

Current Conditions and Outlook for the U.S. and Connecticut Economies: 2011-2013



Connecticut
Department of Labor
Office of Research
200 Folly Brook Blvd.
Wethersfield, CT 06109

WRITTEN BY
DANIEL W. KENNEDY, Ph.D.
SENIOR ECONOMIST

DIRECTOR
Andrew Condon, Ph.D.

COMMISSIONER
Sharon Palmer

DEPUTY COMMISSIONER
Dennis Murphy

Connecticut Department of Labor
Labor Market Information
www.ctdol.state.ct.us/lmi

**November
2012**



Current Conditions and Outlook for the U.S. and Connecticut Economies: 2011-2013

November 2012

**Economic Analysis and Forecasting Group
Office of Research, CT. Department of Labor**

Andrew Condon, Ph.D., Director of Research

PREPARED BY: Daniel W. Kennedy, Ph.D., Senior Economist

CONTRIBUTING ECONOMISTS:

**Sarah York, Matthew Krzyzek, and Manisha Srivastava,
Economists, Office of Research**

Thank You 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 economists 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. This year, we were also joined by Acting Commissioner of the Connecticut Department of Labor, Dennis Murphy. 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.

Putting the Economists' Panel Together

Office of Research staff were critical in putting together the Panel. They are, in alphabetical order: Debbie Barr, Administrative Assistant, Andy Condon, Ph.D, Director, Office of Research, Patrick Flaherty, Economist, Jonathan Hand, Systems Developer, and economists Matt Krzyzek, Manisha Srivastava, and Sarah York.

Economists' Panel (April 2012 Participants)

The table on the following page lists the members of the 2012 Economists' Panel and their affiliations, in alphabetical order.

CTDOL ECONOMISTS' PANEL FOR 2012: Members and Affiliations

PANELIST	AFFILIATION
Susan Coleman, Ph.D.	Professor of Finance, University of Hartford, former member Governor's Economic Council
Andy Condon, Ph.D.	Director, Office of Research, CTDOL
Ed Deak, Ph.D.	Professor and former Economics Department Chair, Fairfield University, CT Forecast Model Mgr. New England Economic Partnership, and former member of the Governor's Economic Council. 1
Alissa DeJonge	Director of Research, Connecticut Economic Resource Center (CERC)
Tom Fiore	Section Director, Economics, Capital and Revenue Forecasting, CT Office of Policy and Management
Patrick Flaherty	Economist, Office of Research, CTDOL
Chuck Joo	Editor, <i>Connecticut Economic Digest</i> and Senior Research Analyst, Office of Research, CTDOL
Don Klepper-Smith	Chief Economist, DataCore Partners, and Economic Advisor to Farmington Bank, former Chair of the Governor's Economic Council.
Matt Krzyzek	Economist, Office of Research, CTDOL
Steve Lanza, Ph.D.	Editor, <i>The Connecticut Economy</i> , Adjunct Professor of Economics, University of Connecticut, and former member of the Governor's Economic Council
Stan McMillen, Ph.D.	Contributing Editor, <i>The Connecticut Economy</i> and Adjunct Professor of Economics, University of Connecticut, former Managing Economist, CT DECD, and former member of the Governor's Economic Council.
Dennis Murphy	Acting Commissioner, Connecticut Department of Labor (CTDOL)
Dana Placzek	Research Analyst, Office of Research, CTDOL
Manisha Srivastava	Economist, Office of Research, CTDOL
Art Wright, Ph.D.	Editor, Emeritus, <i>The Connecticut Economy</i> , and Professor of Economics, Emeritus, University of Connecticut
Sarah York	Co-Editor, <i>Connecticut Economic Digest</i> and Economist, Office of Research, CTDOL

FOREWORD

What follows is the outlook for the U.S. and Connecticut economies for 2012 and 2013, which is prepared by the Office of Research, Connecticut Labor Department (CTDOL). 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, and is posted on the CTDOL Website. In addition, every year the U.S. and Connecticut outlooks are forwarded, as required, to the U.S. Labor Department.

As this is written, in June 2012, it has been three years since National Bureau of Economic Research (NBER)-designated official end of the 2007-09 Recession in June 2009. And, there is now talk of a significant slowdown, or even a recession. This recovery has followed the first U.S. systemic banking panic since the 1930's, the first collapse of a shadow banking system since 1907, and the first succession of collapses in asset bubbles in housing and the stock market, in conjunction with unsustainable levels of household debt since the 1920's. This resulted in what has been called a *Balance Sheet Recession*. The Great Depression was a balance-sheet recession, as was the recession that followed the collapse of Japan's real estate bubble in 1989. Balance sheet recessions are steeper and last longer than non-balance-sheet recessions, and they are followed by weaker recoveries. This is the direct consequence of households and unincorporated businesses paying down unsustainable levels of debt to rebuild their Net Worth. This process has been referred to as *Deleveraging*.

At the time of writing, the economy has experienced, what is referred to in the outlook, as its "Arab Spring". The year 2012 began with strong growth, in jobs and retail sales, which followed the slowdown over the last half of 2011. The slowdown in the second half of 2011 was the result of supply-chain disruptions in the auto industry from the earthquake and tsunami in Japan, the sideshow over the debt ceiling in the Summer of 2011, the continuing waxing and waning of the Eurozone Debt Crisis, and political gridlock. But, lurking in the background, through it all has been the constant drag-force on the economy, namely the long slog for, especially, middle- and working-class households to try to re-build their Net Worth after the collapse of the Housing Bubble, and the accumulation of unsustainable levels of debt, a

process referred to as deleveraging, which has pulled the momentum of the economy down each time it appeared that a recovery was under way. Remember Bernanke's "Green Shoots" in the Spring of 2009? We have been here before. As of the middle of 2012, we have had at least three "recoveries" since the NBER-declared end of the recession in June 2009. The problem is that even though consumers are repairing the liabilities side of their balance sheets by paying down debt and reducing credit demand, housing prices, effected by continued foreclosures, are still held down, which means that the asset side, especially for median and lower income households, is still not recovering and thus presenting a major impediment to rebuilding their net worth. And, now it looks as if World economic growth is slowing considerably.

And, with no possibility of any active fiscal stimulus getting through the Congress in this Presidential election year, and with the stimulus from the *American Recovery and Reinvestment Act* (ARRA) pretty much wound down, especially critical support to local governments (which, unique to this recovery, are a drag on economic growth), the prospects of any sustained recovery over the 2011-13 forecast horizon seems highly unlikely. Things look even bleaker for 2013. *The Budget Control Act of 2011* could potentially push the economy over a cliff in 2013. The spending cuts scheduled to take effect because of the failure of the so-called "Super-Committee" last November will take us down the same road as the United Kingdom, which has been plunged back into recession as a consequence of Draconian budget austerity measures. And, the temporary Unemployment Insurance extension is set to expire in July 2012. And, as noted above, with the winding down of ARRA support to state, and especially local, governments, in the face of collapsing revenues, to balance their budgets, are raising taxes, cutting spending, and laying off workers, all of which, withdraws spending from the economy, and subtracts from, and therefore cancels out, some of the job-growth in the Private Sector, which, in turn, drags down the total monthly job-growth numbers.

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 Miami, Phoenix, and Las Vegas, Connecticut was still affected, and in particular, certain regions of the state, with regard to sub-prime mortgages. However, 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, Connecticut has not been immune from the states' budget crises that have intensified going into 2012, as Federal support to the states, particularly for education, public safety, and Medicaid wind down. At the time of writing, three California cities have filed for bankruptcy.

At the beginning of the current recovery, Connecticut's job-growth was relatively stronger than that for the U.S. throughout 2010, but, in 2011, the U.S. and Connecticut traded places and Connecticut's job-growth fell below that of the nation. However, Connecticut seemed to be benefitting from the burst of job-growth in the beginning of 2012. And, though both U.S. and Connecticut job-growth have slowed going into the middle of 2012, Connecticut's job-growth seems to be holding up better than that for the U.S.

The following passage from the forward to last year's outlook seems just as relevant to this year's forward:

Maybe even more than the previous two years (the base period for the current forecast), the next two years, which coincide with this outlook's forecast horizon, are going to be very critical in determining the fate of the Connecticut, U.S., and World economies for decades to come.

That outlook's forecast horizon was 2010-2012. Clearly, the last year of that forecast, the first year of this outlook's forecast horizon, given the upcoming Presidential election, is, in fact, going to be critical for the Connecticut, U.S., and World economies.

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.

Table of Contents

VOLUME 1: CURRENT CONDITIONS AND OUTLOOK FOR THE U.S. ECONOMY: 2011-2013

EXECUTIVE SUMMARY	1
I. INTRODUCTION: Drag Forces from Balance-Sheet Recession Still Constrain Growth	21
II. CURRENT U.S. ECONOMIC CONDITIONS: Spring 2012	29
A. INDICATORS OF GROWTH AND OUTPUT	30
i. GDP	31
ii. Industrial Production	35
iii. Productivity	37
B. INDICATORS OF AGGEGATE DEMAND AND AGGREGATE SUPPLY	43
i. AGGREGATE DEMAND	44
1. CONSUMER DEMAND (Household Sector)	44
2. INVESTMENT DEMAND (Business Sector)	55
3. GOVERNMENT DEMAND (Public Sector)	64
4. FOREIGN DEMAND (Exports)	66
ii. AGGREGATE SUPPLY	73
1. CAPACITY (Capital Stock)	73
2. CAPACITY UTILIZATION (Output Gap)	75
3. LABOR (Human Resource Utilization)	77
4. FOREIGN SUPPLY (Imports)	90
C. BALANCE SHEETS: Net Worth of Major Sectors	95
i. HOUSEHOLDS' BALANCE SHEETS	96
1. Housing and Households' Net Worth	107
2. Keynes's Liquidity Trap and the Housing Market	109
3. Is There a Housing Recovery in 2012?	111
ii. BUSINESSES BALANCE SHEETS	120
1. INCORPORATED BUSINESSES	122
2. UNINCORPORATED BUSINESSES	124
3. U.S. ECONOMY STILL DELEVERAGING	127
III. DRIVERS AND DRAGS ON THE CURRENT RECOVERY	132
A. DRIVERS	132
i. PRIVATE-SECTOR JOB-GROWTH	133
ii. MANUFACTURING RENESSIANCE: The Comeback of the U.S. Auto Industry	134
iii. PAYROLL TAX HOLIDAY AND EXTENSION OF UI BENEFITS	138
B. DRAGS	140
i. PRESIDENTIAL ELECTION-YEAR POLITICS	140
ii. THEY'RE BAAACK! Rising Food and Oil Price	141
iii. FROM FISCAL STIMULUS TO FISCAL DRAG: The ARRA and State and Local Budgets (Impacts of Fiscal Federalism in Reverse)	153
IV. EUROPE'S CRISIS: Angela Merkel and the Ghosts of Heinrich Brüning and Walter Euchen (Will Greece Leave the EU?)	158
V. THE DEFICIT, THE DEBT, AND The Budget Control Act of 2011	173
VI. WHERE DO WE GO FROM HERE? The Outlook for 2011-2013 and Beyond	188
A. FORECASTS FOR 2012 AND 2013	189

VOLUME 2: CURRENT CONDITIONS AND OUTLOOK FOR THE CT ECONOMY: 2011-2013

EXECUTIVE SUMMARY	199
I. INTRODUCTION: Drag Forces on the Economy vs. the Economy's "Arab Spring"	212
II. THE 2012 BENCHMARK	219
III. IMPACT OF THE PANIC/RECESSION ON CONNECTICUT'S REGIONS	226
IV. CURRENT CT ECONOMIC CONDITIONS: Spring 2012	235
A. INDICATORS OF GROWTH AND OUTPUT	236
i. State GDP (Annual only, unless converted to Quarterly)	237
ii. Real Earnings by Industry (A Proxy for Output)	249
iii. CT Manufacturing Production Index (CMPI)	258
B. INDICATORS OF AGGEGATE DEMAND AND AGGREGATE SUPPLY	262
i. AGGREGATE DEMAND	264
1. INCOME AND SPENDING (Household Sector)	265
ii. AGGREGATE SUPPLY	281
1. CONNECTICUT'S LABOR MARKET (Human Resource Utilization)	282
V. WHERE DO WE GO FROM HERE? The Outlook for 2011-2013 and Beyond	302
APPENDIX	309

VOLUME 1
Current Conditions and Outlook for
the U.S. Economy:
2011-2013

November 2012

EXECUTIVE SUMMARY: Current Conditions and Outlook for the U.S. Economy 2011-13

Prepared by Manisha Srivastava and Matthew Krzyzek, Economists, Office of Research,
CT. Department of Labor

The following is the outlook for the U.S. economy for 2012 and 2013. The current state of the economy is assessed by looking at major indicators of aggregate demand and supply, followed by an analysis of the balance sheets for households and businesses. Drivers and drags on the momentum of the current recovery are then discussed, followed by a review of Europe's crisis, the Deficit, Debt, and Budget Control Act of 2011, and finally a review of where we are headed.

INTRODUCTION: Drag Forces from Balance-Sheet Recession Still Constrain Growth

The Great Recession of 2007 to 2009 resulted in a Balance Sheet Recession, as households and unincorporated businesses pay down unsustainable debt to rebuild their net worth. Balance Sheet Recessions are steeper, last longer, and are followed by weaker recoveries than non-balance sheet recessions.

INDICATORS OF GROWTH AND OUTPUT

GDP

After the recession, real GDP accelerated until the second half of 2010 when it began to decelerate, with a substantial decline in 2011Q1. Real GDP again accelerated, but then declined in 2012Q1. Gross Private Domestic Investment and U.S. Current Account deterioration both contributed to the 2012Q1 real GDP decline.



Industrial Production

Industrial production is another measure of growth and output. Unlike GDP, however, industrial production is calculated on a Gross Output (GO) basis that includes intermediate inputs. In order to discount output distortions from the weather and utilities, the Manufacturing Industrial Production Index (IPI) is used rather than the Total IPI. As of the latest data available at the time of writing, April 2012, U.S. manufacturing output is back to 94.73% of its December 2007 level.

Productivity

U.S. manufacturing productivity growth turned positive after The Great Recession in 2009Q2. However, the QTQ growth-rate from 2009Q3, and the YTY growth-rate from 2010Q2, has pretty much been declining.

U.S. Non-Financial Business Sector productivity surged for four straight quarters from 2009Q2 to 2010Q1. However, since then productivity has pretty much collapsed. Comparing the non-financial business sector productivity to other steep Post World War II recessions show that initially productivity growth after The Great Recession outpaced previous recessions, but the slowdown in 2010Q1 took productivity growth from the current recession below the 1973-1975 recession and the 2001 recession.

Unit Labor Costs from the U.S. Manufacturing Sector has either fallen or been flat since its peak growth in 2008Q4. Unit Labor Costs for the U.S. Non-Financial Business Sector decelerated from 2009Q3 to 2010Q1, followed by four straight quarters of growth when it peaked in 2011Q1.



INDICATORS OF AGGREGATE DEMAND

Consumer Demand (Household Sector)

Consumer demand, the largest component of aggregate demand, is based on household's ability and willingness to buy. Real Disposable Personal Income (DPI) is the key to consumers' spending power. Over the recession and panic between December 2007 and June 2009, Real DPI declined by 0.93%, slightly steeper than the decline over the 1990-91 Recession, but a far smaller decline than the steep contraction over the 1973-75 recession. Nevertheless, due to the nature of the 2007-09 panic and recession, the recovery in Real DPI has been much more anemic than the other post WWII recoveries. In fact, 11 quarters after the trough, the current recession's DPI is about 5-7% below the 2001 and 1990-91 recession and about 11% below the 1973-75 and 1981-82 recessions.

DPI is derived by making two adjustments to market-based income: the subtraction of taxes, and the addition of transfer payments. DPI serves as the basis for determining how much households actually have to spend and save. Comparing the savings rate as a percent of Current-Dollar DPI over Post WWII recoveries finds that the savings rate for the current recovery is below all other recoveries save the 2001 recession. The jump in the savings rate compared to the last recession significantly impacted Personal Consumption Expenditures (PCE) by households. It should be noted that by 34 months into recovery from the 2001 Recession (September 2004), a significant amount of consumption was being financed by the inflating asset bubble in housing.

Real PCE, on a quarterly basis, grew by 6.08% from the trough of the previous recession to 2012Q1, 11 quarters into recovery. Breaking Real PCE into its two major components finds that spending on goods grew by an annualized rate of 8.29%, declined by 1.57%, then turned positive again. This behavior was driven by durable goods, primarily expenditures on motor vehicles and parts.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Investment Demands (Business Sector)

Business Investment Demand is the most volatile component of Aggregate Demand over the business cycle, and therefore it displays the greatest amplitude. Looking at two Post Cold War business cycles finds an amplitude range for Real GDPI of 77.44, compared to 16.92 and 12.18 for Real GDP and Real PCE.

Real GPDI contracted by 34.21% over the current recession, compared to 8.08% over the 2001 recession and 10.59% over the 1990-1991 recession. However, the growth in Real GPDI has actually been stronger over the first 11 quarters of the current recovery than it was at a comparable points over the two previous Post Cold War recoveries. But given how steep the recent contraction was after 11 quarters of recovery, even with stronger growth, Real GPDI still has not recovered from its recession losses.

To answer whether the acceleration in the growth of Real GPDI over the last quarter of 2011 and the first quarter of 2012 will continue, New Orders for Manufacturing and for Durable Goods is considered. Both bottomed around the same time in April/May 2009, and the YTY growth-rate has been steadily decelerating since both indicators peaked in April 2010. This portends a continued pattern of slowing growth in orders for capital equipment. Even after considering U.S. businesses' importing Capital Goods to meet investment demand, there seems to be if not a decline, at least a significant deceleration in the rate of investment-demand by U.S. businesses.

Government Demands (Public Sector)

Unique to the current recovery is the drag that government has been on the economy, as opposed to leading or at least contributing to acceleration in the recovery phase of the cycle. Most of the source of the drag on the economy from the Government Sector has been from the state and local levels of government, and has coincided with the withdrawal of Federal support to state and local governments as the stimulus from ARRA has been winding down throughout 2011 and into 2012. Thirty-four months into the 1990-91 and 2001 recessions, state and local



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

governments added 701,000 and 339,000 jobs respectively. Conversely, over this current recovery, state and local governments have actually subtracted 596,000 jobs.

Foreign Demand (Exports)

This recovery has seen a strong growth in Exports for the U.S. Economy as manufacturing in general seems to have gone through somewhat of a renaissance. However, since the peak in the YTY growth-rate in April 2011, YTY export-growth has steadily decelerated over the 12 months between April 2011 and 2012. At the trough of the recession, Goods Exports as a share of Total U.S. Exports stood at 67.54%, peaked in December 2011 at 71.93%, and as of the time of writing in April 2012 declined to 71.44%.

Net Exports must be considered to determine if the Trade, or Foreign Sector, adds to or subtracts from final demand in the macroeconomy. It seems likely that, based on the recent and current performance of the economies that represent the most important destinations for U.S. Exports, in conjunction with the disruptions caused by the on-going Eurozone crisis, and the IMF's outlooks for these economies, that U.S. Export-growth will continue its monthly YTY deceleration in growth, and may even experience some consecutive MTM contractions through the last half of 2012 and into 2013.

INDICATORS OF AGGREGATE SUPPLY

Capacity

This section focuses on manufacturing capacity, the sector that uses and puts in place most of the plant and equipment used to produce goods in the U.S. Economy. Over the past 40 years, the compounded, annualized growth-rate in added Manufacturing Capacity has experienced a long-run decline. The Capacity Utilization Rate (CUR) for the U.S. Manufacturing Sector has also been declining during the same 40-year period.

In this current recovery, the debate over the output gap, which is the difference between Potential GDP and Actual GDP, is not over its existence but over how large the Output Gap is.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Labor (Human Resource Utilization)

U.S. Non-Farm Employment shows three “recoveries” since the end of the recent recession. The first turnaround in U.S. Non-Farm jobs came with the subsiding of losses from April 2009 and peaked in May 2010. The second recovery ran from June 2010 culminating in an April 2011 gain of 251,000 new jobs. Recovery Three ran from May 2011 through the beginning of 2012. With the end of the U.S. Economy’s “Arab Spring”, U.S. Non-Farm job-growth declined to 69,000 in May 2012, the latest period of data at the time of writing.

The Job Openings and Labor Turnover (JOLTS) data show hires have been down for two consecutive months, March and April 2012, and openings were down in April 2012. The Ratio of Hires-to-Separations shows an up-down pattern that certainly offers some cross-validation for the “three recoveries” observed in U.S. Non-Farm jobs.

U.S. Initial and Continued Claims for Unemployment Insurance (UI): the 4-week moving average (WMA) of Initial Claims has been in an up-and-down pattern, but generally in a downward direction. The 4WMA for Continued Claims has fallen at a steadier and faster rate compared to the 4WMA for Initial Claims. Of course, much of the 4WMA for Continued Claims level may have more to do with the expiration of Federal UI extensions and early filings for Social Security than success at finding employment.

Over the current recession, both the Labor Force Participation Rate (LFPR), the short-run Labor Supply Curve, and the Employment-to-Population Ratio (EPR), the Labor-Demand Curve, have declined. However, the decline in the EPR has been much steeper than the decline in the LFPR, resulting in an explosion in the excess supply of labor (i.e., a rapid rise in the Unemployment Rate).

Foreign Supply (Imports)

Next, the effects of Foreign Supply (Imports) is analyzed to understand its effect on Net Exports, the Domestic Aggregate Supply Curve, and GDP. From June to November 2010 the



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

monthly YTY growth in Imports decelerated rapidly. Over this same period the monthly YTY growth in U.S. Exports was accelerating. After November 2010, especially from January 2011 on, though the YTY growth in Imports continued to decline, the deceleration in growth was much shallower. Meanwhile, over roughly the same period, export-growth was decelerating at a much faster pace. The first four months of 2012 have had the highest volatility in the MTM growth in Imports over the entire current recovery, even higher than the MTM growth in Exports.

Looking at the U.S. Trade Balance (Real Net Exports) as a percent of Real GDP from 1950Q1 to 2012Q1 finds that the U.S. Trade Deficit reached its largest value, as a percent of GDP, at -2.69% in 1986Q4. It then subsided. After 1995Q4, the growth in the U.S. Trade Deficit, as a percent of GDP, began to accelerate and peaked at -5.87% in 2004Q4. With the popping of the housing bubble and the on-set of financial panic and recession, the U.S. Trade Deficit declined, as a percent of GDP, until 2009Q2, when it reached -2.62%, its lowest point since 1986Q2. Since the current recovery began, it has gone back up slightly to -3.05% in 2012Q1.

BALANCE SHEETS: NET WORTH OF MAJOR SECTORS

Balance Sheets play a central role in this entire business cycle, one they have not played since the Great Depression. Critical to putting the economy back on the path to strong growth, among other policies, is debt relief, or at least restructuring of mortgages for homeowners underwater in order to repair their balance sheets, which would restore their Net Worth and access to credit. As will be discussed below, Asset Values very closely track Net Worth, which implies that stabilizing housing values is the key to stabilizing Net Worth, which in turn is the key to recovering from a Balance Sheet Recession.

Households' Balance Sheets

Analyzing the behavior of the major components of households' balance sheets (Assets, Liabilities, and Net Worth) finds that Assets and Net Worth very closely track each other over both the 2007-09 and 2000-01 cycles. In neither case does Net Worth closely track Liabilities,



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

which implies that the rise and fall in Asset values plays the dominant role in driving the value of Net Worth.

Another pattern that jumps out is the opposite tracks taken by the Index for Liabilities over the two cycles. With the credit bubble, driven by sub-prime mortgages and Mortgage Equity Withdrawals (MEW's) accelerating after the 2001 Recession, U.S. Households' Liabilities exploded by 79.16% between 1999Q1 and 2005Q2. After the popping of the housing and credit bubbles, the Index for Liabilities moved in the opposite direction over the current cycle. After peaking in 2009Q3, Liabilities actually fell 6.61% by 2012Q1 as households began to deleverage.

Assets, of course, declined over both busts, the Tech Bust and the Housing Bust. But while Assets declined 4.48% after the Tech Bust, they declined by 20.02% after the Housing Bust. As a consequence, while U.S. Households' Net Worth declined by 8.22% after the Tech Bust, it contracted by 24.00% between 2007Q3 and 2009Q1.

There are three accelerations in the YTY growth-rate in Households' Balance Sheets that pretty closely match the "three recoveries" in the current recovery in Non-Farm jobs and the Hires-to-Separation Ratio (as noted above). Given the nature of the current Balance Sheet recession and its implications for the level of households' spending, there is certainly a strong case, theoretically and empirically, for arguing that there is a link between the coincidence in the three instances of the rise-and-fall of Net Worth with the Non-Farm jobs and the Hires-to-Separations Ratio.

From 1952Q1 to 2012Q1 the highest ratio of Debt-to-GDP, or Debt-to-Disposable Personal Income (DPI), occurred over the recent panic and recession. In 2007Q4, Debt as a percent of DPI reached an unprecedented (at least in the Post World War II Era), level of 128.78%. It first passed 100% in 2002Q3 coming out of the 2001 Recession and heading into the peak of the housing bubble.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

It is clear that any stronger and sustained recovery from the recent popping of the housing and credit bubbles, and subsequent recession, must be tied to a full recovery in the housing market. The outlook for the economy keeps coming back to the same question: What is happening in the housing market; is it turning the corner?

Keynes's Liquidity Trap and the Housing Market

With the collapse of the housing bubble and the unsustainable level of debt, household Net Worth collapsed. This led to what has been called a Balance Sheet Recession. A characteristic of a Balance Sheet Recession is that households deleverage to repair their balance sheets, which results in a drop in the *demand* for credit, which acts to reinforce the cutback in the supply of credit as banks try to repair their own balance sheets and become more risk-averse. This is what actually produces Keynes's Liquidity-Trap phenomenon, or what is more commonly referred to today as the Zero Lower-Bound of interest rates.

The point is that no amount of Quantitative Easing is going to jump-start the housing market. Only direct policies that help homeowners behind in their mortgages, underwater, or both is going to turn the housing market around. In fact, after a decelerating rate of reducing mortgage debt, U.S. Households then accelerated paying down their mortgage debt in 2012Q1. As long as households are paying down their mortgage debt, as well as their debt in general, demand for mortgages is going to be muted. The Fed's policy of addressing the credit-supply problem is not addressing the problem.

Is There a Housing Recovery in 2012?

A similar pattern is coming through the Federal Housing Finance Agency's (FHFA) seasonally adjusted House Price Index (HPI), the Case-Shiller (C-S) Quarterly Composite U.S. HPI, and the C-S 20-City Composite monthly HPI. After the bottom of the initial housing bust, house prices recovered from the last half of 2009 through the middle of 2010, which coincides with the first-time homebuyers tax credit. Then, in the last half of 2010 and into 2011 prices fell again, with the double-dip in the housing market. The double-dip was attributed to the end of



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

the first-time homebuyers' tax credit and the re-setting of Option ARM Mortgages originated in 2005. All three indices seem to clearly indicate a recovery in housing prices in 2012.

A debate over the extent of the “shadow inventory” in the housing market is tempering optimism over the signs of what could be a recovery in the housing market. The ratio of houses for sale-to-houses sold for units under construction is the highest for all the stages of construction. It peaked in January 2009 at 26.60 months of supply, and has since fallen to 7.09 months by July 2012. This data on the visible housing inventory strongly indicates a dramatic decline in the accumulation of housing units on the market, at all stages of the construction process, since the peak following the popping of the housing bubble and the onset of financial panic and recession.

However, according to some analysts there are as many as 90% of Real Estate Owned (REO) properties that are withheld from sale. According to a June article in *Forbes*, there are still more than 10 million properties with underwater mortgages, and a shadow inventory of 1.5 million, or four months supply. Negative equity will continue to take its toll on consumption, while the shadow inventory will constrict lending and probably affect banks' earnings. On the other hand, there are several reasons why the shadow inventory is not as big a threat: it is concentrated in a handful of markets, it is being offset by improved demand, particularly from investors, and the housing vacancy rate is low. The housing vacancy rate is a product of very little new home construction over the past few years that could counterbalance continued high inventories of foreclosed homes. Furthermore, a new policy that as of June 15, 2012 expedites Short-Sales will benefit the entire housing market.

At this point, it is hard to tell which side may be the most accurate in their assessment of the current state of the housing market at the national level. Clearly, if the shadow inventory is as large as those who are less optimistic about the appearance of a housing recovery in 2012 state, then the housing market could be in for a drag on the apparent recovery, slowing its momentum, or at worse a “triple-dip” in the housing market. However, if the shadow inventory is not a problem and if policies like the Federal Government's new rules for short-sales reduce the number of foreclosures, then the apparent housing recovery in 2012 may be real after all.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Businesses Balance Sheets

Another difference in the 2007-2009 Panic/Recession is that Net Worth declined in all three major non-financial sectors of the economy: Households, Incorporated Businesses, and Unincorporated Businesses. Further, the collapse in Net Worth for all sectors was steeper than anything experienced since the Great Depression.

In relative terms, the Incorporated Business Sector seems to have been the least damaged by the meltdown, and the corporate sector's recovery was relatively stronger than that for unincorporated businesses or households. The Unincorporated Business Sector, whose current-dollar, Net Worth did not decline over the 2001 Recession, suffered a significant hit over the recent crisis and recession. The deceleration of the YTY growth in current-dollar Net Worth for the Unincorporated Business Sector began eight quarters before, in 2005Q4, the slowdown in YTY growth for the Incorporated Sector. This reflects the dependence of smaller businesses on the owner's home to be a source of financing.

After 1996, the Business Sector, both corporate, and non-corporate, began building up holdings in cash, but especially the Corporate Sector. By 2012Q1, the U.S. Corporate Sector was holding \$1.4 trillion in cash and short-term deposits. While the incorporated sector continues to accumulate cash and short-term deposits, the cash and short-term deposits held by unincorporated businesses, after peaking at \$966.9 billion in 2009Q4, has declined.

U.S Economy Still Deleveraging

Though households have been paying off a considerable amount of debt since the bursting of the housing bubble, and falling housing values may be stabilizing, the U.S. Economy is still deleveraging. In fact, small businesses apparently took advantage of the rise in home prices to obtain financing during the bubble. This gets back to the problem of aggregate demand, and the connection between housing and the rest of the economy. With the accumulation of debt during the bubble, the inability to obtain financing in the post-bubble era because of the decline in their home values, and without the cash-flow from increased sales, small businesses lack the



ability to pay down their debt, and thereby repair their balance sheets and begin hiring workers. It is clear that not only does some mortgage relief help home owners, it would also help small businesses. Thus, there is a direct link from fixing housing to reviving spending to businesses hiring.

DRIVERS AND DRAGS ON THE CURRENT RECOVERY

There have been factors that have been driving growth and preventing the headwinds from sending the economy back into recession—at least, so far. Three critical drivers seem to have helped keep the economy afloat as the stimulus wound down and the Eurozone Crisis caused jitters in the World Economy, including U.S. Private Sector job-growth, the renaissance in manufacturing, especially the U.S. Auto Industry, and the spending-support from the Payroll Tax Holiday. But, there are also drags on the current recovery that threaten to pull the economy down. At the time of writing, late summer of 2012, food and oil prices are once again on the rise, and other drags on the economy include the winding down of ARRA and its effect on State and Local Government Budgets, as well as Election Year Paralysis.

EUROPE’S CRISIS

The Greek Debt crisis was touched off by credit-rating downgrades of Greek Bonds based on the argument that Greece’s national debt was unsustainable. Additional weights on the Greek economy that facilitated its crisis include slowdown in its two major industries of shipping and tourism. Structural issues entrenched within the Eurozone and ideological disagreements among its members further contributed to the debt crisis and have hindered its resolution.

EU Contradiction: Current-Account Imbalances with No Adjustment Mechanism

The incorporation of the Euro as a single currency created a regime of fixed exchange rates among the member countries. Eliminating exchange rates as a mechanism to address economic



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

imbalance encouraged capital inflows to Greece, Italy, Spain, and Portugal as credit in those nations was suddenly available to them on essentially the same terms as stronger Eurozone economies like Germany. This sparked a vast construction boom, financed by private capital eager to assist the newly credible borrowers. Repayment was guaranteed in Euros, whose value could not be undermined by devaluation. Unfortunately, much of the construction went into housing and other non-tradable goods sectors. Wages rose more rapidly than in Germany and productivity growth did not exceed the norm. As costs rose, eventually real exchange rates became overvalued and external competitiveness suffered. Deteriorating external positions could be financed by continued capital inflows, as long as not too many questions were asked about repayment.

So did the high debt cause the crisis, or did the crisis cause the high debt?

A run up of unsustainably high levels of Greek sovereign debt has often been cited as the cause of the crisis in Europe. This understanding diminishes the structural weaknesses of the Eurozone that caused the debt run-up. (These limitations are discussed in greater detail, below, in *DESIGN FLAWS IN THE MAASTRICHT TREATY*.) A central issue surrounding the high debt in the EU's peripheral members is the idea that it is a consequence of the real interest rate differentials between the northern and southern tier nations within the fixed-exchange Eurozone, which resulted in the run-up of private debt.

Santayana, Merkel, and the Ghosts of Heinrich Brüning and Walter Eucken

The famous statement of “Those who cannot remember the past are condemned to repeat it” by George Santayana opens discussion of the historical references that grounds Merkel's perspective. Some contend that Angela Merkel has forgotten those words as Germany imposes severe austerity on Greece in return for bailing them out of the current crisis. Or, is she drawing the wrong lessons from history? Many seem to confuse the hyperinflation in 1923 and 1924 as being what propelled Hitler to power in 1933. But, it was, in fact, the policies of severe austerity, implemented by decree, with the onset of the Great Depression, by the last Weimar



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Chancellor, Heinrich Brüning, that exacerbated mass unemployment, and reinforced the downward spiral of *deflation*, not inflation, let alone hyperinflation

Has this historical misconception been behind Merkel's doing the absolute minimum needed to keep the single currency together – but no more? This minimalist approach to the Euro Crisis may have ultimately cost Germany more in terms of bailouts than it would have if it had acted sooner and more decisively. On the other hand, it has kept inflation down and the Euro weak – both of which are good for German exports. But, what else might be driving this austerity approach by Merkel to the crisis?

There may be another ghost haunting Angela Merkel, besides Brüning, and that may be Walter Eucken. The Ordoliberalism school of economic thought was developed in the 1930's and 1940's. While they believed in greater state interference in the market than classical Anglo-Saxon liberals (in particular to prevent the emergence of monopolies and oligopolies), they also believed in less interference than Keynesians. Ordoliberalism also staunchly opposes fiscal and monetary expansion during economic downturns, making it less interventionist than Keynesian thought. Germany's current economic avocation appears to show some influence by the likes of Eucken and others found in the history of Germany.

Design Flaws in The Maastricht Treaty

In 1958, the *Treaty of Rome* created the European Economic Community (EEC), to further the goal toward a political and economic union. And, in what led to the current set of circumstances, the *Maastricht Treaty* went into effect in November 1993, which created the European Union (EU) as it exists today, and it paved way for the European Central Bank (ECB) and the implementation of the single currency Euro in early 2002.

From the start of the Euro Area, many thought that a single currency for many different economies would face numerous challenges and it was probably bound to fail. A big weakness of the project was the lack of a common fiscal policy to support it. This produced a situation in which the EU has a single currency, with a central bank, but without a government that has



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

taxation and spending authority. The creation of the Euro also meant that members of the Eurozone lost their ability to use monetary and exchange rate policy tools as a way to respond to changes in economic conditions.

The Euro Crisis and the U.S.

The Euro Crisis has the potential to reverberate throughout the global economy in much the same way as the U.S. sub-prime crisis did in 2008. The Eurozone is centrally important for the U.S. economy. Europe and the U.S. are strongly linked, respectively being each other's most important export market. U.S. Bank exposure to Europe, especially through Credit Default Swaps (CDS), further European banks have played a much bigger role in the U.S. economy than has been generally thought, and could therefore do a lot more damage than expected if they pull back European banks grew not only by making direct loans to U.S. businesses but also by accounting for vast U.S. money-market deposits and purchasing U.S. mortgage securities.

A Deal At Last: Will the Greek Bailout Buy Some Time?

A bailout deal for Greece was finally agreed upon in late November 2012. Aid payments to Greece started in December 2012. The agreement seeks Greek interest rate reductions, debt buy-back schemes, and other actions that seek to bring Greece's debt to significantly below 110% of GDP by 2022.

THE DEFICIT, THE DEBT, AND *The Budget Control Act of 2011*

The Budget Control Act of 2011 was agreed upon following tumultuous gridlock between the White House and Congress in the summer of 2011. The deal, which mandated deep cuts in Federal spending in both civilian and defense programs, in lieu of the so-called Supercommittee's failure to agree on spending cuts, are scheduled to go into effect on January 1, 2013. The implementation of these cuts has been referred to as the "Fiscal Cliff". If enacted,



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

the spending cuts, as well as the expiration of the Bush Tax Cuts and Payroll Tax Holiday, reduce deficits by a total of \$1.1 trillion via automatic spending cuts from 2013 to 2021. However, the economic damage inflicted by those cuts has been estimated to be a 0.7 percentage point reduction in GDP before subsequent multiplier effects. By design its implementation would be too large a drag on the economy, and it serves as a stop gap to ensure a pre-2013 budget agreement is reached.

Background Fiscal Drag

Post-recession fiscal deficits have been unquestionably high in relative terms. Yet since 2009, the federal deficit has fallen as a percentage of GDP, contracting overall at the fastest pace since the post-World War II demobilization. This is in part due to GDP growth, but also the winding down of ARRA, extended unemployment benefits, and other federal spending programs. The result: a \$324.0 billion reduction in Federal spending in the economy This Federal spending wind-down has in turn impacted state and local governments as Federal aid diminishes. Rapid deficit reduction can prove to be dangerous medicine, as it has pushed economies back into recession (as occurred during 1937 in the U.S., 1997 in Japan, and has presently done so in the U.K).

