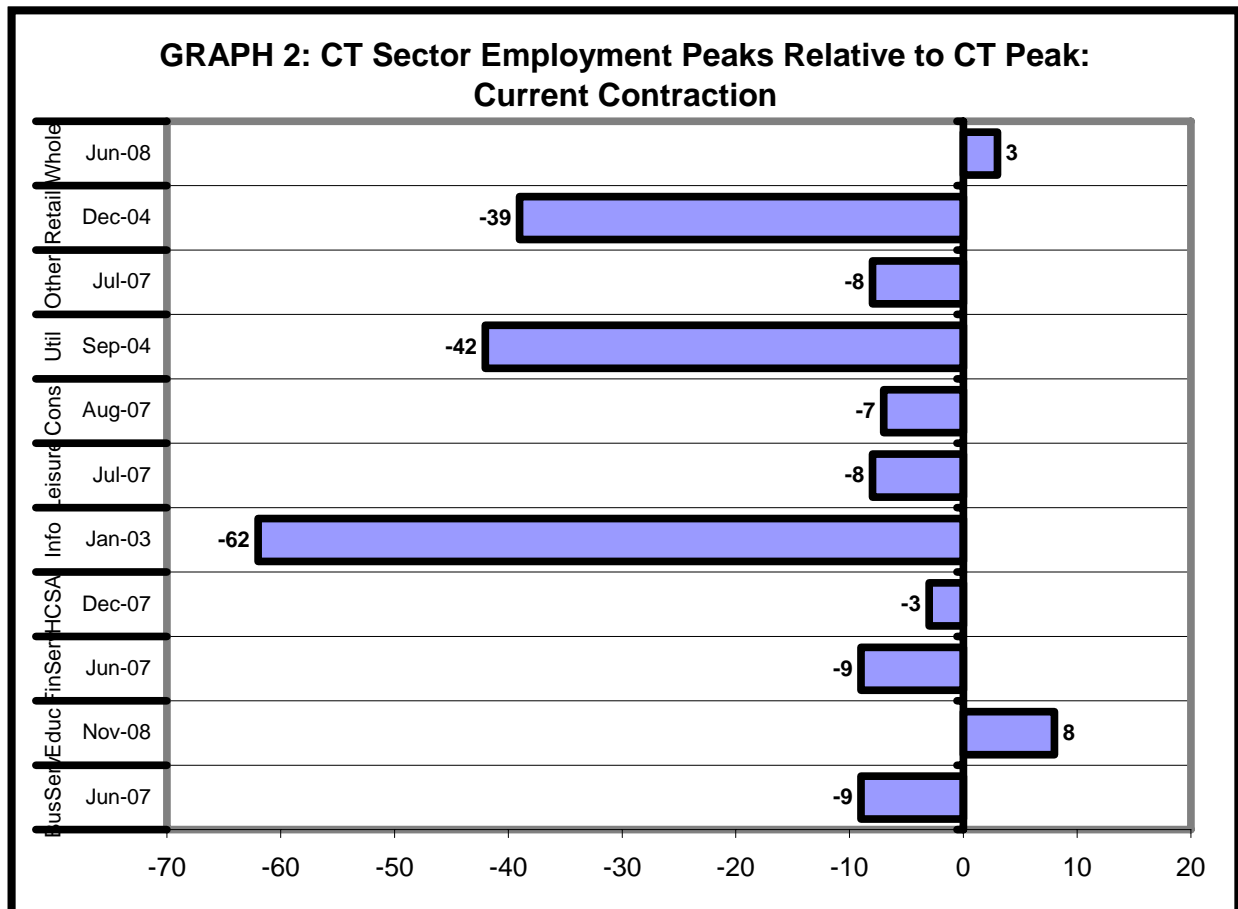
What is readily apparent from graph 2 is that the declines in the retail, utilities, and information sectors extend across cycles. Job losses in these sectors have been driven by trend/structural forces, which have been reinforced by the current economic contraction. This is especially true for the conspicuously missing sector in graph 2: manufacturing. Connecticut manufacturing employment peaked in March 1998, and has steadily declined from that peak (120 months before the March 2008 peak of the current cycle). From March 1998 to March 2009, Connecticut has lost 72,800 of its manufacturing jobs. This represents a 29.17% decline in the State's manufacturing job base. The employment declines in the financial services, business services, leisure super-sectors, and the construction and other services sectors, all preceded the State's peak by 7 to 9 months. Their employment gains and losses over the current cycle have been more tied to the housing bubble/bust, and credit-fueled 2003-08 recovery/expansion. Health care and social assistance employment peaked three months before the Connecticut non-farm employment series. Nevertheless, the decline has been mild, as the growth in HCSA employment has been driven by long-term demographic forces, with brief, and mild, cycle-driven interruptions. This would also apply to education, which peaked eight months after the State's cycle peak. However, demographic forces may begin to constrain job growth somewhat going into the next decade. Wholesale trade employment peaked in June 2008, three months after the State's employment peak. This sector's employment growth has been driven by the non-durable goods sub-sector.



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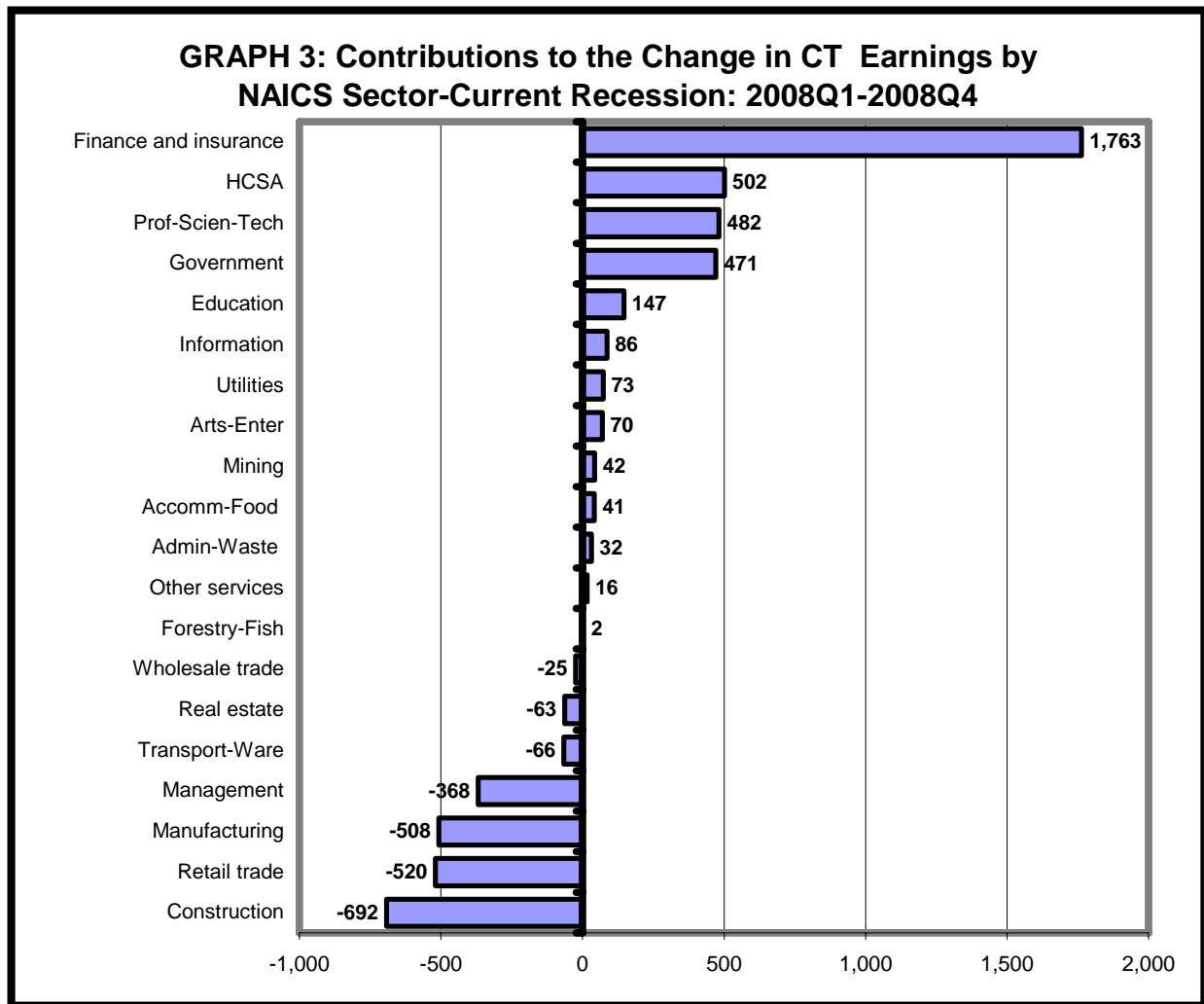
SOURCE: CT DOL-Research



CURRENT CONDITIONS AND OUTLOOK FOR THE U.S. AND CONNECTICUT ECONOMIES: 2008-2010

B. INCOME

In nominal terms, Connecticut, Quarterly Personal Income (QPI) increased by \$1.555 billion between the quarter Connecticut went into recession (based on Non-Farm Employment) and the latest quarter of data, the fourth quarter of 2008. That represents an 0.80% increase. U.S. QPI grew by 2.41% over the 2007Q4-08Q4 period, defined by the NBER as the current recession. Accounting for the different lengths of the Connecticut and U.S. recessions by looking at the compounded annualized rates of growth, CT nominal QPI has grown at a 1.07% compounded annualized rate, compared to 2.41% for the U.S. and 1.86% for New England. Thus, Connecticut income has been growing more slowly, in nominal terms, than the U.S. or New England over the current crisis.



SOURCE: U.S. BEA

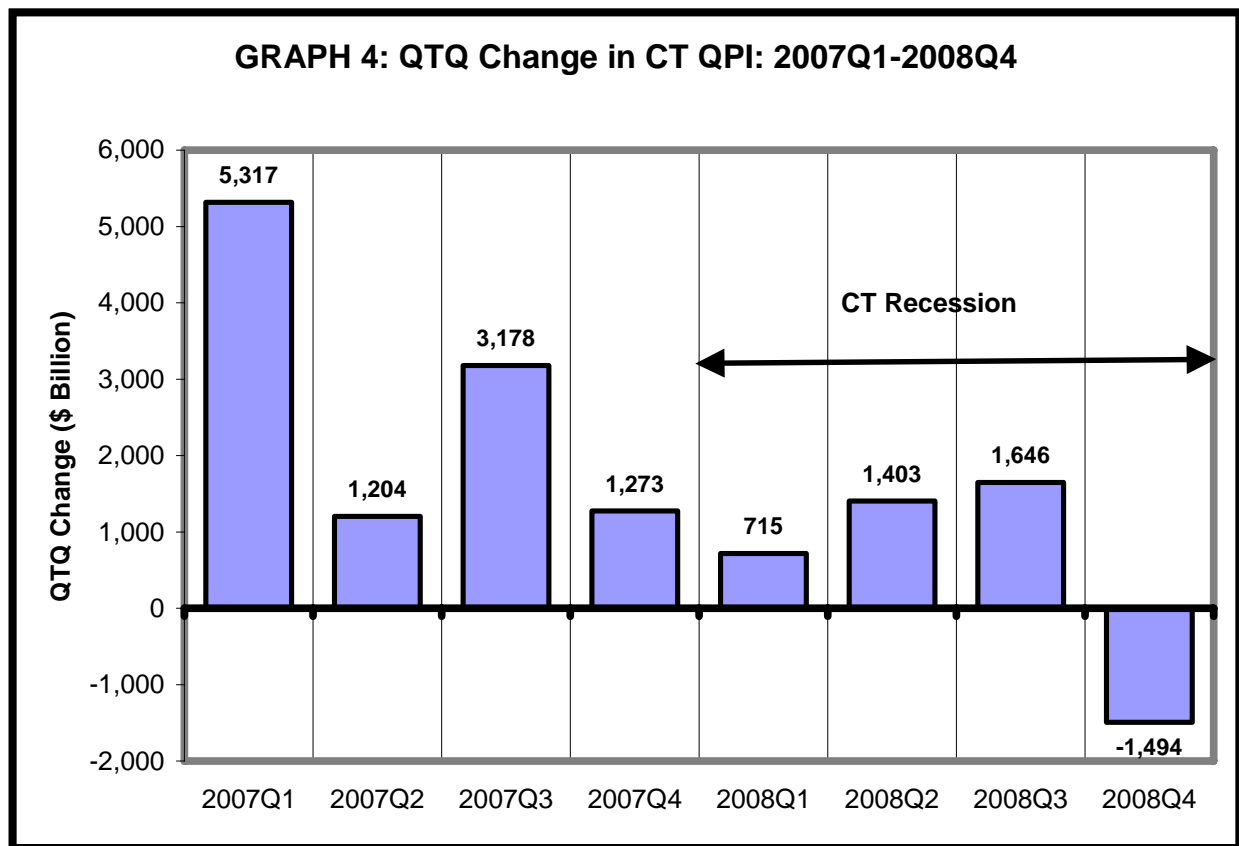
Graph 3 presents the contributions to the change in Connecticut QPI over the current recession. The largest drags on income growth are construction, which subtracted \$692 million from the growth in the State's QPI between 2008Q1 and 2008Q4. Retail trade and manufacturing each subtracted more than one-half billion dollars each, and management of companies and enterprises subtracted another \$368 million. Seven NAICS sectors sub-



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tracted a total of \$2.242 billion from QPI over the current contraction (up to 2008Q4, the latest period of available data).

On the other hand, thirteen NAICS sectors added \$3.727 billion dollars in income to Connecticut QPI during the current downturn. Surprisingly, or maybe more “controversial” would be a better word, finance and insurance led the pack by adding \$1.763 billion to Connecticut’s earnings by industry between 2008Q1 and 2008Q4. Health care, professional and technical, and government (which includes the Tribal Nations) each added \$400 billion or more to earnings by industry over the current recession. However, the Panic of 2008 not only affected Connecticut’s labor markets (see above), but it also impacted Connecticut’s QPI, which declined by \$1.494 billion in the fourth quarter of 2008, as depicted in graph 4.