Putting the Deficit and Debt into Perspective

By the end of fiscal year 2011, total outstanding U.S. Debt totaled 14.8 trillion. Total U.S. Debt (Gross Debt) consists of two components, debt held by Government Accounts and debt held by the Public. Federal trust funds for Social Security and Medicare comprise a majority of the Government Accounts that hold U.S. Debt. Publically held debt is all outstanding U.S. Debt held outside of the Federal government. Holders include individuals, corporations, state or local governments, the Federal Reserve and foreign governments.

In 2013, gross debt is projected to equal 106% of GDP, the only instance of GDP exceeding debt since WWII, where it reached 121.7% in 1946. Publically held debt that year was also above GDP at 108.7%. Publically held debt will be at 76.3% of GDP in 2013. The remaining



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

29.7 percent will be held in Government Accounts.

This recession follows a financial panic, the first since the Great Depression. The oft-cited seminal study *This Time Is Different* by Rogoff and Reinhart notes that long run growth and sustainability is risked by debt exceeding 90% of GDP, a threshold already surpassed by many developed economies. The causality of this debt to growth relationship has been questioned by other eminent economists, who argue that the statistical association shown does not necessarily indicate cause-and-effect.

With the onset of recession, revenues to the federal government (and other levels) decline as demand for countercyclical government expenditure increases, exemplified by the drop in Federal revenue amid stimulus spending and increased unemployment insurance claims. This relationship helps contextualize the annual deficits associated with the recent recession. As a percentage of GDP, Federal revenues fell to the third lowest level since 1950, 15.4% by 2009Q3. During this dearth in revenue, federal spending rose to the highest of the range, peaking at 25.5% of GDP during 2010Q4. In subsequent quarters Federal spending has decreased while tax revenues have increased, as a percent of GDP, indicating a trajectory towards further decreasing annual deficits, absolutely, and as a percent of GDP.

Back to the Future: The Real Fiscal Cliff?

In addition to *The Budget Control Act of 2011*, another fiscal hurdle awaits the U.S. economy as it enters 2013. The Treasury expects to hit the debt ceiling by the close of 2012. Radical members of the House have threatened a re-run of the debt-ceiling clown show in Mid-2011. Upon reaching the debt limit, the Treasury can mitigate existing payments for a short while but congressional action will be required to raise the limit. The 2011 delay in raising the debt limit increased the county's borrowing costs by about \$1.3 Billion as estimated by the Government Accountability Office.



Fiscal Cliff Impacts Update

Should *The Budget Control Act of 2011* go into effect, Congressional Budget Office (CBO) projections estimate it will have a net negative impact on GDP. They also estimated that extending current alternatives (i.e., not implementing the spending cuts and tax increases) would boost real GDP by roughly 3.00% by the end of 2013. A third of this change would stem from spending policies and the rest would result from tax policy change.

WHERE DO WE GO FROM HERE? The Outlook for 2011-2013 and Beyond

The most severe recession since the Great Depression and tepid recovery is the culmination of numerous drags on economic growth. Since the most recent business cycle peak, we have experienced the first banking panic since the 1930s, the first shadow banking system collapse since 1907, and a succession of asset bubble collapses in the housing and stock market. The later exacerbated unsustainable levels of household debt and spurred a *Balance Sheet Recession*. As noted elsewhere in the Outlook, balance sheet recessions are steeper and longer-lasting than non-balance sheet recessions and are subsequently followed by weaker recoveries. Hitting the debt ceiling (probably in late 2012), and going over the Fiscal Cliff, potentially, could both be quite a punch to the gut for an economy that has already suffered a few pummeling rounds in the ring.

Forecasts for 2012 AND 2013

This outlook examines five outside forecasts to assess the U.S. economy for 2012-2013. The five forecasts were sourced from the following organizations: the Congressional Budget Office (CBO), the International Monetary Fund (IMF), the University of Michigan (UMich), Ray C. Fair (Fair), and the Blue Chip Economic Indicators (BCEI).



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

How Will 2012 Come In?

Among the five forecasts, the average U.S. GDP growth is expected to rise 2.18% in 2012, up 37 basis points from 2011. This promising uptick still lags behind the 2.39% annual growth rate experienced in 2010. The 2012 average of the unemployment rate estimate is 8.15%. This aggregate forecast level is steadily below the annual unemployment rates of 8.95% in 2011 and 9.63% in 2010. The range of unemployment estimates include a high of 8.23% in the IMF forecast while the BCEI forecast was lowest at 8.09%.

The Outlook for 2013

The five forecast average GDP growth rate is 1.91% for 2013. Four of the five forecasts have lower growth rates than their 2012 estimates; the fifth forecaster's expected acceleration in GDP growth by Ray C. Fair to 3.73% keeps the forecast average from being lower. The lower bound of the forecast range is -0.30% GDP growth as forecasted by the CBO. This forecast considers a scenario where all Bush Tax Cuts and the Payroll Tax holiday expire, the Extended Unemployment Insurance benefits are not renewed, and the *Budget Control Act of 2011* goes into effect. The spread between the five forecasts is 4.03 percentage points (403 basis points).

The five forecast average unemployment rate estimate is 8.02%, 0.13 percentage points below the expected 2012 level. The 1.10 percentage points range among the forecasts has a UR forecast high of 8.80%, projected by the CBO and a low of 7.70% projected by UMichigan. Without the CBO forecast, the average forecast among the four forecasts is 7.83%.

Mean Forecasts with Bootstrapped 90% Confidence Intervals

The Bootstrap procedure was used to produce 90% confidence intervals around the average of the five forecasts to provide quantifiable confidence limits around the average forecasts for U.S. GDP and U.S. Unemployment Rate. Bootstrapping is a computer-based technique that can be used to infer the sampling distribution of almost any statistic via repeated samples drawn



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

from the sample itself, as opposed to the hypothetical re-sampling from the population. The results are presented below:

FORECAST CONFIDENCE INTERVALS FOR 2012

GDP: 2.11% <= 2.18% <= 2.33%.

UR: 8.11% <= 8.15% <= 8.19%.

FORECAST CONFIDENCE INTERVALS FOR 2013

GDP: 1.08% <= 1.91% <= 2.83%.

UR: 7.68% <= 8.02% <= 8.31%.



I. -INTRODUCTION: Drag Forces from Balance-Sheet Recession Still Constrain Growth

Drag is the aerodynamic force that opposes an aircraft's motion through the air¹. If for our analogy, we cast the aircraft as the economy then the *Drag Force* on the economy is the \$16.4 trillion collapse in Net Worth, of U.S. Households between 2007Q2 and 2009Q1. As of the fourth quarter of 2011, U.S. Household Net Worth was still down \$8.4 trillion from its peak. Further, the Net Worth of non-incorporated businesses was still down \$2 trillion from its peak, also in 2007Q2². As noted in *The Outlook to 2012Q4*, the recent downturn was no “ordinary” recession, and that this is not a “normal” recovery. This recovery not only followed a financial panic, but also the first popping of asset bubbles in housing and the stock market, in conjunction with unsustainable levels of household debt since the 1920's³. This wiped out the net worth a significant number of households, as well as unincorporated businesses, leaving in its wake what has been called a *Balance Sheet Recession*⁴. Balance-Sheet recessions are steeper and last longer than non-balance-sheet recessions, and they are followed by weaker recoveries⁵, as households reduce their spending and pay down debt to repair their net worth. In other words: “It’s aggregate demand stupid!”, or the lack thereof.

The result has been a halting recovery that proceeds in fits-and-starts. This can be observed especially in the pattern of Month-to-Month (MTM) U.S. Non-Farm Employment changes depicted by the bars (left vertical scale) in Graph 1.

¹ National Aeronautics and Space Administration, *What is Drag?* <http://www.grc.nasa.gov/WWW/K-12/airplane/drag1.html>> Accessed on May 8, 2012.

² Board of Governors of the Federal Reserve, FLOW-OF-FUNDS, 2011Q4.

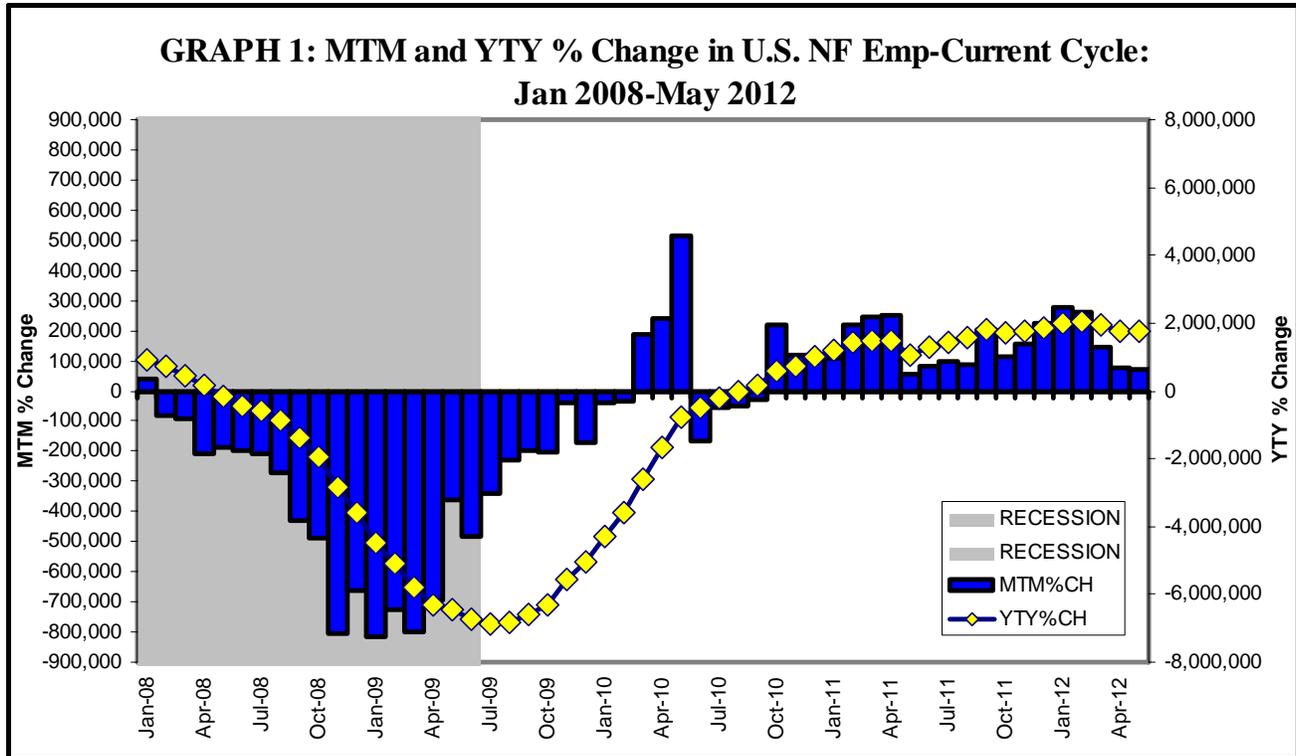
³ White, Eugene N., *The Great American Real Estate Bubble of the 1920s: Causes and Consequences* (October 2008) National Bureau of Economic Research: Cambridge, Ma.

⁴ Koo, Richard C., *THE HOLY GRAIL OF MACROECONOMICS: Lessons from Japan's Great Recession* (2009) John Wiley & Sons: New York

⁵ Kennedy, Daniel, W., *THE UPS-AND-DOWNS OF RECOVERING FROM A BALANCE-SHEET RECESSION: The Outlook to 2012Q4* (May 2011) Office of Research, Connecticut Labor Department: Wethersfield



CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013



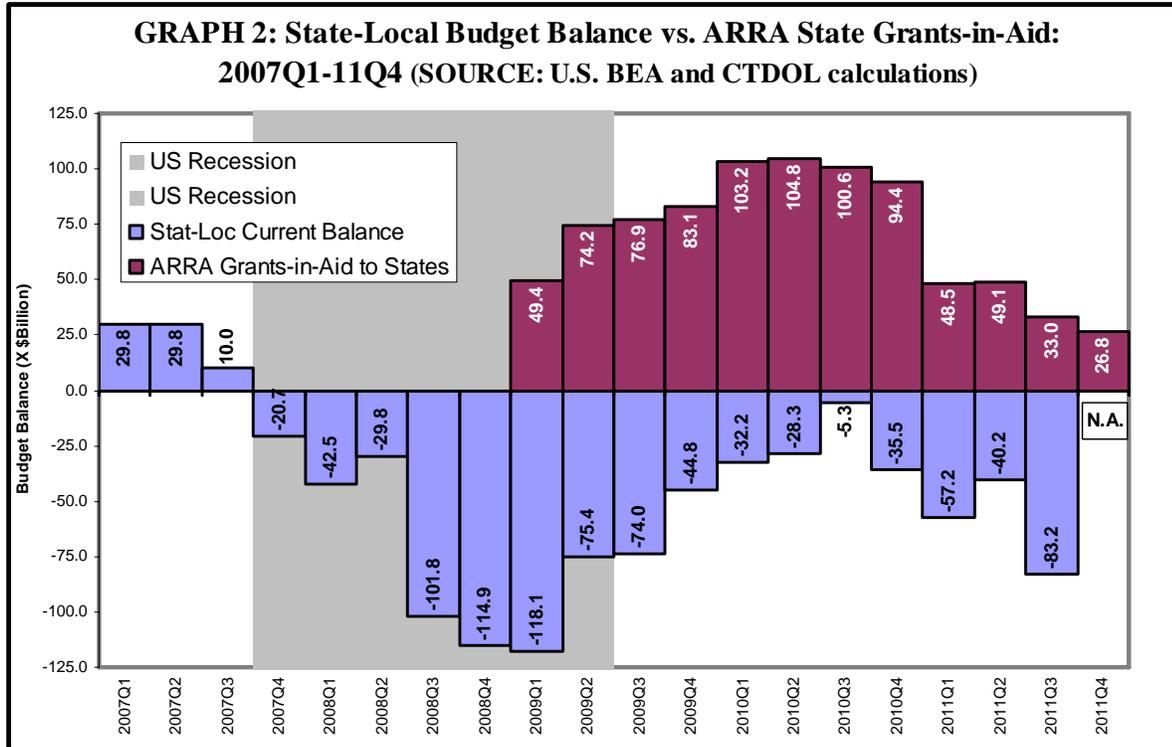
SOURCE: U.S. BLS and calculations by CTDOL-Research.

Throughout the last half of 2009, job-losses decelerated rapidly, and then turned strongly positive over the first half of 2010; then job-growth turned negative again until the last couple of months in 2010. Growth then turned positive again until mid-2011. With the winding down of the *American Recovery and Reinvestment Act (ARRA)*, the tsunami in Japan in March, and the clown-show over the debt ceiling in August, job-growth began trailing off once more by the middle of 2011. Further, the entire period was punctuated by the waxing and waning of the European debt crisis, which has continued with a vengeance in 2012. Nevertheless, by late 2011, and into Spring 2012, the economy seemed to be gaining strength. But, was this due to the economy’s turning the corner, the record warm winter, which distorted seasonal factors, or consumers feeling better about the economy due to Payroll Tax holiday finally extended?

Given this series of events that buffeted the economy, the underlying weakness was apparent with the winding down of the ARRA. This can be seen in Graph 2, which tracks state and local budget-balance against ARRA support to state and local governments from 2007Q1 to 2011Q4.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



SOURCE: U.S. Census Bureau and calculations by CTDOL-Research.

As the U.S. Economy went into recession in the fourth quarter of 2007, states began running budget deficits, which after improving some in 2008Q2, deteriorated sharply over the rest of 2008, and into the first quarter of 2009. Then with the introduction of support to local governments through the ARRA in 2009Q2, states' budget deficits began declining rapidly as ARRA support increased, and their budgets, in the aggregate, were nearly balanced in 2010Q3. The next quarter (2010Q4), ARRA support to state and local governments began to decline, and once again, states' budget conditions began to deteriorate. Since most states, save a few, such as Vermont, are required by their constitutions to balance their budgets, this translated into tax increases, cuts in spending, and layoffs, all resulting in spending being withdrawn from the economy, in an effort to comply with their constitutional requirements to balance their budgets. This growing drag on the national economy from state and local governments is further detailed below in Section IV-DRIVERS AND DRAGS ON THE CURRENT RECOVERY. And, in fact, returning to Graph 1, above, on a Year-to-Year (YTY) monthly basis (the yellow-pointed line and right vertical scale), which reflects a more cycle-trend

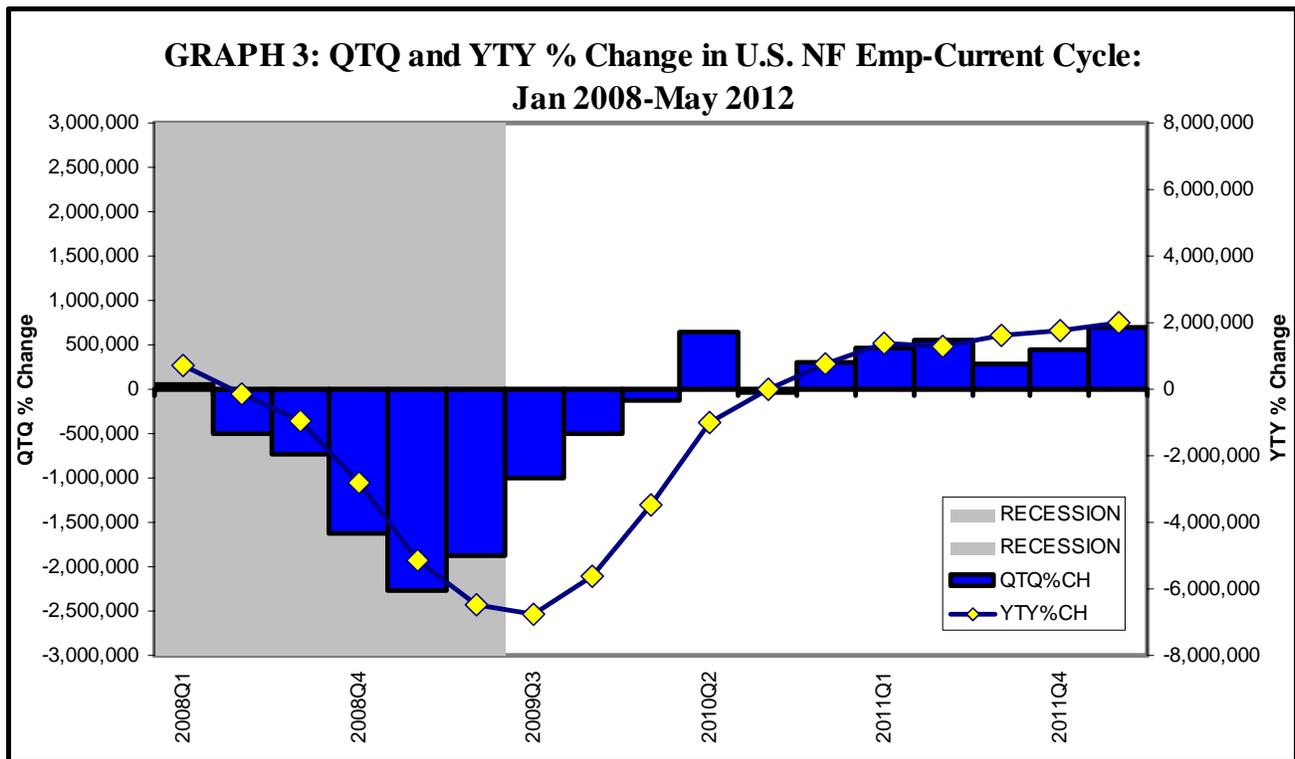


**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

perspective on the MTM changes in Non-Farm Employment, it is apparent that job-growth stalled throughout the last half of 2011, and into the first quarter of 2012.

THE U.S. ECONOMY’S “ARAB SPRING”...

Whether due to the record warm winter, which distorted the usual seasonal layoffs pattern and thus, in turn, distorted the seasonal factors for Non-Farm Employment, or due to more fundamental, and longer-lasting factors, such as a turning point in the recovery process, the U.S. Economy had what could be dubbed an “Arab Spring” over the final months of 2011 and into the beginning of 2012. Graph 3 reproduces Graph 1, but with less volatile quarterly data for U.S. Non-Farm Employment from 2006Q1 to 2012Q1.



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

The Quarter-to-Quarter (QTQ) change in employment pretty much matches the MTM pattern observed in Graph 1, save the lower volatility in the quarterly series. After a strong showing in 2010Q2, job-growth then decelerated, but then accelerated again until 2011Q2. After decelerating in 2011Q3, the pattern began again with re-accelerating job-growth through



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

2012Q1. This fits-and-starts pattern comes through more clearly in the quarterly data compared to the noisier, monthly data in Graph 1. Further, the quarterly YTY changes show a slight upward trend in job-growth, compared to the flatter YTY pattern displayed in the monthly data. Further, the strong growth in jobs over the first quarter of 2012 (+696,333) exceeded the two previous surges in 2010Q2 (+641,667) and 2011Q2 (+552,333).

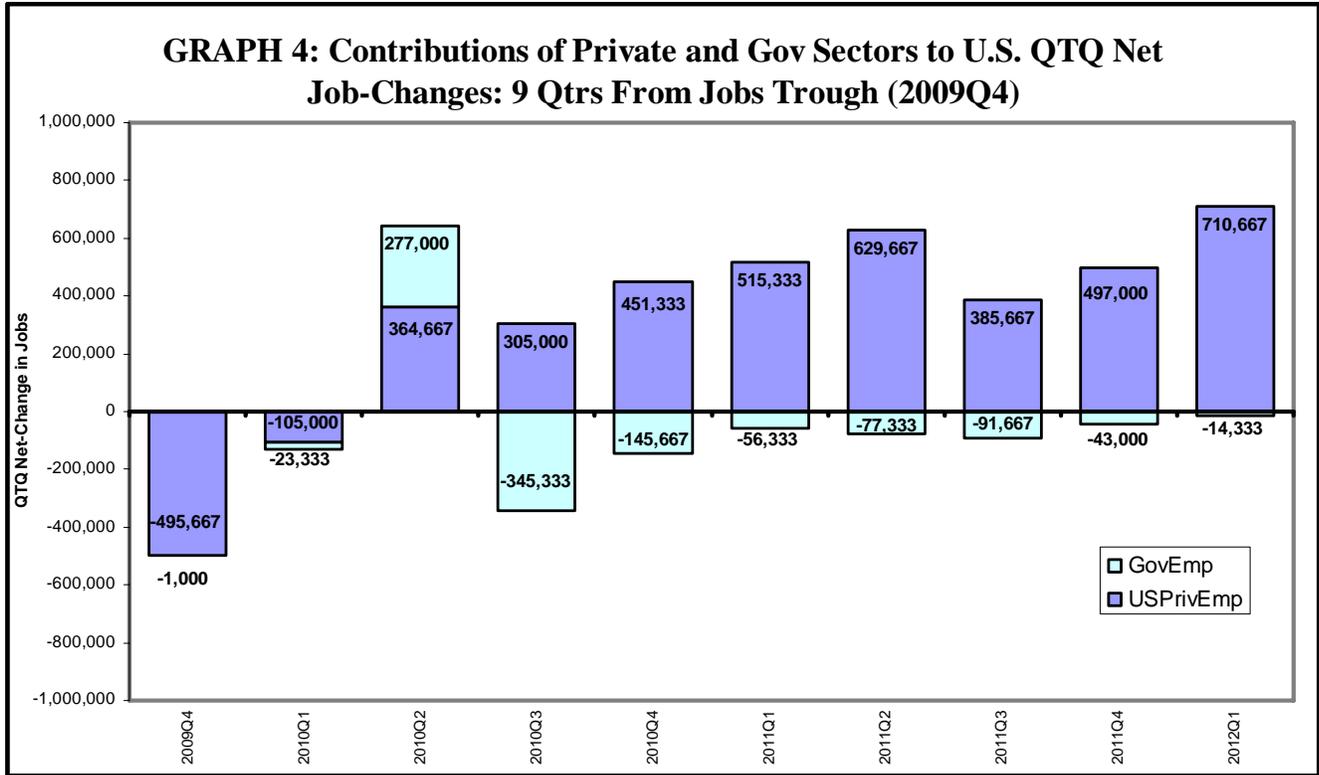
With the withdrawal of ARRA stimulus from especially state and local government support (see Graph 2 above), government has subtracted jobs from the economy, rather than adding them as it had done over the previous two Post Cold War recoveries (see Section IV, Part B, Sub-Part ii-FROM FISCAL STIMULUS TO FISCAL DRAG, below, for a detailed discussion). Consequently, government job-losses have cancelled some of the jobs added by the Private Sector (depicted in Graph 4).

The Private Sector actually added a strong 710,667 jobs over the first quarter of 2012, with Government subtracting 14,333 jobs from that total (which was the smallest decline in Government jobs since the declines began in 2010Q3). So where did the Private Sector jobs come from? Graph 5 explores the answer to that question.

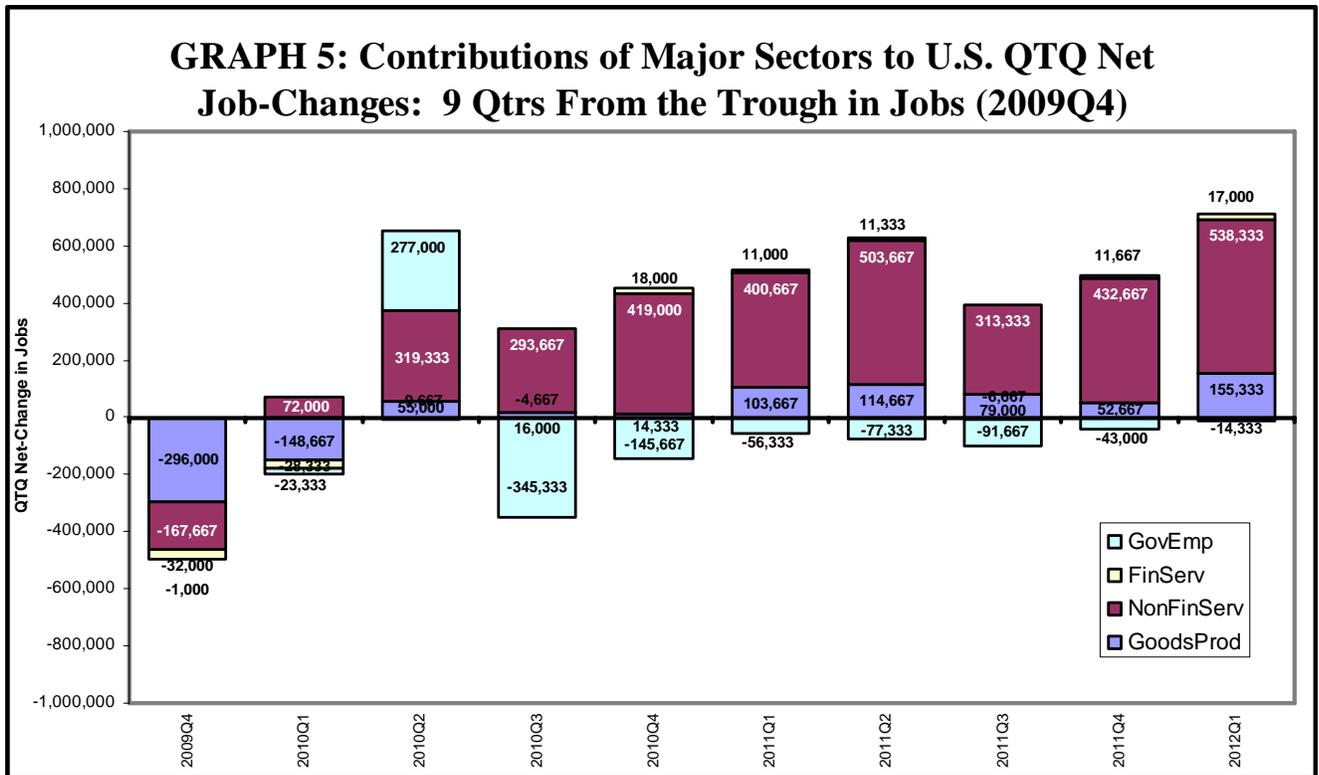
Graph 5 tracks the contributions of the major sectors to quarterly U.S. job-growth from 2009Q4 to 2012Q1 (i.e., nine quarters into recovery). Again, as observed in Graph 5, Government job-losses subtracted from Private-Sector job-gains, but at a decreasing rate. What is also noteworthy, is that, unique to this recovery (certainly in the Post Cold War Era), are the gains in Manufacturing, which accounted for two-thirds of the gains in the Goods Producing Sector. But, as would be expected, most of the QTQ-gains in Non-Farm jobs have been driven by the Private, Non-Financial Services Sector. Of the 710,667 Private Sector jobs added in 2012Q1, 538,333, or three-quarters of the jobs added were in the Private, Non-Financial Services Sector. Further, both represented the largest QTQ gains of the entire recovery, up to this point (i.e., 2012Q1).



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



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



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



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Thirty-eight percent, or 205,333, of the Non-Financial, Private Services jobs created in 2012Q1 were in Professional and Business Services, with 57%, or 116,967 of those jobs in Administrative Support and Waste, which, in turn, is significantly driven by Temporary Help. Education and Health Services added 124,000 jobs over the first quarter of 2012. Health Care and Social Assistance (HCSA) portion contributed 96,267 of those jobs. HCSA, driven by demographic factors has experienced consistent job growth, propelled by trend factors, over all phases of the business cycle unlike other sectors, such as Construction, whose job-growth is more vulnerable to the phases of the cycle.

OR NOT (August Update)

In THE EMPLOYMENT SITUATION for May 2012, released on June 1st, the U.S. Bureau of Labor Statistics (BLS) announced that Nonfarm Payroll Employment, from the Establishment Survey, had changed little in May, up by only 69,000. Further, the Unemployment Rate (UR) was essentially unchanged at 8.2%. Employment increased in HCSA, Transportation and Warehousing, and Wholesale Trade but that employment had declined in Construction, and was little changed in most other major industries⁶. Referring back to Graph 1, and looking at the MTM changes in jobs, after March, the growth in Non-Farm jobs began to significantly decelerate. And, though Government employment, after growing by 5,000 in February, began to shed jobs again, losing 4,000, in March, 10,000, in April, and 13,000 in May, it was the significant decline in Private Sector job-growth that is the story. After creating more than one-quarter million jobs each in January and February, Private-Sector job-creation declined to 147,000 in March, and then decelerated further to 87,000 in April and 82,000 in May.

But, even before the release of the May jobs report in June by BLS, there were concerns about how real the momentum was in the first quarter of 2012. On April 27th, the U.S. Bureau of Economic Analysis (BEA) released its advanced estimate of U.S. GDP for the first quarter of 2012. The advance estimate for Real GDP came in at 2.2% in 2012Q1, a slowdown from the

⁶ U.S. Bureau of Labor Statistics, THE EMPLOYMENT SITUATION — MAY 2012 (June 1, 2012) U.S. Department of Labor: Washington



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

3.0% growth-rate in the fourth quarter of 2011⁷. Then, one day before the jobs report, on May 31st, BEA released its second estimate for the first quarter of 2012, which revised 2012Q1 Real GDP growth-rate down by 0.3 percentage points (30 basis points) from the 2.2% advance estimate to 1.9%⁸.

⁷ U.S. Bureau of Economic Analysis, *National Income and Product Accounts Gross Domestic Product, 1st quarter 2012 (advance estimate)* (April 27, 2012) U.S. Department of Commerce: Washington

⁸ U.S. Bureau of Economic Analysis, *National Income and Product Accounts Gross Domestic Product, 1st quarter 2012 (second estimate); Corporate Profits, 1st quarter 2012 (preliminary estimate)* (May 31, 2012) U.S. Department of Commerce: Washington



II- CURRENT U.S. ECONOMIC CONDITIONS: Spring 2012

In order to organize our thoughts about assessing where the economy is in the spring of 2012 and where it might be going, this section turns to reading the signals that economy is sending us. These signals, known as *Economic Indicators*, are sent from their source, the *Economy*, to *Receptors*, those of us observing the economy, participating in the economy, or more likely, both. The signals sent by the economy are categorized by major macroeconomic functions and activities in the form of macroeconomic indicators. The indicators assessed reflect the levels and changes in aggregate economic activity including growth and output, and the contribution of major sectors, resources (natural and produced), and activities to the levels and growth in Aggregate Demand and Aggregate Supply in the U.S. Economy, and the implications for the current state of the economy (at the time of writing), and its likely trajectory over the forecast horizon.

In addition, there are two major perspectives in which quantitative variables can be viewed: *Stocks* and *Flows*. *Income-and-Expenditures Statements* measure resources flowing into an organization (e.g., household, business, or government), known as *Income*, and the outflow of resources known as *Expenditures*. Income minus Expenditures yields *Net Income*. Income and Expenditures are measured over time (e.g., per month, per quarter, etc.).

Stocks measure the accumulation of *Assets* owned at a point in time, and *Liabilities*, or claims against those Assets, at a given point in time. Subtracting liabilities from assets yields *Net Worth*. This is reflected in a *Balance Sheet*. Balance Sheets are recorded at a point in time (e.g., December 31, 2011).

A helpful way to think about the difference between stocks and flows is with the Bathtub Analogy. The *Flow* concepts are analogous to water flowing in-and-out of the tub. Think of *Income* as the water flowing from the spigot into the tub over time (i.e., per second, or per minute), and *Expenditures* as the water falling through the drain, per unit of time. The *Stock* concepts are analogous to the accumulation of water in the tub at a given point in time. The



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

amount of water accumulated in the tub at a point in time is analogous to *Net Worth* (= Assets – Liabilities). If water is flowing into the tub faster than it is draining out, then the stock of water is accumulating in the tub (i.e., Net Worth is increasing). If water is draining out faster than it is flowing in, then the stock of water is declining (i.e., Net Worth is declining).

Sections A and B assess the current state of the economy by looking at the economic indicators from the flow standpoint. Section A looks at the major indicators of aggregate economic activity: Growth and Output. Section B assesses the indicators of Aggregate Demand and Aggregate Supply. Section C then turns to a discussion of the indicators of the stock perspective on the economy. Specifically, the Balance Sheets for the major private sectors of the economy: Households, Incorporated Businesses, and Non-Incorporated Businesses. Government will be discussed later on, below.

A. INDICATORS OF GROWTH AND OUTPUT

This section focuses on the indicators of U.S. growth and output. The first indicator tracked is the U.S. Gross Domestic Product (GDP), which is defined as the dollar-value of all current-period production of goods and services. And, in this case, those goods and services produced within the territorial boundaries of the U.S., regardless of the country of ownership. However, GDP is not the only measure of growth and output. Industrial Production is another measure of growth and output of the economy. But, GDP and Industrial Production are based on different methodologies. GDP is calculated on a net output basis (i.e.; Value Added). It excludes the double-counting of the intermediate inputs of purchased goods and services that are used to produce final output. Whereas, Industrial Production is calculated on a *Gross Output (GO)* basis that includes the intermediate inputs of purchased goods and services used in the production of final output. In this analysis, the Manufacturing Industrial Production Index (IPI) is used rather than the Total IPI. In addition to leaving out utilities that can be influenced by the weather rather than the underlying forces driving the economy, Manufacturing, despite its decline in importance in the U.S. Economy, still has a significant direct effect, and wide secondary and tertiary ripples throughout the economy. Further, while GDP, published by the

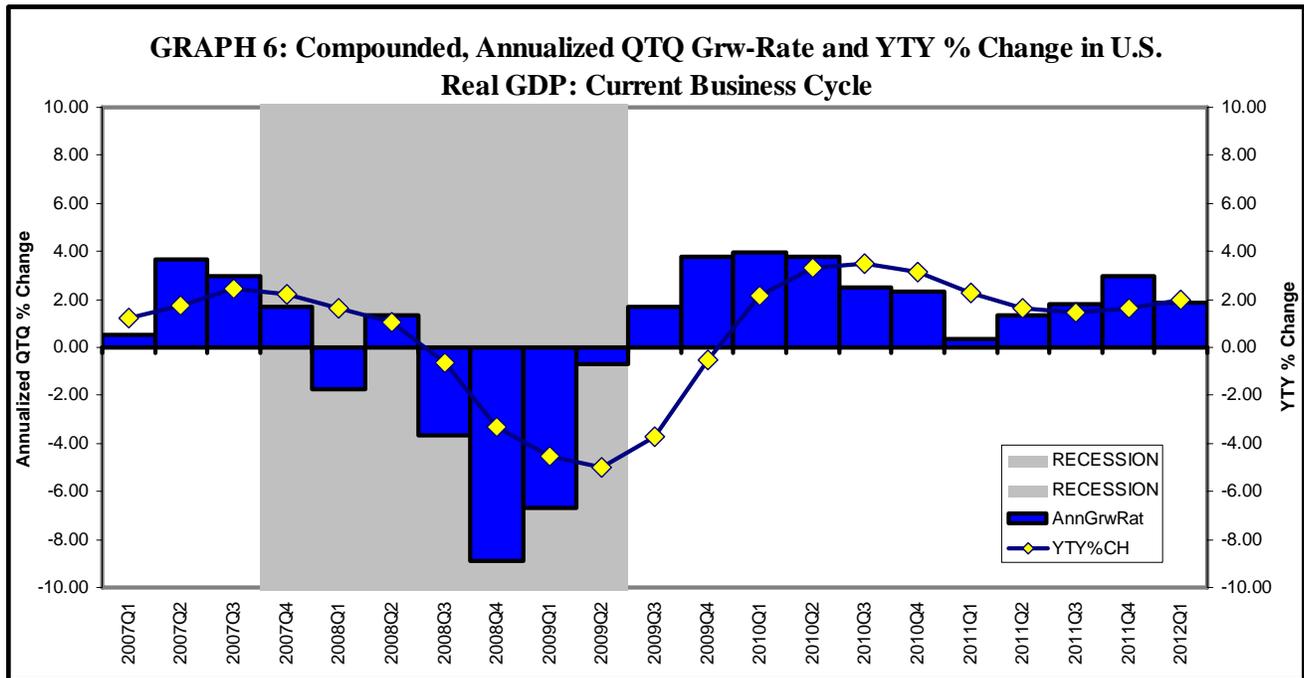


**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

U.S. Bureau of Economic Analysis, is a quarterly measure of output, Industrial Production, published the Federal Reserve Board, is a higher frequency, monthly measure of output.

i. GDP

As noted in the introduction to this outlook, the staying power of the economy’s “Arab Spring” was reassessed with the release of the second estimate of 2012Q1 Real GDP growth. As it were, the advance estimate of 2.20% was a deceleration from the 2.95% annualized, quarterly growth-rate of 2011Q4. However, the second estimate showed that growth had actually decelerated to 1.86% in the first quarter of 2012. This is depicted in Graph 6, which tracks the compounded, annualized quarterly growth-rate on the left vertical scale (bars) and the YTY, quarterly growth-rate on the right vertical scale (line) from 2007Q1 to the last available period of data, at the time of writing, 2012Q1.



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

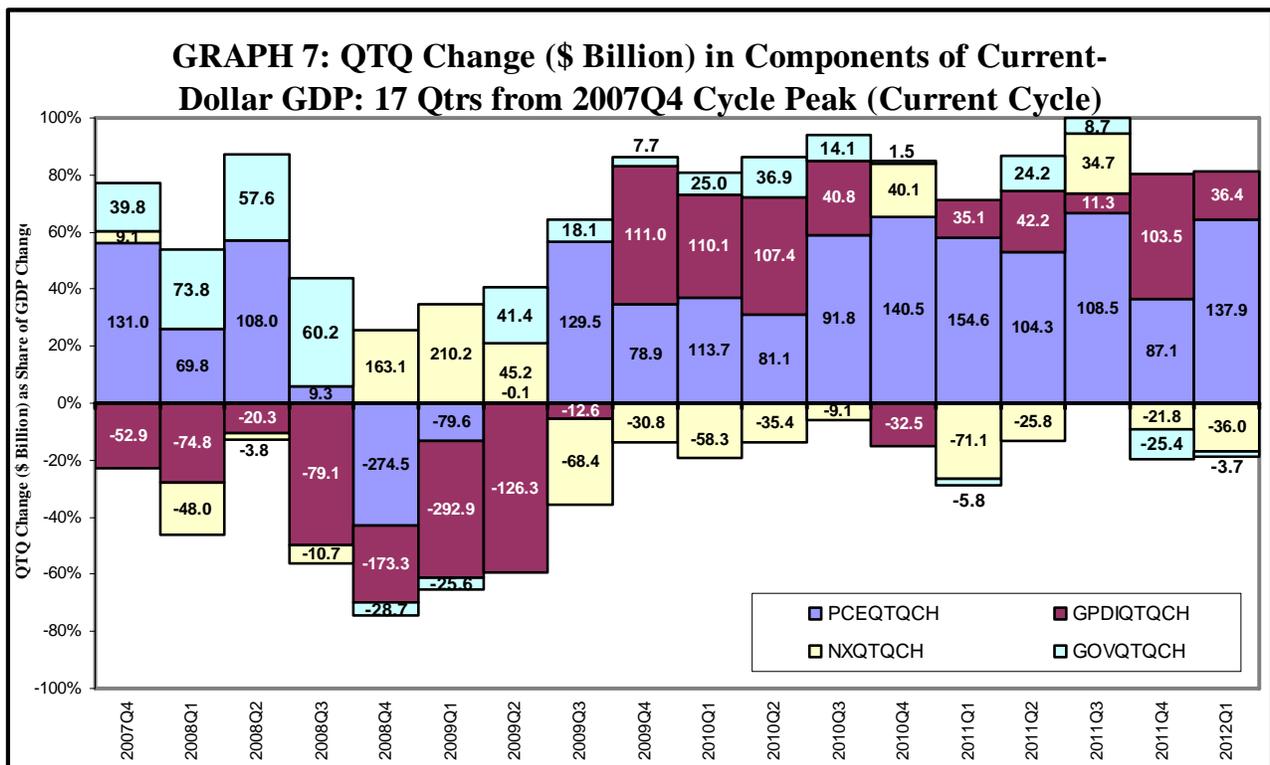
Similar to the pattern for Non-Farm Employment observed in Graph 1 (see Chapter I-INTRODUCTION), after recovering from the crisis in the fourth quarter of 2008, and into the



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

first quarter of 2009, Real GDP growth recovered, and then accelerated until the second half of 2010 when it began to decelerate. After a steep decline in growth in 2011Q1, the quarter of the Japanese earthquake and tsunami, Real GDP growth began to accelerate again until growth, once again, declined in the first quarter of 2012, the same quarter in which the U.S. jobs growth-rate surged before cooling off in the first two months of the second quarter of 2012. Again, as noted in the introduction to this outlook, this seems to reflect the persistent underlying drag forces on the economy from the popping of the housing and credit bubbles, in conjunction with the financial panic.

To see what contributed to the slowdown, Graph 7 looks at the contributions of the major components of GDP to see what added to, and what subtracted from, GDP growth in the first quarter of 2012. As is always the case, because of the problem of adding together chained-dollar components, Graph 7 switches from real to nominal, or Current-Dollar GDP.

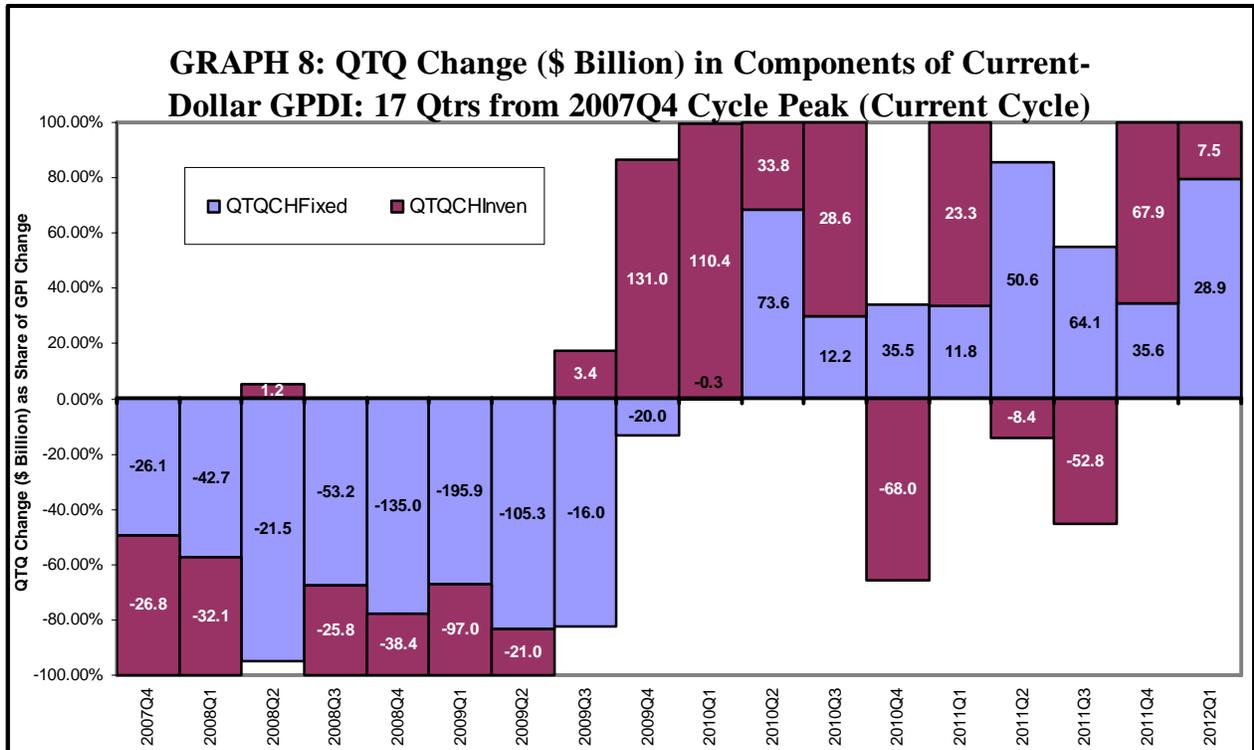


SOURCE: U.S. BEA and calculations by CTDOL-Research



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Although U.S. Households' Personal Consumption Expenditures (PCE) grew by \$137.9 billion in the first quarter of 2012, compared to \$87.1 billion in 2011Q4, Gross Private Domestic Investment (GPD) growth decelerated from \$103.5 billion to just \$36.4 billion in 2012Q1. In addition, even though the contraction in Government spending slowed from -\$25.4 billion in 2011Q4 to -\$3.7 billion, the deterioration to the U.S. Current Account accelerated from -\$21.8 billion in 2011Q4 to -\$36.0 billion in 2012Q1.



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

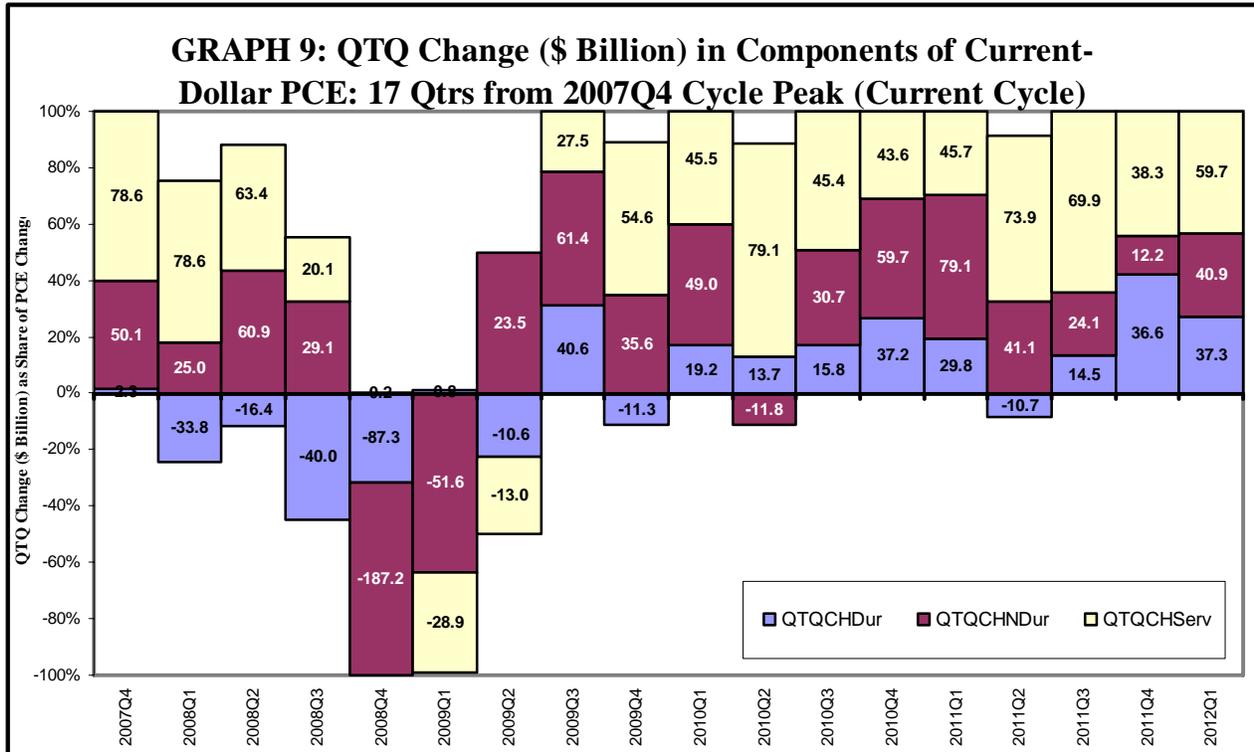
Graph 8 turns to digging down into GPD to discover what drove the deceleration in the growth in investment demand in the first quarter of 2012. What stands out is not only decline in the growth in Fixed Investment from \$35.6 billion in 2011Q4 to \$28.9 billion in 2012Q1, and that it nevertheless accounted for a larger share of GPD growth in 2012Q1, but even more significant, is the deceleration in Inventory building from +\$67.9 billion in 2011Q4 to +\$7.5 billion in 2012Q1.

Though Export-growth recovered from a \$6.0 billion decline 2011Q4, to a \$55.1 billion increase in the first quarter of 2012, after declining by \$0.8 billion in the third quarter of 2011,



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Imports grew by \$15.8 billion in 2011Q4, and then surged by \$91.1 billion in 2012Q1, resulting in Net Exports subtracting \$36.0 billion from GDP in the first quarter of 2012. As noted above, the largest contributor to GDP growth in 2012Q1 was PCE (see Graph 7). Graph 9 breaks out the major contributors to the growth in PCE over the first quarter of 2012.



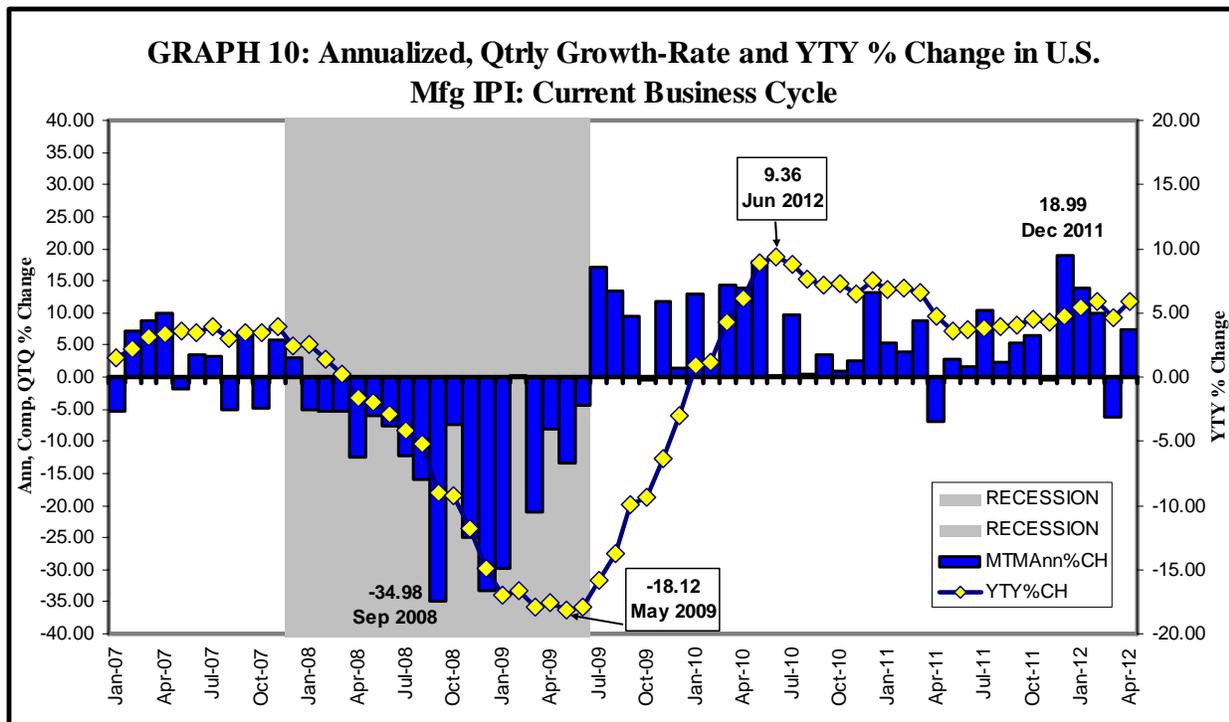
SOURCE: U.S. BEA and calculations by CTDOL-Research.

The growth in Durable Goods Expenditures, though a smaller share of the growth in PCE in 2012Q1, compared to 2011Q4, was slightly larger, at \$37.3 billion, than the \$36.6 billion in 2011Q4, and it, for the first time since, matched the \$37.2 billion QTQ growth in Durable Goods Expenditures in 2010Q4, just before the Japanese earthquake and tsunami in March 2011, which disrupted the supply chain, especially in the auto, and related, industries. And, while Services Expenditures \$59.7 billion, in 2012Q1, compared to \$38.3 billion in 2011Q4, it was spending on Non-Durable Goods that saw the largest acceleration in growth in 2012Q1, compared to 2011Q4. After growing by \$12.2 billion in the fourth quarter of 2011, Non-Durable Goods spending, driven by increases in petroleum-related products' prices particularly gasoline, increased by \$40.9 billion in 2012Q1.



ii. Industrial Production

Graph 10 presents the Month-to-Month (MTM), annualized, compounded, percent change (bars, left vertical scale) and the Year-to-Year (YTY) monthly change (line, right vertical scale) in the U.S. Manufacturing Industrial Production Index (IPI). Graph 10 tracks the IPI from January 2007 to the latest available data at the time of writing, April 2012. The use of the Manufacturing output index rather than the Total IPI precludes including any output distortions due to the weather, from including utilities.



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

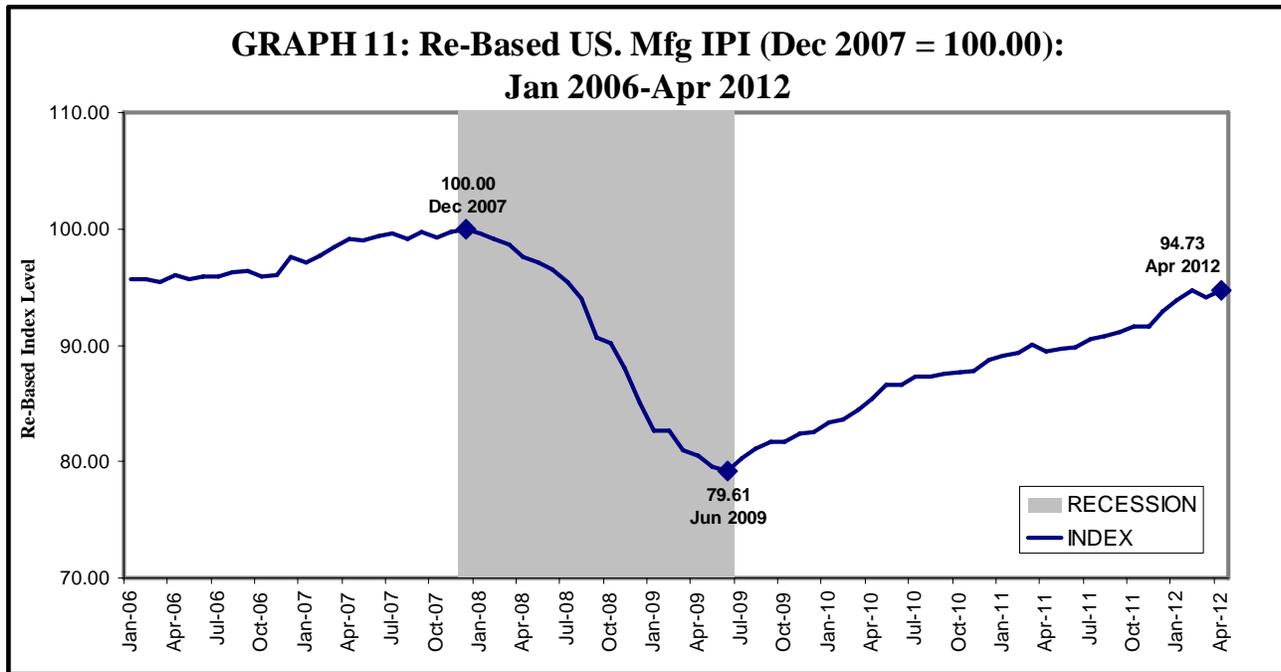
The steepest percent contraction in the U.S. Manufacturing IPI, on a monthly, annualized basis, over the current cycle, was the 34.98% decline in September 2008, the month of the collapse of Lehman Brothers, and the ensuing worldwide financial panic. The strongest growth, coming out of the recent panic and recession, was the 18.99% compounded, annualized growth-rate in December 2011. Growth in manufacturing output then decelerated in January and February, and the contracted by 6.17% in March. Output then turned positive in April growing by 7.39%. On a YTY monthly growth-rate basis, the steepest decline in Manufacturing output was the



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

18.12% contraction in May 2009, one month before the National Bureau of Economic Research (NBER) declared the trough of the recession. YTY manufacturing output growth peaked in June 2010, growing by 9.36%. In April 2012, the latest period of available data, the Manufacturing IPI grew by 5.84%, on a YTY basis, up from 4.59% in March.

Graph 11 tracks a re-based Manufacturing IPI from January 2007 to April 2012. The Federal Reserve's manufacturing output index was re-based so that the level of the Manufacturing IPI was 100.00 for December 2007, the peak of the last expansion. This allows the portion of output regained after the panic and recession to be tracked and gauged.



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

From Graph 11, as of April 2012, 52 months after the peak of the last expansion, and 34 months after the trough of the recent panic/recession, U.S. Manufacturing output is back to 94.73% of its December 2007 level. Based on the re-based index, after declining by 20.39%, from 100.00 in December 2007 to 79.61 in June 2009, U.S. Manufacturing output has recovered by 19% from its low, but it is still 5.27% below the peak of the last expansion.



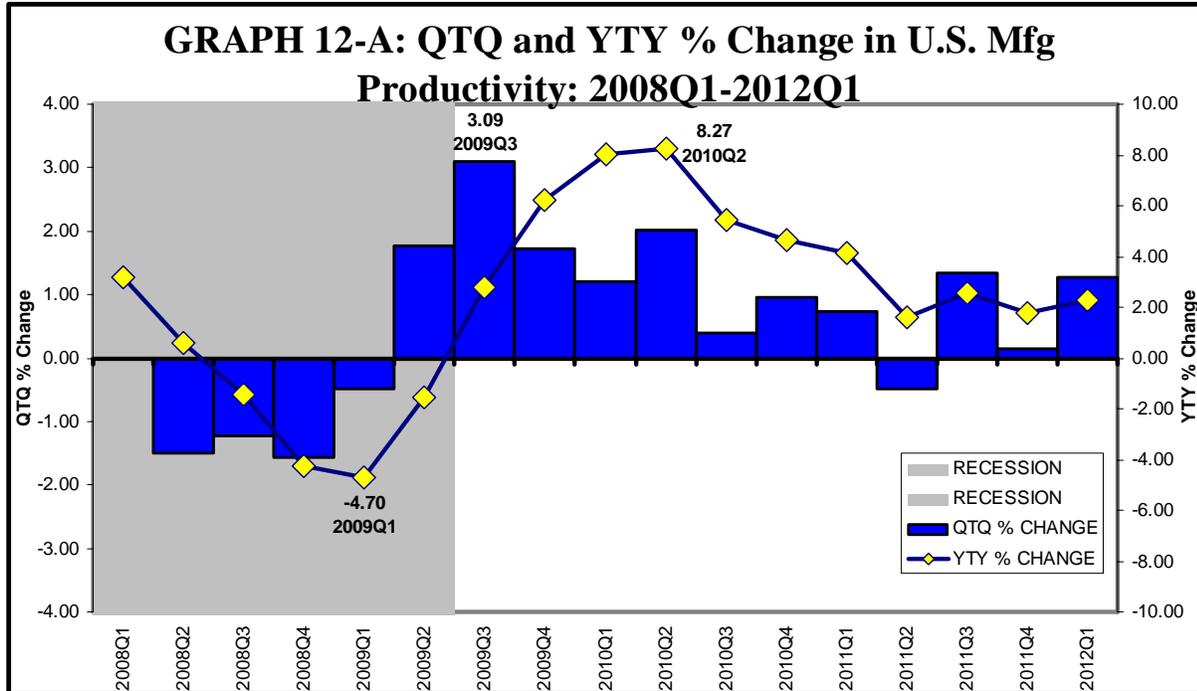
iii. Productivity

Graphs 12-A and 12-B show the Month-to-Month (MTM), bars and left vertical scale, and Year-to-Year (YTY), line and right vertical scale, productivity growth in the U.S. Manufacturing Sector (Graph 12-A) and the U.S. Non-Financial Business Sector (Graph 12-B). U.S. Manufacturing productivity contracted for four straight quarters through the last three quarters of 2008 and into the first quarter of 2009, with its steepest decline in 2009Q4 when it contracted by 1.57%, which is a 6.13% annualized, compounded rate of productivity decline. On a YTY basis, the largest decline was the 4.70% decline in 2009Q1. U.S. Manufacturing productivity turned positive in 2009Q2, the quarter the U.S. Economy came out of the 2007Q4-2009Q2 Panic and Recession. Its strongest growth-rate was in 2009Q3 when productivity grew by 3.09%, on a QTQ basis, and that translates into a 12.94% compounded, annualized growth-rate. On a YTY basis, the growth-rate in manufacturing productivity peaked at 8.27% in the second quarter of 2010. From 2009Q3 for the QTQ growth-rate, and from 2010Q2, for the YTY growth-rate, the growth-rate in productivity has pretty much been declining. However, there were two spikes in the QTQ growth-rate in 2011Q3 and 2012Q1, with flat growth in 2011Q2. In the first quarter of 2012, U.S. Manufacturing productivity grew by 1.27%, on a QTQ basis, which translates into a 5.18% compounded, annualized growth-rate.

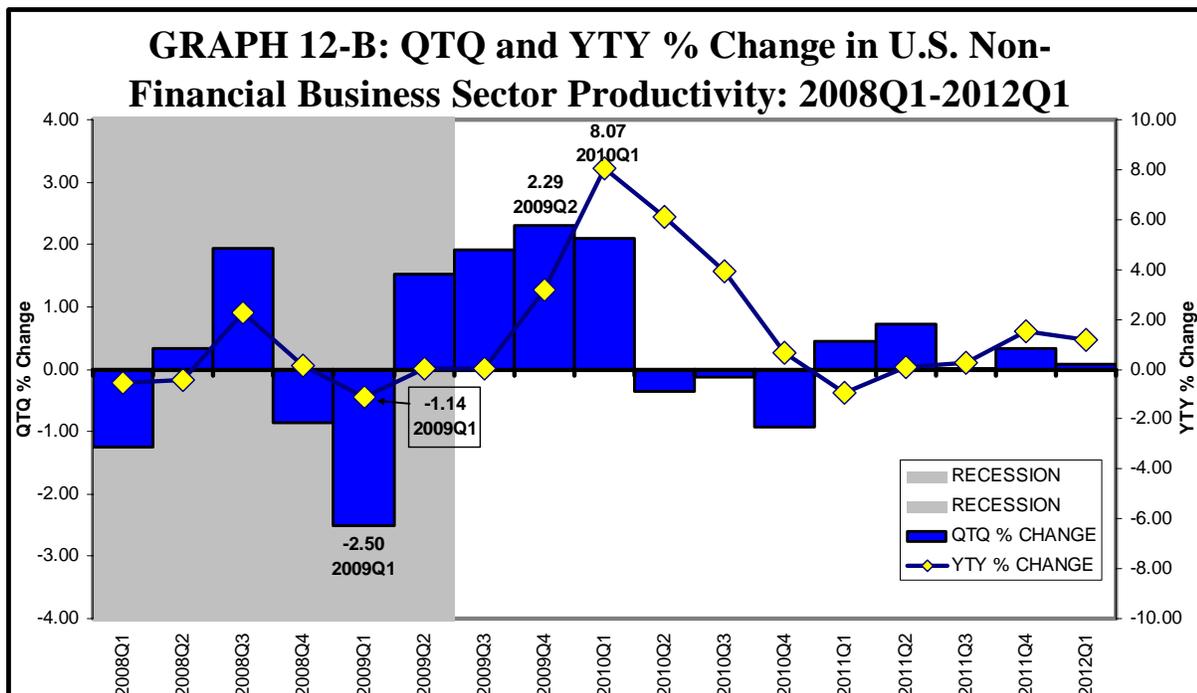
For the Non-Financial Business Sector (see Graph 12-B), after contracting by 2.50%, on a QTQ basis (-9.63% on a compounded, annualized basis), and declining by 1.14%, on a YTY basis, productivity growth then surged for four straight quarters from 2009Q2 to 2010Q1, peaking at a 2.29% QTQ growth-rate (9.48% on a compounded, annualized basis) in 2009Q2. The YTY growth-rate in productivity, for non-financial businesses, peaked at 8.07% in the first quarter of 2010. Since then, productivity growth in the Non-Financial Business Sector has pretty much collapsed, growing 0.08% in 2012Q1 (QTQ).



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



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



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



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

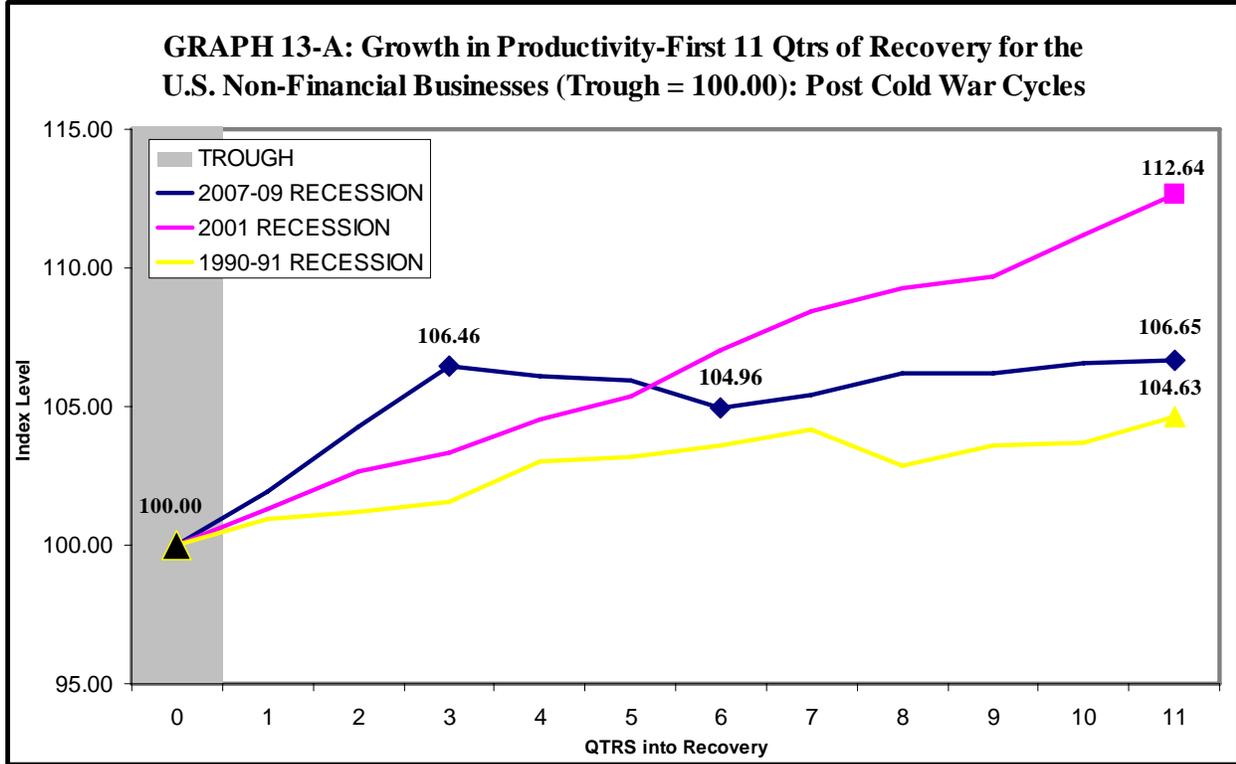
Graphs 13-A and 13-B show the productivity growth in the Non-Financial Business Sector over the first 11 quarters of recovery for the current recovery compared to the Post Cold War recoveries (Graph 13-A) and for the two recoveries for the other two steep Post World War II recessions (Graph 13-B). The index of Output Per Hour, which measures Productivity, and is published by the U.S. BLS has been re-based for each recovery so that at each trough the index is equal to 100.00.

From Graph 13-A, over the first three quarters of the current recovery, productivity growth, in the Non-Financial Business Sector outpaced that of the other two Post Cold War recoveries. But, then after the third quarter of the current recovery, 2010Q1, productivity growth, or Output/Hour in the Non-Financial Business Sector began to slow, and by 2010Q4, productivity growth over the current recovery fell below that of the recovery from the 2001 Recession. It then remained fairly flat up to the 11th quarter of the current recovery, the last quarter of available data at the time of writing, 2012Q1. However, productivity growth, in the Non-Financial Business Sector did remain above that of the recovery from the 1990-91 Recession-- at least over the first 11 quarters of recovery.

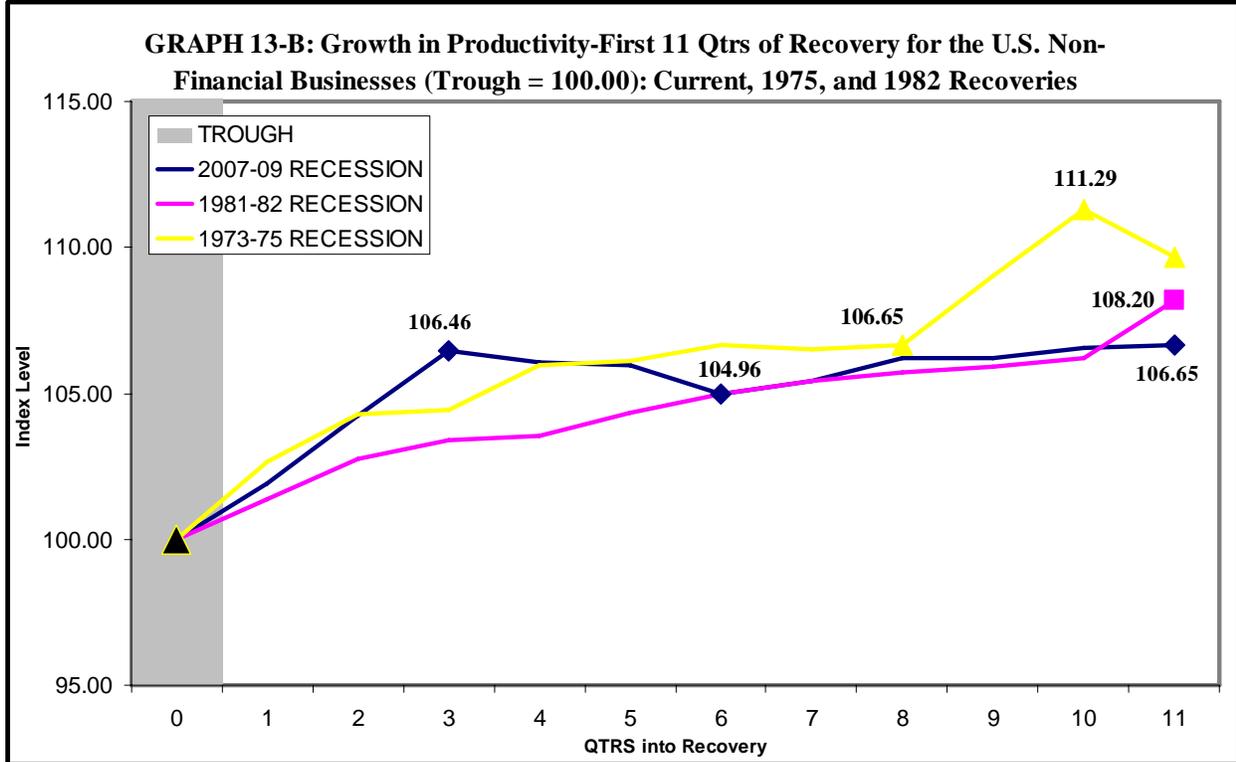
Graph 13-B measures productivity growth in the U.S. Non-Financial Business Sector over the current recovery to those following the other two steep Post Bretton Woods recessions: 1973-75 and 1981-82. Again, productivity growth in the Non-Financial Business Sector outpaced that of the recovery from the 1973-75 Recession for the first five quarters of recovery, and for the first six quarters of recovery, compared to the recovery from the 1981-82 Recession. Productivity growth, over the current recovery, then fell below that of the recovery from the 1973-75 Recession, over which productivity growth, for non-financial businesses then surged. Compared to the recovery from the 1981-82 Recession productivity growth over the current recovery pretty much tracked that of the 1980's Recovery, until the 11th quarter, when it fell below it. Again, as noted in the introduction above, this deceleration seems to track the winding down of the ARRA, Cash-for-Clunkers, and First-Time Homebuyers' stimulus programs, which withdrew spending support from the economy.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



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



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



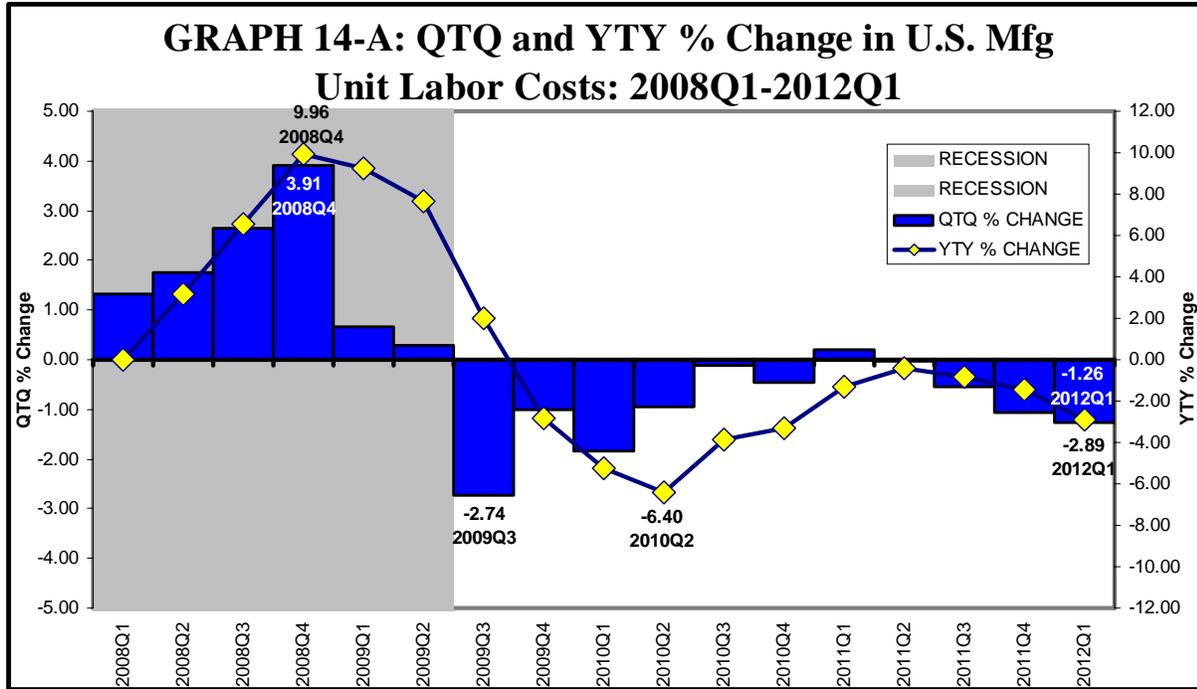
**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Graphs 14-A and 14-B show the Month-to-Month (MTM), bars and left vertical scale, and Year-to-Year (YTY), line and right vertical scale, of the growth in Unit Labor Costs (labor compensation adjusted for productivity growth) in the U.S. Manufacturing Sector (Graph 14-A) and the U.S. Non-Financial Business Sector (Graph 14-B). Since their peak growth in 2008Q4, at 3.91%, on a QTQ basis (16.58% on a compounded, annualized basis), and 9.96%, YTY, the growth-rate in unit labor costs in the U.S. Manufacturing Sector has either fallen or been flat, both on a QTQ and a YTY basis. In the first full quarter of recovery, 2009Q3, unit labor costs in manufacturing fell 2.74% on a QTQ basis (-10.52% on a compounded, annualized basis). For seven straight quarters unit labor costs fell on a QTQ basis, turning in a positive but weak 0.20% growth-rate in 2011Q1 (+0.80% on a compounded, annualized basis). From then on, the QTQ growth-rate began to decline at an accelerating rate. QTQ, unit labor costs declined by 1.26% in 2012Q1 (-4.96% on a compounded, annualized basis). The YTY growth-rate in unit labor costs followed a similar pattern. The steepest decline in unit labor cost, in manufacturing, on a YTY basis, was the 6.40% decline in 2010Q2. The YTY declines abated until 2011Q2, when the YTY declines in unit labor cost began to increase again. In 2012Q1, unit labor costs declined by 2.89% on a YTY basis.