SOURCE: U.S. BEA

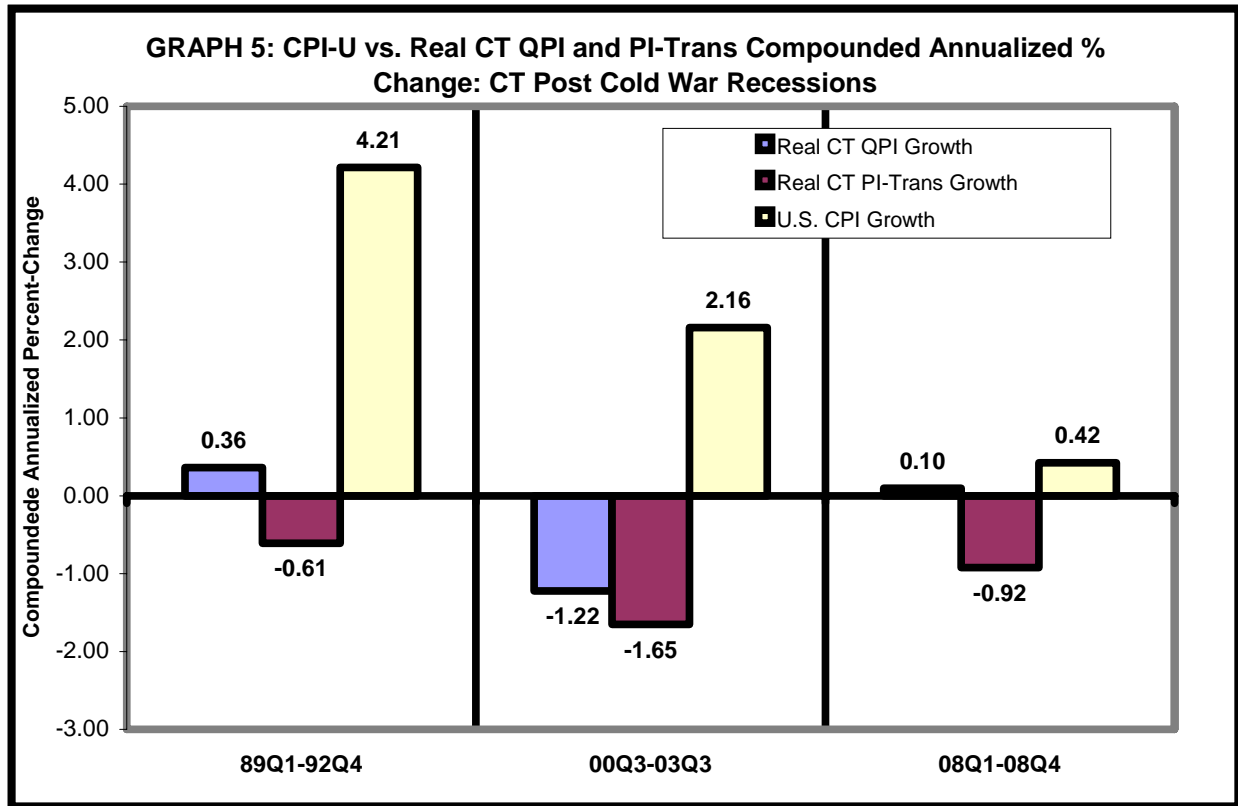
When the decline in Connecticut QPI is adjusted for prices, and the annualized, compounded change is compared to the previous two post-Cold War recessions, real QPI growth, though flat, has not declined so far over the current recession. Though real QPI has grown weakly, it did not grow at the rate it did over the 1989-92 great recession, and real QPI declined over the 2000-03 Connecticut recession. However, this masks some important factors that are presented in graph 5.

The first point to note is that when QPI is subtracted from Transfer Payments (PI-Trans) to obtain only income generated by current economic activity, real income declined in all three recessions (see graph 5). It declined the steepest in the 2000-03 recession, and PI-



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Trans has had the smallest decline, so far, over the current recession. But, another important point is the behavior of inflation over the three recessions. The CPI-U grew at an annualized rate of 4.21% over the Great Recession, and even over the last recession, on the heels of the tech-bubble bust and the September 11th attacks, inflation still grew at a low 2.16%. Since Connecticut entered the current recession in March 2008 (2008Q1), the compounded, annualized growth rate of the CPI-U has been just 0.42%, with some months of deflation included in the interval. This results in a smaller subtraction from nominal QPI to obtain real QPI. However, on the other side of the coin, low inflation means debt burdens are not declining, and in months of deflation, real debt burdens are *increasing*. Given that households accumulated unprecedented levels of debt over the last expansion, the declines in the CPI result in increases in the real debt burden. On a quarterly basis, the CPI-U declined by 2.15% between the third and fourth quarters of 2008. And, though QPI declined on a nominal basis, the decline in the CPI-U was greater, thus, Connecticut real QPI actually increased. However, as discussed above, the real debt burden also increased. Thus, while the increase in real income is stimulative, the simultaneous increase in the real debt burden cancels, at least some, of the stimulative effect of the rise in real income. This is especially so in the face of falling asset values reflected in the continuing decline in house prices.



SOURCE: U.S. BEA



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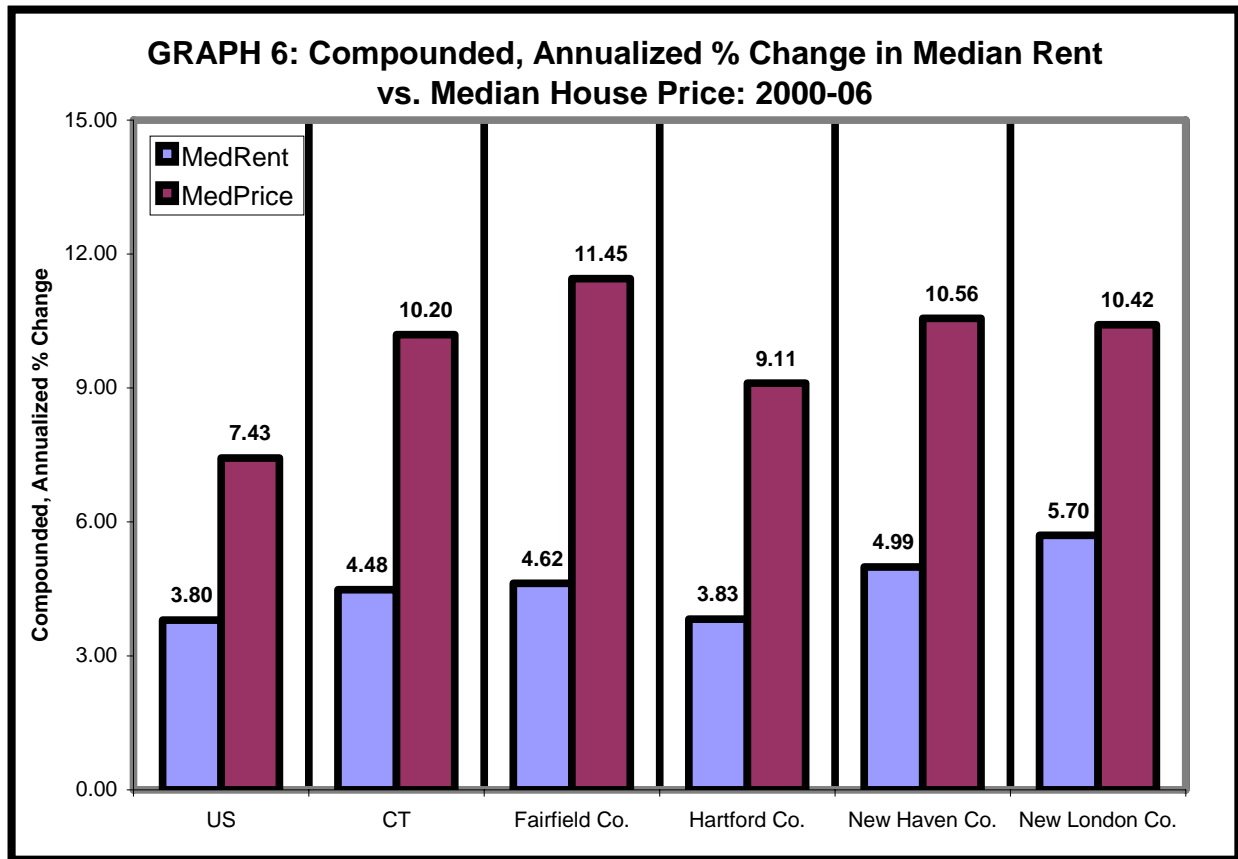
**II. THE HOUSING BUST AND THE FINANCIAL PANIC:
Connecticut's Exposure**

A. CONNECTICUT'S EXPOSURE TO THE HOUSING BUST

Connecticut was not as caught up in the housing bubble as some parts of the country, and even other parts of New England, were. However, the state did not escape unscathed. As noted in the 2008 Outlook:

Though Connecticut clearly did not experience the asset bubble in housing markets such as those in Miami, San Francisco, and Las Vegas. However, regions of the State have been significantly effected, particularly Fairfield County. And, low-income homeowners have been heavily hit by sub-prime mortgage resets¹⁹⁰.

Though the most current available data from the American Community Survey from the U.S. Census is 2007, it still reflects the significant weakness that was becoming apparent in the housing market. Graphs 6 and 7 show the change in the median house price com-



pared to the change in the median rent for the U.S., Connecticut, and the State's four largest counties. Graph 6 presents the compounded, annualized growth rate in the median rent and median house price over the 2000-06 period, which covers the 2003-05 segment

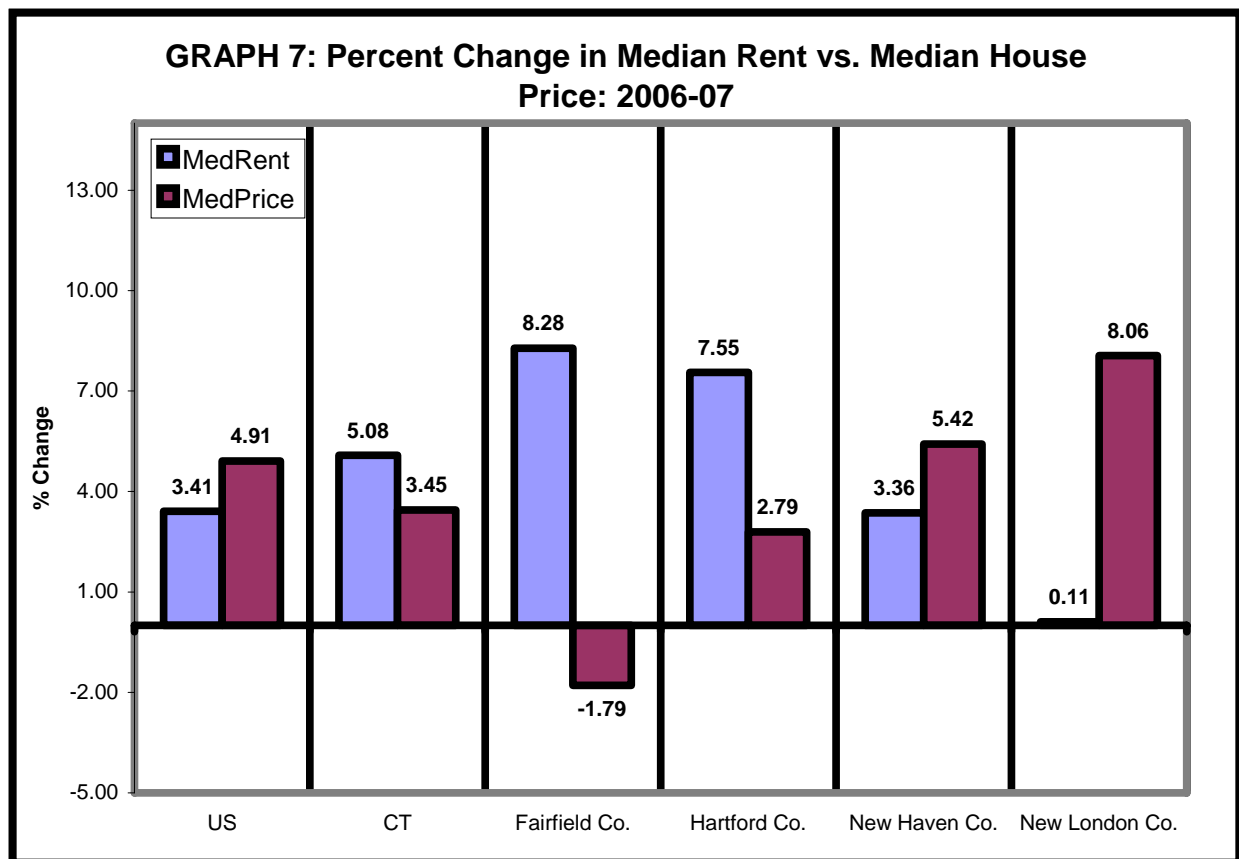
¹⁹⁰ Kennedy, Daniel W. CURRENT CONDITIONS AND OUTLOOK FOR THE U.S. AND CONNECTICUT ECONOMIES: 2007-2009, Volume 2: The Connecticut Economy (Update: May 2008), Office of Research, Connecticut Department of Labor: Wethersfield, p. 33.



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when the housing bubble was expanding the fastest. And, by the last half of 2007, the median house price was falling for the first time since the Great Depression, according to the U.S. Federal Housing Finance Agency's¹⁹¹ (FHFA) House Price Index (HPI).

Graph 7 depicts the growth rate in median rent and the median house price between 2006 and 2007. It is this segment that reflects the beginning of the spread of the housing crisis that, by then, was already full blown in the epicenter areas such as Miami, Phoenix, and Las Vegas.



SOURCE: American Community Survey, U.S. Census, 2000, 2001, 2002, 2003, 2004, 2005, 2006, and 2007.

One of the many signs of a possible bubble in the housing market that were ignored¹⁹² was the misalignment of the growth rates in housing prices and rents. To see this, it is important to delineate between two separate, but tightly connected, real estate markets. The market where housing structures are bought and sold is an *asset market*. Like all assets, residential assets have the ability to earning income over multiple periods. These assets earn income by providing living space services in the residential *property market*. Many who argued that there was no bubble pointed out that new household formation, driven by demographics, lifestyles, and immigration were putting pressure on the demand for living space. But, if this were true, then that demand for living space should have been reflected in the property market for living space, regardless of tenure. That is, there should have been demand pressures on both renter-occupied, as well as, owner-occupied living space.

¹⁹¹ Formally, the HPI was published by the Office of Federal Housing Enterprise Oversight Agency (OFHOA)

¹⁹² See the 2008 Outlook, pp. 2-4 and pp. 35-40.



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But, as the discussion below reveals, that was not the case. The growth rate in rents did not keep pace with the growth in housing prices. This is just one, of many, red flags that were signaling the likely existence of an asset bubble.

From graph 6 it is apparent that house prices did grow faster in Connecticut over the 2000-06 period than in the nation as a whole, though the difference was not anywhere near that of the epicenter markets such as Las Vegas, Miami, and Phoenix. And, the significant gap between the growth in the median rent and median house price is also greater for Connecticut (the median house price grew at 1.96 times the rate of rents versus 2.28 times as fast for Connecticut) than for the U.S. But, what really stands out is Fairfield County. The median house price in Fairfield County grew one and one-half times faster than the U.S. median house price between 2000 and 2006, and Fairfield County's median house price grew at a rate that was 2.48 times faster than the growth in rents.

Graph 7 shows the results of the first signs that the bubble was popping. Even by 2007, the growth of the median house price and the median rent were becoming much more aligned for the nation, and the median rent actually grew faster than the median house price in Connecticut in 2007. The change was much more dramatic for Fairfield County, where the housing bubble had its biggest effect compared to other regions of the state. While the growth rate in the median rent nearly doubled to 8.28% in 2007 (graph 7), compared to the compounded growth rate over the 2000-06 period (graph 6), the median house price in Fairfield County declined by 1.79% in 2007 (graph 7).