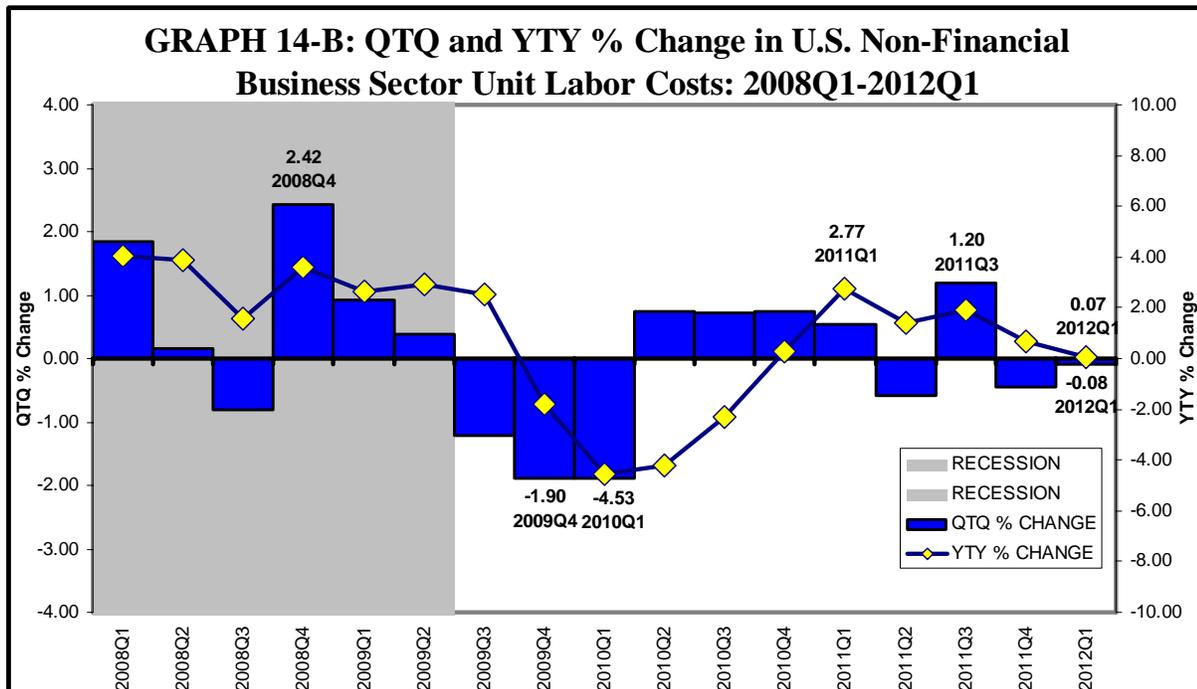
Graph 14-B tracks the QTQ and YTY growth-rate in unit labor costs in the U.S. Non-Financial Business Sector. Unlike the steady climb in unit labor costs in the Manufacturing Sector over the first part of the recession-panic, unit labor costs in the Non-Financial Business Sector fell over 2008Q2 and 2008Q3, but then surged by 2.42% (+10.04% on an annualized basis), over the fourth quarter, the quarter of the panic. Their growth then decelerated until 2009Q3, from the third quarter of 2009 to 2010Q1, unit labor costs declined for three straight quarters. The steepest decline was the 1.90% QTQ decline (-7.39% on a compounded, annualized basis), in unit labor costs in 2009Q4. The steepest decline on a YTY basis was the 4.53% in 2010Q1. This was followed by four straight quarters of growth, in which the YTY growth-rate peaked at 2.77% in 2011Q1. Save 2011Q3, when the QTQ growth-rate jumped by 1.20% (+4.89% on a compounded, annualized basis), the QTQ growth-rate in unit labor costs was negative, and the YTY growth-rate decelerated. In 2012Q1, QTQ, unit labor costs fell 0.08% (-0.32% on a



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



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



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



compounded, annualized basis). YTY, the growth-rate in unit labor costs in 2012Q1 was 0.07%.

B. INDICATORS OF AGGEGATE DEMAND AND AGGREGATE SUPPLY

This section turns to the signals sent by the economy through the Aggregate Demand and Aggregate Supply framework. The economy operates below its potential if the demand for the goods and services produced by the economy falls below the full-capacity level of its ability to produce. This results in what is called a positive *Output Gap*, that is *Full-Employment GDP* (GDP_{FE}) minus *Actual GDP* (GDP_{Act}) is greater than zero (i.e., $GDP_{FE} - GDP_{Act} > 0$). If actual GDP, the output of goods and services in the economy, is equal to GDP_{FE} then the Output Gap is zero, and the economy is operating at full capacity utilization (i.e., full employment).

Finally, if the demand for goods and services exceeds the economy's ability to produce, then there is an *Inflationary Gap*, that is, the Output Gap is negative, as the excess demand merely drives up prices as the economy's capacity to fill the demand is constrained by insufficient supply. Thus, assessing the state of Aggregate Demand and Aggregate Supply, at the time of writing, can reveal important strengths and weaknesses in aggregate economy activity, which, in turn, can relay important information that has important implications for the current state of the economy, and its likely trajectory over the forecast horizon.

TABLE 1: Indicators of Aggregate Demand and Aggregate Supply Conditions (Selected Indicators)

AGGREGATE DEMAND		AGGREGATE SUPPLY	
COMPONENT/FACTOR	SECTOR/MARKET	COMPONENT/FACTOR	SECTOR/MARKET
Consumer Demand	Household Sector	Capacity	Physical Capital Stock
Investment Demand	Business Sector	Labor	Human Resources
Government Demand	Public Sector	Foreign Supply	Imports
Foreign Demand	Exports	Productivity	Factor Utilization



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Table 1 summarizes the indicators analyzed in Sub-Section b to assess the current state of the U.S. Economy in the Spring of 2012, and where it might heading over the forecast horizon. Part i looks at the indicators of Aggregate Demand and Part ii looks at the indicators of Aggregate Supply. Section C then turns to the stock concept of economic indicators and looks at the Balance Sheets of the major sectors of the U.S. Economy.

i. AGGREGATE DEMAND

This section focuses on the left side of Table 1, the components of Aggregate Demand. First the current economic conditions of U.S. Households are assessed. Since consumer spending is the largest component of Aggregate Demand, it is discussed first. Next comes the most volatile component of Aggregate Demand, Investment Demand. The investment cycle has the largest amplitude of any of the cycles that make up the major components of Aggregate Demand. The third component of Aggregate Demand discussed is the Government Sector. Since at all levels of government, many of its suppliers are private-sector firms, governments' purchases of goods and services significantly affect output and employment in the Business Sector. Finally, Foreign Demand is assessed. The Foreign-Demand component of Aggregate Demand is the Export Sector, that is, foreign demand for domestically-produced goods and services.

1. CONSUMER DEMAND (Household Sector)

Households' consumer demand is based on their ability and willingness to buy. Surveys attempt to capture consumers' willingness to buy through consumer-confidence surveys. There are various opinions as to how well these surveys actually capture consumer confidence, or how much of a relationship actually exists between consumer confidence and their actually going out and spending. Two of the most well-know consumer-confidence surveys are those put out by the University of Michigan and the Conference Board. This section focuses on consumers' ability to buy. Therefore, this section will look at various measures of household income and spending patterns from the flow-concept approach, and household balance sheets from the stock perspective (see discussion of stocks and flows above).



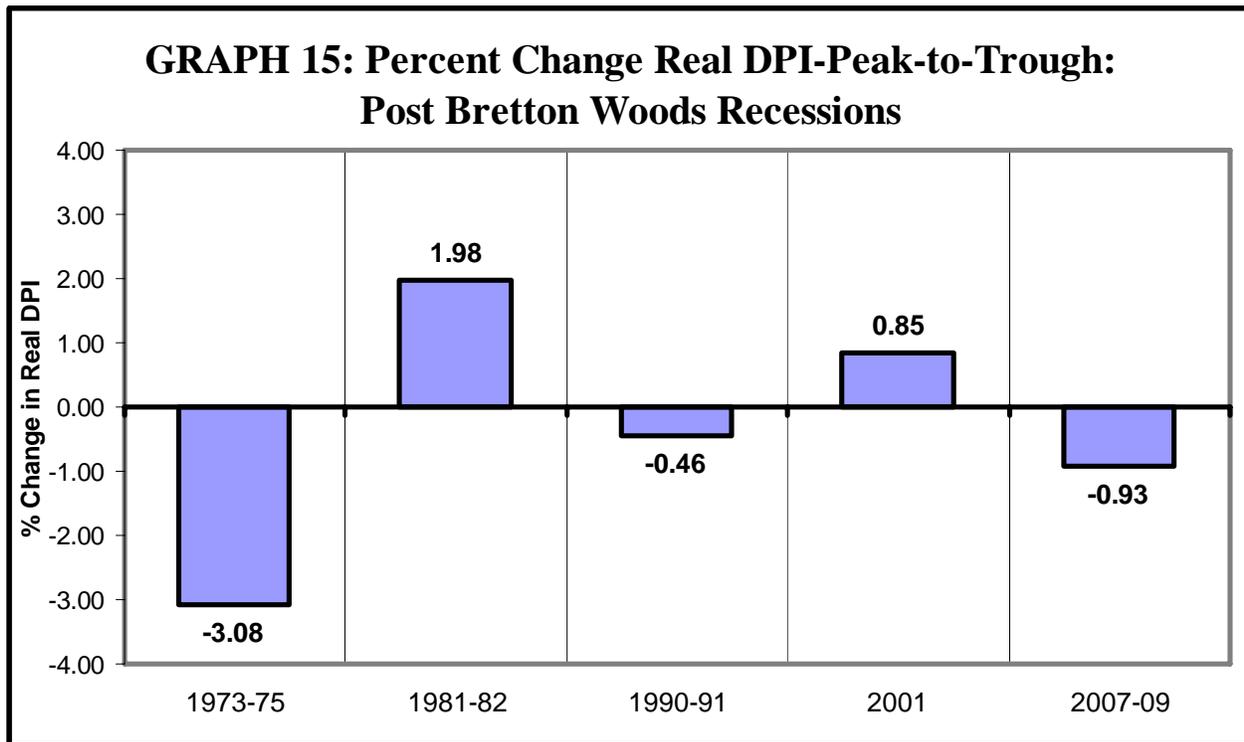
**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

From the flow perspective, the first support for consumer spending investigated is income, specifically Personal Income minus Transfer Payments (PI-Transfers). Then Disposable Personal Income (DPI), the Savings Rate, and households Personal Consumption Expenditures (PCE) are looked at.

Critical to consumer spending is *Disposable Personal Income*. Disposable Personal Income (DPI) is defined as:

$$\text{DPI} = \text{Income} - \text{Taxes} + \text{Transfer Payments}$$

In particular, Real DPI (DPI adjusted for inflation/deflation) is the key to consumers' spending power. Graph 15 shows the changes in Real DPI, from peak-to-trough for the Post Bretton Woods recessions (i.e., Post 1970).



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

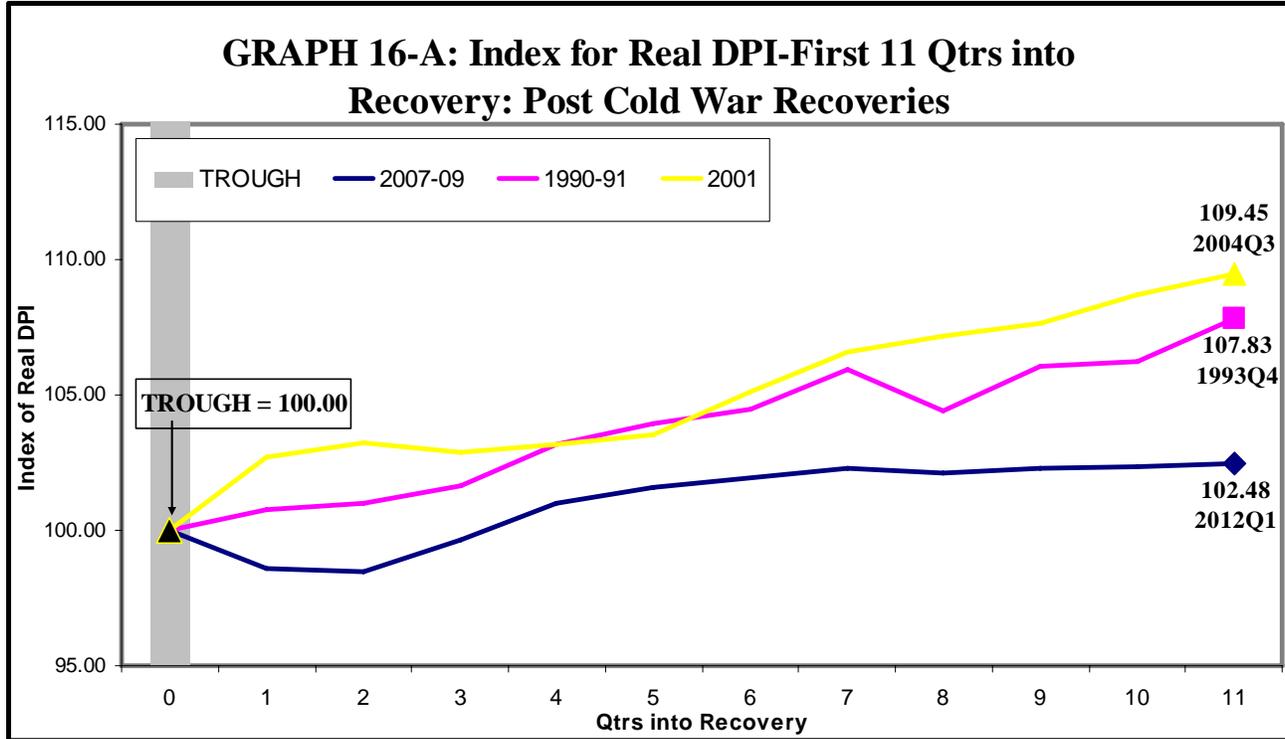


**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

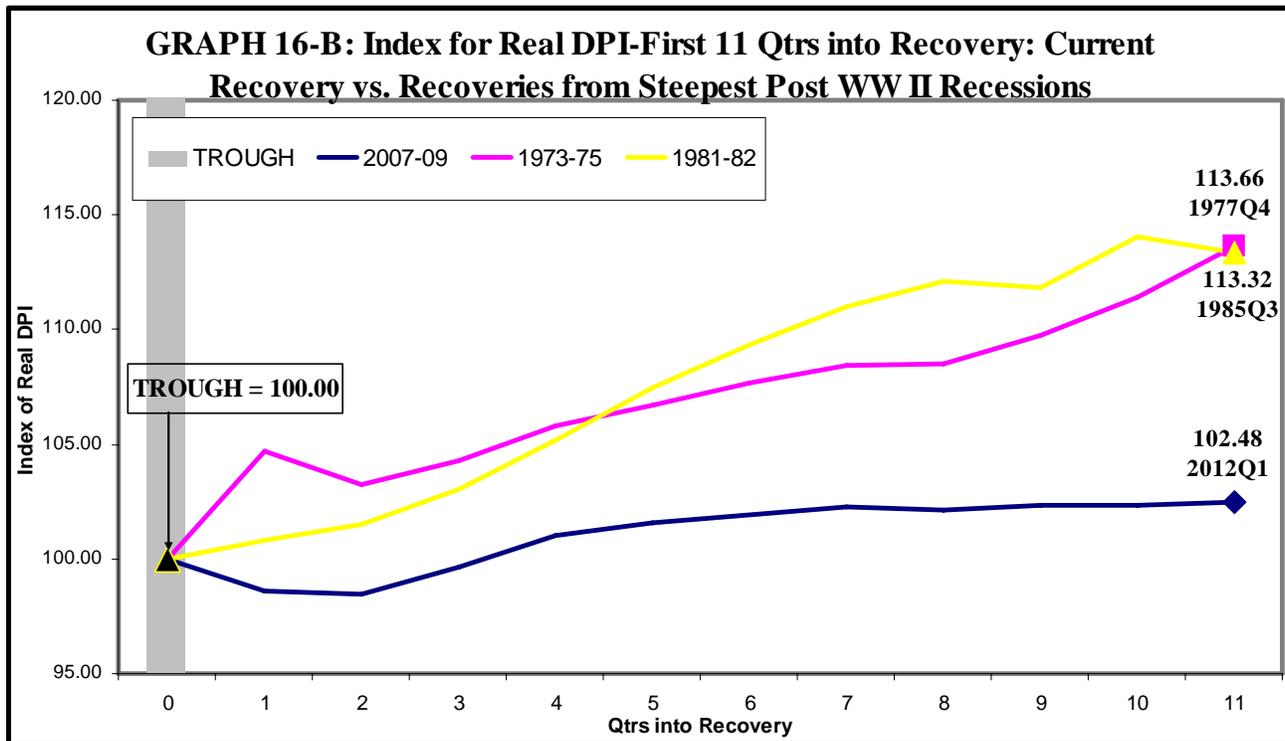
The steepest decline in Real DPI was that over the 1973-75 Recession. Between March 1973 and November 1975, Real DPI declined by 3.08%. But, for another steep recession, 1981-82, Real DPI actually increased by 1.98% between July 1981 and November 1982. For the three Post Cold War recessions there was a more muted change in Real DPI from the peak to the trough of the recession. From July 1990 to March 1991, Real DPI declined by 0.46%, and between March and November 2001, Real DPI increased by 0.85%. Over the recession and panic between December 2007 and June 2009, Real DPI declined by 0.93%, slightly steeper than the decline over the 1990-91 Recession, but a far smaller decline than the steep contraction over the 1973-75 Recession. Nevertheless, due to the nature of the 2007-09 Panic and Recession, the recovery in Real DPI has been much more anemic than the recoveries from the recessions depicted in Graph 15, including the recovery from the 1973-75 Recession. This is depicted in graphs 16-A and 16-B.

Graph 16-A presents an index of the growth in Real DPI over the first 11 quarters of recovery for Post Cold War recessions, with the index value equal to 100.00 at the trough of each recession. The recovery in Real DPI over the current recovery is clearly much weaker than that from the 1990-91 or 2001 recessions. In fact, Real DPI declined another 1.53% for two quarters after the recession trough in 2009Q2. As of 2012Q1, 11 quarters into recovery, Real DPI is only 2.48% above where it was when the recession officially ended. After 11 quarters of recovery from the 1990-91 Recession, Real DPI was 7.83% above where it was at the trough, and 11 quarters after the trough in the 2001 Recession, Real DPI had grown by 9.45%. The growth in Real DPI coming out of the other two other steep recessions over the Post Bretton Woods Period, was very strong compared to that of the Post Cold War recoveries, and especially compared to that of the current recovery. This is depicted in Graph 16-B. While, after 11 quarters of recovery over the current cycle, Real DPI grew by 2.48%, after 11 quarters of recovery from both, the 1973-75 and 1981-82 recession, Real DPI was more than 13% higher than it was at the troughs of those recessions.





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



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



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

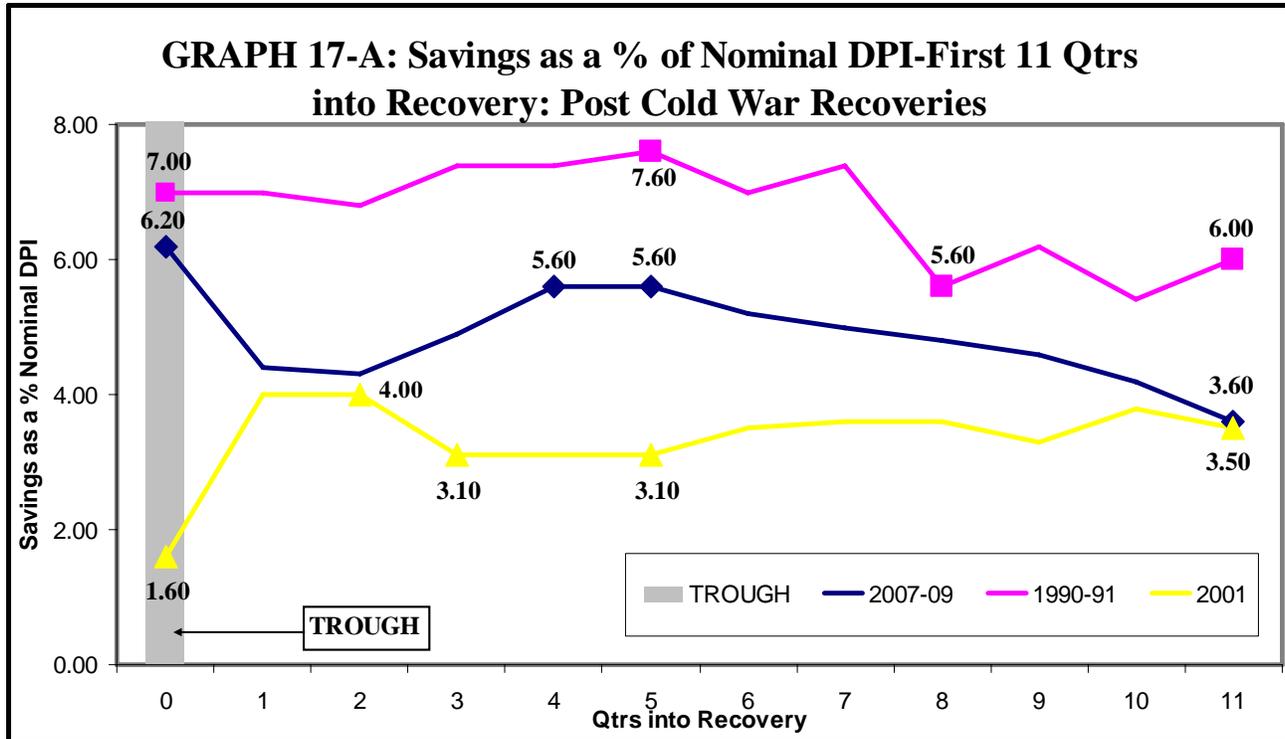
Two factors play a role in consumer spending with regard to the growth in Real DPI over a recovery: the strength of its growth and how much is spent and how much is saved. As is evident from graphs 16-A and 16-B, the growth in Real DPI has been much weaker than its growth over the other two Post Cold War recessions, and even weaker when compared to the recoveries from the two steepest Post Bretton Woods Era recessions. But how much was spent and how much was saved out of DPI over the recoveries tracked in graphs 16-A and 16-B?

Graphs 17-A and 17-B make the same comparisons as graphs 16-A and 16-B, but compare the savings rate as a percent of Current-Dollar (Nominal) DPI. What is striking in Graph 17-A is how much higher the savings rate averaged throughout the entire first 11 quarters of recovery from the 1990-91 Recession, compared to the other two Post Cold War recoveries, including the current recovery. Over the recovery from the 1990-91 Recession, the savings rate, out of Nominal DPI, averaged 6.73% for the first 11 quarters, compared to 3.35% over the first 11 quarters of recovery from the 2001 Recession, and the boost back up to 4.87% over the current recovery. The savings rate has been higher over this recovery compared to the recovery from the 2001 Recession, but consistently below the rate for the 11 quarters coming out of the 1990-91 Recession. After declining from 6.20% at the trough of the last recession (2009Q2), the savings rate went back up to 5.60% by the fourth and fifth quarters into the current recovery. However, from that point on, the savings rate, out of DPI, has been steadily falling, and by the 11th quarter of recovery, 2012Q1, the U.S. savings rate out of DPI had fallen to 3.60%, comparable to the savings-rate levels of the early 2000's recovery.

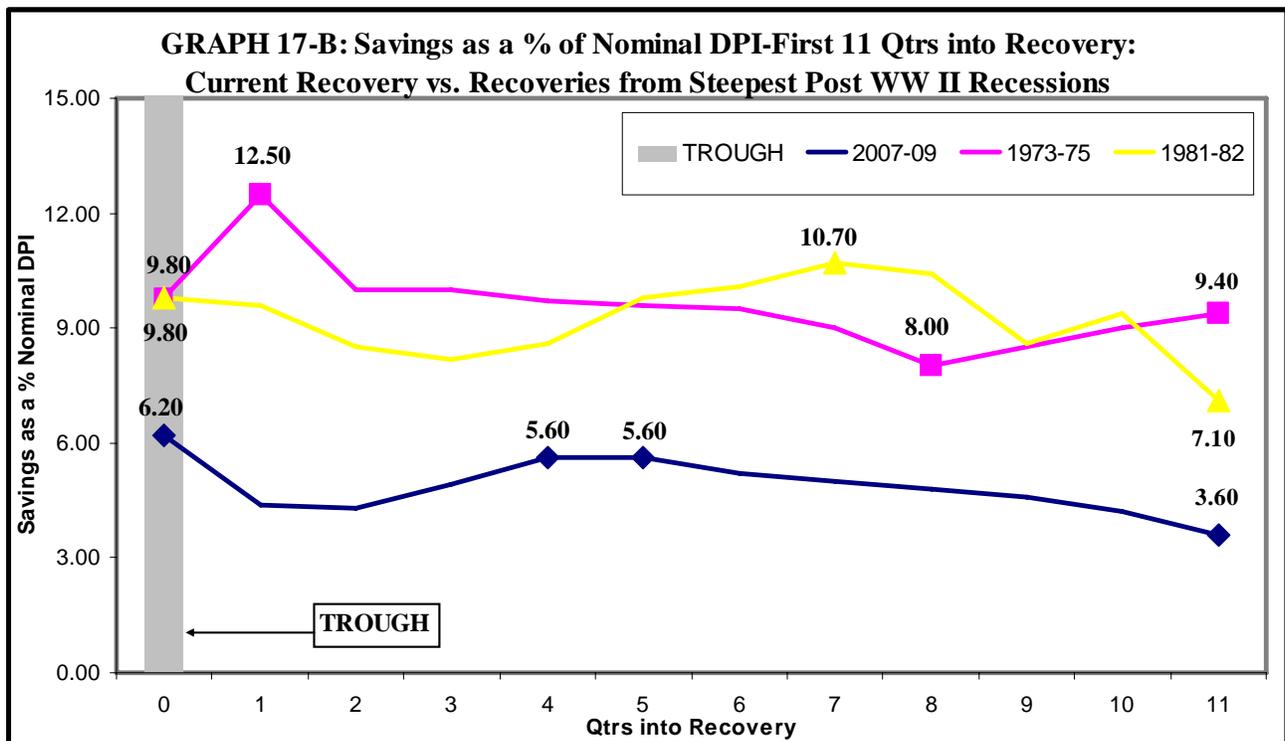
From Graph 17-B it is clear that the savings rate was much higher in the 1970's and 1980's. Over the first 11 quarters of recovery from the 1973-75 Recession, the savings rate averaged 9.58%, and over the first 11 quarters of recovery from the 1981-82 Recession, the savings rate out of Current-Dollar DPI averaged 9.23%. The U.S. Savings Rate began its dramatic decline in the last half of the 1990's, and proceeded to decline throughout the first decade of this century. Graph 18 tracks the U.S. Savings Rate from the beginning of the recovery from the 2001 Recession (2001Q4) through the 11th quarter of the current recovery. After the collapse of the housing bubble and the economy's going into recession in 2007Q4, the savings rate jumped from 2.10% to 6.20% in 2008Q2, as households began to pay down debt to repair net worth.



CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013

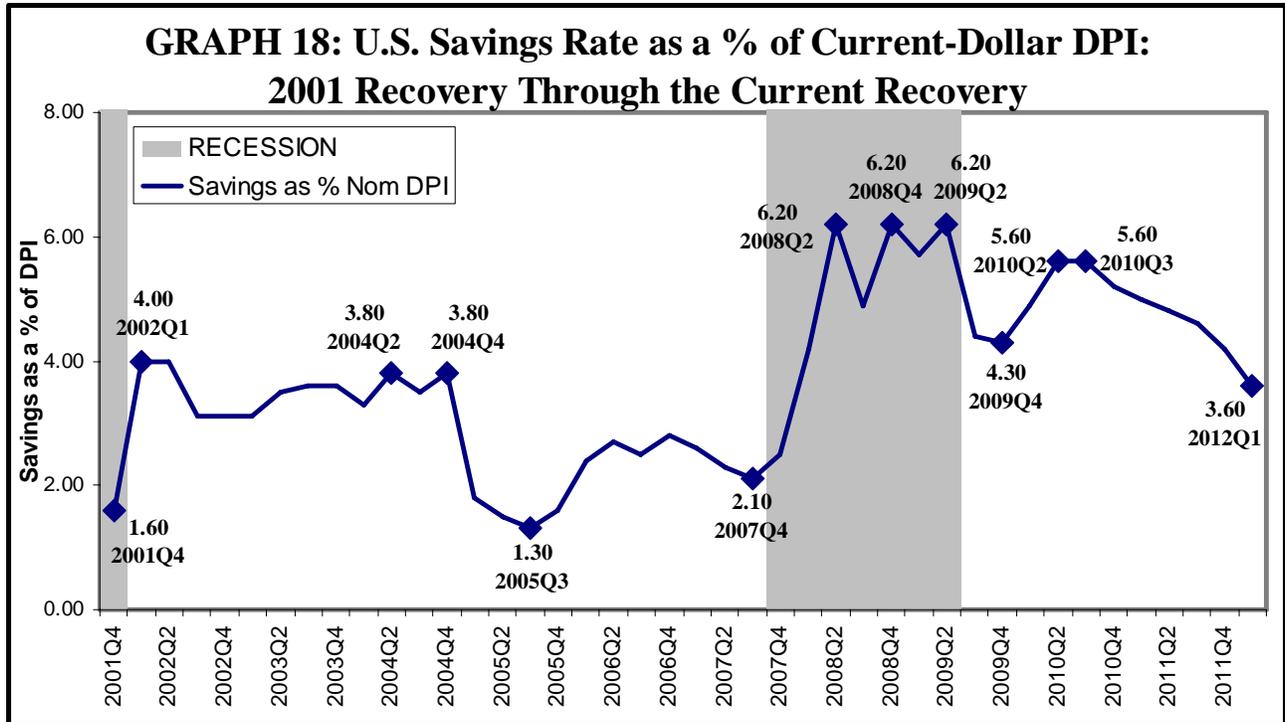


SOURCE: U.S. BEA and calculations by CTDOL-Research.



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

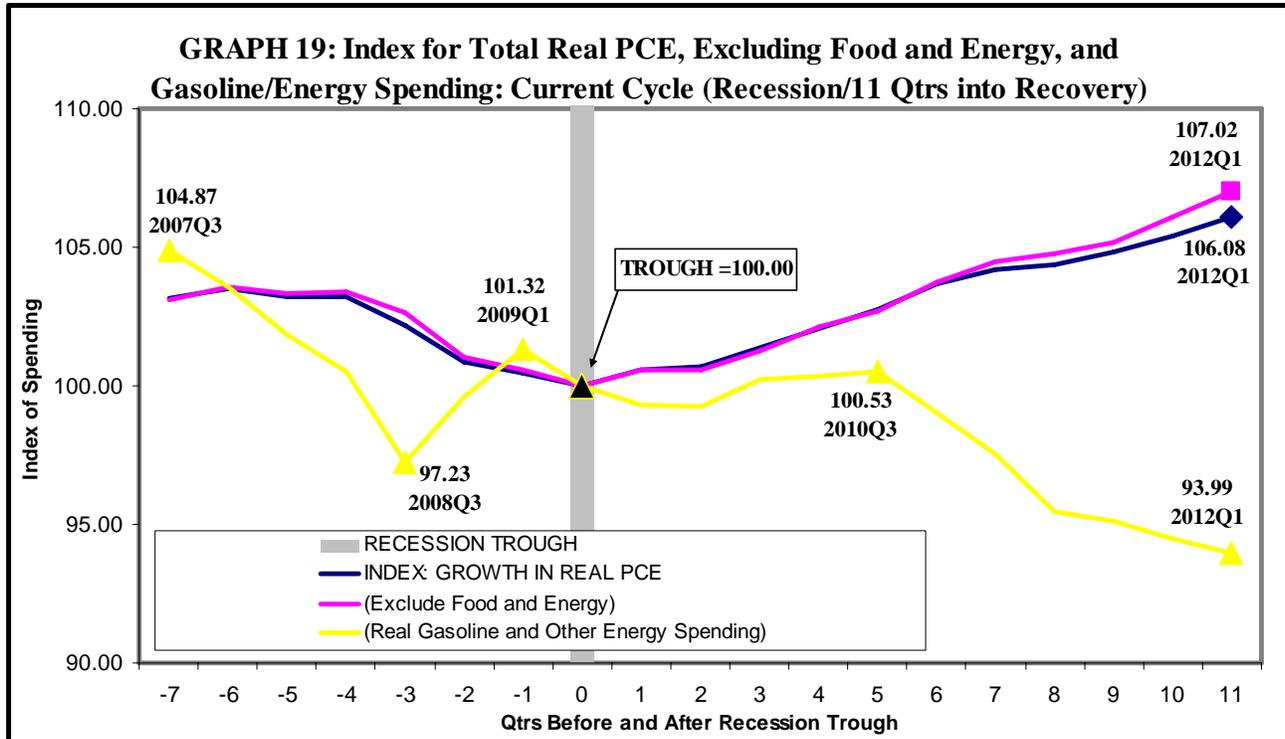




SOURCE: U.S. BEA and calculations by CTDOL-Research.

The jump in the savings rate, depicted in Graph 18, of course, significantly impacted Personal Consumption Expenditures (PCE) by households. Households can do two things with their current income: spend it, or save it. If savings go up, then spending must go down. In addition, income was also falling as the economy went into recession, and on top of that, the collapse in housing values was generating significant negative wealth-effects on spending, reinforcing the reduction in spending to pay down debt. Consequently, Real PCE declined by 3.51% between December 2007 (the peak of the previous expansion) and June 2009 (the trough of the recession), which translates into a 2.36% compounded, annualized rate of contraction. Over the 34 months of recovery (June 2009 to April 2012), Real PCE have grown by 6.58%, which is a compounded, annualized rate of 2.27%. This compares to an 8.43% growth over the first 34 months of recovery from the 2001 Recession, which translates into a 2.90% compounded, annualized rate. Of course, it should be noted that by 34 months into recovery from the 2001 Recession (September 2004), a significant amount of consumption was being financed by the inflating asset bubble in housing.

CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013

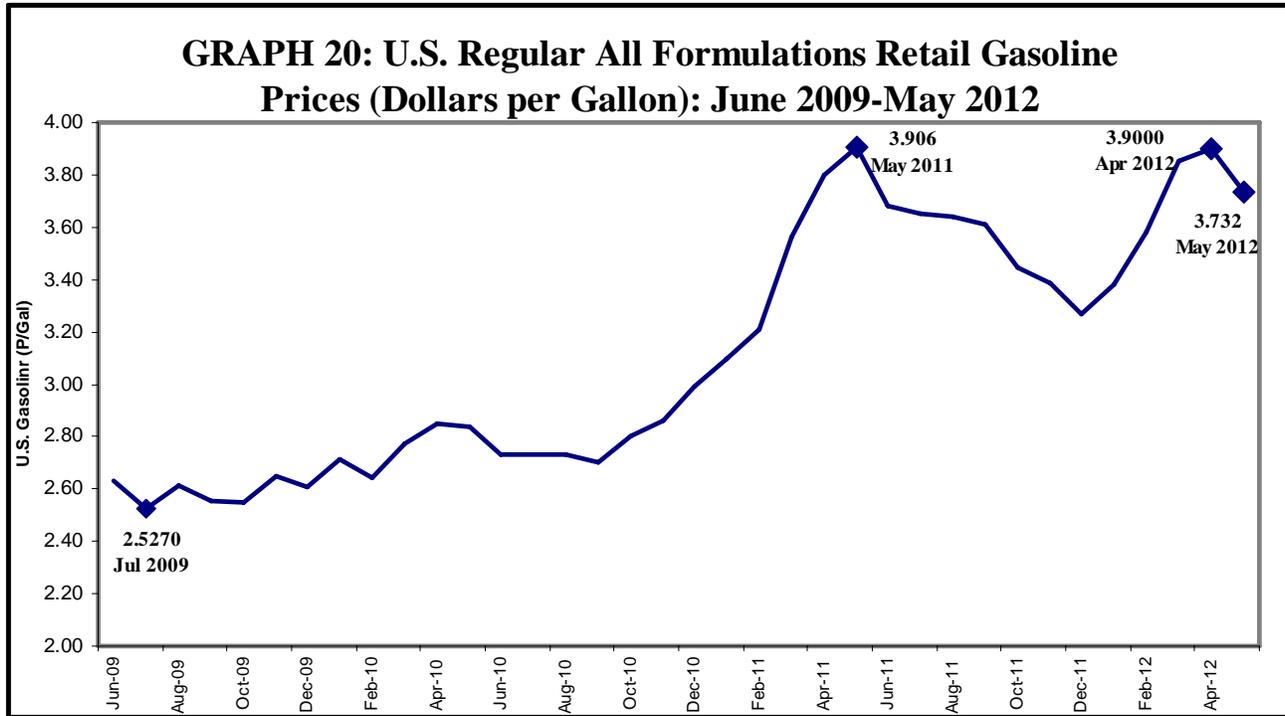


SOURCE: U.S. BEA and calculations by CTDOL-Research.

Graph 19 tracks an index of the growth in quarterly Real PCE, Real PCE, excluding Food and Energy, and expenditures on Gasoline and Other Energy Expenditures. The index base is 100.00 at the trough of the last recession (2009Q2). Real PCE, on a quarterly basis, grew by 6.08% from the trough of the previous recession to 2012Q1, 11 quarters into recovery. When expenditures on food and energy are removed, the spending increase is slightly larger: 7.02%. This is the result of a decline in real consumer spending on gasoline due to rising prices. The index for spending on gasoline and other energy expenditures declined from 100.00 at the trough to 93.99, 11 quarters into recovery (see Graph 19). This represents a 6.01% decline. This was the result of rising gasoline prices depicted in Graph 20.

From June 2009 (the trough of the recession) to May 2011, U.S. Regular Gasoline prices rose from \$2.53/gallon to \$3.91/gallon, an increase of \$1.38, or 54.57%. That was the highest level for gasoline prices since the \$4.06/gallon in July 2008. After falling over the last half of 2011, gasoline prices then increased again in 2012, reaching \$3.90/gallon in April. In May, gasoline prices fell back by 17 cents/gallon or 4.31%, to \$3.73.





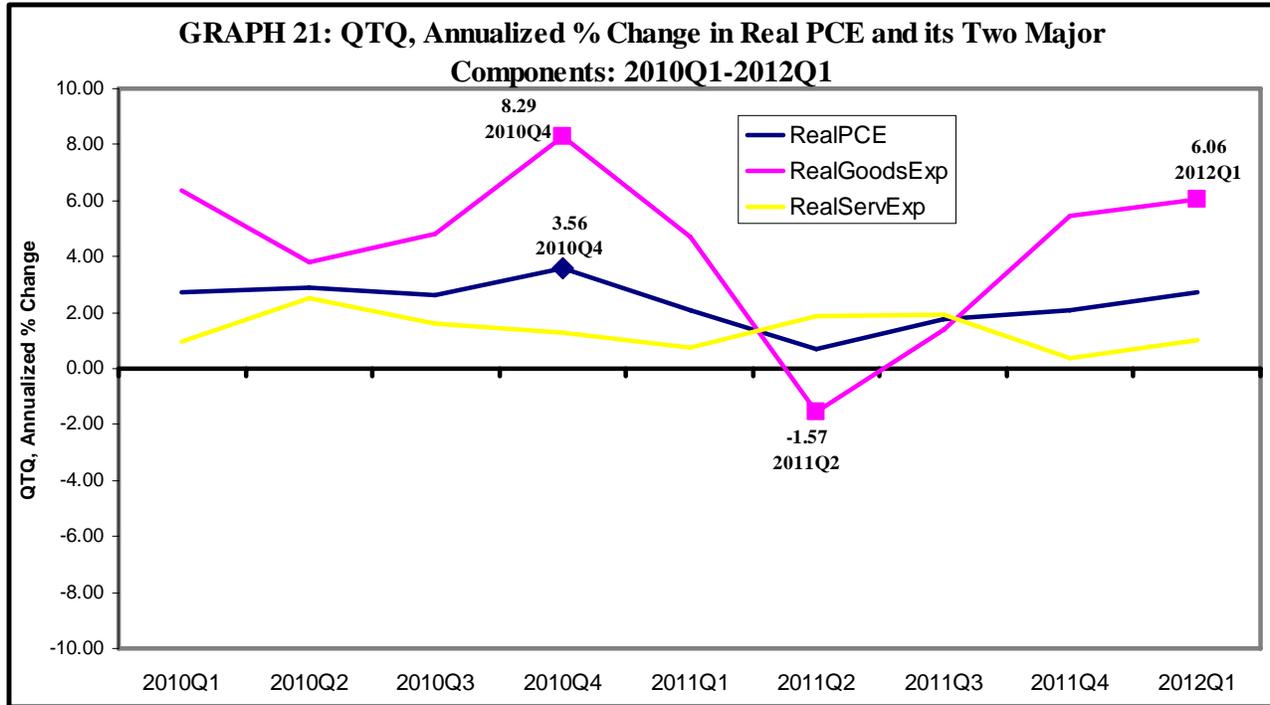
SOURCE: U.S. EIA

Graph 21 shows the Quarter-to-Quarter (QTQ) annualized growth-rate in Real PCE, and its two major components over 2010, 2011, and the first quarter of 2012. Though expenditures on Goods, especially Durable Goods, typically has a larger amplitude over the cycle compared to Services, the surge in spending on Goods in the fourth quarter of 2010, followed by the drop in 2011Q3, and then the recovery in strong growth in 2011Q4 and 2012Q1 is notable. Real PCE on Goods grew by an annualized rate of 8.29% in 2010Q4. The growth-rate then nearly dropped by half in the first quarter of 2011, then declined by 1.57% in 2011Q2. The growth-rate for Goods PCE then turned positive again and accelerated to 6.06% in 2012Q1.

Graphs 22-A and 22-B dig deeper into the details of Real PCE on Goods to identify the source of the boost in Goods spending over the current recovery. And, why spending growth first increased, then declined, and then came back strongly.



CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013



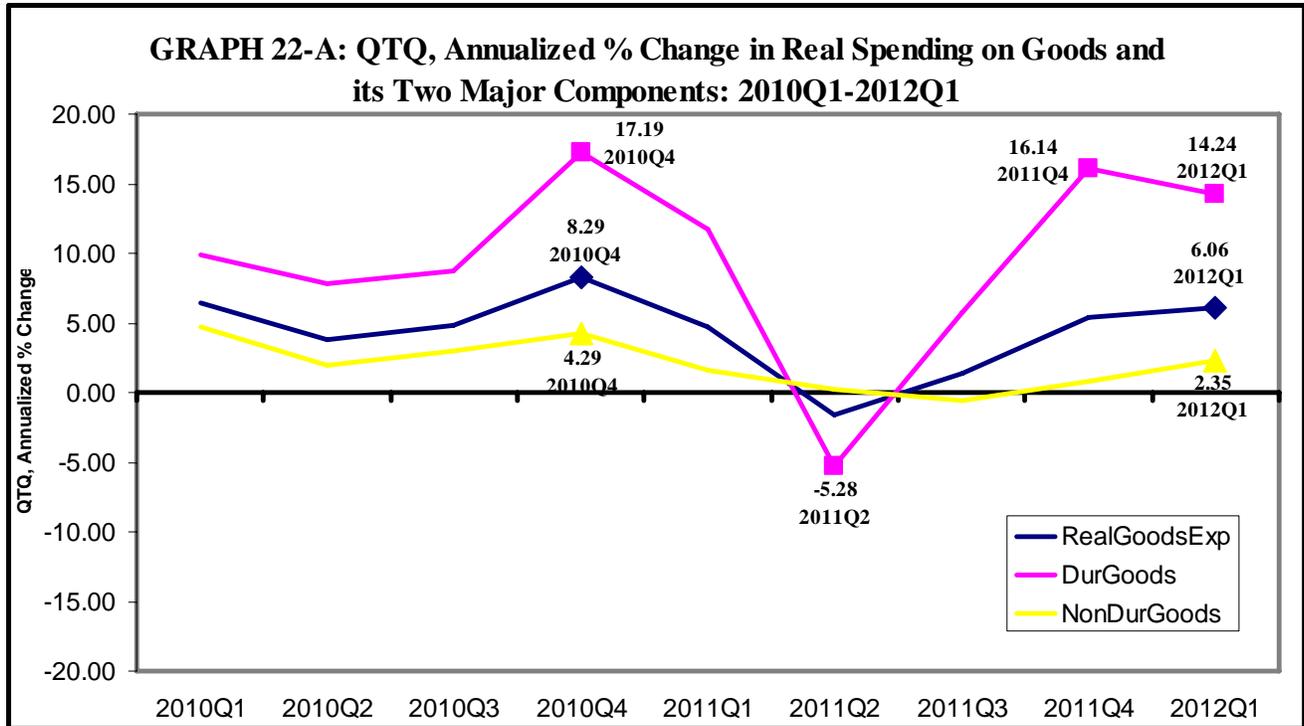
SOURCE: U.S. BEA and calculations by CTDOL-Research.

It is quite clear from Graph 22-A that the growth in Goods spending has been driven by the growth in Real Durable Goods spending. In 2010Q4, when Goods spending grew by 8.29%, Real Durable Goods spending grew by 17.19%. The 1.57% decline in Goods spending in 2011Q2 was also driven by Durable Goods, as the annualized growth-rate in Durable Goods spending contracted by 5.28% in 2011Q2. The growth-rate in Real Durable Goods spending then accelerated again, increasing by 16.14% in 2011Q4 and 14.24% in 2012Q1.

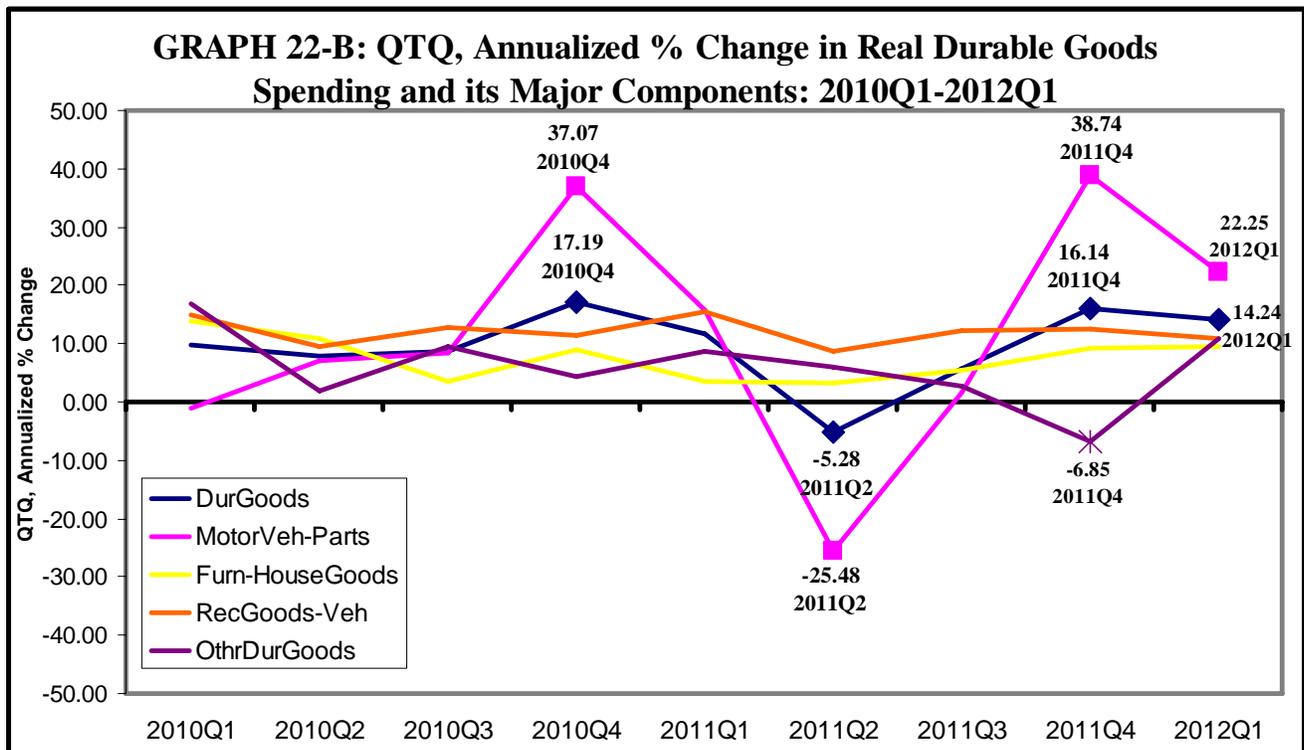
Breaking out Real Durable Goods spending into its major components in Graph 22-B reveals that consumer spending on new motor vehicles has been driving Real Durable Goods spending. On an annualized rate, the QTQ growth-rate in consumer spending on Motor Vehicles and Parts jumped by 37.07% in 2010Q4. With the earthquake and tsunami in Japan in March 2011, the supply chain in the auto industry was disrupted, this is reflected in the annualized, QTQ 25.48% drop in Real PCE on Motor Vehicles and Parts in 2011Q2. With the auto-industry supply chain back on line, and the clown-show over the debt ceiling in the rearview mirror, spending on Motor Vehicles and Parts resumed its strong growth peaking at 38.74% annualized rate in 2011Q4, and declining slightly to 22.25% in 2012Q1.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



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

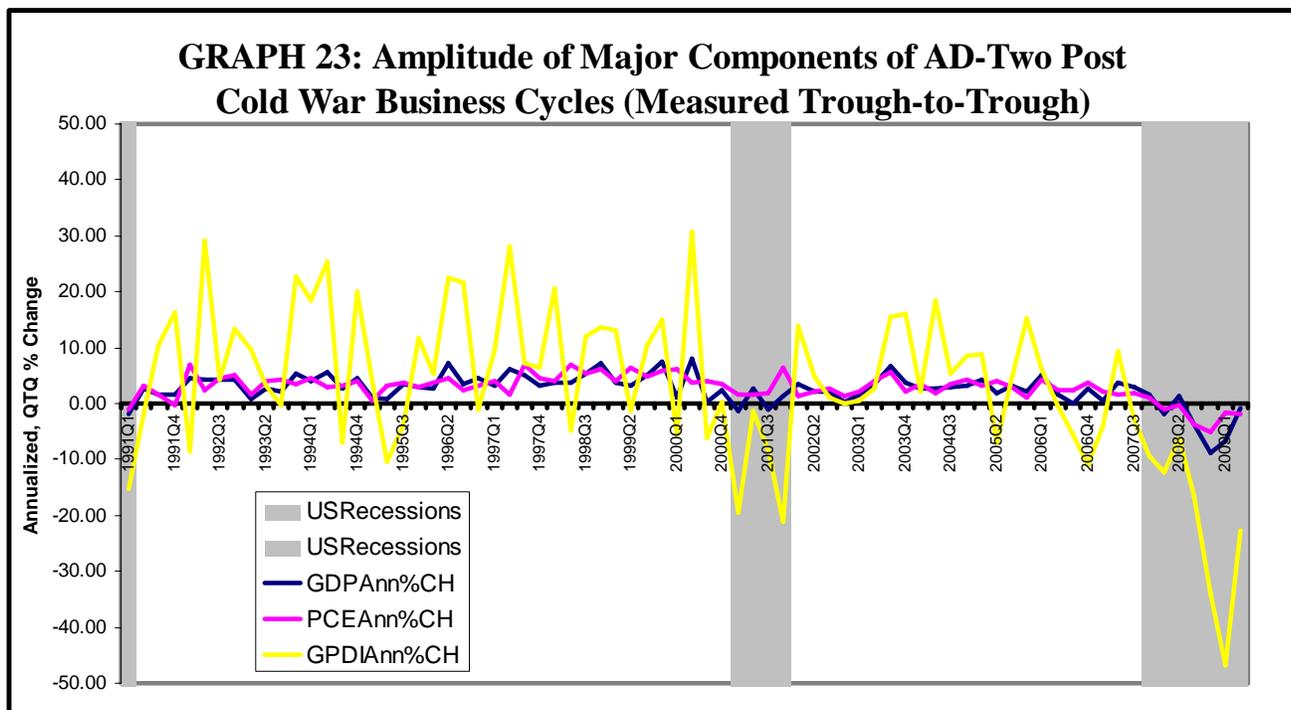


SOURCE: U.S. BEA and calculations by CTDOL-Research.



2. INVESTMENT DEMAND (Business Sector)

Business Investment Demand is the most volatile component of Aggregate Demand over the business cycle, and therefore it displays the greatest amplitude. This is illustrated in Graph 23, which tracks the Quarter-to-Quarter (QTQ) annualized percent-change in the two major private-sector components of Aggregate Demand, Real Price Consumption Expenditures (PCE) and Gross Private Domestic Investment (GPDI), and total Real GDP for the two Post Cold War business cycles, measured trough-to-trough, beginning with the trough of the 1990-91 Recession (1991Q1) and ending with the trough to the 2007-09 Recession (2009Q2).



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

What stands out is the amplitude of the Real GPDI cycle compared to the amplitudes of the Real GDP and PCE cycles. The maximum compounded, QTQ annualized increase for Real GDP for Post Cold War cycles is +8.03%, and the steepest contraction is -8.89%, for a Range of 16.92 percentage points. The maximum for Real PCE is +7.07%, and the minimum is -5.12%, for a Range of 12.18. The much greater swings in Investment Demand are very apparent. The maximum QTQ growth-rate for Real GPDI over the Post Cold War Period is

**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

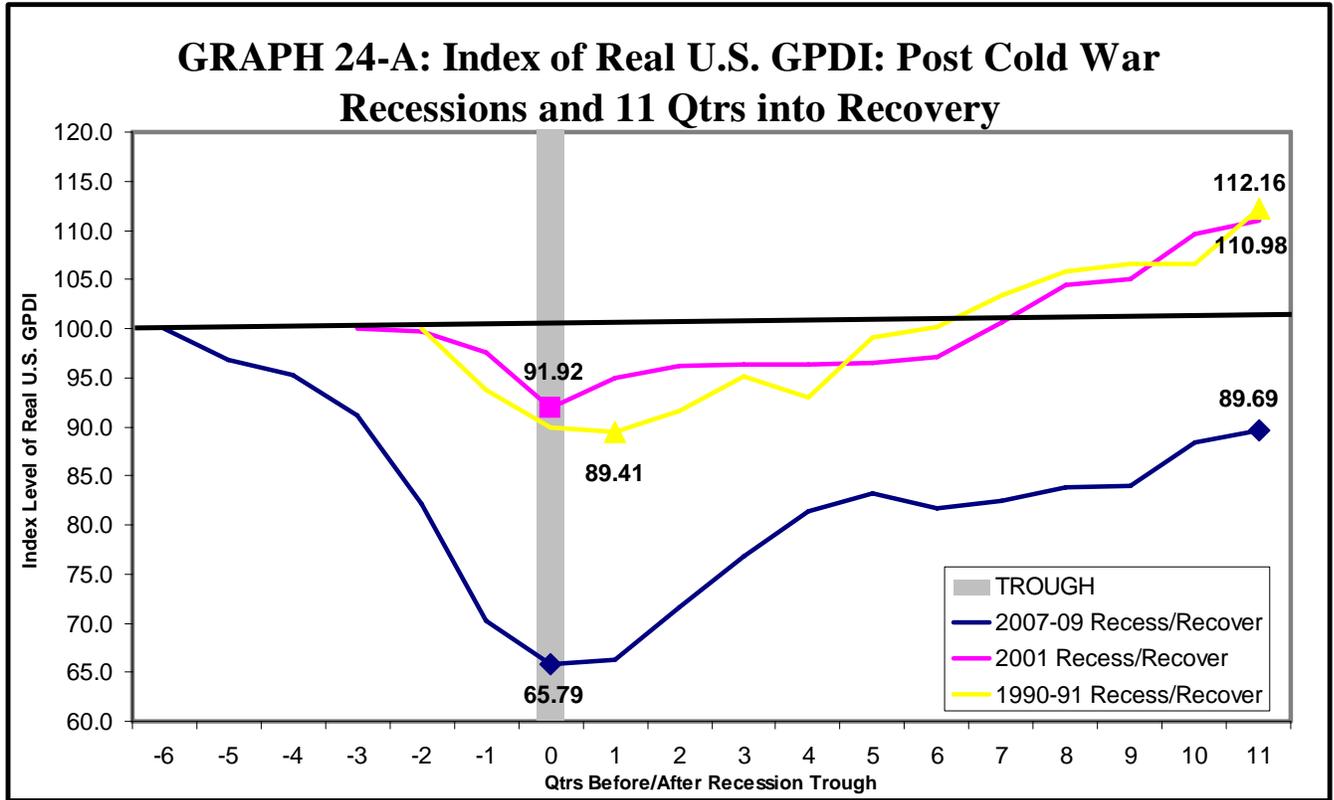
+30.70%, and the steepest decline is -46.74%, for a Range of 77.44 percentage points. But, this much larger amplitude in the Investment-Demand cycle is not just a characteristic of Post Cold War cycles.

Looking at the Coefficient of Variation (CV), which is the ratio of the Standard Deviation to the Mean (in this case, the Geometric Mean), multiplied by 100, which is a good, dimensionless, and standardized measurement, which allows comparisons of the amplitude across cycles with different scale means. Using the CV as a measurement of cycle amplitude, the CV value for all cycles, measured trough-to-trough, from the trough in 1949Q4 to the most recent trough, 2009Q2, covering the 20 Post World War II cycles, CV for the annualized, compounded QTQ growth-rate in Real GDP is 128.19 and that for Real PCE is 103.60. Over the same period, the CV, or amplitude for the Real GPDI cycle is 616.10, which is 4.8 times greater than the Real GDP cycle amplitude and nearly six times larger than the Real PCE cycle.

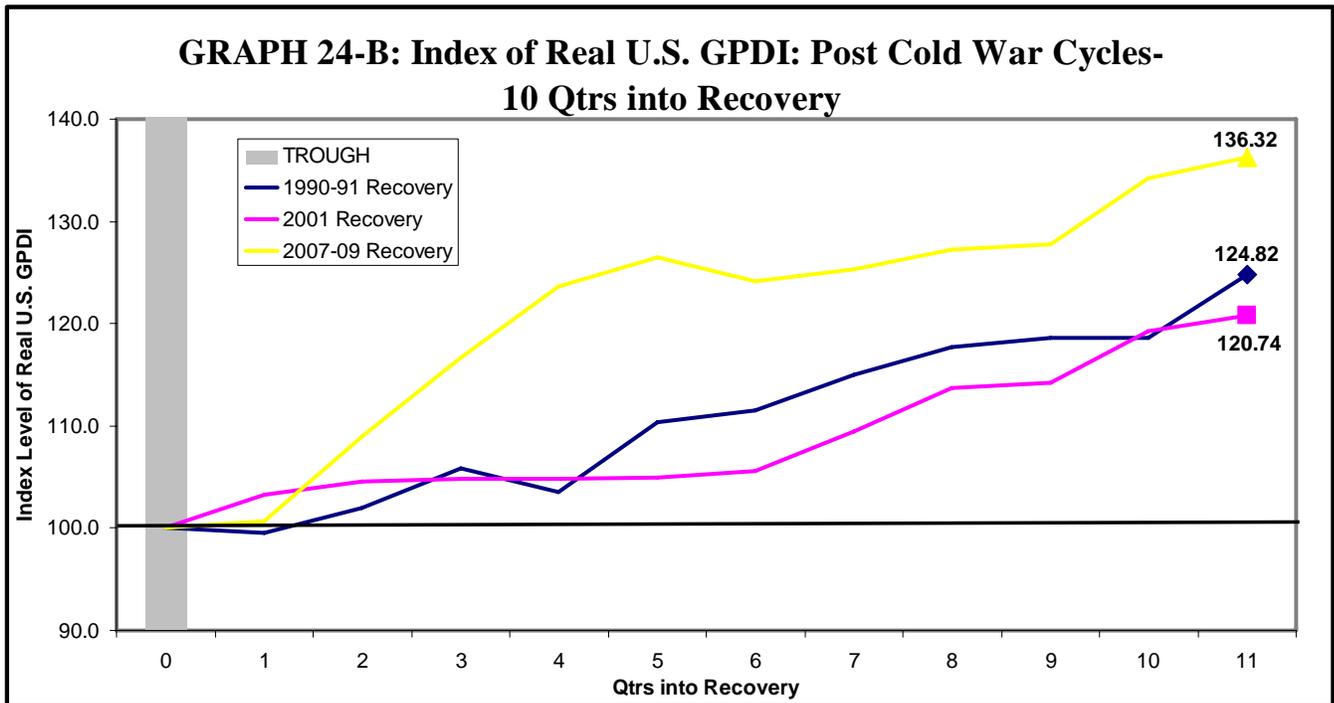
Graphs 24-A and 24-B look at the decline and recovery in Real GPDI over the current cycle compared to the other two Post Cold War cycles. As has been used previously, an index of Real GPDI was constructed for each of the three Post Cold War cycles in graphs 24-A and 24-B. In Graph 24-A the index equals 100.00 at each cycles peak of the previous expansion. In Graph 24-B, the index is equal to 100.00 at the trough of the recession. The horizontal reference lines in both graphs are at 100.00 on the vertical scale.

The 2007-09 Recession has been the most severe recession in the Post World War II Era, and the first accompanied by a banking panic, and the collapse of asset and credit bubbles, since the Great Depression. And, as is apparent in Graph 24-A, the contraction in Real GPDI was steep over the recent recession. Between 2007Q4 and 2009Q2, Real GPDI contracted by 34.21%, which was much steeper than the 8.08% decline over the 2001 Recession, or the 10.59% over the 1990-91 Recession. The decline between 2007Q4 and 2009Q2 also exceeded the other two steep Post World War II recessions, in which Real GPDI fell by 26.85% over the 1973-75 Recession, and by 22.54% over the 1981-82 Recession.





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



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



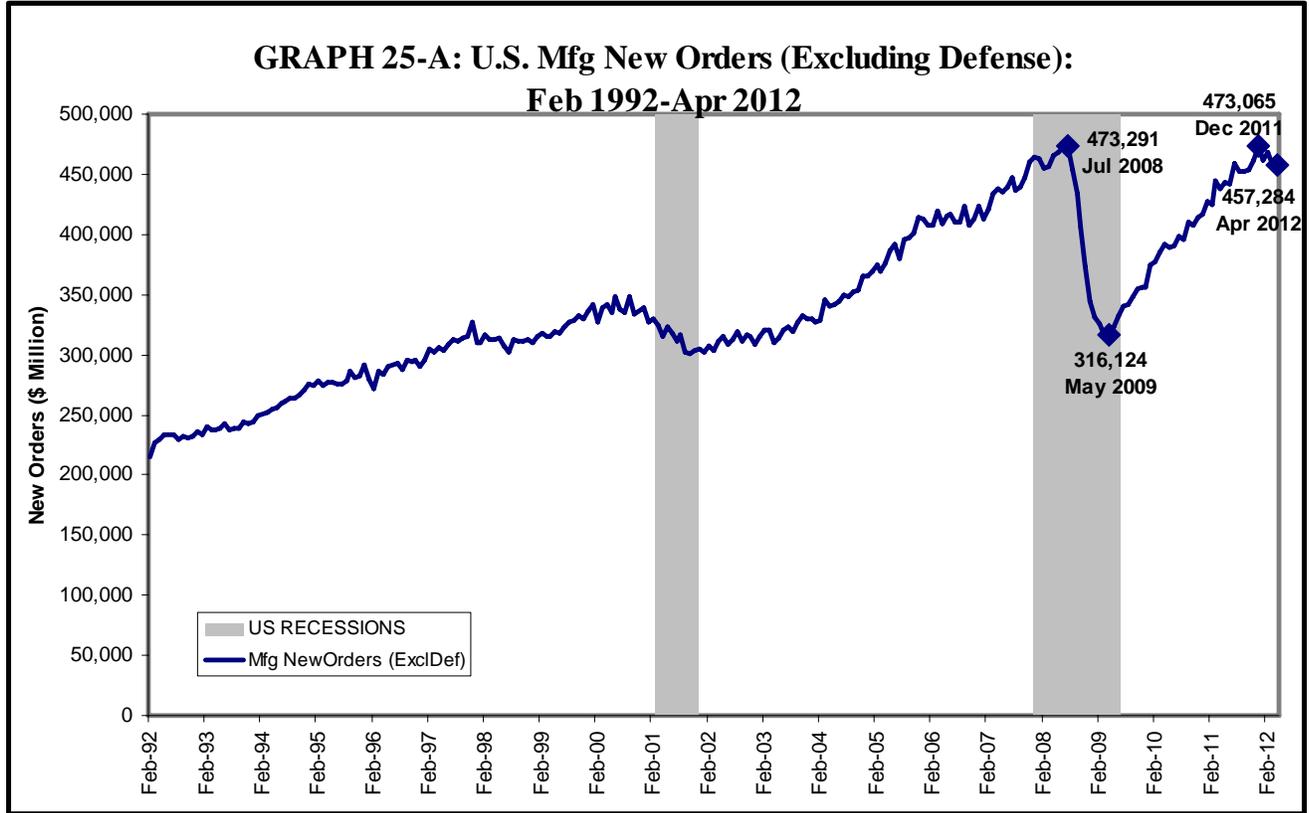
**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

As a consequence, after 11 quarters of recovery, Real GPDI was 12.16% above its level at the peak of the previous expansion after the 1990-91 Recession, 10.98% above the previous peak after the 2001 Recession. Eleven quarters into the current recovery, Real GPDI is still 10.31% below its level in 2009Q4, the peak of the last expansion. However, this masks the strength of the recovery in Real GPDI over the current recovery, at least for the first five quarters. Real GPDI grew by 26.45% over the first five quarters of the current recovery. Over the next six quarters, the growth in Real GPDI slowed to 7.8%. With the winding down of the ARRA, Cash-for-Clunkers, and other stimulus, and stimulus-related programs, in conjunction with external hits to the economy, such as the Eurozone Crisis and the clown-show over the debt ceiling, as well as the impact from the Japanese earthquake and tsunami, the growth in Real GPDI slowed significantly. The growth-rate actually declined into the sixth quarter of recovery (2010Q4), and then grew by less than one percent over the next three quarters. After nine quarters of recovery (2011Q3) the growth-rate in Real GPDI again picked up in the fourth quarter of 2011, slowing slightly in 2012Q1. Nevertheless, 11 quarters into recovery, Real GPDI over the current recovery was 36.32% higher than it was at the trough of the recent recession in 2009Q2. Eleven quarters into the recovery from the 1990-91 Recession, Real GPDI was 24.82% higher, and 11 quarters into the recovery from the 2001 Recession, Real GPDI had grown by 20.74%. Thus, the growth in Real GPDI has actually been stronger over the first 11 quarters of the current recovery than it was at a comparable point over the two previous Post Cold War recoveries. But, given how steep the recent contraction was, even with stronger growth, after 11 quarters of recovery, Real GPDI still has not recovered from its recession losses. And, as noted above, the growth in Real GPDI has slowed significantly over the current recovery after the fifth quarter of recovery.

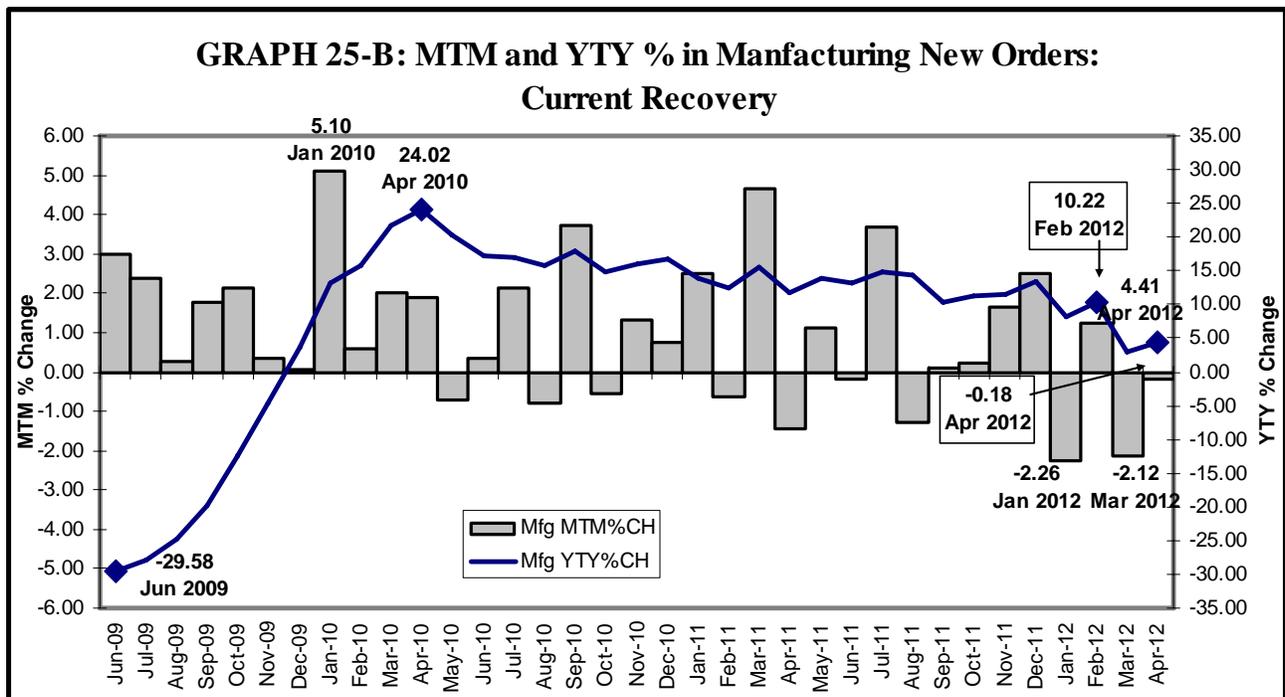
The question now is: Can the acceleration in the growth in Real GPDI over the last quarter of 2011, and into the first quarter of 2012 continue? Will the economy's overall "Arab Spring" be sustainable for the rest of 2012? Particularly, for the focus of this section, what does it portend for Real GPDI? To get a sense of this, graphs 25-A and 25-B look at New Orders in Manufacturing (excluding defense), and more specifically graphs 26-A and 26-B, which tracks recent trends in New Orders for Durable Goods (excluding defense), which indicates whether or not businesses are putting in orders for capital goods.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



SOURCE: U.S. Census Bureau



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



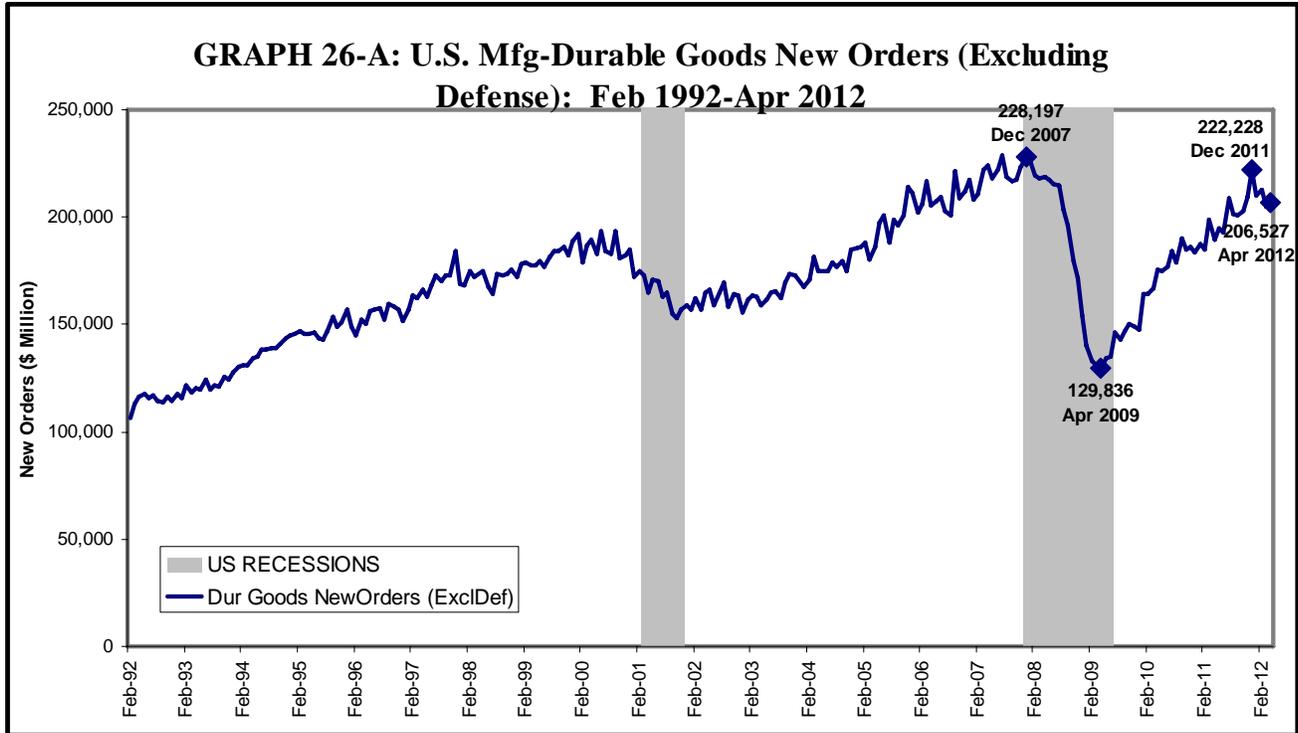
**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

The Manufacturing and Durable Goods New Orders, released monthly by the U.S. Census, do not include businesses' importing capital goods, nor do they exclude exports of capital goods, which would reflect investment by foreign firms. Nevertheless, these series are the most advanced indicators available on business spending on new capital goods. From Graph 25-A, New Orders for Manufacturing Goods (excluding defense) peaked at \$473.3 billion in July 2008, and then fell to \$316.1 by May 2009, a 33.21% decline. With recovery, New Orders for Manufacturing Goods rebounded to \$473.1 by December 2011, a 49.65% increase, which brought the level of spending for New Orders to within 99.9% of its peak in July 2008. However, New Orders for Manufacturing Goods has declined over the first four months of 2012. In April 2012, New Orders were \$457.3 billion, which represented a 3.34% decline since the post-recession peak in December. Detail on the Month-to-Month (MTM) and Year-to-Year (YTY) growth-rate in New Orders is provided in Graph 25-B. On a MTM basis, though February had an increase in Manufacturing New Orders of 1.2%, and 10.22% YTY, there were MTM declines in New Orders in January and March that each exceeded 2%, and there was a slight decline in April as well (-0.18%).