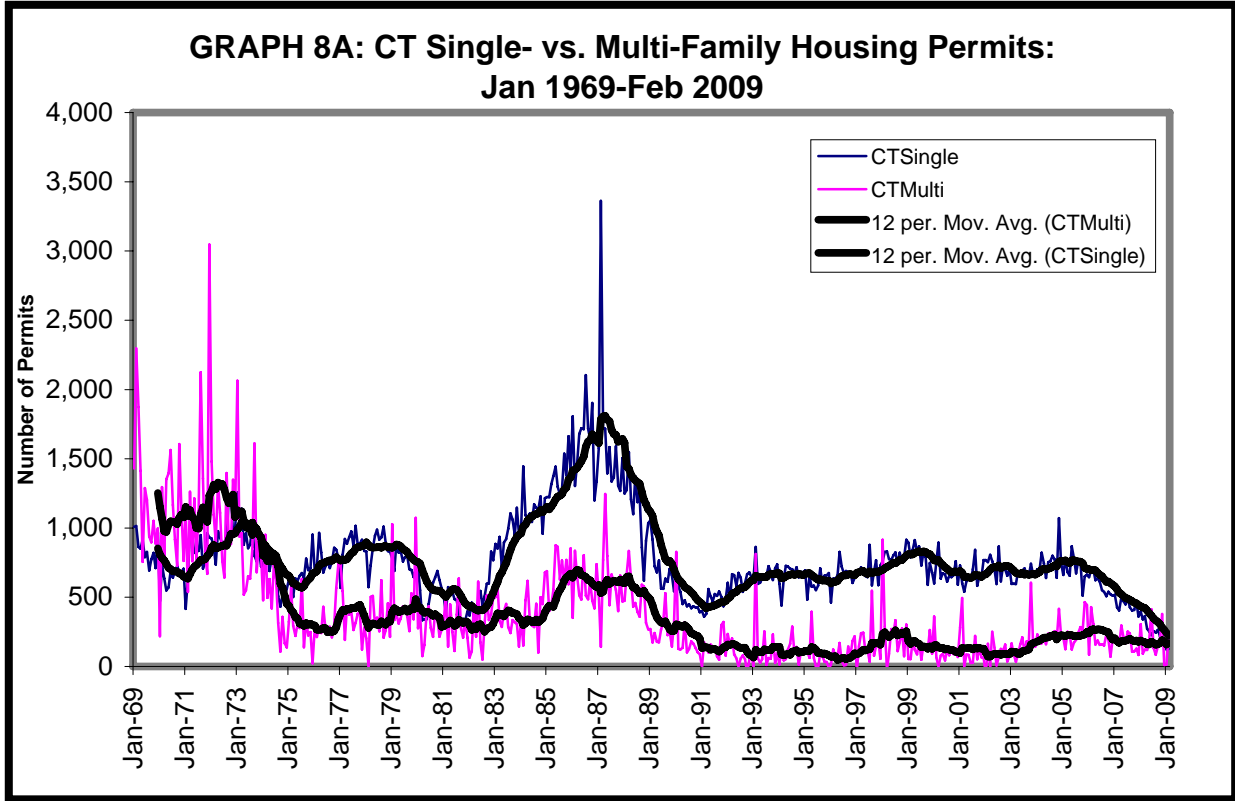
The one anomaly seems to be New London County. After median house prices grew slightly faster than those for the State, and with rents growing at the fastest rate in Connecticut, but still only have the rate of house prices, the median house price, in New London County, then grew by 8.08% in 2007, the fastest growth in the State. At the same time, there was virtually *no growth* in the median rent (see graph 7).

Another reason why the bubble was missed, particularly in New England has to do with the "fighting-the-last-war" mentality. Many looked at the behavior of housing permits in Connecticut and declared no bubble. Mark Twain said that "History doesn't repeat itself, but it rhymes". Graphs 8A and 8B show the track of single-family and multi-family housing permits for Connecticut (graph 8A) and the U.S. (graph 8B) from January 1969 to February 2009. Though Connecticut's multi-family permits peaked in the 1970's, single-family and total permits peaked in February 1987, at the peak of the 1980's real estate bubble. Permits in Connecticut never returned to their 1980's levels. Thus, many rejected the idea of a housing bubble based on the information in graph 8A. And, as can be seen in graph 8B, like Connecticut, U.S. multi-family permits peaked in the 1970's, however, unlike Connecticut, single-family and total permits peaked in September 2005. As mentioned above, one place to look for how the last bubble "rhymed" with those that preceded it was the misalignment of the growth in rents relative to house prices, another was the growth in house prices versus the growth in the median household income. Still another, which reflected the misalignment between house prices and income, was existing home sales. This is where the U.S. and Connecticut were more in sync.

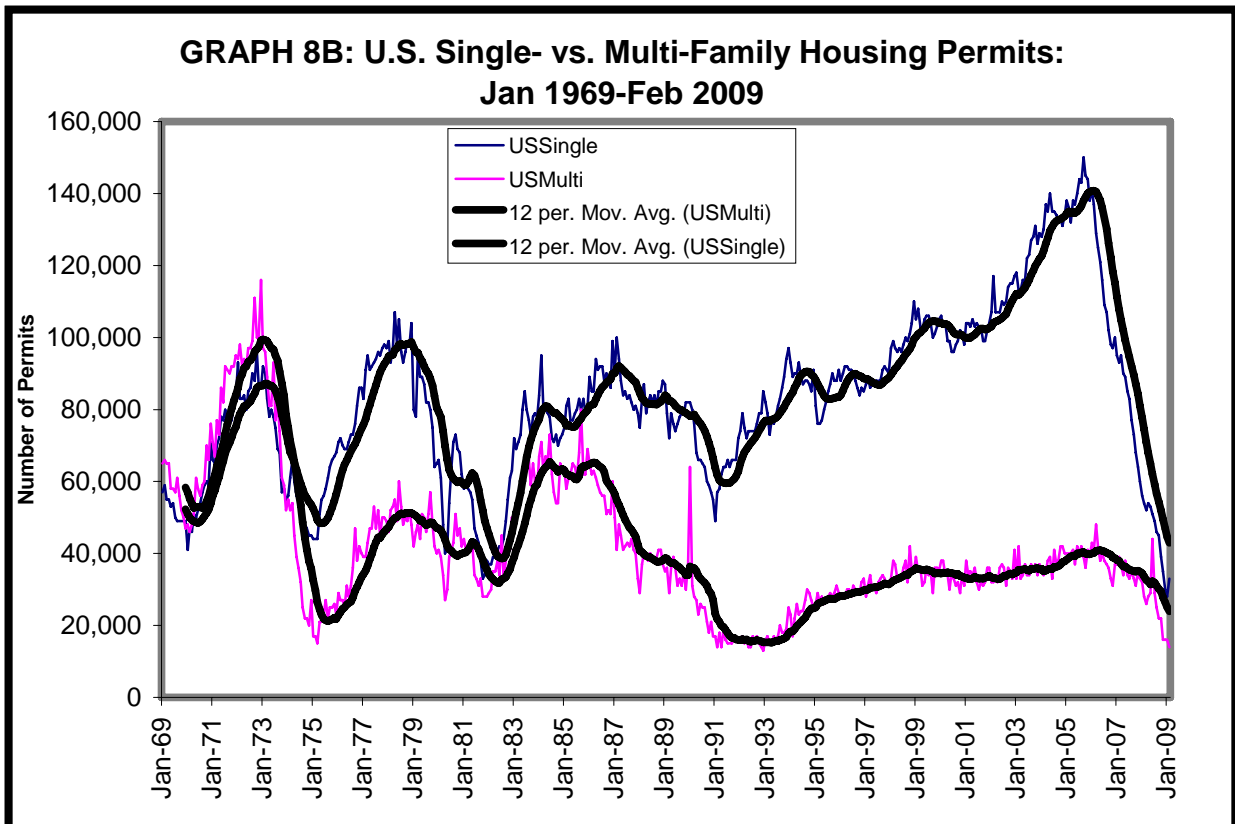
As depicted in graph 9, Connecticut's existing homes sales began to precipitously decline after the first quarter of 2005. This actually preceded the U.S. decline by one quarter.



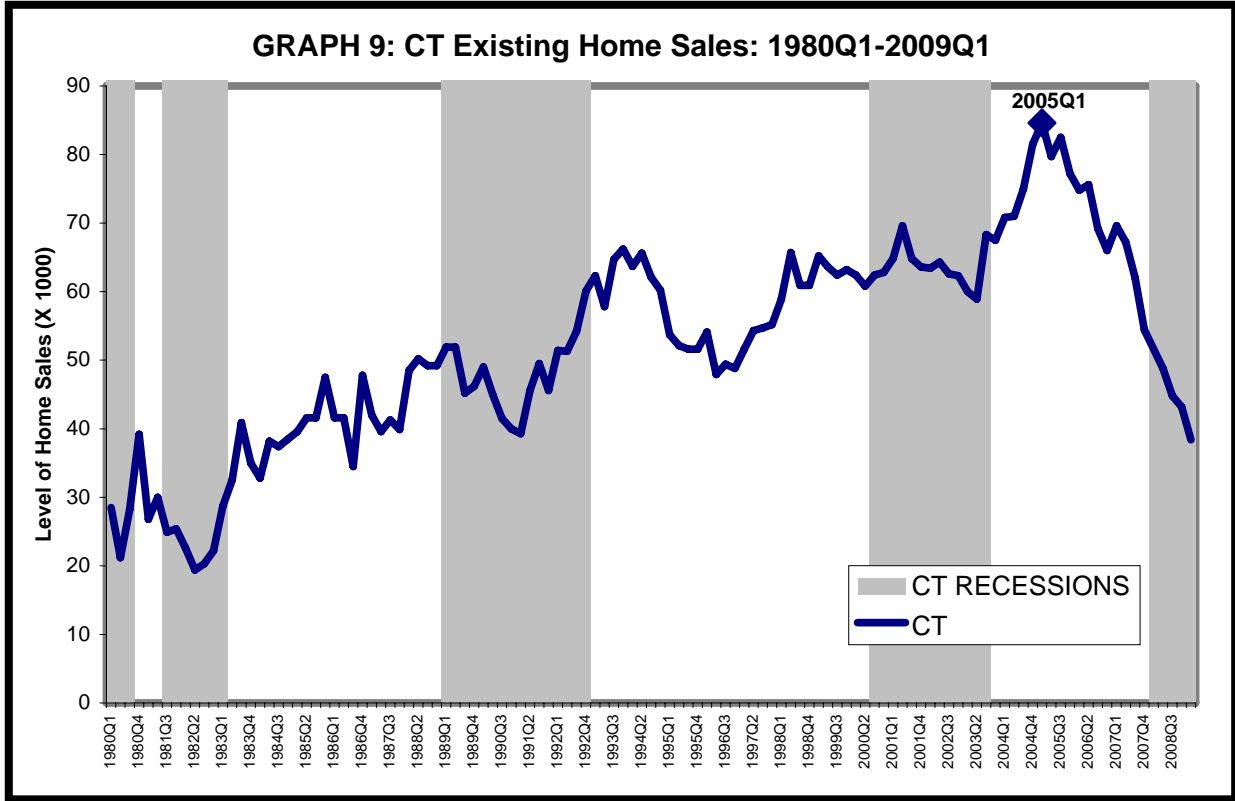
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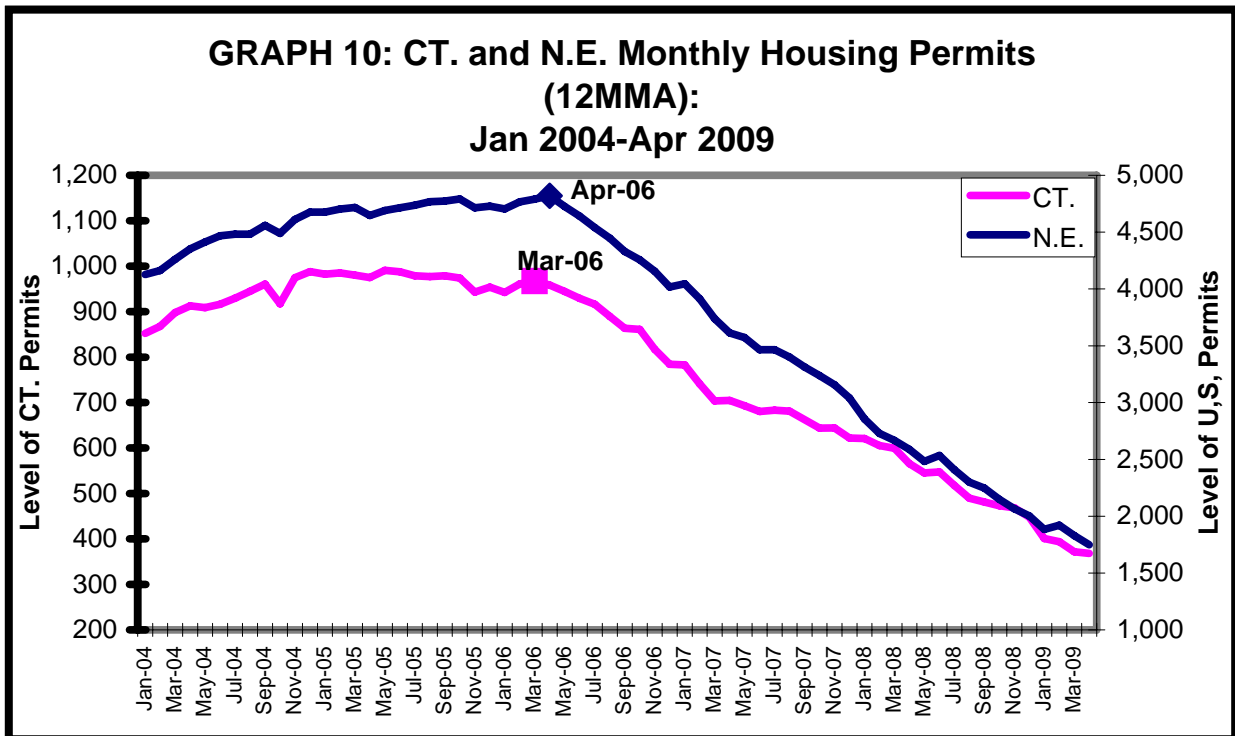
SOURCE: U.S. Census Bureau



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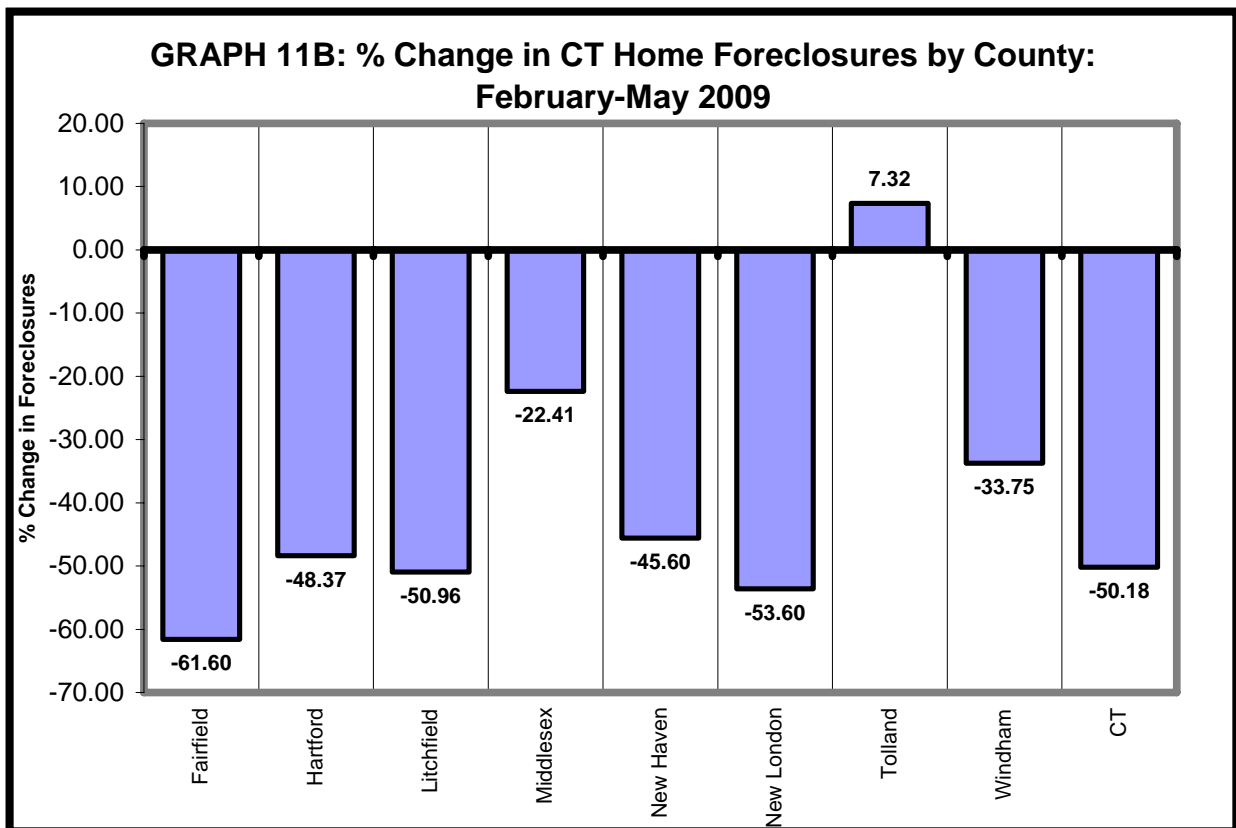
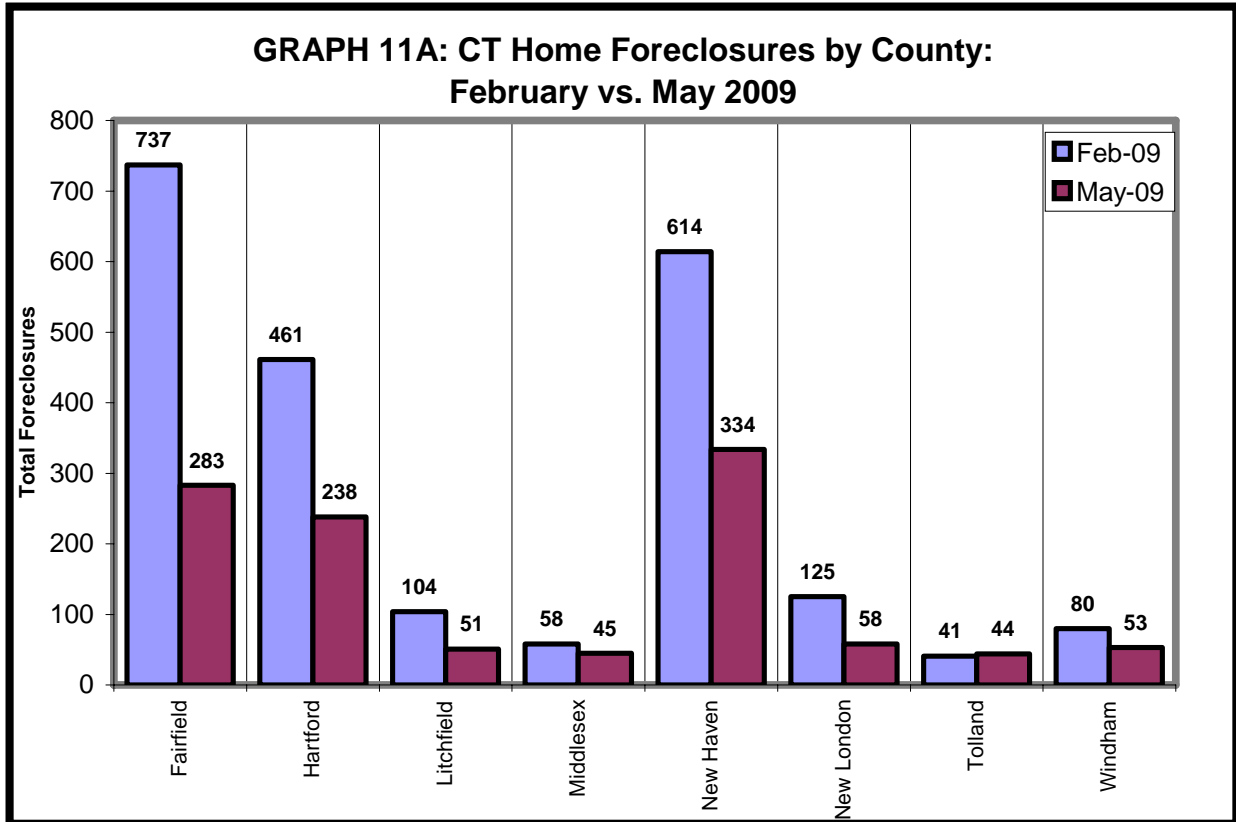
SOURCE: National Association of Realtors



SOURCE: U.S. Census, Boston Fed-NEEI, and calculations by CTDOL-Research.



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SOURCE: RealtyTrac



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As shown on graph 10, even though they never reached the levels of the 1980's, in either Connecticut or New England, housing permits have continued their decline, in both the state and the region. In order to filter out the noise in the data (even though it is seasonally adjusted), graph 10 tracks the 12-Month Moving Average (MMA) in both Connecticut and New England, and in both instances permits continue to decline through April 2009. However, foreclosures may be abating somewhat in Connecticut, at least for the time being. Graph 11A depicts the levels of foreclosures in Connecticut and its eight counties in February and May 2009. Graph 11B shows the percent change in foreclosures between February and May. From graph 11A it is apparent that foreclosures have declined in Connecticut and in seven of its eight counties, Tolland was the only county to see a slight increase between February and May. Graph 11B highlights the relative steepness of the declines. Does this mean that the worst of the foreclosures is over for Connecticut? Not necessarily, because, YTY, foreclosures are still up, and prices continue to fall. Critical, is how high the unemployment rate goes, both nationally, and at the state level, as foreclosures rise with increases in the unemployment rate.

B. CONNECTICUT'S EXPOSURE TO THE FINANCIAL PANIC

The Eye of the Storm— Connecticut found itself in the eye of the storm that slammed into the U.S. and World financial systems, ushering in panic in the month of September 2008. On the heels of the failure of Lehman Brothers, the international insurance giant, AIG, collapsed. AIG found itself on the wrong side of credit default swaps resulting in the rapid unraveling of counterparty positions involving the insurance giant. In response, to stave off worldwide financial contagion, the Federal Reserve purchased warrants that, if exercised, would give the U.S. Treasury 79.9% ownership of AIG. In effect, AIG was nationalized. Then, in March 2009, it was learned that AIG paid out huge bonuses totaling \$218 million¹⁹³. In light of the U.S. taxpayers' \$180 billion bailout of AIG, the news of the bonuses was met with public outrage. To justify paying the bonuses, AIG cited a provision in the *Connecticut Wage Act* that they claimed left the company no choice but to go ahead and pay "retention pay" to the employees who helped drive the company into the ground¹⁹⁴. As a consequence, bus tours dubbed "Lifestyles of the Rich and Infamous," descended on the Wilton headquarters of the AIG Financial Products Division paying out the bonuses, and the homes of executives in other Fairfield County towns¹⁹⁵. The Connecticut Attorney General began an investigation into the AIG bonus payments, and the Connecticut Legislature held hearings on the matter. This incident highlighted the importance of the financial services industry in Connecticut, and particularly in Fairfield County.

In addition, Fairfield and New Haven counties are part of the tri-state region around New York City, which has been the center of the national and international financial activity. The discussion now turns to that context and its implications for Connecticut's economic outlook.

Connecticut and the Tri-State Region— On November 21, 2008, Regional Affairs of the Federal Reserve Bank of New York hosted a workshop on the "Impact of the Current Financial

¹⁹³ This was higher than the original \$165 million initially announced by AIG (see *AIG bonus payments \$218 million: Connecticut attorney general* (March 21, 2009) THE ECONOMIC TIMES) < <http://economictimes.indiatimes.com/Markets/Analysis/AIG-bonus-payments-218-million-Connecticut-attorney-general/articleshow/4297709.cms>> Accessed on June 23, 2009.

¹⁹⁴ Doan, Lynn, *AIG Could Have Skirted Connecticut Law On Bonuses, Experts Say* (March 19, 2009) COURANT.COM < <http://www.courant.com/business/hc-aig-connecticut-laws.artmar19,0,6982918.story>> Accessed on June 23, 2009.

¹⁹⁵ Wahba, Phil *AIG protesters take Connecticut bus tour* (March 21, 2009) REUTERS < <http://www.reuters.com/article/domesticNews/idUSTRE52K23220090321>> Accessed on June 23, 2009.



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Restructuring on the Tri-State Economy.”¹⁹⁶ As part of the tri-state region around New York City, New Haven and Fairfield counties make up the Connecticut portion of the region. With the decentralization of the financial services industry from New York City out to the peripheral areas in downstate New York, New Jersey, and Connecticut, Fairfield County, in particular, benefited from especially the decentralization of the securities, commodities, and brokers industry (NAICS Industry 523), which includes the hedge funds, as well as attracting the North American headquarters of large international banks like the Union Bank of Switzerland (UBS) and the Royal Bank of Scotland (RBS). The growth of the financial services industry in Connecticut in the first decade of the 21st century is, of course, a double-edged sword. With the financial meltdown, Connecticut, along with New York City and northern New Jersey, were particularly vulnerable to the fall-out from a financial crisis on Wall Street. However, with the decentralization of the industry from Wall Street, it also implied that the impact on some of outer regions would be more muted than it would have been before decentralization. Nevertheless, there is still an impact.

Using three different methodologies, REMI dynamic-impact modeling, IMPLAN static-impact input/output, and impact-multiplier analysis within a Vector Autoregression (VAR) framework¹⁹⁷. The three methodologies projected between 80,000-117,000 jobs directly lost in the tri-state region from the financial crisis, and a total job loss (including all sectors of the economy) of more than 300,000 jobs in the region between 2007 and 2012 due to the financial crisis centered around Wall Street¹⁹⁸. Direct job losses in the Connecticut portion of the tri-state region (New Haven and Fairfield counties) were consistently estimated, by all three methodologies, to be 6,000 over the 2007-12 period¹⁹⁹. Again, these are the direct losses and do not include indirect job losses.

Graph 12A shows, not only the concentration of earnings from the finance and insurance sector in Fairfield County, relative to the U.S. and Connecticut, but also the growth in that concentration between 2001 and 2006. Graph 12A presents the Location Quotients (LQ)²⁰⁰ for Fairfield County's Finance and Insurance Sector industries relative to the U.S. and Connecticut. Fairfield County's concentration of securities, commodities, and brokers earnings is the most concentrated, and grew more concentrated between 2001 and 2006. And, as can be seen from graph 12A, Fairfield County's securities, commodities, and brokers earnings are much more concentrated than for the U.S. Further, Fairfield County accounted for 38% of Connecticut's total income growth between 2001 and 2006, and for 60% of the growth in the State's finance and insurance earnings²⁰¹. Graph 12B depicts the LQ's for the same periods as in graph 12A for Fairfield County employment in the finance and insurance industries. As is apparent, the employment concentrations are even higher, relative to both, the U.S. and Connecticut.

¹⁹⁶ Federal Reserve Bank of New York, *Impact of the Current Financial Restructuring on the Tri-State Economy* (November 21, 2008), New York City

¹⁹⁷ Federal Reserve Bank of New York (November 21, 2009), Table 1: "Overview of Models: Unique Aspects, Analysis Type and Limitations", p. 2

¹⁹⁸ *ibid.* Table 2: "REMI, VAR and IMPLAN Projected Cumulative Job Losses: 2007-2012", p.3