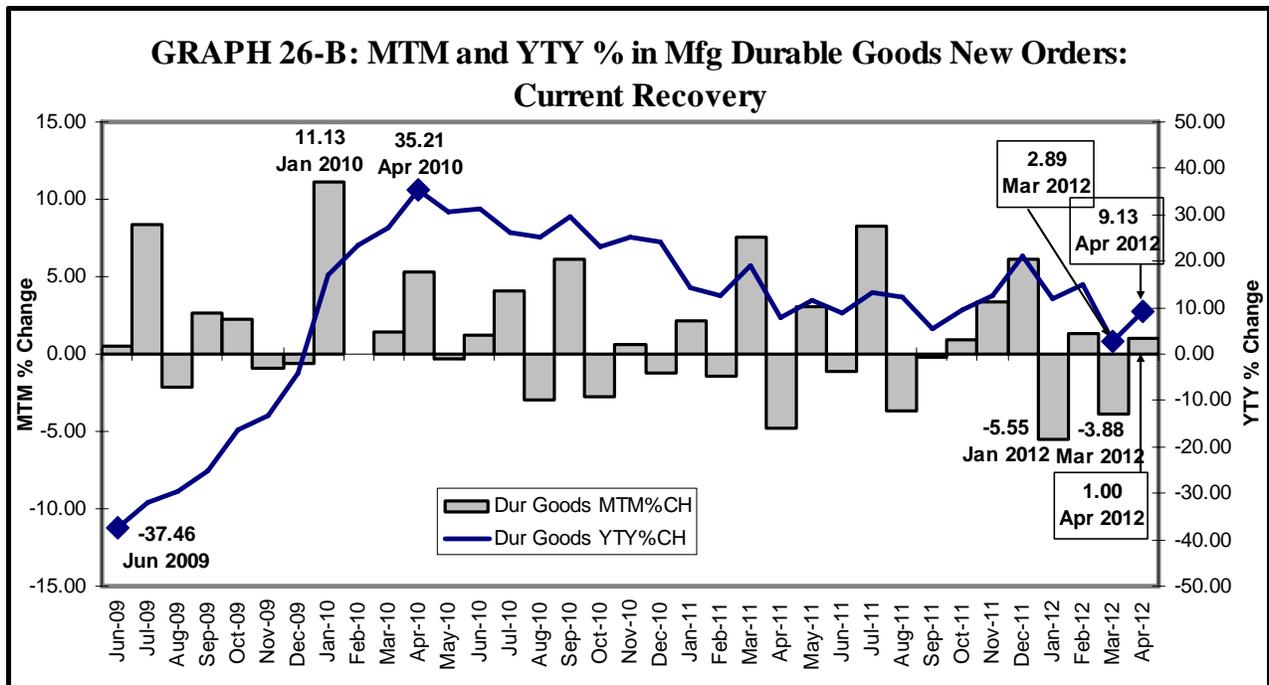
Graphs 26-A and 26-B look at a narrower focus on New Orders for Durable Goods, that is, the actual demand for, specifically, new capital equipment. Again, as noted above, this data does not reflect New Orders by domestic businesses for capital equipment from foreign suppliers, or orders for capital equipment by foreign firms from domestic producers. Given that, the pattern observed in Graph 26-A is very similar to that observed in Graph 25-A, except for the greater volatility on the New Orders for Durable Goods data compared to that for New Orders for Manufacturing Goods (Graph 25-A). New Orders for Durable Goods peaked at \$228.2 billion, in December 2007 (the official start of the 2007-09 Recession), seven months before the peak in New Orders for Manufacturing Goods (see Graph 25-A). However, the bottom in Durable-Goods New Orders was close to that for Manufacturing. New Orders for Durable Goods bottomed in April 2009 (as opposed to May for New Orders for Manufacturing) at \$129.8 billion, a 43.10% decline, and nearly 10 percentage points steeper than the decline in New Orders for Manufacturing Goods. The recent peak in New Orders for Durable Goods exactly coincided with the peak over the current recovery for Manufacturing New Orders: December 2011. New Orders peaked at \$222.2 billion in December 2011.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



SOURCE: U.S. Census Bureau



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

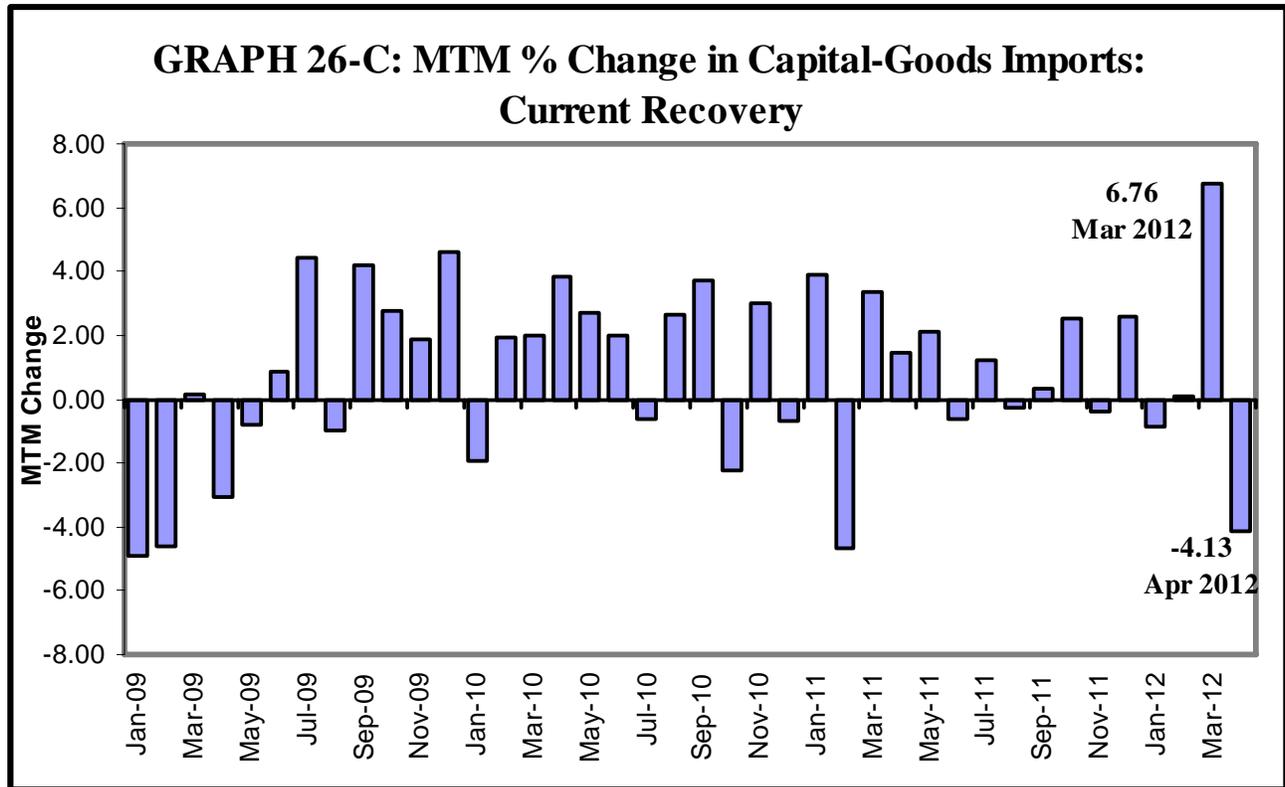


**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

The recovery in New Orders for Durable Goods in December 2011 represented a 71.16% increase from the bottom in April 2009, a 21-percentage point stronger rebound than that for New Orders for Manufacturing (excluding defense). That put the level of New Orders for Durable Goods (excluding defense) at 97.38% of its peak, before the recent recession, in December 2007. From Graph 26-B, it can be seen that the behavior of New Orders for Durable Goods, in addition to its being more volatile, has followed a different pattern over the first four months of 2012. On a MTM basis, New Orders for Durable Goods has had two increases and two declines, similar to the pattern for New Orders for Manufacturing, but, in the case of Durable Goods orders, the declines have been much steeper than the gains. MTM, New Orders for Durable Goods declined by 5.55% in January 2012 and 3.88% in March, while increasing by 1.35% in February and by 1.00% in April, the last period of available data at the time of writing. After decelerating in January and February, the YTY growth-rate in New Orders for Durable Goods accelerated again over March (+2.89% and April 2012 (+9.13%). However, for both New Orders for Manufacturing and for Durable Goods, the YTY growth-rate has been steadily decelerating since both indicators peaked in April 2010. This portends a continued pattern of slowing growth in orders for capital equipment as the persistent drags on the economy exert forces that slow the momentum, which in conjunction with potential hits from Europe's crisis, and possible Draconian, domestic spending cuts, could push it back into recession.

As noted above, the data on New Orders for Durable Goods does not include the importation of Capital Goods. Thus, if U.S. businesses have been investing in new plant and equipment, but importing those capital goods, then it would not be reflected in the data discussed above, and based on graphs 26-A and 26-B. To capture that part of investment demand not covered by the above discussion, Graph 26-C tracks the MTM percent-change in Capital Goods Imports over the current recovery.





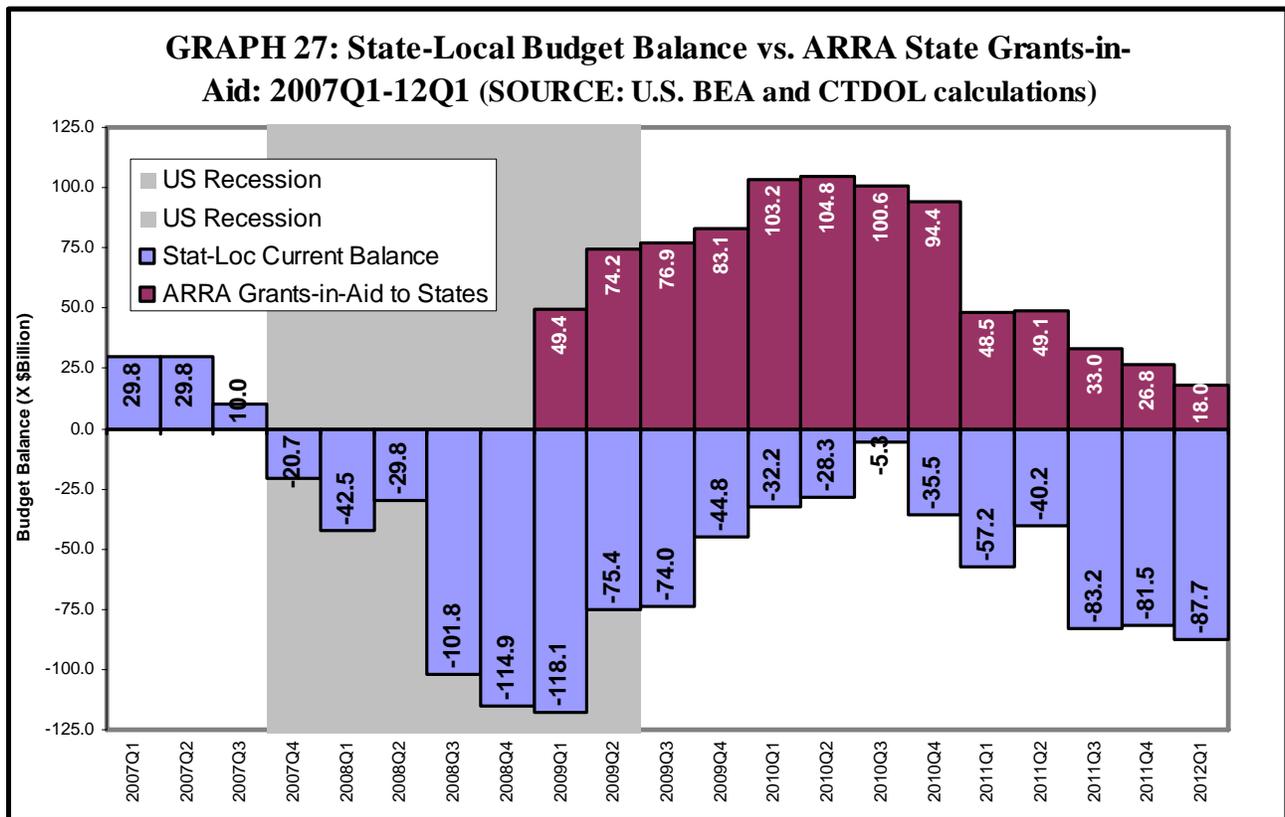
SOURCE: U.S. Census and author’s calculations.

Though the largest MTM percent-change in Capital-Goods orders was in March 2012, when they surged by 6.76%, this was followed by a 4.13% decline in April, the steepest decline, on a MTM basis, since the 4.66% decline in February 2011. Further, it was only the second time that a MTM percent-decline in Imported Capital Goods exceeded 4% over the current recovery. The other two months in which the MTM decline exceeded 4%, in Graph 26-C, were January and February 2009, when the economy was still officially in recession.

So, even with introducing U.S. businesses’ importing Capital Goods to meet their investment demand, the conclusions based on domestic-only data still hold. That is, there seems to be if not a decline, at least a significant deceleration in rate of investment-demand by U.S. businesses.

3. GOVERNMENT DEMAND (Public Sector)

Unique to the current recovery is the drag that government has been on the economy as opposed to leading, or at least contributing, to the acceleration in the recovery phase of the cycle. Most of the source of the drag on the economy from the Government Sector has been from the state and local levels of government, and has coincided with the withdrawal of Federal support to state and local governments as the stimulus from the *American Reinvestment and Recovery Act* (ARRA) has been winding down throughout 2011 and into 2012. This is illustrated in Graph 27.



As the ARRA went into effect in the second quarter of 2009, state and local budgets had, in the aggregate, gone from a \$10.0 billion surplus in 2007Q3, one quarter before the official start of the recession, to a \$118.1 billion deficit by 2009Q2, when the ARRA Grants-in-Aid began to kick in. Since most states, save a few like Vermont, must, according to their constitutions, balance their budgets, states were forced to cut spending, raise taxes, or both. Either one, and

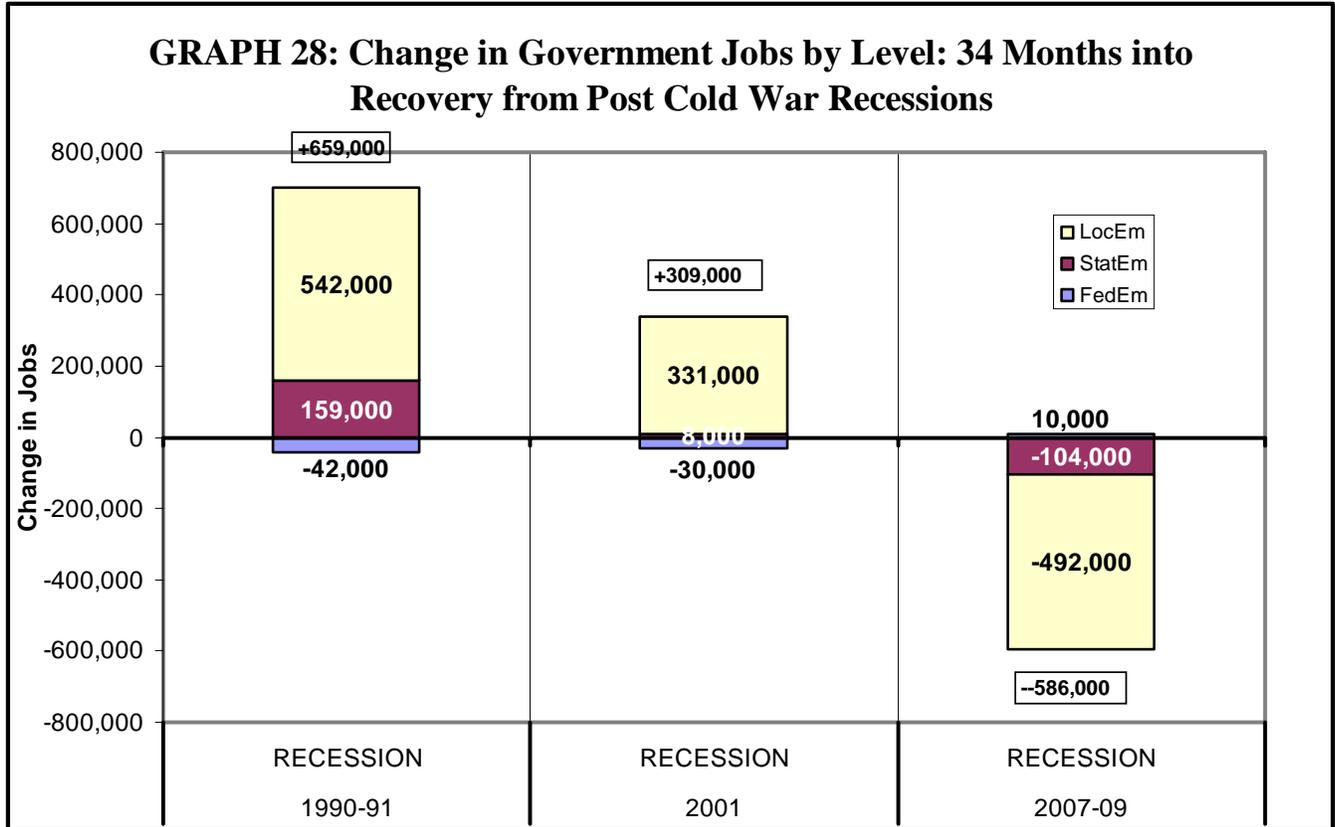


**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

certainly both take spending out of the economy resulting in the Public Sector subtracting from, rather than supporting, Aggregate Demand. As the ARRA part of the Grants-in-Aid to the states funded states' operations, especially for Medicaid, Education, and Public Safety, state and local budget deficits began to subside. In 2009Q2, the first quarter it went into effect, state and local governments received \$49.4 billion in ARRA Grants-in-Aid, which peaked at \$104.8 billion in 2010Q2; one quarter later (2010Q3), state and local budget deficits, in the aggregate, reached their lowest point over the current recovery: -\$5.3 billion. Since then, ARRA Grants-in-Aid have declined to state and local governments and were only \$18.0 billion in the first quarter of 2012. With the continuous, successive declines in ARRA funding to state and local governments, since 2010Q2, state and local budgets have returned to successively deteriorating in each quarter corresponding to the cuts in ARRA funding. In 2012Q1, the budget deficit for state and local governments, in the aggregate, was \$87.7 billion.

The result has been a significant drag on job growth over the current recovery. This is illustrated in Graph 28, which looks at Public Sector job growth over the first 34 months of recovery from the three Post Cold War recoveries. Coming out of the 1990-91 Recession the U.S. Economy added 659,000 Government jobs, 542,000, or 82.25% of those jobs were created in Local Government, with a decline of 42,000 in Federal jobs. Thirty-four months into recovery from the 2001 Recession 30,000 Federal jobs had been eliminated, but 331,000 Local Government jobs and 8,000 State Government jobs added for a total increase of 309,000 Public Sector jobs. The trend is dramatically different over the current recovery. Thirty-four months into recovery, though 10,000 new Federal jobs have been added, 492,000 Local Government jobs and 104,000 State Government jobs have been eliminated for a total loss of 586,000, Public-Sector jobs between June 2009 the trough of the last recession, and April 2012. This is an unprecedented result. Government job-growth has usually either led, or at least reinforced, Private Sector job-creation coming out of a recession. This is the first Post World War II Era recovery (save the demobilization after World War II in 1948), in which Public Sector job-growth did not contribute to recovery, but has actually been a significant drag on recovery. The implications for the recovery in jobs will be discussed in more detail in Sub-Part ii, Sub-Section 3 below.



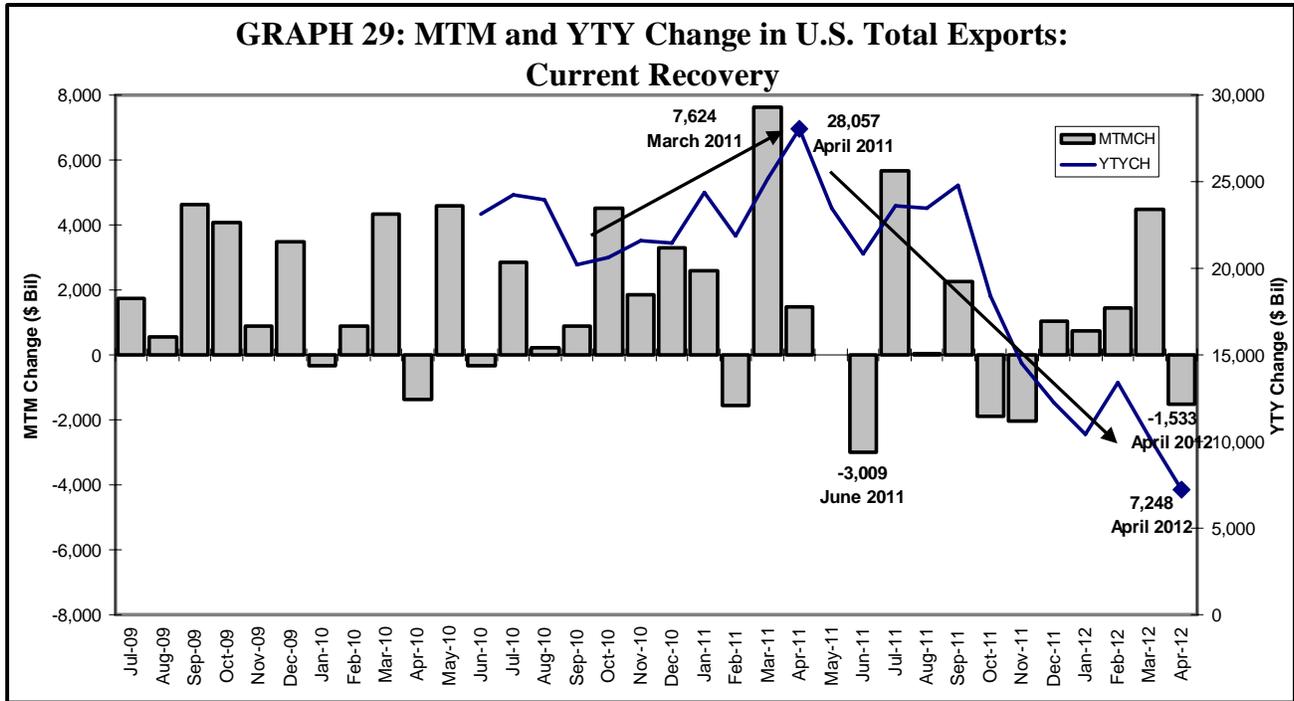


SOURCE: U.S. BLS and calculations by CTDOL-Research.

4. FOREIGN DEMAND (Exports)

This recovery has seen a strong growth in Exports for the U.S. Economy as manufacturing in general seems to have gone through somewhat of a renaissance (see Section II below). Graph 29 tracks the MTM and YTY growth in U.S. Total Exports over the current recovery.

**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



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

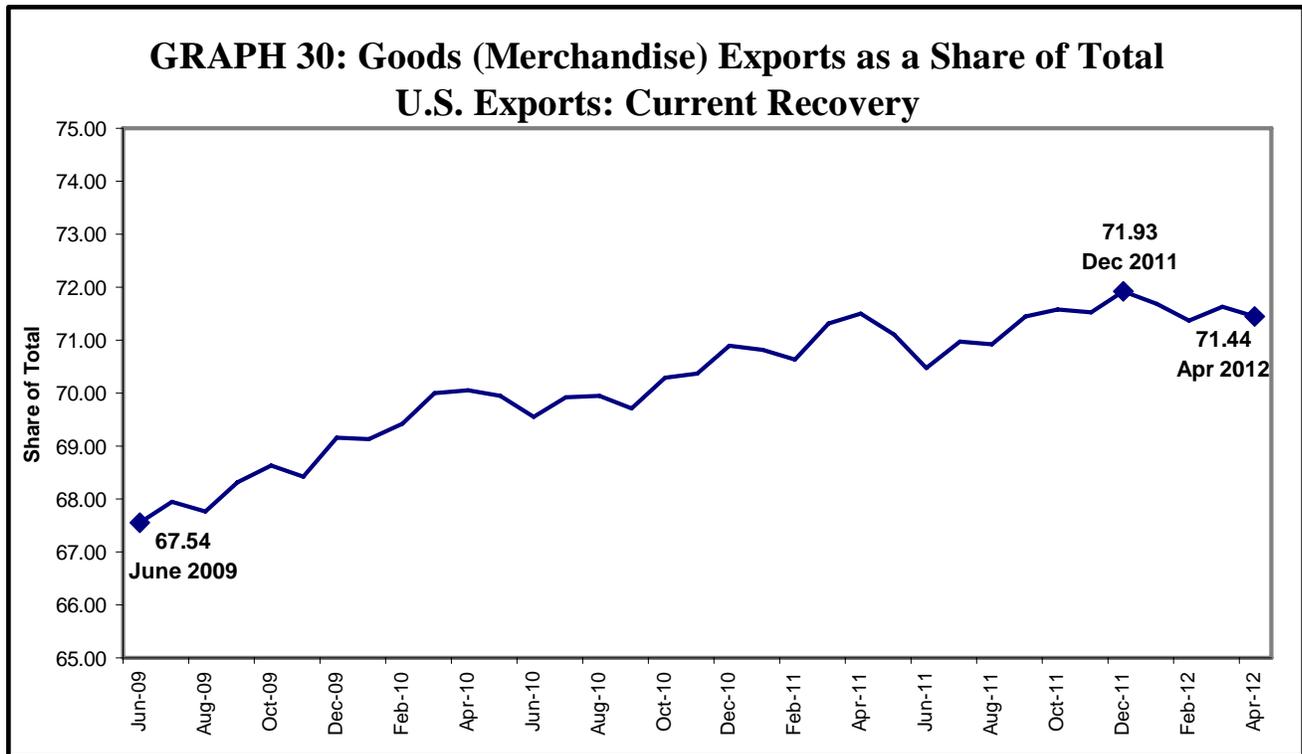
On a MTM basis, the growth in U.S. Total Exports peaked in March 2011, at \$7.624 billion, which was the month of the earthquake and tsunami in Japan. One month later, in April, U.S. Total Exports peaked on a YTY basis at \$28.057 billion. Then, the MTM growth in Exports decelerated until June 2011, when Exports had the steepest decline, on a MTM basis, over the current recovery: -\$3.009 billion. Another surge in MTM growth then followed with a \$5.675 billion increase in July 2011. However, export-growth then turned negative again, in October and November, then, export-growth began to accelerate once again until March 2012, when Exports grew by \$4.474 billion. The latest available data, at the time of writing, showed a MTM decline in Exports of \$1.533 billion in April. The most pessimistic indicator of U.S. Export growth is found in the monthly, YTY change. Since the peak in the YTY growth-rate in April 2011 (noted above), YTY export-growth has steadily decelerated over the 12 months between April 2011 and 2012. The YTY growth in U.S. Exports was \$7.248 billion, nearly a three-quarters drop in YTY growth. Although the growth numbers for the earlier period of the current recovery were certainly coming off of a lower base which would tend to inflate the earlier YTY growth numbers, nevertheless, the average monthly growth in Exports for 2010



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

was \$1.786 billion, while that for 2011 was \$1.088 billion, a decline of \$698 million in the average monthly growth in Exports for 2011 compared to 2010.

As noted in the opening paragraph to this section, the Manufacturing Sector has performed well over this recovery. This can be seen in the growth of Goods (Merchandise) Exports, especially as a share of Total U.S. Exports over the current recovery. This is illustrated in Graph 30, which traces the growth in Goods Exports, as a share of Total U.S. Exports from June 2009, the trough of the recent recession, and April 2012, the latest period of available data at the time of writing.



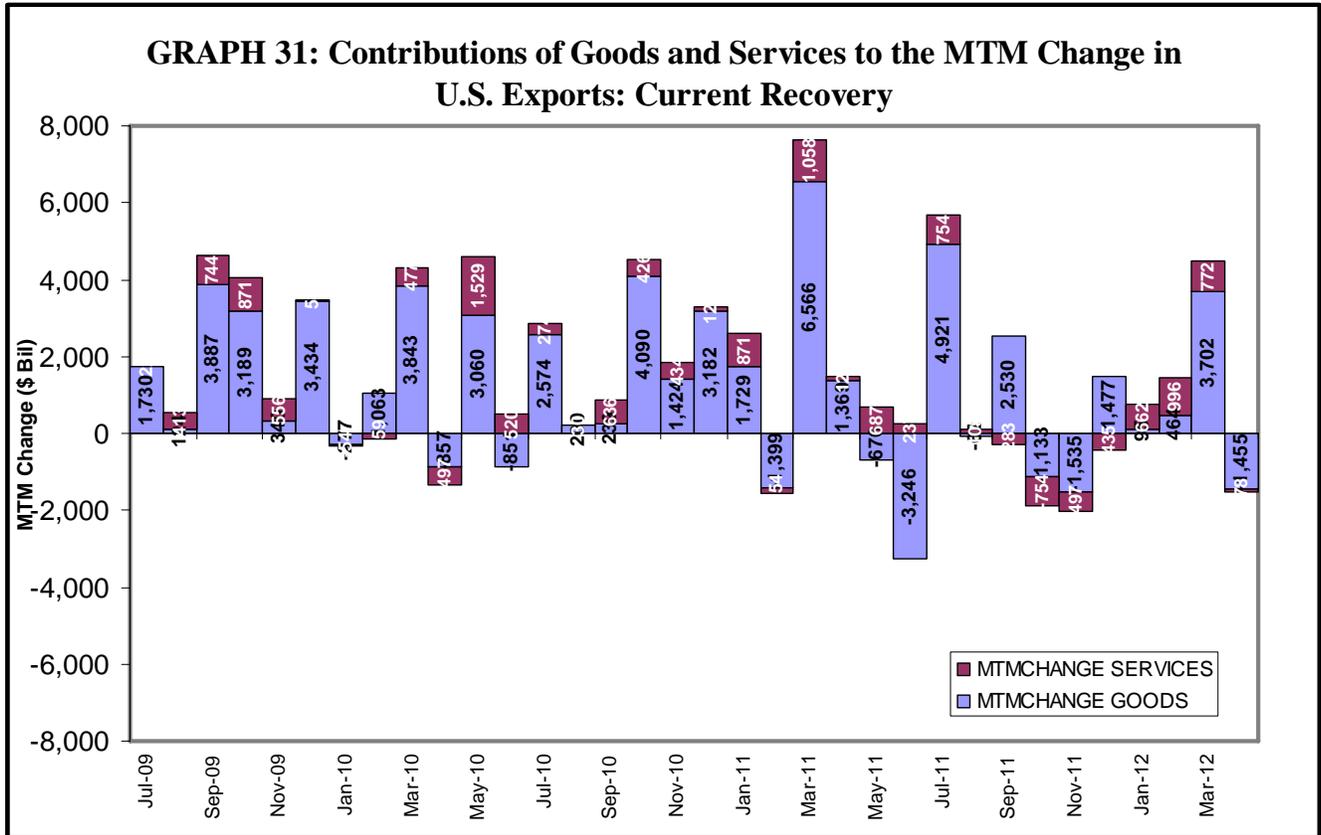
SOURCE: U.S. Census and calculations by CTDOL-Research.

When the U.S. Economy bottomed in June 2009, Goods Exports accounted for 67.54% of Total U.S. Exports. From that point on, the share of Goods Exports increased, peaking in December 2011 at nearly 72% of Total Exports, and then declined slightly to 71.44% of Total Exports by April 2012, the last period of available data at the time of writing. Nevertheless, that still left the share of Goods Exports 3.9 percentage points higher than it was at the time of



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

the trough of the recent recession. This, of course, implies that the growth in Goods (Merchandise) Exports dominated the growth in Total Exports as illustrated in Graph 31.



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

So what does all this imply for foreign, or export, demand in terms of its contribution to overall Aggregate Demand to the U.S. Economy? Of course, in the final analysis, it is Net Exports (Exports – Imports) that determines whether or not the Trade, or Foreign, Sector adds to, or subtracts from, final demand in the macroeconomy. But, before looking at Net Exports, the future prospects for U.S. Exports will be considered.



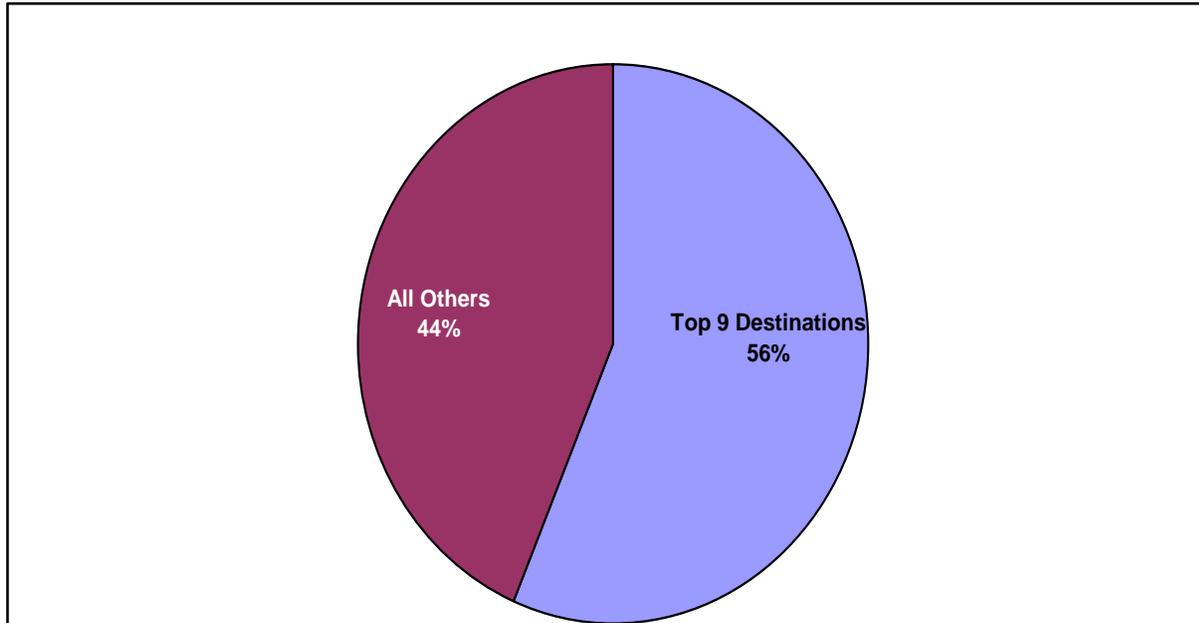
DESTINATION	GOODS EX (\$ Bil)	% SHARE Top 9	% SHARE Goods Ex	% SHARE TotalEx
Canada	71,649	32.78	18.44	13.20
China	26,962	12.33	6.94	4.97
United Kingdom	15,271	6.99	3.93	2.81
Germany	12,512	5.72	3.22	2.30
Mexico	53,103	24.29	13.67	9.78
Japan	17,217	7.88	4.43	3.17
France	7,548	3.45	1.94	1.39
Korea	11,402	5.22	2.93	2.10
Malaysia	2,938	1.34	0.76	0.54
Top 9 Destinations	218,602	100.00	56.27	40.26
Goods Exports*	388,501		100.00	71.56
Total Exports*	542,921			100.00

SOURCE: U.S. Census Bureau

Table 2 presents the top nine destinations for U.S. Merchandise Exports in the first quarter of 2012. As depicted in Graph 32 they accounted for 56% of all Goods Exports in 2012Q1. By far, the two largest U.S. Goods Exports destinations are its two NAFTA partners, Canada and Mexico. Canada accounted for 32.78% of U.S. Goods Exports to the top-nine destinations, 18.44% of Goods Exports, and 13.20% of Total U.S. Exports in 2012Q1. Mexico accounted for 24.29 % of U.S. Goods Exports to the top-nine destinations, 13.67% of Goods Exports, and 9.78% of Total U.S. Exports in 2012Q1. Together the two U.S. NAFTA partners accounted for 57.07% of U.S. Goods Exports to the top-nine destinations, 32.11% of Goods Exports, and 22.98% of Total U.S. Exports in 2012Q1.

The decelerating trend in the YTY monthly growth in U.S. Exports since April 2011, and highlighted in Graph 29, are indicative of the hits to the World's economies that have taken place over 2011 and into 2012: the continuing Euro Crisis, the earthquake and tsunami in Japan, and the slowing growth in the U.S. in conjunction with the clown-show over the debt ceiling and general political deadlock. Table 3 looks at the prospects for U.S. Exports.

**GRAPH 32: Nine Major Destinations vs. All Others of U.S. Goods Exports:
2012Q1**



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

Table 3 looks at the seven U.S. Export destinations that accounted for 5%, or more, of the top nine destinations, close to 3% or more of Goods Exports destinations, and 2% or more of Total U.S. Export destinations. Table 3 tracks the annual growth in GDP in constant prices for the historical period covering 2007 to 2011, which begins with the pre-recession year 2007, includes the worldwide financial panic and recession years of 2008 and 2009, the recovery years 2010 and 2011, and the IMF's April 2012 forecast for 2012 and 2013. The panic/recession years, 2008 and 2009, are shaded in yellow, and the forecast years, 2012 and 2013, are in blue font. The U.S. is also included in Table 3 for reference.

**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

EXPORT DESTINATION	WORLD RECESSION			2010	2011	IMF APR 2012 FORECAST	
	2007	2008	2009			2012	2013
Canada	2.20	0.69	-2.77	3.21	2.46	2.06	2.16
Mexico	3.24	1.19	-6.27	5.54	3.97	3.60	3.65
China	14.16	9.63	9.21	10.45	9.24	8.23	8.79
United Kingdom	3.47	-1.10	-4.37	2.09	0.65	0.82	2.03
Japan	2.19	-1.04	-5.53	4.43	-0.75	2.04	1.71
Germany	3.39	0.81	-5.08	3.56	3.06	0.61	1.47
Korea	5.11	2.30	0.32	6.32	3.63	3.55	3.95
UNITED STATES	1.91	-0.34	-3.49	3.03	1.74	2.11	2.37

SOURCE: WEO-IMF April 2012.