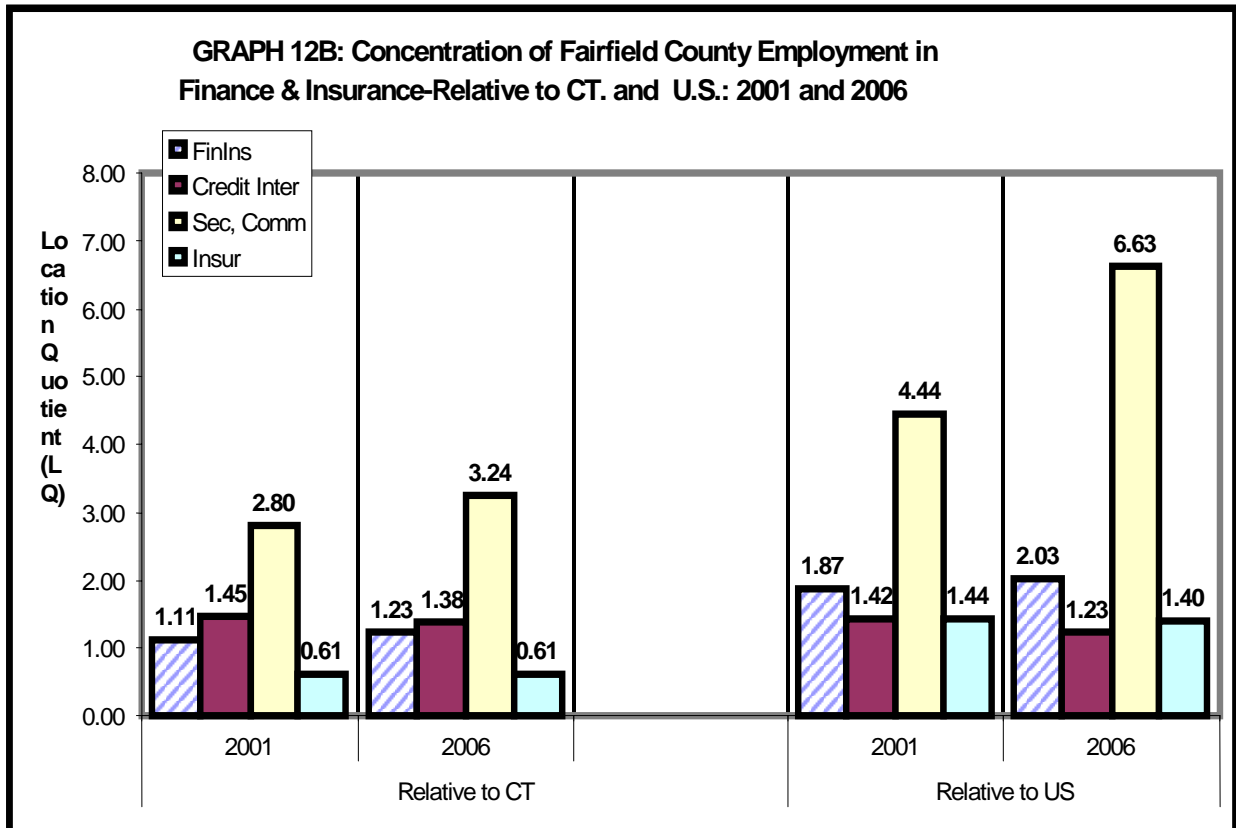
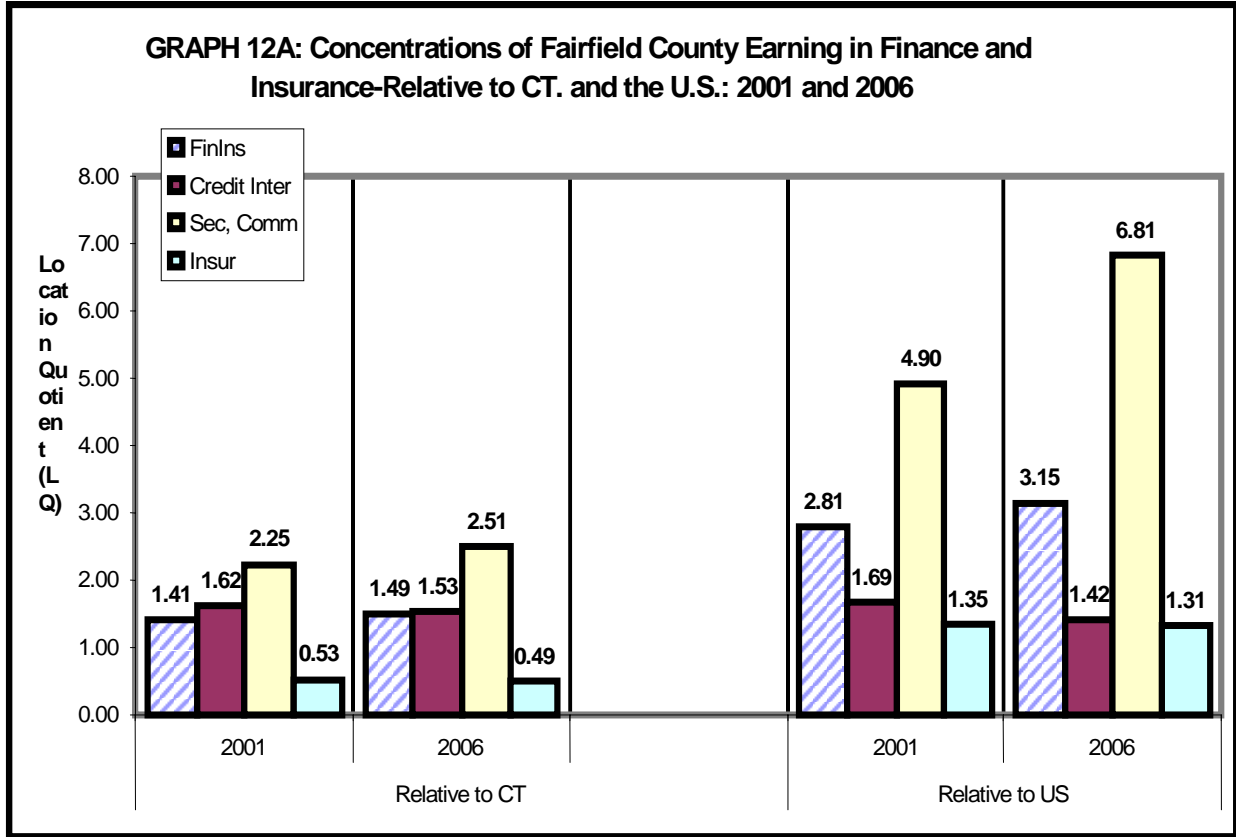
¹⁹⁹ *ibid.* p. 3

²⁰⁰ The Fairfield County LQ, relative to the U.S. = Fairfield Finance and Insurance Earnings as a % of Total Fairfield Non-Farm Earnings divided by U.S. Finance and Insurance Earnings as a % of Total U.S. Non-Farm Earnings. The LQ, relative to Connecticut would replace the U.S. with Connecticut's concentration in the denominator. A LQ > 1 indicates a concentration greater than that of the denominator (i.e., the U.S. or Connecticut), in the numerator region (i.e., Fairfield County).

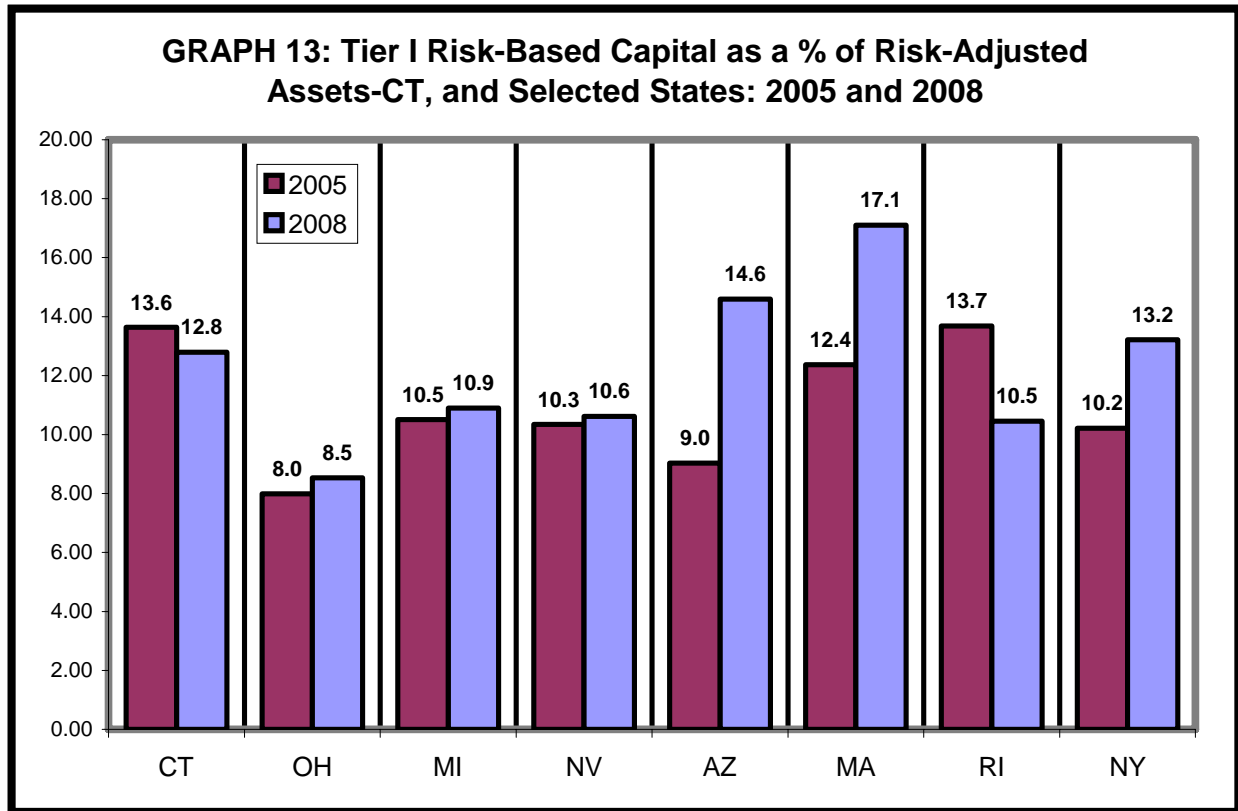
²⁰¹ Presentation to the Business Council of Fairfield County UConn-Stamford, *The Economic Outlook: Where Are We Now? How Did We Get There?* (April 24, 2009), Daniel W. Kennedy, Ph.D., Senior Economist, Connecticut Department of Labor and Forecast Manager, *The Connecticut Economy*, University of Connecticut



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SOURCE: FDIC

The upshot is that Connecticut's economy, though not as vulnerable to the housing crisis as other parts of the country, or even some other parts of New England, is, in fact, more directly vulnerable to the outcome of the crisis in the financial sector, in addition to the indirect fallout.

Connecticut Banking Sector and the Current Crisis— Apparently, Connecticut banks were reticent to accept TARP money because of the open-ended conditions that went along with the Federal money²⁰². The few exceptions have been Webster Bank, of Waterbury, which accepted \$400 million, First Litchfield Financial Corp, \$10 million, and The Connecticut Bank and Trust Company of Hartford, \$5.4 million²⁰³. Nevertheless, the status of Connecticut's banks is not completely clear. Based on Federal Deposit Insurance Corporation (FDIC) data for the fourth quarter of 2008, 58 banks surveyed in Connecticut had \$6.7 billion of Tier 1 (core) risk-based capital against \$52.7 billion in total risk-weighted assets. Thus, the capital cushion was 12.8% of assets, on a risk-adjusted basis in 2008Q4 for Connecticut's depository institutions. This was down from 13.6% in 2005. Between 2005 and 2008, risk-adjusted assets grew by 20.2%, while Tier I core capital grew by 12.7%, hence, the decline in the percent of capital coverage graph 14 compares Connecticut to other selected states.

Looking at nearby states, Massachusetts and New York both increased their capital base, while, Rhode Island's, like Connecticut's, declined. Ohio, Michigan, and Nevada, states ei-

²⁰² Bordonaro, Greg, *STRINGS ATTACHED*, (February 16, 2009) Hartford Business.com, < <http://www.hartfordbusiness.com/news7976.html> > Accessed on June 25, 2009

²⁰³ *Participants in Government Investment Plan*, WALL STREET JOURNAL (January 22, 2009)



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ther hit hard by the fortunes of the U.S. auto industry, or at the epicenter of the housing bubble, all had slight increases in their capital as a percentage of their assets. Arizona, another housing-bubble area, along with Massachusetts, significantly increased their capital base by five percentage points. Further, the level of Connecticut's capital coverage in 2008 was below that of Arizona, Massachusetts, and New York. However, a more positive sign of the shape of Connecticut's banks is in the total value of derivatives on their books, and their decline between 2005 and 2008²⁰⁴.

Connecticut banks reduced the value of derivatives on their balance sheets from \$3.5 billion in 2005 to \$1.4 billion in 2008. That represents a 60% decline. Michigan, Arizona, and New York also significantly reduced the value of derivatives on the balance sheets between 2005 and 2008. Conversely, Ohio banks increased the value of derivatives on their books by 81% over the same period. While, Massachusetts banks increased the value of their derivatives on their balance sheets by 64%. Rhode Island banks, on the other hand, increased the value of derivatives on their books by 23 times! And, even more incredibly, the value of derivatives on the balance sheets of Nevada banks grew from \$6.3 million in 2005 to \$32 billion by 2008—their value grew 5,000 times! Relative to the states compared, Connecticut banks' exposure to derivatives is relatively small.

At the height of the 2008 Financial Panic, Governor Rell announced a five-point plan to keep credit flowing to the State's businesses. The Governor's plan, announced on October 9, 2008 included the following components:

- *The DECD Direct Loan to Small Business Program:* The Department of Economic and Community Development will allocate \$5 million to provide low-interest loans to small businesses in key economic sectors such as aerospace, medical devices and alternative energy. These loans will be targeted to companies of 50 employees or less and will assist in job retention.
- *Urbank Loan Guarantee Program:* When the Connecticut Development Authority Board of Directors meets October 15, Governor Rell will ask that the agency enhance its Urbank Loan Guarantee Program by \$10 million. These loans will be initially targeted at those businesses which are between 50 and 200 employees.
- *Brownfields:* Governor Rell is reallocating \$5 million of Urban Act bond funding for brownfield remediation tied directly to job creation. DECD will administer this program with municipalities around the state that are struggling to recruit businesses and retain their real property tax base.
- *Bond Anticipation Notes:* Governor Rell will request that the Legislature amend the state's municipal law to extend the Bond Anticipation Note (BAN) program. In 2000, use of BANs was extended from four years to eight; many of these notes are coming due in 2008 and 2009. Extending the program would enable municipalities to bridge revenue shortfalls caused by difficulties they currently face in selling bond issues.
- *Loan Pool:* Governor Rell asked the community banks from across Connecticut to work with the state Department of Banking and to each contribute \$1 million for a lending pool that will be available for small businesses²⁰⁵.

Though, three Connecticut banks have merged since the onset of the financial crisis in or-

²⁰⁴ Federal Deposit Insurance Corporation, Statistics on Depository Institutions Report < <http://www2.fdic.gov/sdi/index.asp> > Accessed April 13, 2009

²⁰⁵ State of Connecticut Department of Banking, *Governor Rell Announces Five-Point Plan to Maintain Free Flow of Credit to Connecticut Businesses* (October 9, 2008) <http://www.ct.gov/dob/cwp/view.asp?a=2245&q=424668> Accessed on June 25, 2009



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der to maintain local control within the State²⁰⁶, nevertheless, even with the nation's financial giants reeling, several local banks are vying for wary borrowers and depositors by aggressively promoting themselves as safer and sounder. Ads by Rockville Bank, Farmington Savings Bank, NewAlliance Bank, Liberty Bank and others represent a shift away from traditional bank marketing, which has long focused on convenience and customer service²⁰⁷. And, so far, it appears that the large financial conglomerates, operating across states, as well as across national borders, are the ones that have been the drivers of, or the hardest hit by, the financial crisis—or, in many cases, both. The local banks also focus on their low exposure to financial derivatives, as highlighted above.

III. CURRENT CONDITIONS AND THE OUTLOOK FOR CONNECTICUT'S ECONOMY: 2009 AND 2010

CURRENT CONDITIONS: Where the Connecticut Economy is Headed

At the time of writing, June 2009, it appears that the freefall in the U.S. and Connecticut economies may have subsided. But, this is far from declaring a recovery. And, as pointed out in Volume 1, the U.S. Outlook, stabilizing the financial system is critical to laying the groundwork for a sustainable recovery, and avoiding the specter of a second shoe dropping in the form of a return to financial crisis. On the real economy side, some signs indicate that the stimulus may be gaining some traction in the second half of 2009. However, is it enough? Some are already suggesting that a second stimulus package may be needed to keep the momentum going through 2010, and beyond. The President indicated in his press conference on June 23rd that it is too early to tell, but did not rule it out. The signals at this point are mixed. When economic indicators give mixed signals, in many instances, it is an indication that the economy is at a turning point (in this case a trough?) in the business cycle. However, the economy could also be in a temporary pause before resuming its contraction. Focusing on what the Connecticut signals seem to be conveying does not provide any more certainty about where the economy might be heading.

One of the indicators that is watched to give an indication of the State economy's trajectory into the near future is Unemployment Insurance (UI) Claims. Graph 14 tracks Connecticut UI Claims, the right vertical scale measures the level of initial, and the right vertical scale measures continued claims. The Four-Week Moving Average (4WMA) of initial claims seems to have peaked the week of January 24, 2009. Further, the 4WMA of continued claims seems to have peaked the week of April 4th. Does this indicate that the worst is over for Connecticut's Economy?

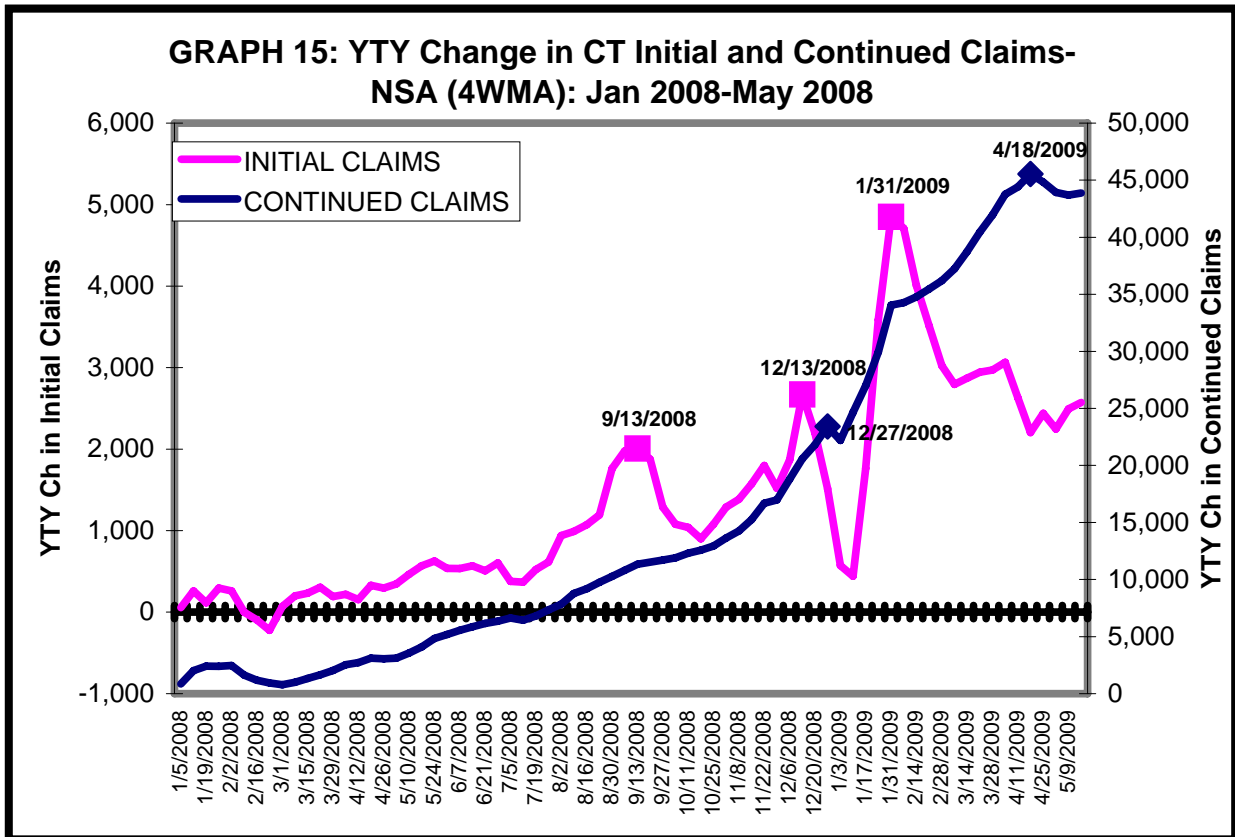
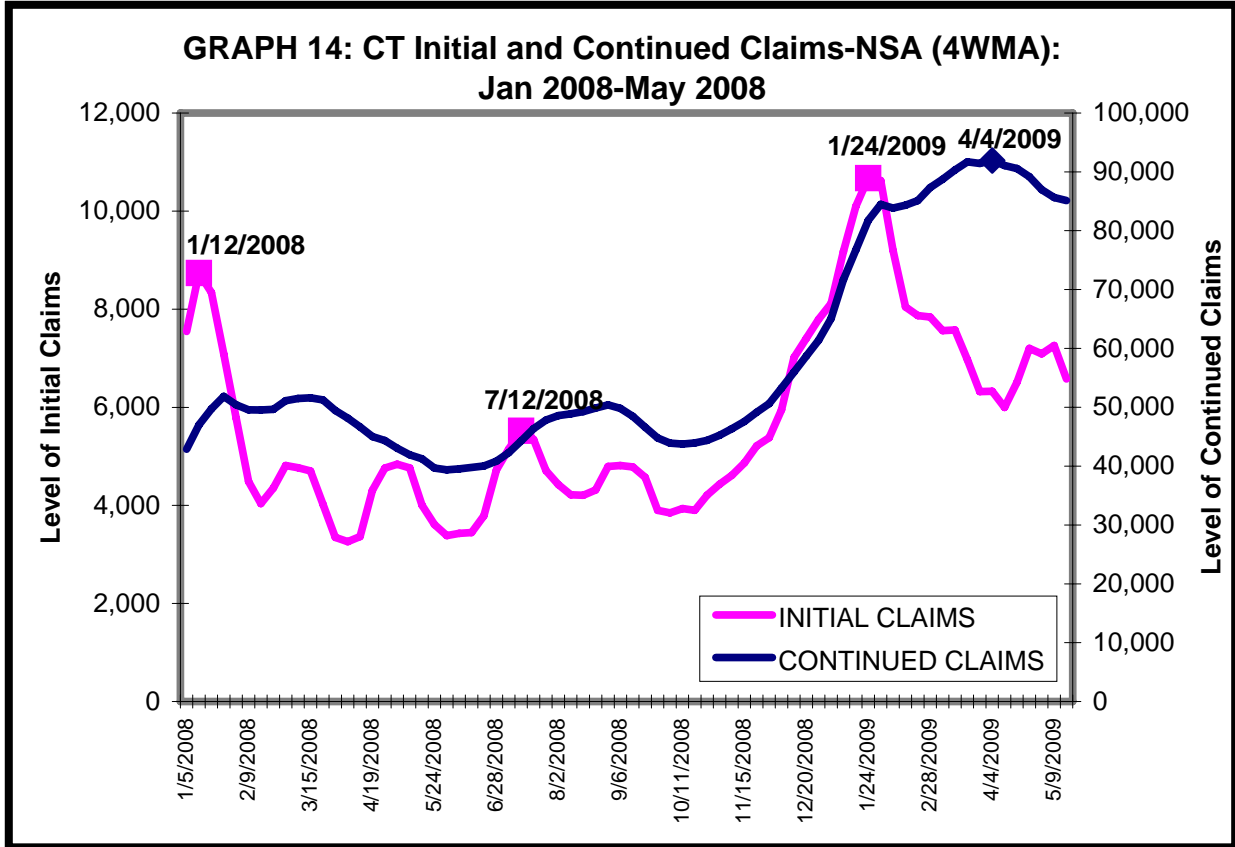
Graph 15 presents the Year-to-Year (YTY) change in claims; it suggests that what appears to be the global peak in initial claims in graph 14 may, in fact, be so, but not necessarily. Again, as in graph 14, in graph 15 initial claims are on the left vertical scale, and continued claims on the right. Two peaks in the YTY growth in initial claims preceded the "global" peak the week of January 31st. After peaking the week of December 13, 2008, the YTY change in initial claims declined rapidly, but then surged again the last week of January 2009, the YTY change in initial claims then declined through the first week of March. Trending up in the beginning of April, and then retreating again until the week of April 18th, since then, the YTY change has had a slight upward trend through the middle of May. The YTY growth in continued claims has a much smaller variance than the YTY growth in initial

²⁰⁶ *Another Merger Of Community Banks In Works* (April 27, 2009) HartfordBusiness.Com <http://www.hartfordbusiness.com/news8694.html> Accessed June 25, 2009

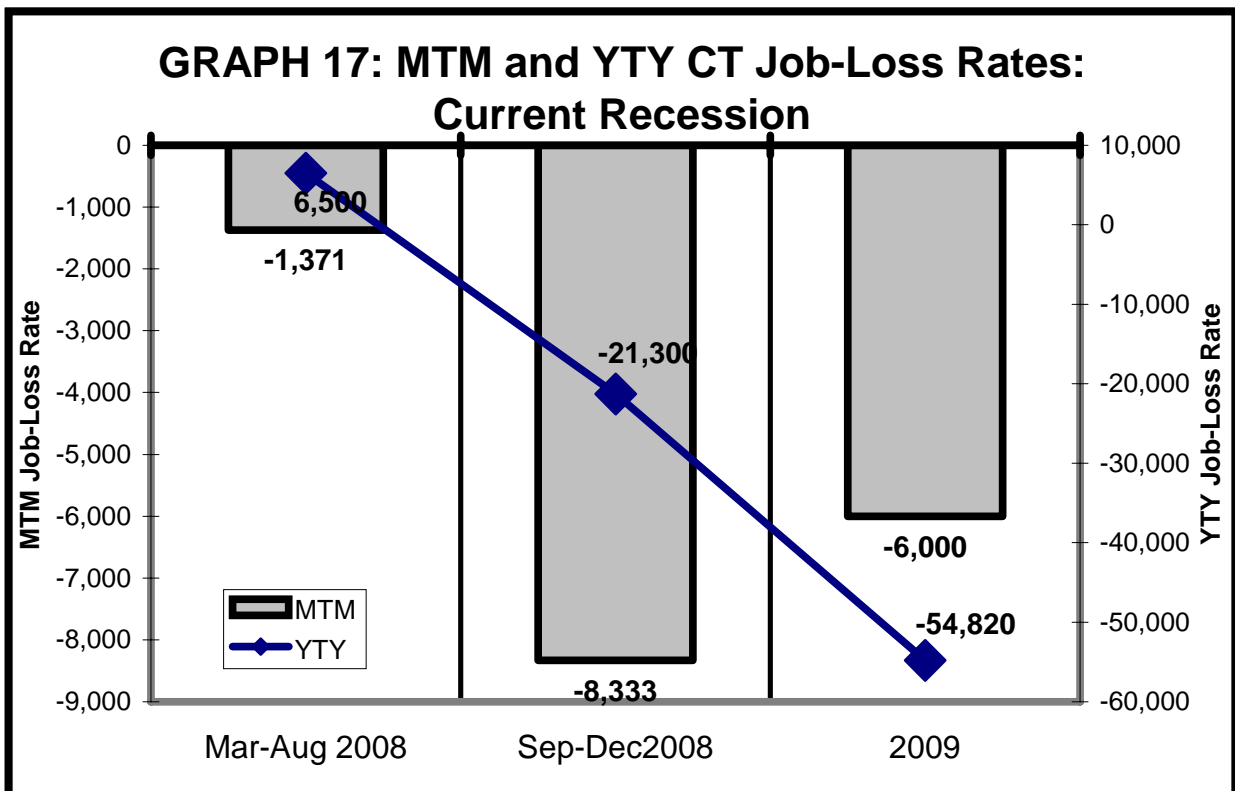
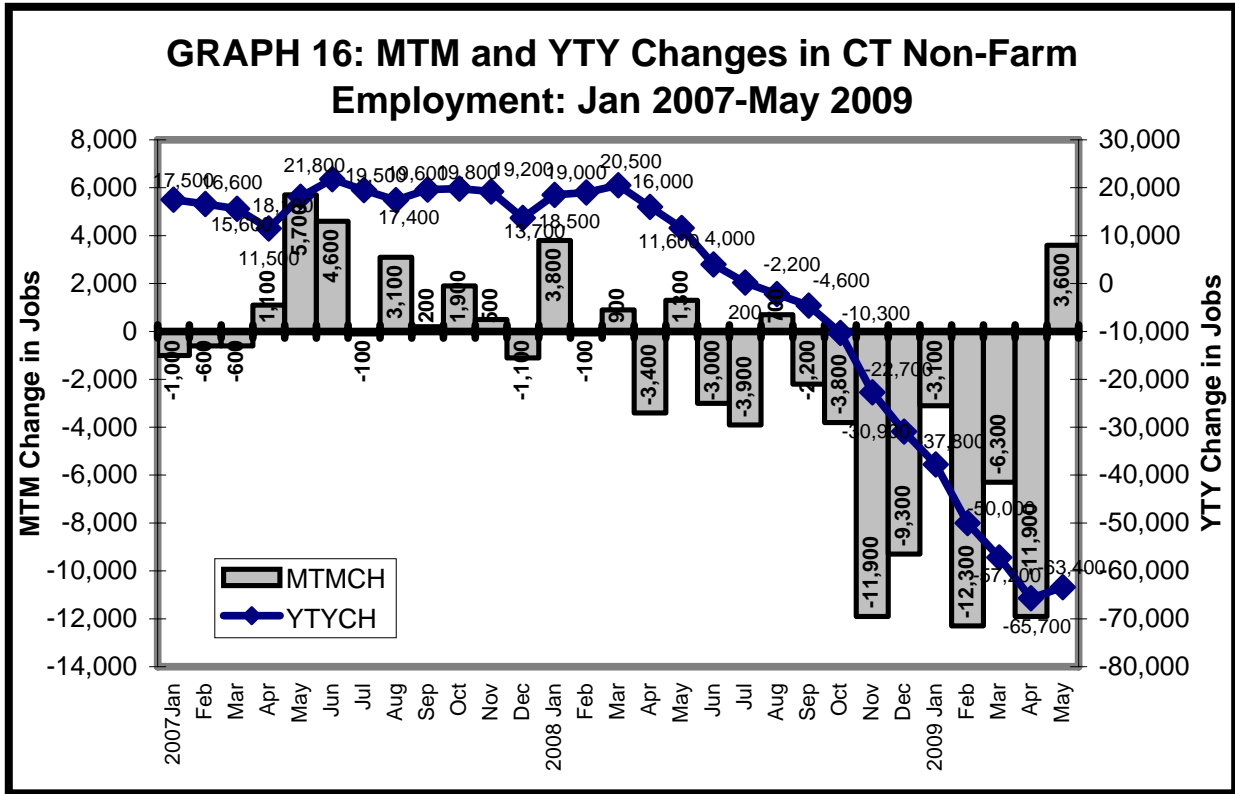
²⁰⁷ Bordonaro, Greg, *Banks Tout Safety And Soundness* (January 12, 2009) HartfordBusiness.Com < <http://www.hartfordbusiness.com/news7647.html> > Accessed on June 25, 2009



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SOURCE: U.S. BLS and CT DOL-Research



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claims. The global peak in the YTY growth in continued claims appears to be the week of April 18th. The decline in the YTY growth in continued claims leveled off in May, and has held steady. Thus, it appears that the growth in UI Claims has subsided, but that does not mean that these positive trends are not subject to reversing course before the year is out.

Another important indicator to gauge the current track of the economy is Non-Farm Employment from the Establishment Survey. The YTY and Month-to-Month (MTM) changes in Connecticut non-farm employment are presented in graph 16. The MTM change is measured on the left vertical scale, and the YTY change on the right vertical scale. The May increase of 3,600 was Connecticut's first MTM job gain since the 700 jobs increase in August 2008. Is this a turn around? Possibly, but, a one month gain does not make a trend. In fact, three consecutive months of gains could be considered a possible turning point. Further, the May increase may be an anomaly due to methodology changes in the way non-farm employment is estimated²⁰⁸. However as depicted in graph 17, the MTM job loss rate has subsided somewhat in 2009, but the YTY rate has accelerated. Further, a MTM job loss rate of 6,000/month for 2009 is not exactly a recovery. In fact, it still far exceeds the MTM job loss rate of 1,694 jobs/month during the last recession. Job losses between March 2008 and May 2009 averaged 4,679/month.

Can Exports Drive a Connecticut Recovery?— Though Connecticut's export growth was slightly ahead of that for New England over the most recent expansion [defined as November 2001 (Q4) to December 2007 (Q4) for the U.S.], it lagged behind the U.S. As depicted in graph 18A, U.S. exports grew by 78.8%, compared to 65.7% for Connecticut. However, as shown in graph 18B, Connecticut did have a surge in export growth between 2005 and 2007. In 2006Q2, Connecticut's exports grew by 37.8%, on a YTY basis, this was 2.8 times faster than U.S. export growth of 13.4%, and 3.4 times faster than New England's growth-rate of 11.1%. In addition, Connecticut's decline in exports over the current recession has been much shallower than the declines for the U.S. and New England. Between 2007Q4 and 2009Q1, U.S. exports declined by 20.8%, New England's exports declined by 8.5%, while Connecticut's exports declined by only 3.0% (see graph 18A).