*Contant Prices.

After a rebound in growth in 2010, following the worldwide financial panic and recession, GDP-growth for the U.S.'s two NAFTA trading partners, bounced back, as did that for the U.S. Mexico grew the strongest in 2010, at 5.54%. This was good for U.S. Exports. However, since then, growth has decelerated in both Canada and Mexico. Canada, in fact is projected, by the IMF, to have even slower growth than the U.S. in 2012 and 2013. And, since the U.S. is the most important trading partner for these two NAFTA countries, the slow growth in the U.S. (1.74% in 2011) has definitely hurt export-growth for both Canada and Mexico, which, in turn, reduces their demand for U.S. Exports. Though China's growth is stronger than any other country that appears in Table 3, compared to its 14.16% growth-rate in 2007, China's growth has slowed as the World entered economic crisis in 2008 and 2009. China's growth then rebounded to 10.45% in 2010, and slowed slightly to 9.24% in 2011. The IMF projects the slowest growth in constant-price GDP for China (under 9%), in 2012 and 2013, over the entire six-year period depicted in Table 3. As for the other major U.S. Export destinations: the United Kingdom is probably already in recession, with GDP growing an anemic 0.65% in 2011, and the IMF predicting 0.82% growth in 2012 and 2.03% in 2013, and after growing by 3.06% in 2011, the IMF expects German growth to slow to an annual rate of 0.61% in 2012, and then to 1.47% in 2013. Japan's Economy contracted by 0.75%, in 2011. The IMF expects Japan to come out of recession in 2012 and 2013. But, its growth is expected to be anemic and halting, growing by 2.04% in 2012, and then slipping to 1.71% in 2013. Korea, though not expected to repeat its 6.32% performance in 2010, is expected to exceed 3.5% growth in 2012 and 2013, and come close to 4% in 2013.



What does all this mean for the outlook for U.S. Export growth? It seems likely that, based on the recent and current performance of the economies that represent the most important destinations for U.S. Exports, in conjunction with the disruptions caused by the on-going Eurozone crisis, and the IMF's outlooks for these economies, that U.S. Export-growth will continue its monthly YTY deceleration in growth (noted in Graph 31), and may even experience some consecutive MTM contractions through the last half of 2012 and into 2013.

ii. AGGREGATE SUPPLY

This section turns to the right side of Table 1, above, and focuses on the components of Aggregate Supply. First the current Capacity in the U.S. Manufacturing Sector is assessed in Sub-Part 1, then, in Sub-Part 2, the discussion turns to how much of that capacity is being used by the economy, and what is the size, if any, of the Output Gap (Potential, or Full Employment GDP – Actual GDP). Sub-Part 3 then turns to the current and projected conditions in the economy's most important factor-input: Labor, and the Labor Market, that is, Human Resource Utilization. Sub-Part 4 looks at Foreign Supply. That is, how much domestic demand is met by Import (i.e., Foreign Suppliers of Goods and Services to domestic consumers). Finally, Sub-Part 5 looks at Productivity and is the economy using its combination of factor/resource-inputs in their most efficient way to produce goods and services for intermediate and final demand.

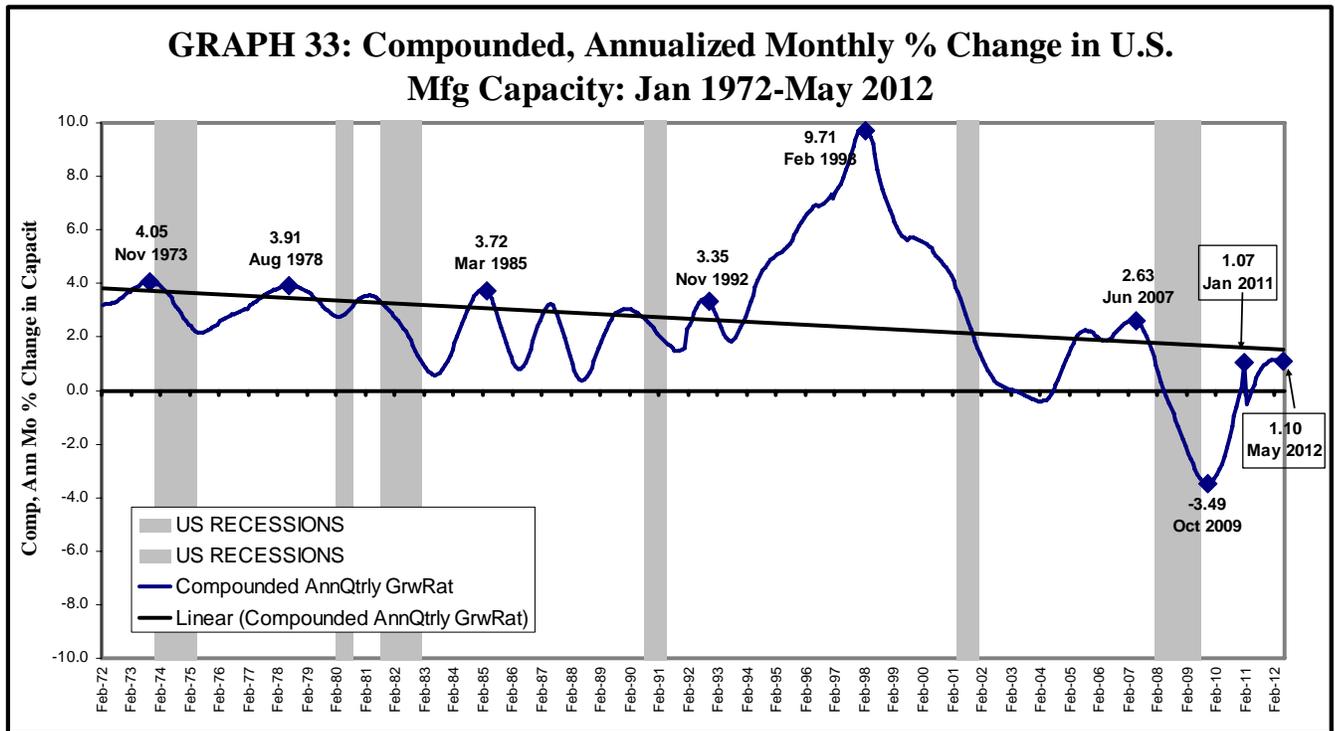
1. CAPACITY (Capital Stock)

This section focuses on the growth in manufacturing capacity. Although there are other sectors in the economy that purchase, and put in place, plant and equipment for producing output, it is the Manufacturing Sector that still uses and puts in place, most of the plant and equipment used to produce goods in the U.S. Economy. Graph 33 tracks the compounded, annualized monthly growth in U.S. Manufacturing Capacity from February 1972 to May 2012. One trend that is highlighted by the declining long-run trend line, and comes through over this 40-year period is the decline in the compounded, annualized growth-rate in added Manufacturing Capacity. Even if the large swings in added capacity are accounted for, specifically the tech boom and bubble



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

in the late 1990's, and the steep decline in the wake of the 2008-09 Financial Panic/Recession, it is clear that each peak in added capacity declined throughout the 40 years depicted on Graph 33.



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

In November 1973, as the U.S. Economy was going into the 1973-75 Recession, the U.S. Manufacturing Sector, on a compounded, annualized basis, increased Capacity by 4.05%. From that point on, save the Tech Boom-Bubble in the late 1990's (when it peaked at 9.71% in February 1998), the peak growth-rate in U.S. Manufacturing declined. And, in June 2007, six months before the official start of the last recession, the peak addition to Manufacturing Capacity over that expansion was 2.63%. Since the steepest contraction in the recent crisis/recession, -3.49% in October 2009, the growth in U.S. Manufacturing Capacity has rebounded to positive territory but has not been particularly strong. Capacity growth began to be consistently positive after May 2011 and averaged 0.79% per month, but at an accelerating rate reaching 1.13% in December. Growth accelerated to 1.15%, on a compounded, annualized basis, in January and February 2012, but has decelerated since then. Capacity was added at a



compounded, annualized rate of 1.10% in May 2012, the latest period of data at the time of writing, and has averaged 1.13% over the first five months of 2012.

The question is: How much capacity is being used? This gets to the issues of the Capacity Utilization Rate (CUR) and the Output Gap, or Okun's Law. Sub-Part 2 turns to a discussion of the CUR.

2. CAPACITY UTILIZATION (Output Gap)

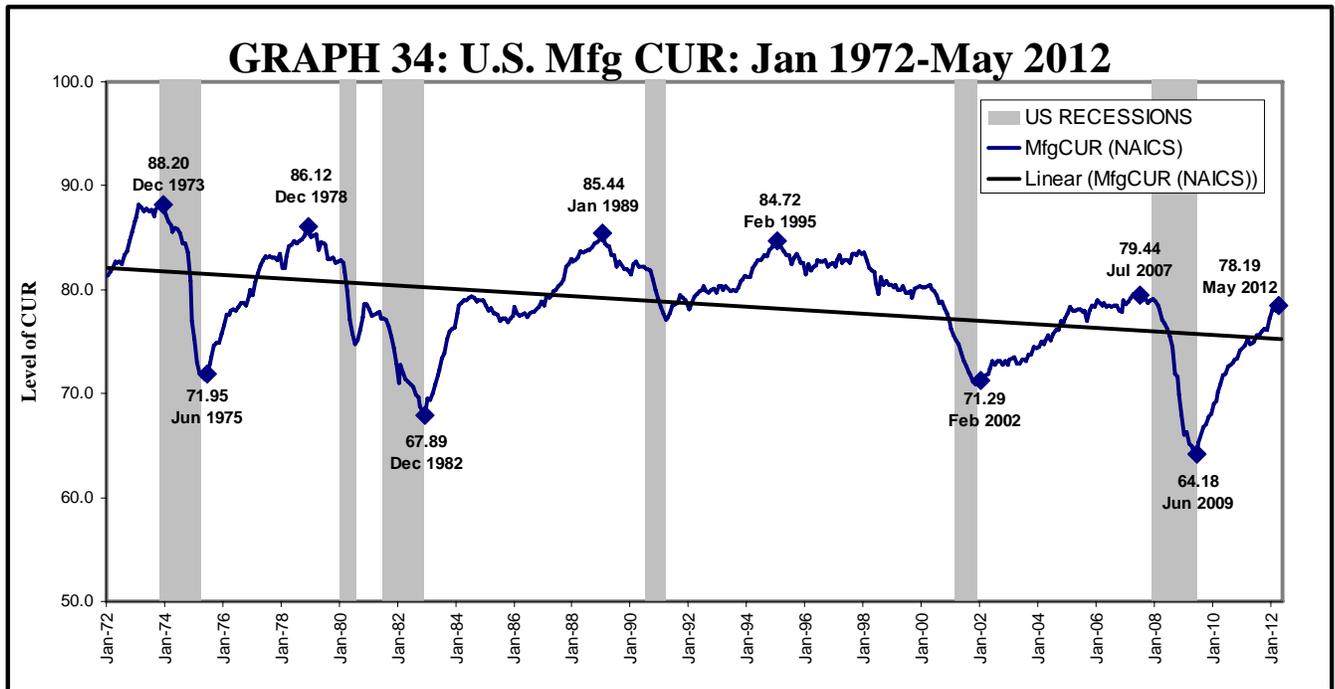
As Graph 34 illustrates, the Capacity Utilization Rate (CUR) for the U.S. Manufacturing Sector has been declining over the same 40-year period as was depicted in Graph 33 for added Manufacturing Capacity. Again, the trend line has a definite, downward sloping trend over the period covering Jan 1972 to May 2012. The peak CUR for Manufacturing, over each cycle, declines from 1972 to 2012. The peak CUR in December 1973, one month after the beginning of the 1973-75 Recession, the Manufacturing CUR reached 88.20%. Each subsequent peak CUR, for each subsequent expansion was lower than the previous one. The peak CUR for the U.S. Manufacturing Sector in July 2007, five months before the official start of the 2007-09 Recession, peaked at 79.44%, the lowest CUR of any expansion over the 40-year period depicted in Graph 34. After the lowest Manufacturing CUR of the Post World War II Era, 64.18% in June 2009, the month of the official end to the last recession. This was lower than the previous low point for the Manufacturing CUR in the Post War period, 67.89% in December 1982. After bottoming out in June 2009, the CUR in manufacturing has steadily climbed, reaching 78.19% in May 2012, the latest period of available data, at the time of writing.

The average CUR for the Manufacturing Sector in the Post Cold War Period is 77.78%, which is below the average CUR of 78.72% for the entire Post World War II Era, as well as below the 82.23% average CUR for the 1970's and the average CUR of 78.01% for the 1980's. As noted above, the Manufacturing CUR has been steadily declining, as depicted in Graph 34. Given the



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

decline in the CUR for Manufacturing, what does the CUR for the first five months of 2012 tell us about the Output Gap?



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

There are several measurements, each with issues surrounding them, employed to measure the Output Gap. Very simply, the Output Gap is the difference between Potential GDP and Actual GDP, or:

$$\text{OUTPUT GAP} = \text{GDP}_{\text{Potential}} - \text{GDP}_{\text{Actual}} \quad (1.)$$

If the OUTPUT GAP = 0, then the economy is operating at full employment, if the OUTPUT GAP < 0, then there is actually an *Inflationary Gap* as Aggregate Demand exceeds what the economy is able to produce and only the General Price Level rises, as no more goods and services are coming forth. Finally, if the OUPUT GAP > 0, then the economy is operating at less than full employment of its resources, that is, it is not firing on all cylinders. If there is a positive Output Gap then there will be unused physical resources reflected in a CUR that is



lower than what would be observed at full capacity utilization. In addition, unused human resources would be reflected in an unemployment rate that exceeds the level that would be expected at full employment. The debate over the current recovery is not over the existence of the Output Gap, but over how large it is, which has policy implications.

3. LABOR (Human Resource Utilization)

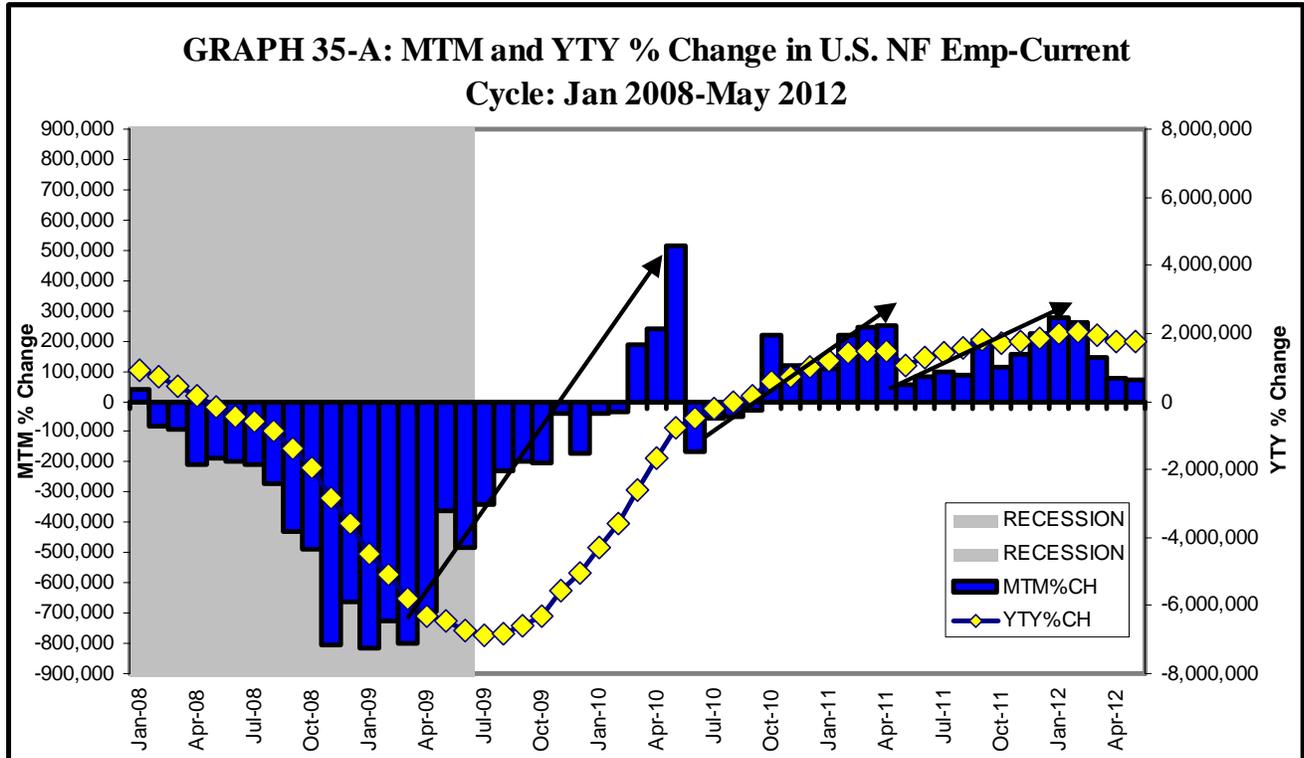
What is of concern to most people about the economy is the condition of the Labor Market. For it is labor-market conditions that determine whether or not one can find a job, or keep the one they have. Getting a job, or keeping a job, is critical to earning the income needed to pay the rent, or mortgage, buying a car, and putting the kids through college, or saving for retirement—not to mention issues concerning self-worth. Politicians too, know that their keeping their jobs also depends on the conditions prevailing in the Labor Market, especially during election time. This section turns to the set of the most watched indicators, those that signal the direction of job-creation, that is, Labor-Market indicators.

Graphs 35-A and 35-B show the MTM and YTY changes in U.S. Non-Farm Employment (Graph 35-A) from January 2008 to May 2012, and the less volatile, QTQ and YTY changes in U.S. Non-Farm Employment from 2008Q1 to 2012Q1. From Graph 35-A, where the MTM changes are depicted by the bars (measured on the left vertical scale), and the YTY changes are tracked by the line (measured on the right vertical scale), in U.S. Non-Farm Employment show the steep MTM job-losses in the final four months of 2008. Job-losses had begun to accelerate somewhat to about 200,000 per month from April to August. Then, with the collapse of Lehman Brothers and the on-set of financial panic in September, those job-losses turned into a hemorrhage, and save December, exceeding 700,000 per month until April 2009, and exceeding 800,000 per month in November 2008 and January 2009, and just below 800,000 in March 2009. The first turnaround in U.S. Non-Farm jobs came with the subsiding of losses from April on, turning positive a year later with a gain of 189,000 in March 2010. This first “recovery” peaked, two months later, in May 2010, when the U.S. Economy added 516,000 net, new jobs. June then had a loss of 167,000 jobs—Recovery 1 had ended. Losses again



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

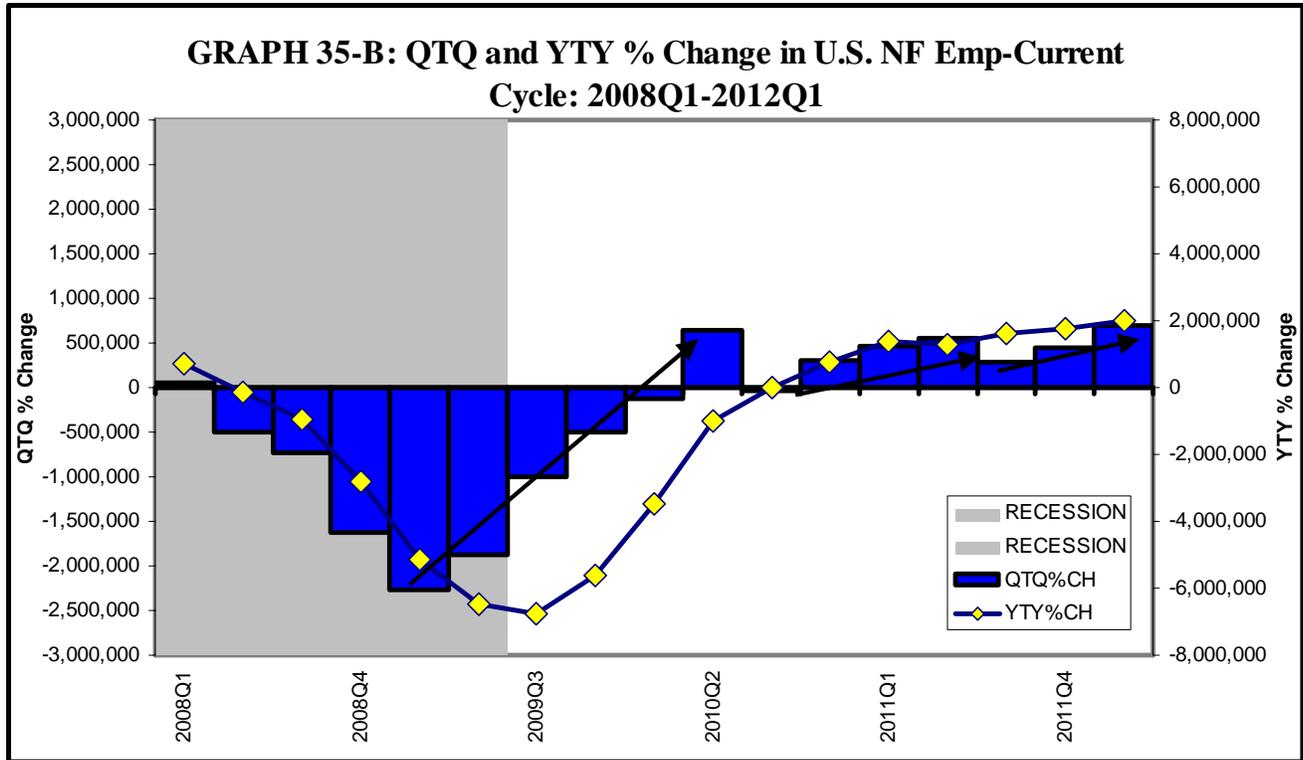
subsided until 220,000 jobs were added in October. Then, over November and December 2010, and into January 2011, job-growth slowed to 117,000 per month. From February to April, it then picked up again, culminating in an April 2011 again of 251,000 new jobs. May followed with an anemic 54,000 jobs added to the economy, and Recovery 2 was over. Recovery 3 proceeded from May 2011 through the beginning of 2012, when the U.S. Economy added 275,000 in January and 259,000 jobs in February. Then, Recovery 3 came to an end.



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



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



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

With the end of the U.S. Economy’s “Arab Spring”, the growth in U.S. Non-Farm jobs declined to 143,000 in March, 77,000 in April, and 69,000 in May 2012, the latest period of data at the time of writing. This pattern of recoveries that stall, and then re-start again, are also depicted in Graph 35-B, with less volatile, quarterly data. As in Graph 35-A, arrows highlight the “three recoveries” since the peak job-losses in 2009Q1, when, on a QTQ basis, the U.S. Economy shed 2.3 million jobs. On a YTY basis, 2009Q3, U.S. Non-Farm Employment was 6.8 million jobs below its 2008Q3 level. The three “recoveries” can be clearly seen in the quarterly data, but, in addition, the YTY Non-Farm job-growth a steadier, gradually upward pattern, though its rate of growth has certainly decelerated after 2010Q2, and has displayed a much flatter growth path since then. Nevertheless, in 2012Q1, U.S. Non-Farm Employment was 132.7 million, nearly 2.0 million higher than its 2011Q1 level, and 3.4 million higher than its 2010Q1 level, when quarterly Non-Farm Employment bottomed at 129.3 million jobs.

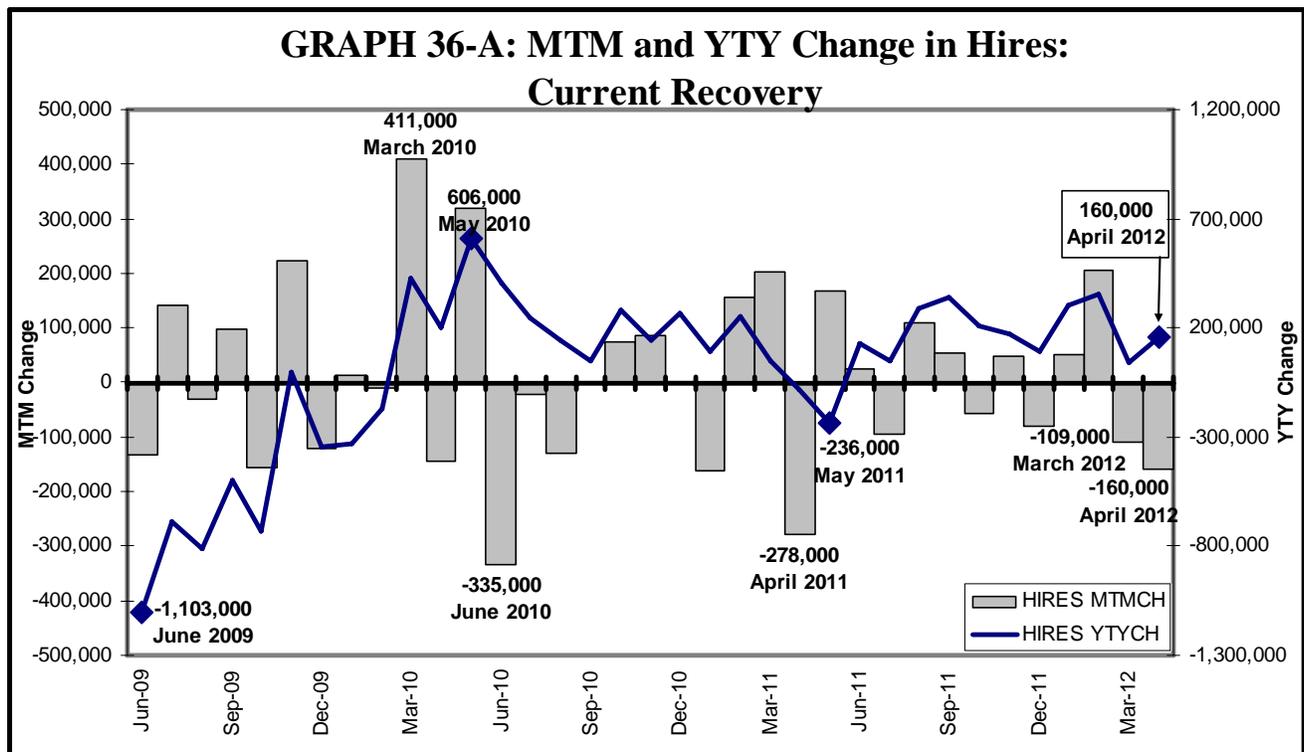
As noted a couple of times previously, the Public Sector has acted as a drag on the current recovery, unlike previous recoveries when Government either led, or at least, reinforced the



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

recovery. In fact, Government has subtracted jobs from the economy over this recovery, even as the Private Sector has been adding them. Without Government as a drag, this recovery's growth performance would be much stronger. This was illustrated in Graph 4, Chapter I-INTRODUCTION. In fact, as noted above, the Public Sector has subtracted 486,000 jobs over this recovery (See Graph 28 above, this chapter).

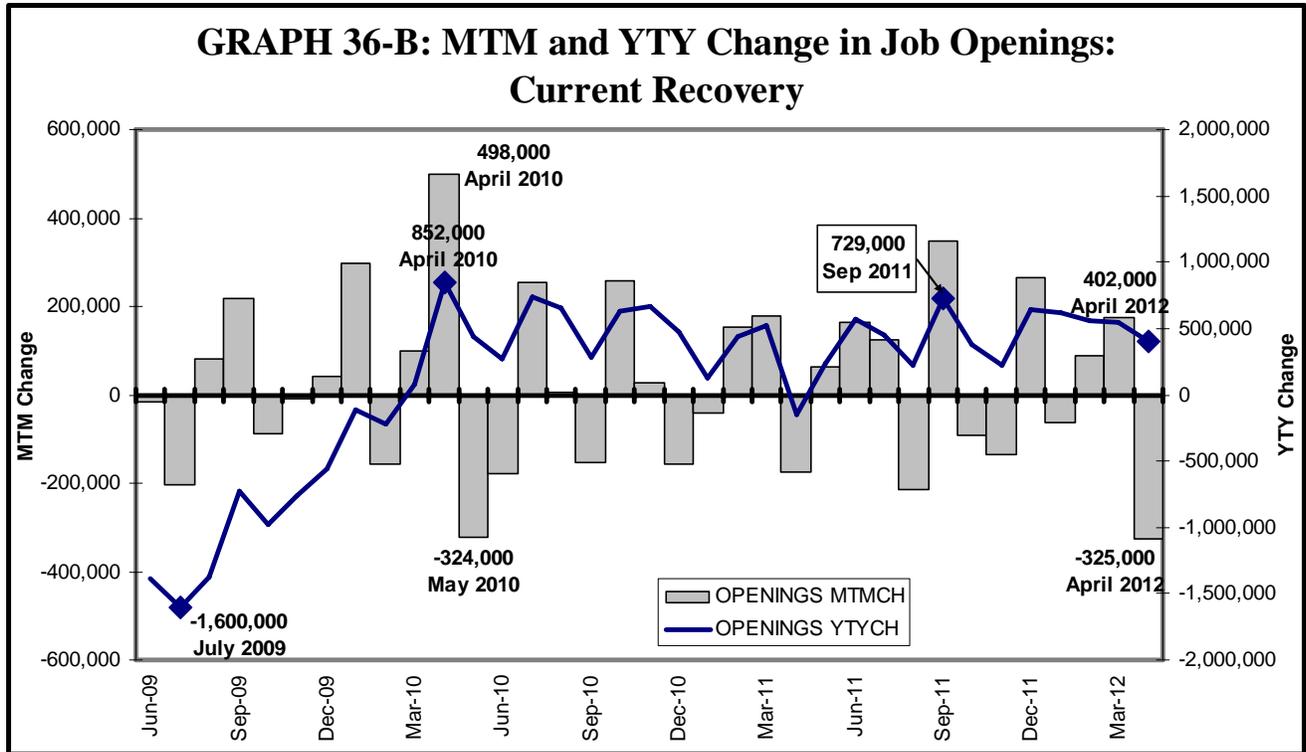
Some worrisome signs as to where the economy might head after its Arab Spring come from the June release of the Job Openings and Labor Turnover (JOLTS) data⁹. Graphs 36-A and 36-B present the MTM (bars and measured on the left vertical scales), and YTY (lines and measured on the right vertical scales) changes in Hires (Graph 36-A), and Job Openings (Graph 36-B). What is notable in Graph 36-A is that Hires have been down, on a MTM basis, for two consecutive months: down 109,000 in March and down 160,000 in April, the first consecutive declines since June-August 2010. Job Openings were also down by 325,000 in April (see Graph 36-B). This was the steepest decline in Job Openings since the 324,000 decline in May 2010 and the steepest MTM decline over the current recovery.



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

⁹ U.S. Bureau of Labor Statistics, *Job Openings and Labor Turnover*,





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

The pace of Hires seems to have decelerated, both MTM and YTY. The MTM change in Hires peaked at 411,000 in March 2010, and YTY, at 600,000 two months later in May 2010. The MTM change in Job Openings peaked at 498,000 in April 2010, and the YTY growth in Job Openings also peaked in April at 852,000, although, YTY, Job Openings jumped again to 729,000 in September 2011, but have declined since then and were at 402,000 in April 2012.

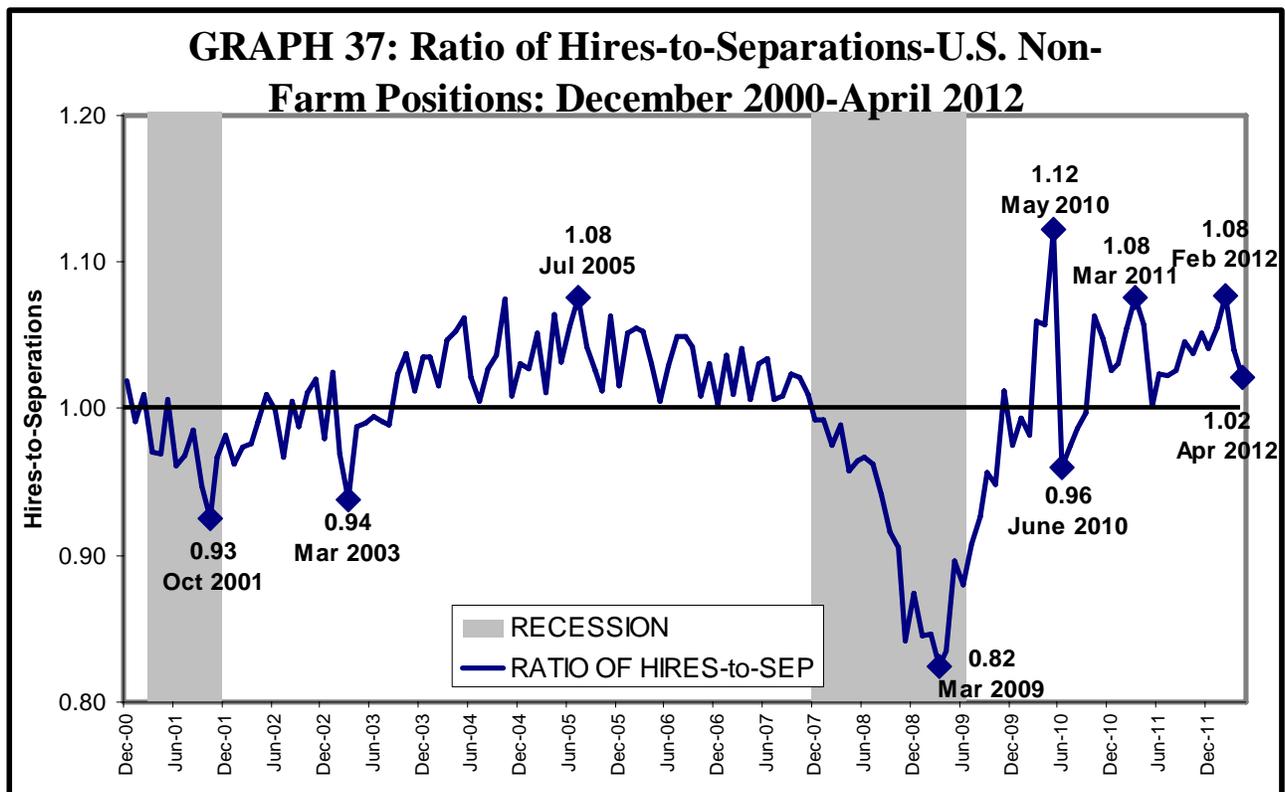
Some other JOLTS statistics seem to cross-validate the dynamics observed in graphs 35-A and 35-B. This is evident in Graph 37, which tracks the Ratio of Hires-to-Separations from January 2000 to April 2012, and covers the entire history of the JOLTS Survey data. Separations include all reasons for leaving a job, including Layoffs and Discharges, Quits, Retirements, and all other reasons for separations. During the 2001 Recession, the Hires-to-Separations Ratio fell to a low of 0.93 in October 2001. Another way to interpret this number is that for every 100 Separations in October 2001, there were 93 Hires. Clearly, Separations exceeded Hires. After coming out of the 2001 Recession, the Hires/Separations Ratio passed above 1.00 in September 2003, that is, the number of Hires began to exceed the number of Separations. It



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

peaked over the expansion at 1.08 in July 2005. That is, there were 108 Hires for every 100 Separations. It then declined over the remainder of the expansion and then plunged below 1.00 as the U.S. and World economies plunged into recession in December 2007. By March 2009, the Hires/Separations Ratio has dropped to 0.82, which implied that there were only 82 Hires for every 100 Separations. With recovery, the ratio climbed to 1.12 in May 2010, that is, there were 112 Hires for every 100 Separations, higher than at any point over the previous expansion. It then dropped to below 1.00 again to 0.96 one month later, in June 2010. It returned above 1.00 to 1.08 by March 2011, which equaled the peak for the previous expansion. It then fell to 1.00 by May 2011, returning to 1.08 in February 2012, and then declining to 1.02 by April 2012, the last period of available data at the time of writing. .

The dynamic in Graph 37 closely tracks the dynamic of the growth in Non-Farm employment depicted in graphs 35-A and 35-B. The behavior of the Hires-to-Separation Ratios certainly offers some insight into, and cross-validation for, “three recoveries” observed in the behavior of U.S. Non-Farm jobs since the trough of the last recession in June 2009.