As for the U.S. export outlook (see Volume 1 of this report), critical to Connecticut's export prospects are the expected demand conditions in the major destinations for the State's export products. Graph 19 shows the distribution of exports to Connecticut's destination markets for the first quarter of 2009. Of the top four destinations, France received 29% of Connecticut's exports, Germany 17%, and Canada 15%. The remaining 39% of the State's exports went to all other destinations. Given the distribution of export destinations, what are the prospects of export growth contributing to a possible recovery in the State's economy?

TABLE 1: YTY % CHANGE Real GDP (IMF Forecast)**

Major CT. Merchandise Exports Destinations

Canada	0.46	-2.54	1.16
France	0.72	-2.95	0.41
Germany	1.29	-5.61	-1.00
World	2.06	-2.51	1.05

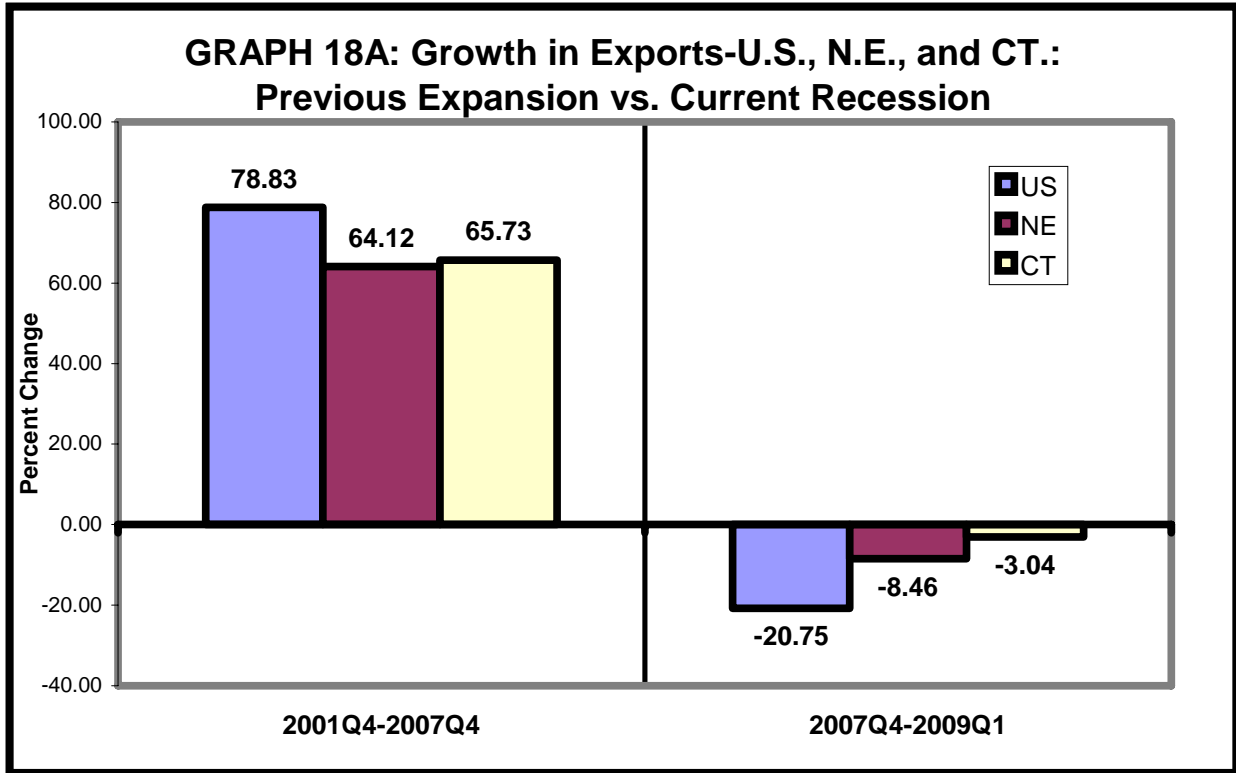
**International Monetary Fund, WORLD ECONOMIC OUTLOOK (April 2009)

To answer that question, table 1 presents the International Monetary Fund's (IMF) April

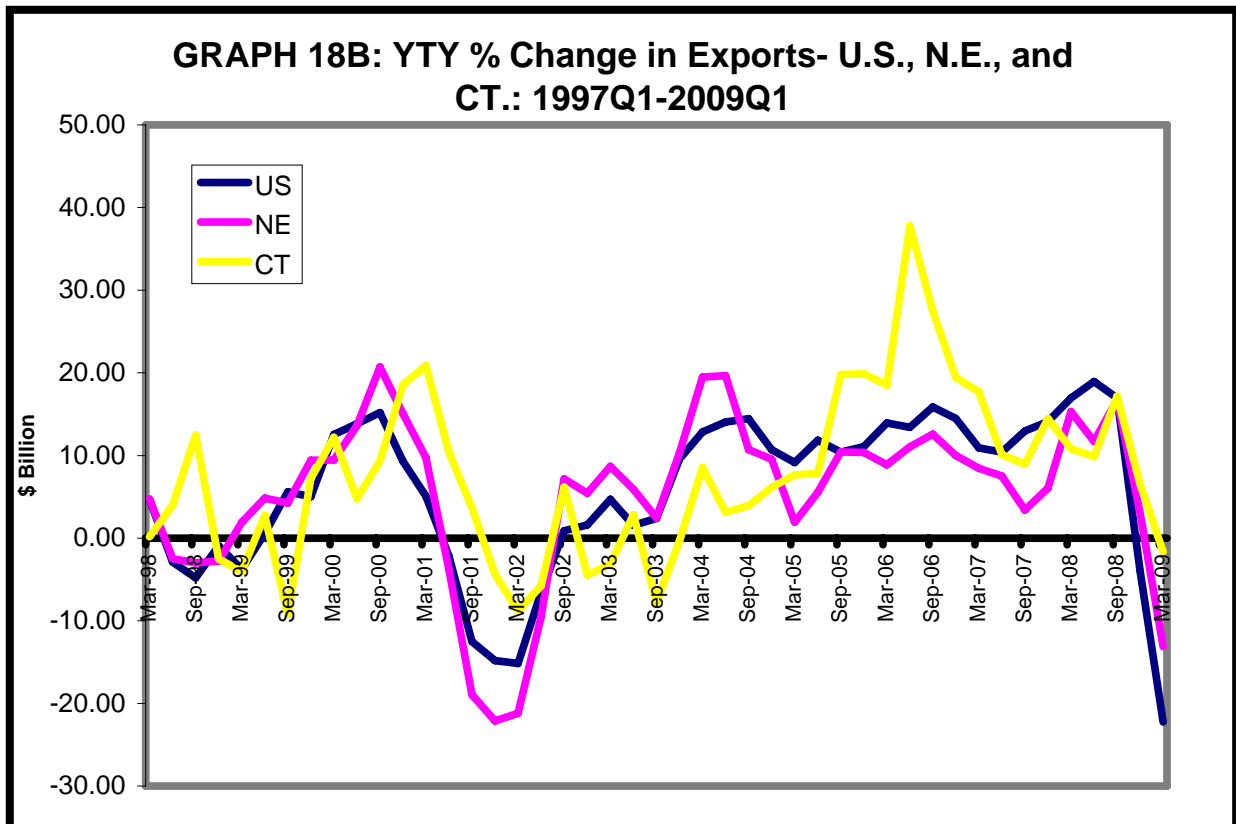
²⁰⁸ See Office of Research, *Labor Situation-May 2009 Data* (June 18, 2009) Connecticut Department of Labor: Wethersfield



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SOURCE: New England Economic Indicators Database, Federal Reserve Bank of Boston



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2009 forecast for the World economy, and Connecticut's three major export destination markets.

From table 1, all three Connecticut export destination countries are expected have contractions in their GDP that are much steeper than that for the overall World economy in 2009. France, Connecticut's most important international export destination, is expected to contract by nearly 3%, and Germany, the State's second major destination for merchandise exports, is expected to contract by 5.6%, more than double the contraction in World GDP. Canada is expected to decline at about the same rate as the World economy in 2009. The 2010 outlook for Connecticut's international exports picture is, at best, flat. Canada, Connecticut's third largest destination country is expected to grow slightly faster than the World's economy in 2010, but that still puts it in the anemic growth range, and France, the State's largest export destination, is forecasted by the IMF to have essentially flat-to-no growth in its GDP in 2010. Germany is expected to continue to contract in 2010. The overall World economy is projected to grow by a weak 1.05% in 2010. This does not bode well for exports to be a driver of the State's recovery through 2010. Of course, a significant change in which countries make up Connecticut's principal export destinations could change that outlook.

OUTLOOK FOR CONNECTICUT'S ECONOMY TO 2010

The current financial and economic crisis is the most severe since the 1930's. Based on quarterly U.S. data on real GDP, available back to 1947Q1, 2008Q4 and 2009Q1 are the first two back-to-back quarters when real GDP declined each quarter at an annualized rate of more than 6%. The steepest was -10.44% in 1958Q1. But the loss of household wealth is even more striking. The latest *Flow-of-Funds* release, by the Federal Reserve Board²⁰⁹, shows that U.S. household wealth has declined by \$13.8 trillion, since it peaked at \$78.3 trillion in 2007Q3, and 2009Q1. Household real estate wealth declined by \$4.0 trillion between 2006Q4 and 2009Q1, and corporate equities held by households declined by \$4.7 trillion between their peak in 2007Q2 and 2009Q1. This is the steepest absolute and relative decline in household net worth in the post-World War II era. Further, the current crisis is the only instance in which household net worth declined in nominal terms (not adjusted for prices). And, though real net worth declined during the 1973-75 recession, the decline over the current contraction, both in nominal and real terms, is much steeper. Research indicates that for every dollar change in wealth, household spending changes by approximately 5-6 cents²¹⁰. Based on the decline in total wealth (noted above), this would translate into a decline in aggregate spending of \$627.4 billion to \$752.9 billion.

So what does all this mean for Connecticut? The short answer is provided in graph 20. The current forecast for Connecticut employment expects the State's economy to lose 68,219 jobs over the 2009 and 2010 forecast horizon (see Table 2). From March 2008 (Connecticut's cycle peak) through December 2008, the State's economy shed 35,500 jobs. The State's 2008 job losses, plus the additional 68,219 over the forecast period, result in the expected 103,719 job losses shown in graph 20. These are the total losses expected over the current recession from March 2008 to 2010.

Graph 20 also compares the expected job losses over the current contraction to the other

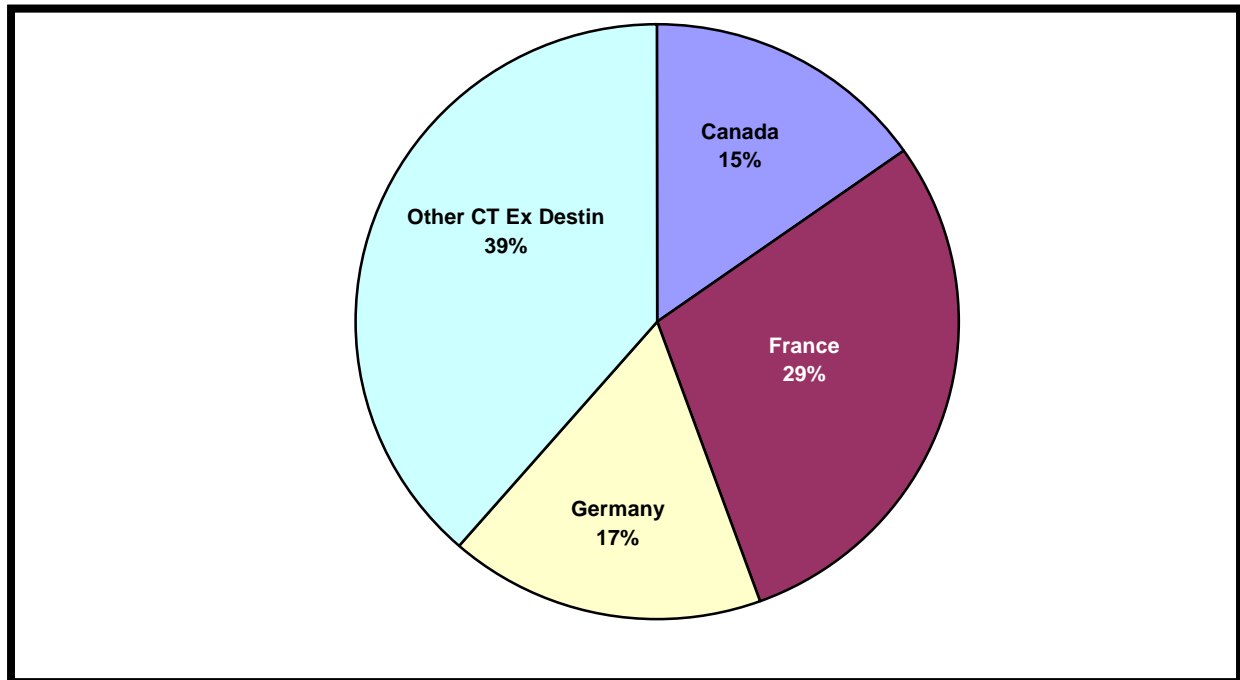
²⁰⁹ Federal Reserve Board, *Flow of Funds Accounts of the United States (Z.1)*, (June 11, 2009) < <http://www.federalreserve.gov/releases/z1/Current/z1.pdf> > Accessed on June 11, 2009.

²¹⁰ Case, Karl E. , John M. Quigley and Robert J. Shiller, *COMPARING WEALTH EFFECTS: THE STOCK MARKET VERSUS THE HOUSING MARKET* (October 2001), COWLES FOUNDATION DISCUSSION PAPER NO. 1335, Yale University: New Haven

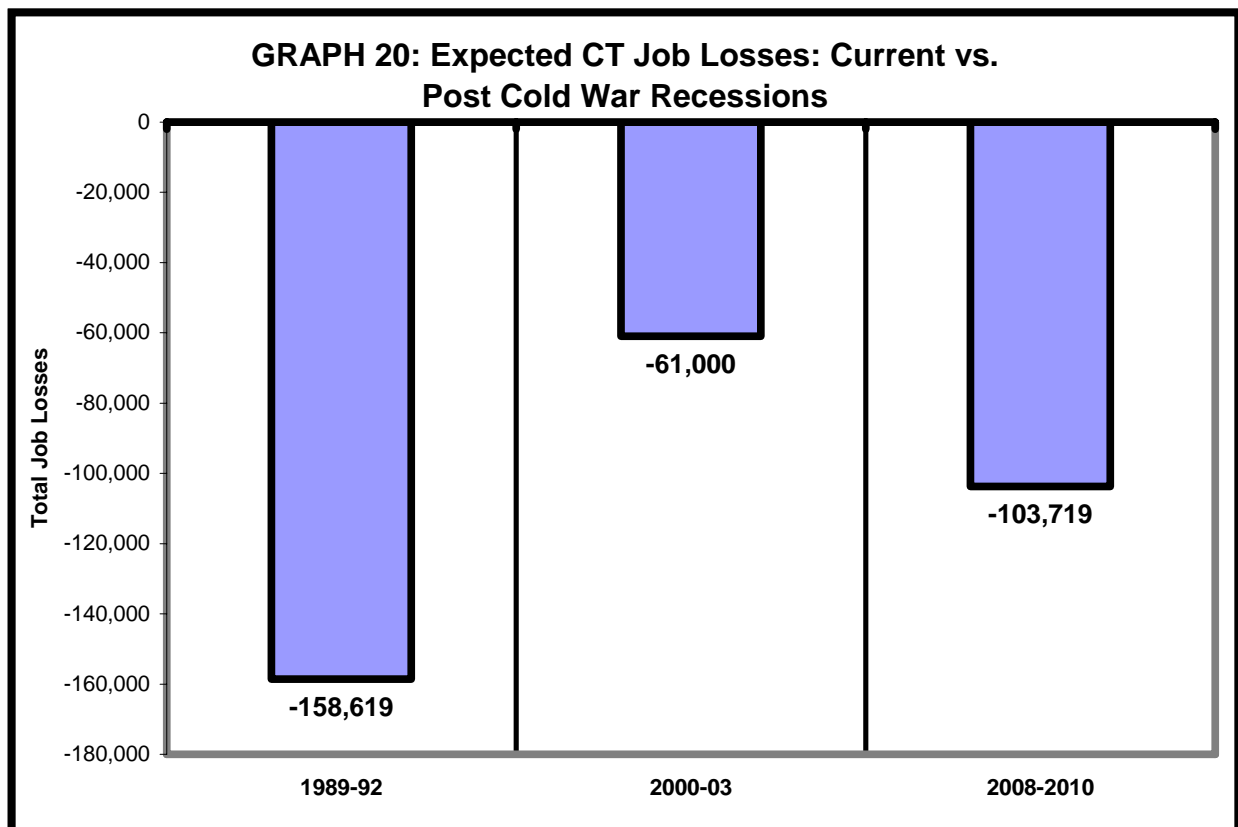


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GRAPH 19: Major CT. Merchandise Exports Destinations: 2009Q1



SOURCE: New England Economic Indicators, Federal Reserve Bank of Boston



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two post-Cold War recessions. The current recession is expected to be more severe than the previous recession, but not as severe as the “Great Recession” of 1989-92, in terms of job losses.

The impact of the recession on the major sectors over the 2008Q4-10Q4 forecast horizon is expected to follow the same pattern as that over the 2007Q4-08Q4, the last historical period. See table 2, below, for the data used in the following discussion.

Educational services is expected to gain, even over the recession. However, as noted above, demographics may begin to constrain growth in this sector. Accommodation and food services is expected to experience flat-to-weak growth in the number of new jobs. The largest losses are expected to occur in administration and support. Construction, particularly hit hard by the housing bust, is expected to shed nearly 10,000 more jobs between 2008Q4 and 2010Q4. This is in addition to the 11,231 jobs the construction sector lost between 2007Q4 and 2008Q4 (not shown in table 2). Professional and technical services is projected to eliminate nearly 9,000 more jobs over the forecast period, after declining by 2,100 over the 2007Q4-08Q4 period (not shown). Between 2006Q4 and 2008Q4, Connecticut’s manufacturing sector eliminated 9,000 jobs (see table 2)—6,000 between 2007Q4 and 2008Q4 (not shown) The State’s finance and insurance sector, at the epicenter of the current financial crisis, has not taken the losses one would expect given the meltdown of their balance sheets. This sector shed 2,134 jobs between 2006Q4 and 2008Q4 (see table 2). And, most of those losses were over the 2006Q4-07Q4 segment, and confined to credit intermediation. This may be due to the extensive outsourcing of such functions as mortgage underwriting, and brokerage. In this case, job losses would show up in the business services super-sector. Nevertheless, the forecast calls for the finance and insurance sector to eliminate nearly 6,000 jobs between 2008Q4 and 2010Q4. What may be surprising is the forecasted loss of 3,142 jobs for the HCSA sector. This sector has been experiencing trend-driven growth since the 1950’s. But, the housing bust has hit especially the nursing and residential care facilities industry within HCSA. Many seniors use the proceeds from the sale of their homes to finance long-term, and assisted living arrangements. With housing values falling, this source of funding has dried up.



PUBLICATION TABLE AS OF MAY 5, 2008

TABLE 2: Connecticut Non-Agricultural Employment: History and Forecast

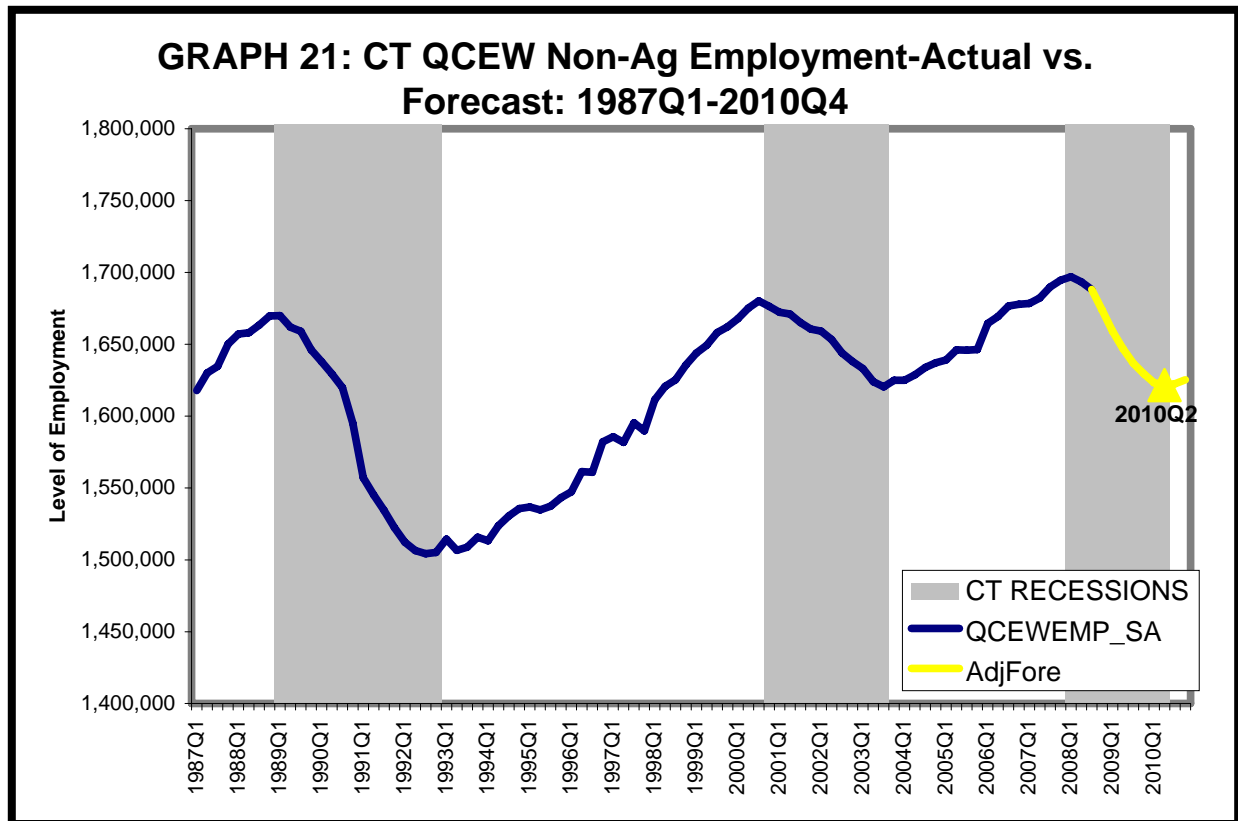
INDUSTRY	HISTORICAL			FORECAST		NUMERICAL CHANGES			PERCENT CHANGE	
	2004:Q4	2006:Q4	2008:Q4	2010:Q4	CH04-06	CH06-08	CH08-10	%CH04-06	%CH06-08	%CH08-10
TOTAL	1,673,742	1,718,270	1,687,251	1,616,966	44,528	-31,019	-70,285	2.66	-1.81	-4.25
GOODS PRODUCING	266,676	263,187	248,714	230,301	-3,489	-14,473	-18,413	-1.31	-5.50	-7.00
Mining.....	749	749	756	756	0	7	0	-0.04	0.98	0.00
Construction.....	68,808	68,964	63,460	53,553	157	-5,504	-9,907	0.23	-7.98	-14.30
Manufacturing.....	197,119	193,474	184,498	175,992	-3,645	-8,976	-8,506	-1.85	-4.64	-4.64
SERVICE PROVIDING	1,406,912	1,454,257	1,438,282	1,386,236	47,346	-15,975	-52,046	3.37	-1.10	-3.72
Wholesale Trade.....	65,475	68,237	68,610	68,504	2,762	374	-107	4.22	0.55	-0.15
Retail Trade.....	200,906	197,249	190,380	184,172	-3,657	-6,869	-6,208	-1.82	-3.48	-3.20
Transportation and Warehousing.....	52,508	54,173	53,251	51,869	1,665	-922	-1,382	3.17	-1.70	-2.53
Utilities.....	8,723	6,669	6,875	4,714	-2,055	207	-2,162	-23.55	3.10	-47.80
Information.....	41,617	40,602	36,665	32,377	-1,015	-3,937	-4,289	-2.44	-9.70	-12.70
Finance and Insurance.....	120,521	124,277	122,143	116,311	3,756	-2,134	-5,832	3.12	-1.72	-4.96
Real Estate and Rental and Leasing.....	20,971	21,846	20,261	19,748	875	-1,585	-513	4.17	-7.25	-2.70
Professional, Scientific, and Technical Services...	88,414	94,141	91,735	82,822	5,727	-2,406	-8,913	6.48	-2.56	-10.00
Management of Companies and Enterprises.....	25,495	26,129	28,456	27,234	634	2,327	-1,222	2.49	8.91	-4.36
Admin and Support/Waste Manage/Remediation.	86,782	90,755	83,058	68,337	3,973	-7,698	-14,720	4.58	-8.48	-21.10
Educational Services.....	162,757	172,622	180,383	184,985	9,865	7,761	4,602	6.06	4.50	25.00
Health Care and Social Assistance.....	238,478	248,342	248,169	245,027	9,864	-173	-3,142	4.14	-0.07	-1.30
Arts, Entertainment, and Recreation.....	48,627	47,241	43,179	38,279	-1,386	-4,062	-4,900	-2.85	-8.60	-11.70
Accommodation and Food Services.....	103,108	109,687	112,199	112,417	6,579	2,512	218	6.38	2.29	1.94
Other Services.....	55,913	58,348	57,868	57,587	2,435	-480	-281	4.35	-0.82	-0.48
Government.....	86,616	93,942	95,051	91,856	7,325	1,109	-3,195	8.46	1.18	-3.36

SOURCE: Connecticut Department of Labor, Office of Research NOTE: Data not seasonally adjusted

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A 2010 LANDING?

In order to get an estimation of when the State may expect a turn-around, the combined macroeconomic outlook of Ray C. Fair, The University of Michigan, the Blue Chip Economic Indicators, and the IMF were used as inputs to produce an overall forecast of the trajectory of Connecticut employment over the 2009-2010 forecast horizon. The result was an expected bottom in the second quarter of 2010 (2010Q2). This is illustrated in Graph 21.



SOURCE: CT DOL-Research

Assumptions and Risks to the Forecast

The first thing to note is that any positive effects of the \$611 million Connecticut portion from the Federal stimulus package on the State’s economy over the forecast period are not included in the forecast. No hard data on how many jobs may be created over the 2008-10 Period were available at the time of writing. This could potentially be a significant upside risk to the forecast. To the extent that the stimulus-funded projects would create, or prevent the loss of, jobs in the State’s economy, the forecast would then be overly pessimistic. This would particularly apply to the Construction Sector, the direct beneficiary of the public works portion of the stimulus, and those suppliers of goods and services to the construction industry that would indirectly benefit through multiplier effects. Most of the effects of the stimulus would take hold in 2010.

However, there are also significant downside risks. A major factor that could end up canceling out some of the effects of the stimulus is the states’ having to balance their budgets in the face of constitutional requirements (see discussion above in the U.S. Outlook). Con-



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necticut's budget deficit, expected to be \$967.6 million by the end of the Fiscal Year (FY) on June 30. Though that is a small decrease from a \$968.2 million estimate in May, it will, nevertheless, result in cuts, and possible tax increases, or both. Further, the deficit for the full budget cycle is now in the \$8.7 billion range²¹¹. Closing the gap will take money out of the State's economy as the Federal stimulus is pumping it in.

Because of the significant presence of the financial industry in Connecticut, and particularly in Fairfield County, any possible yet-to-be nasty surprises in the financial crisis could have serious negative effects on Connecticut's economy, which would make the current forecast overly optimistic. As of the time of writing, the U.S. Treasury had released the stress test results in May. They revealed that 10 of the 19 major bank holding companies that underwent the rigorous test collectively needed to raise nearly \$75 billion in new capital. The banks were required to raise the capital by November, with Bank of America (BOA) leading the way with nearly \$34 billion²¹². Ultimately, whether or not the financial crisis returns with a vengeance depends on the ability to price the legacy, toxic assets. The crux of the problem is:

The excessive discounts embedded in some legacy asset prices are now straining the capital of U.S. financial institutions, limiting their ability to lend and increasing the cost of credit throughout the financial system. The lack of clarity about the value of these legacy assets has also made it difficult for some financial institutions to raise new private capital on their own²¹³.

Of course, central to stabilizing financial assets derived from sub-prime mortgages is stopping the continued slide in housing prices, which is directly tied to the success or failure of the Public-Private Investment Program (PPIP). As stated in the U.S. Treasury's whitepaper on PPIP:

A variety of troubled legacy assets are currently congesting the U.S. financial system. An initial fundamental shock associated with the bursting of the housing bubble and deteriorating economic conditions generated losses for leveraged investors including banks²¹⁴.

In addition, how successful President Barack Obama is in his proposed sweeping reorganization of financial-market supervision, which includes how mortgages are underwritten to the way exotic financial instruments are traded²¹⁵. Further, a vigorous anti-trust policy toward the financial industry, in conjunction with aggressive fiscal stimulus, is critical to preventing this nasty crisis from getting a lot nastier.

²¹¹ Kane, Bob, : *Adopting a Connecticut state budget*, THE REGISTER CITIZEN (June 26, 2009) < <http://www.registercitizen.com/articles/2009/06/25/news/thomaston/doc4a44529f80743903268938.txt> >

²¹² (RTTNews, *Congressional Oversight Panel Recommends Additional Stress Tests* (June 2009) < <http://news.ino.com/headlines/?newsid=60920090807> >

²¹³ U.S. Treasury, FACT SHEET: PUBLIC-PRIVATE INVESTMENT PROGRAM, p. 1

²¹⁴ U.S. Treasury, *Public-Private Investment Program*, (No Date) WHITEPAPER, p. 1

²¹⁵ Paletta, Damian, *Details Set for Remake of Financial Regulations* (June 15, 2009) < <http://online.wsj.com/article/SB124502035340513635.html> > Accessed on June 15, 2009