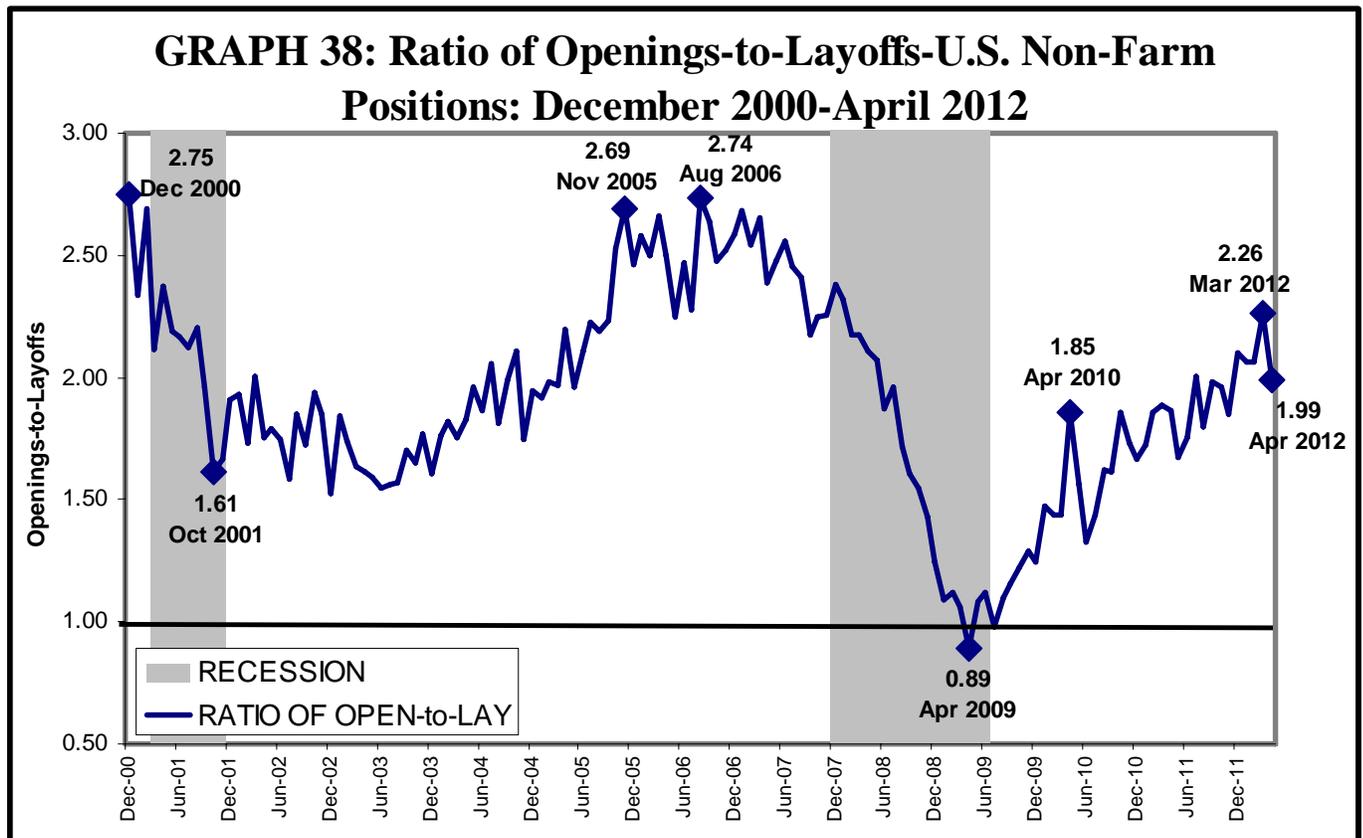


SOURCE: U.S. BLS and calculations by CTDOL-Research.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Another ratio constructed from the JOLTS data that offers some insights into the U.S. Labor Market is the Ratio of Job Openings-to-Layoffs. That is the subset of Separations that are due to Layoff or Discharge. The Openings/Layoffs Ratio, also tracked from January 2000 to April 2012, is depicted in Graph 38. The peak for this ratio, over the range of available data, come at the close of 1990's Tech Boom/Bubble, in December 2000, when it was 2.75. That is, for every 275 Job Openings, there were 100 Layoffs. As of April 2012, the Openings/Layoffs Ratio has never returned to that level. It came close over the last expansion in November 2005, when the ratio reached a level of 2.69, and came closest in August 2006, when it reached 2.74. During the 2001 Recession, the Openings/Layoffs Ratio fell to 1.61 in October 2001. Over the 2007-09 Recession, the ratio fell to its lowest point in the history of the survey. In April 2009, it fell below 1.00 to 0.89. That is, for every 89 Job Openings, there were 100 Layoffs. The Openings/Layoffs Ratio recovered to 1.85 by April 2010, and then peaked at 2.26 in March 2012, and then peaked at 2.26 in March 2012, and then peaked at 2.26 in March 2012, and then peaked at 2.26 in March 2012. With the release of April's data, the ratio has fallen back below 2.00 to 1.99.

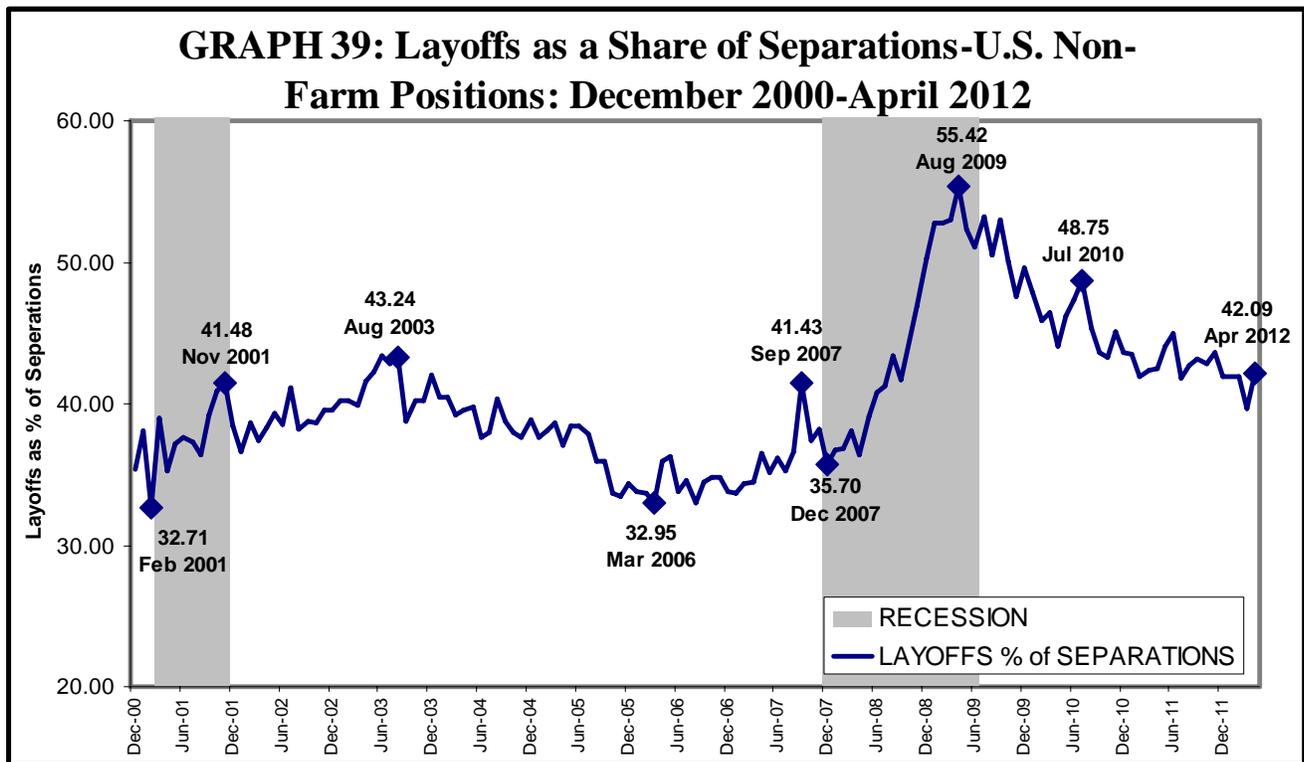


SOURCE: U.S. BLS and calculations by CTDOL-Research.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

The final look at the JOLTS data tracks Layoffs and Discharges as a share of total Separations over the January 2000-April 2012 Period. One month before the beginning of the 2001 Recession, Layoffs, as a share of Separations, was at its lowest over the entire range of data: 32.71%. As would be expected, Layoffs, as a share of total Separations, rose to 41.48% in November 2001, the official end of the recession. However, as the recovery preceded Layoffs as a share of Separations, actually increased, peaking at 43.24% in August 2003. This, of course, was the second of the Post Cold War jobless recoveries. After August 2003, Layoffs as a share of total Separations declined until March 2006 when they were 32.95% of all Separations. Layoffs rose to 41.43% of Separations by September 2007 and, then dropped to 35.70% as the economy went into recession in December 2007. With the on-set of financial panic and recession, Layoffs, as a share of total Separations shot up to 55.42% by August 2009, the highest in the JOLT Survey's history. After falling to 39.64% of Separations in March 2010, Layoffs jumped to 48.75% in July 2010, then fell to 42.09% in April 2012.



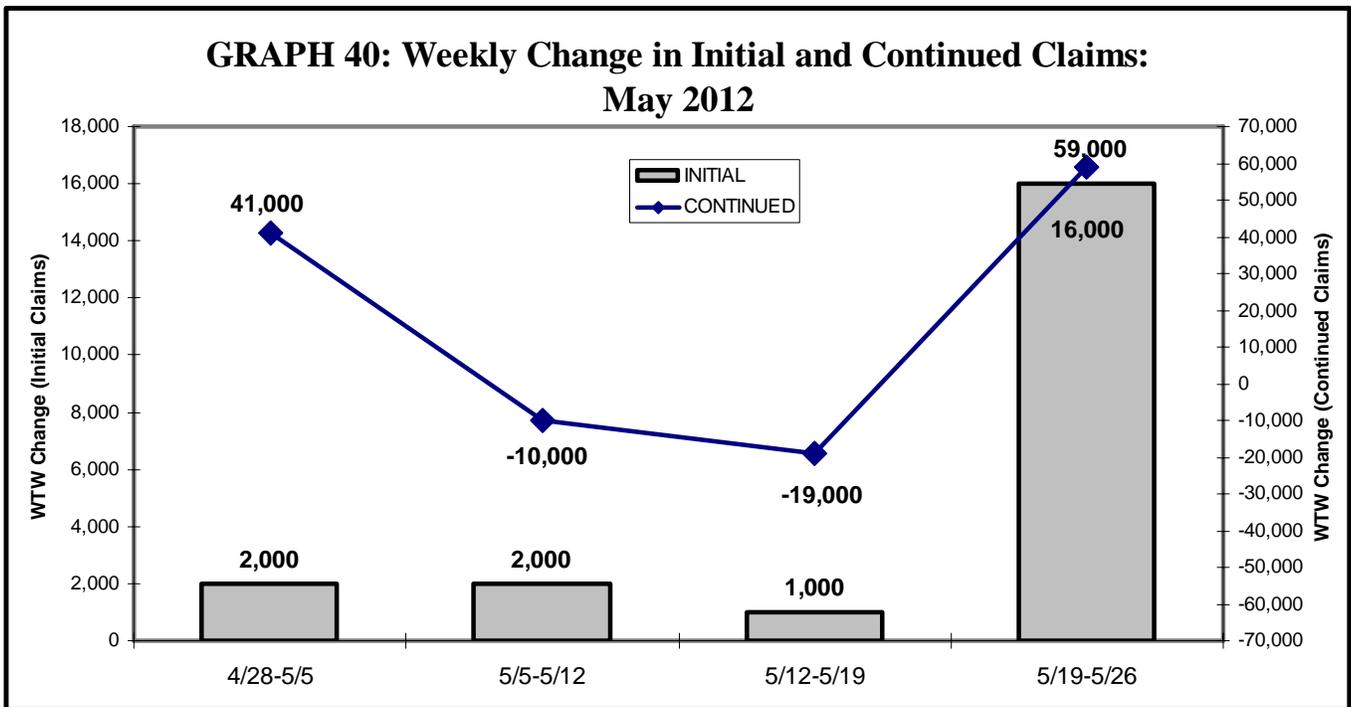
SOURCE: U.S. BLS and calculations by CTDOL-Research.

Graph 40, which shows the growth in U.S. Initial and Continued Claims for Unemployment Insurance (UI) for May 2012, the last period of UI Claims data at the time of writing. As



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

suggested above in the discussion on Non-Farm Employment and the JOLTS data, the U.S. Economy's "Arab Spring" may be giving way to a slowdown going into the Summer of 2012. After declining from their high of 392,000 the week of April 21, 2012, filings for U.S. Initial UI Claims fell by 24,000 and declined to a level of 368,000 the last week of April. But, then the trend reversed, and Initial Claims began increasing. As depicted in Graph 40, Initial Claims grew by 2,000 the first and second weeks of May, and even declined to a growth of 1,000 the third week of May. But, the week of May 26th, Initial Claims jumped by 16,000. Further, after declining over the first two weeks of May (-10,000 the first week, and -19,000 the second week), Continued Claims for UI jumped by 59,000 the week of May 26th. Graph 41 looks at the less volatile, and longer-view, Four-Week Moving Average (4WMA), of Initial and Continued claims. For the first week of July 2009, the first week of the first month after the trough of the last recession, the level of the 4WMA of Initial Claims for UI was at 597,000. The 4WMA declined to 468,500 by the first week of January 2010.



SOURCE: U.S. ETA and author's calculations.

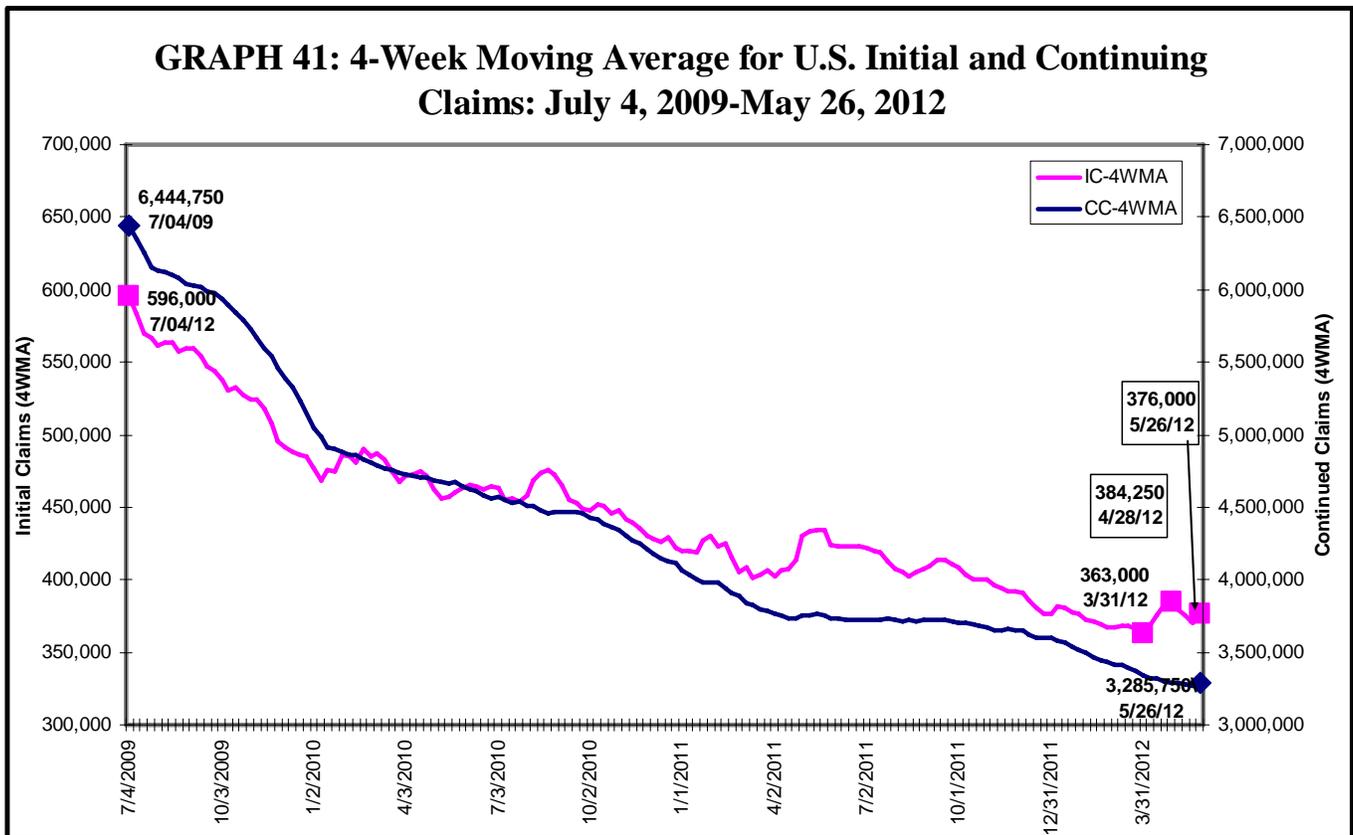
From that point on, the movement in the 4WMA of Initial Claims was up-and-down, but generally in the downward direction. The 4WMA reached a low of 363,000 the last week of



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

March 2012 (see Graph 41). Since then, it climbed to 384,250 by the last week of April, and has declined to 376,000 by the last week of May, but up 5,250 from the previous week.

The first week of July 2009, the level of the 4WMA for Continued Claims was 6.5 million. The 4WMA for Continued Claims has fallen at a steadier and faster rate, compared to the 4WMA for Initial Claims. By the last week of May 2012, the 4WMA for Initial Claims was at 63% of its level the first week of July 2009, whereas, the 4WMA for Continued Claims was just slightly above half its level the first week of July 2009. Of course, much of the level for the 4WMA of Continued Claims may have more to do with the expiration of Federal UI extensions and early filings for Social Security than success at finding employment. Nevertheless, the level of the 4WMA of Continued Claims was 3.3 million the last week of May 2012.



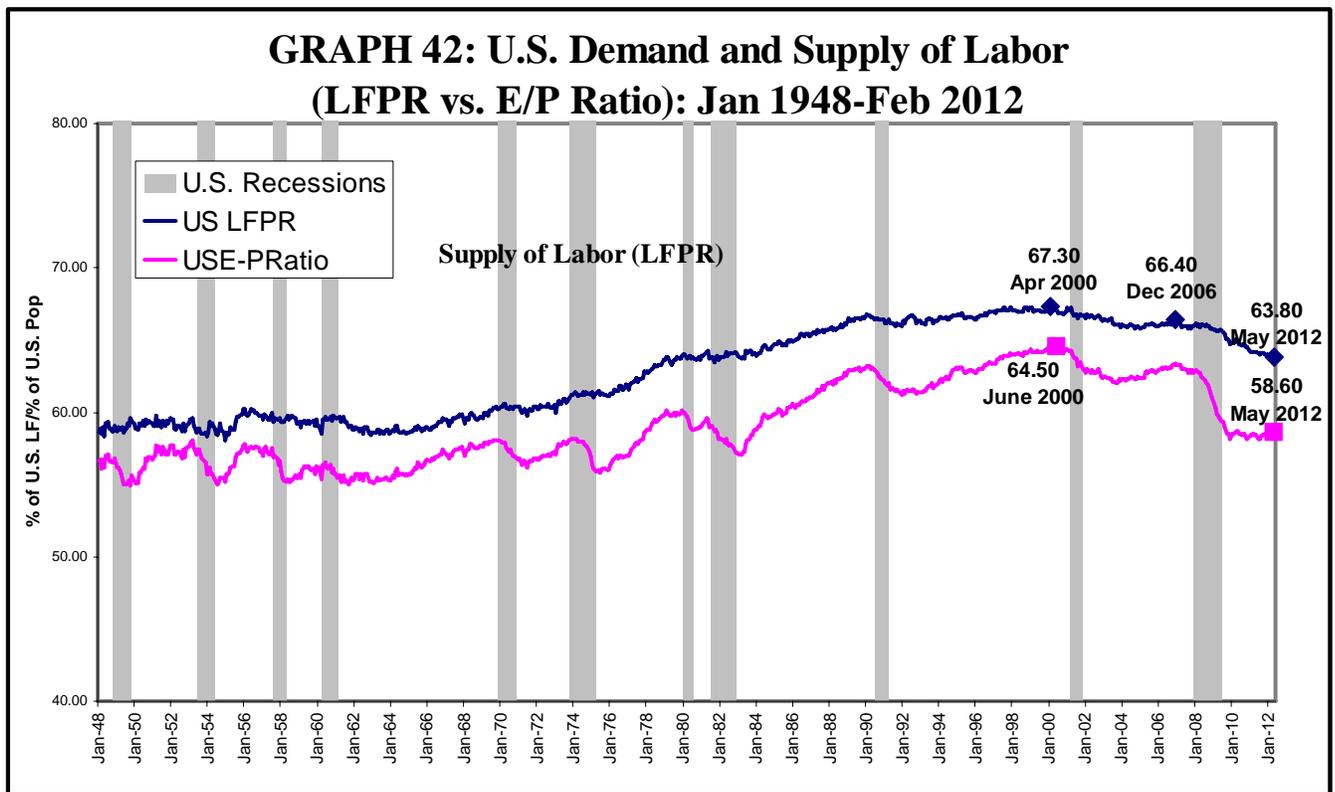
SOURCE: U.S. ETA and author's calculations.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

The question now turns to what the above-discussed indicators imply for the overall demand for, and supply of, labor over the current cycle. For this, the discussion turns to indicators of labor-force participation (the Labor Force Participation Rate), the short-run Supply of Labor, the Demand for Labor (the Employment-to-Population Ratio), and the excess supply of labor (The Unemployment Rate).

Graph 42 tracks the Labor Force Participation Rate (LFPR), which is the short-run Labor Supply Curve¹⁰ for the U.S. Economy and the Employment-to-Population Ratio (EPR), which represents the economy’s Labor-Demand Curve. Graph 42 presents the LFPR and EPR data for the Post World War II Era, January 1948, after de-mobilization from the war economy, to May 2012, the latest available period of data at the time of writing.



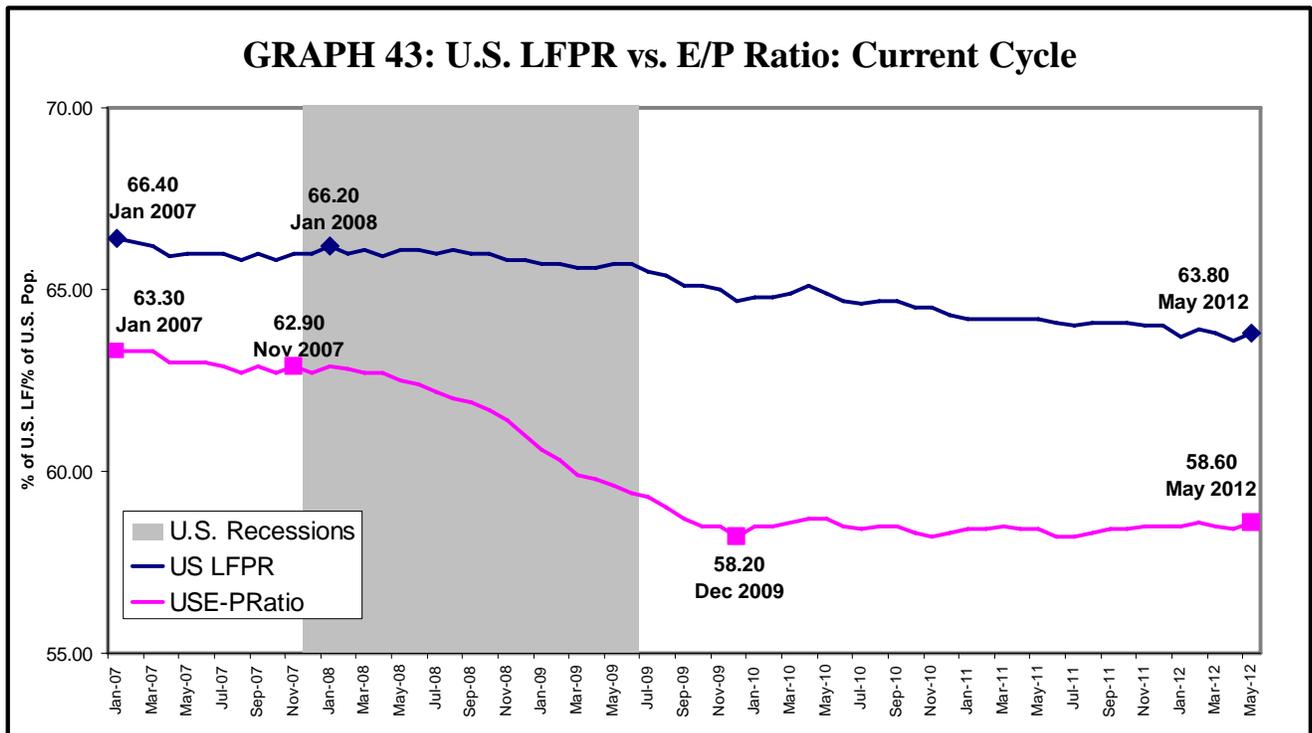
SOURCE: U.S. BLS and author’s calculations.

¹⁰ The long-run Labor-Supply Curve is determined by demographics and Net Migration/Immigration.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

The first thing to note from Graph 42 is that the highest LFPR level in the Post World War II Era was the 67.30% in April 2000. This means that two-thirds of all non-institutionalized persons 16 years of age, or older, were participating in the labor force. The highest LFPR achieved in the 2001-07 recovery/expansion was the 66.40% in December 2006, which was 0.90 percentage points (90 basis points) below the peak level in April 2000. With the collapse of the housing bubble, and the on-set of financial panic and recession, the LFPR fell to 63.80% by May 2012, the latest available period of data at the time of writing. This represents a 0.20 percentage-point (20 basis-points) decline since December 2011. As would be expected, the EPR also peaked during the late 1990's Tech Boom/Bubble. The highest EPR in the Post War Era was the 64.50% in June 2000. This means that over 64% of the non-institutionalized population, in the U.S., had a job in June 2000. The highest EPR achieved in the 2001 recovery/expansion was the month that the LFPR peaked: December 2006, when the EPR reached 63.30%. By May 2012, it had fallen to 58.60%.

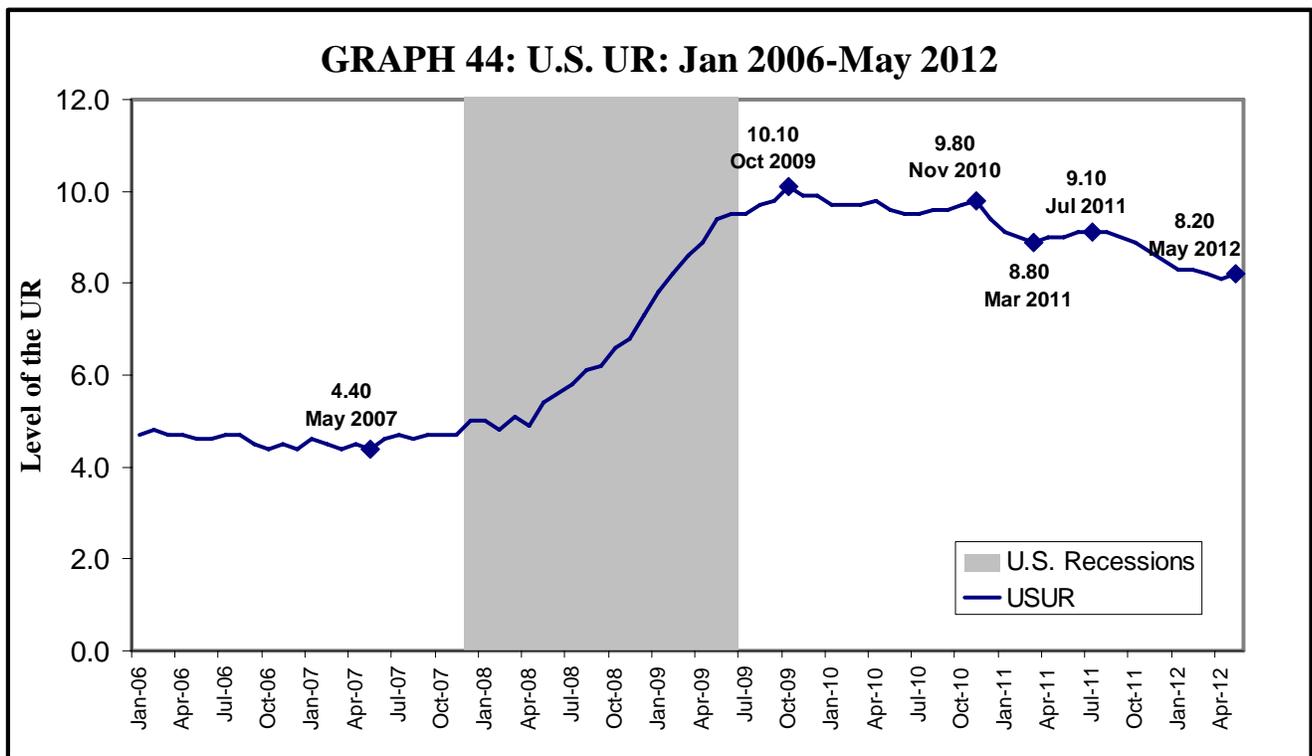


SOURCE: U.S. BLS and author's calculations.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Graph 43 focuses on the LFPR (Labor Supply) and EPR (Labor Demand) over the current cycle. It is clear that while the LFPR and the EPR have both declined as the U.S. Economy went into recession in December 2007 the decline in the EPR has been much steeper than the decline in the LFPR. That is, the demand for labor fell at a much faster rate than did the supply of labor, resulting in an explosion in the excess supply of labor (i.e., a rapid rise in the Unemployment Rate). Between its peak level of the previous expansion in January 2007, to May 2012, the latest period of data at the time of writing, the EPR fell by 4.7 percentage points, or 470 basis points, while, over that same period, the LFPR fell by 2.5 percentage points, or 250 basis points. And, while the EPR was at 93% of its January 2007 level in May 2012, the LFPR was still at 96% of its January 2007 level. This is reflected in the behavior of the Unemployment Rate (UR), which is presented in Graph 44 over the current cycle, and covers the period beginning with December 2006 and ending with the last period of data, May 2012.



SOURCE: U.S. BLS



As the gap in the EPR and the LFPR widens in Graph 43, and as the EPR falls at a faster rate than the LFPR, over that same period, the UR climbs to 10.10% by October 2009 in Graph 44. And, as the growth in the EPR turns flat after December 2009, as the LFPR only gradually falls, the UR rate remains stubbornly high¹¹.

4. FOREIGN SUPPLY (Imports)

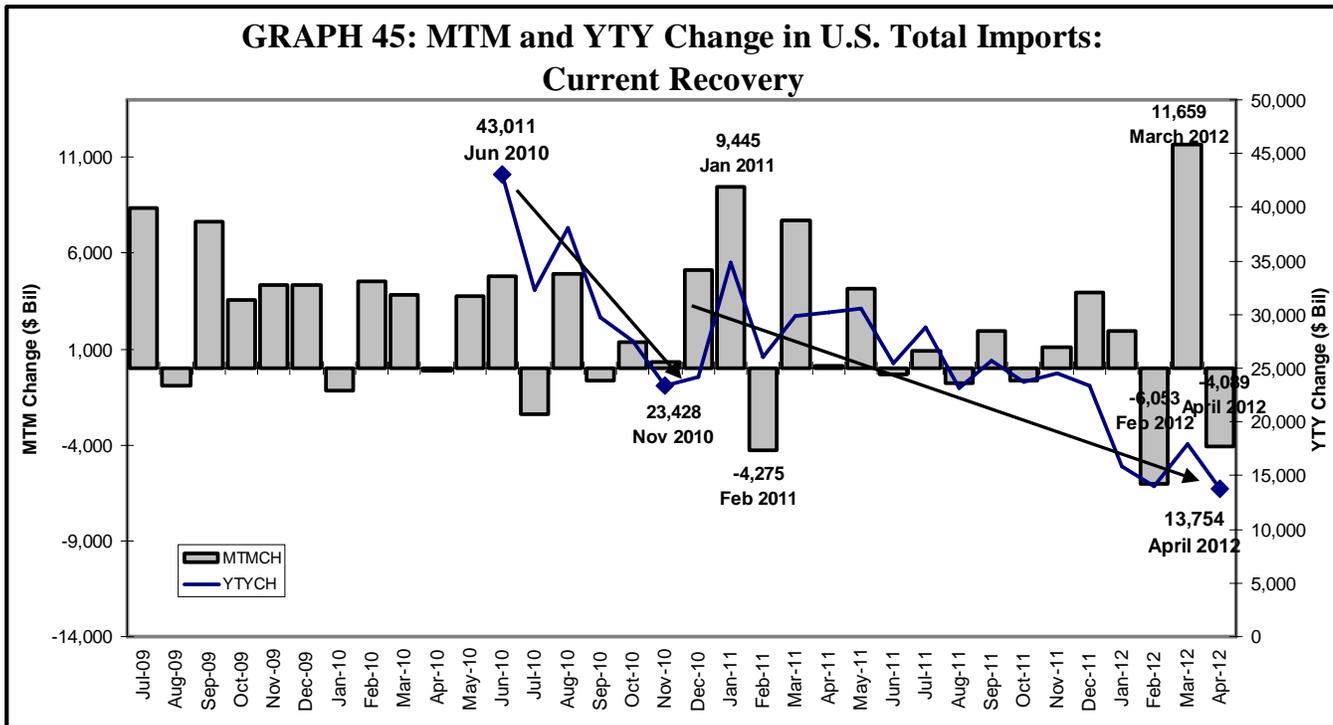
In the long run, one of the constraints on the growth in the domestic Aggregate Supply Curve is how much the domestic economy relies on foreign supply to satisfy domestic Aggregate Demand. In the short-run, a rapid rise in the demand for Imports, and therefore the demand for foreign-produced supply, given the existing Aggregate Supply Curve, will generate excess capacity, as the amount of domestic demand, filled by domestic suppliers, falls below their full-capacity utilization level, resulting in a positive Output Gap [i.e., Full-Employment (Potential) Domestic Capacity Utilization – Actual Domestic Capacity Utilization > 0] This section focuses on Foreign Supply, also known as Imports, over the current cycle. Ultimately, whether or not the domestic economy can produce enough supply to fully utilize its full-employment capacity depends on the balance between foreign supply, to meet domestic aggregate demand, versus domestic supply to meet foreign aggregate demand, that is, do Imports and Exports, balance, that is, are Imports – Exports = Net Exports = 0. If Net Exports are zero, then the foreign supply to satisfy domestic demand is exactly made up for by foreign demand for domestically-produced supply, and the domestic economy is consuming an amount exactly equal to what it is producing. If Net Exports are positive, then domestically produced supply to meet foreign demand exceeds foreign-produced supply to meet domestic demand and the domestic economy is running a trade surplus, adding to GDP, the total value of goods and services produced over the reference period. Further, in this case, the domestic economy is producing more than it is consuming. However, if the foreign-produced supply to meet domestic demand exceeds the domestically-produced supply to meet foreign demand, then the domestic economy is running a trade deficit, and Net Exports are negative (i.e., Exports –

¹¹ It should be noted that the UR will be different than the simple difference between the LFPR and the EPR. The specific definition of the UR is (Number Unemployed) / (the Number Employed + the Number Unemployed), where the denominator, (the Number Employed + the Number Unemployed) = the Labor Force.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Imports < 0), which subtracts from the value of total GDP, and the domestic economy is consuming more than it is producing. This section focuses on the effects of Foreign Supply, and Net Exports, and their effect on the Domestic Aggregate Supply Curve, and GDP.



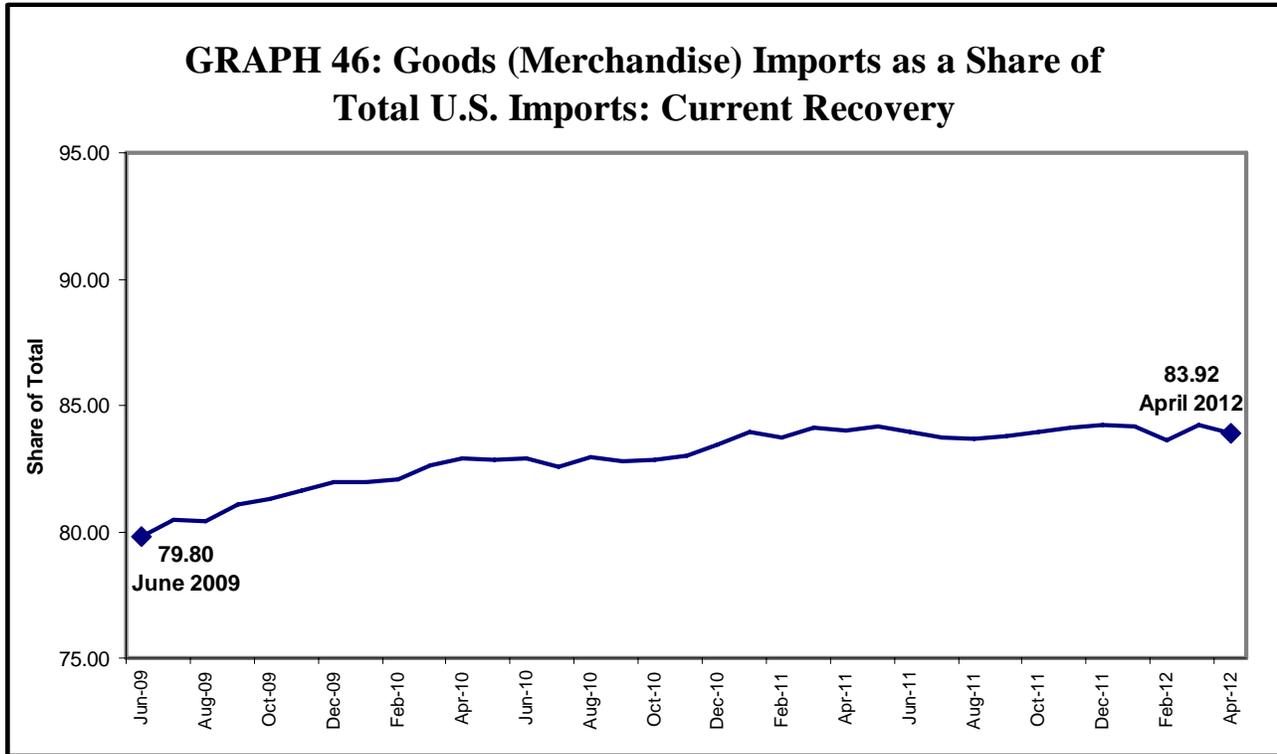
SOURCE: U.S. Census and calculations by author.

In Graph 45, the deceleration in the monthly, YTY growth in Imports decelerates rapidly from June to November 2010, over this same period, the monthly YTY growth in U.S. Exports was accelerating (see Graph 29 above). The YTY growth in Imports dropped by nearly one-half: from \$43.011 billion in June 2010 to \$23.428 billion, by November. After November 2010, especially from January 2011 on, though the YTY growth in Imports continued to decline, the deceleration in growth was much shallower. Meanwhile, over roughly the same period, Export-growth was decelerating at a much faster pace (again, see Graph 29 above). From Graph 29, the MTM growth in U.S. Exports accelerated from December 2011 through March 2012, and then declined by \$1.5 billion in April. Whereas, U.S. Import growth, on a MTM basis, decelerated in December 2011 and January 2012, and then declined by \$6.1 billion in February. Imports then surged by \$11.7 billion in March, only to decline again by \$4.1 billion



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

in April. The first four months of 2012 have had the highest volatility in the MTM growth in Imports over the entire current recovery, and higher than the MTM growth in Exports as well.



SOURCE: U.S. Census and author's calculations.

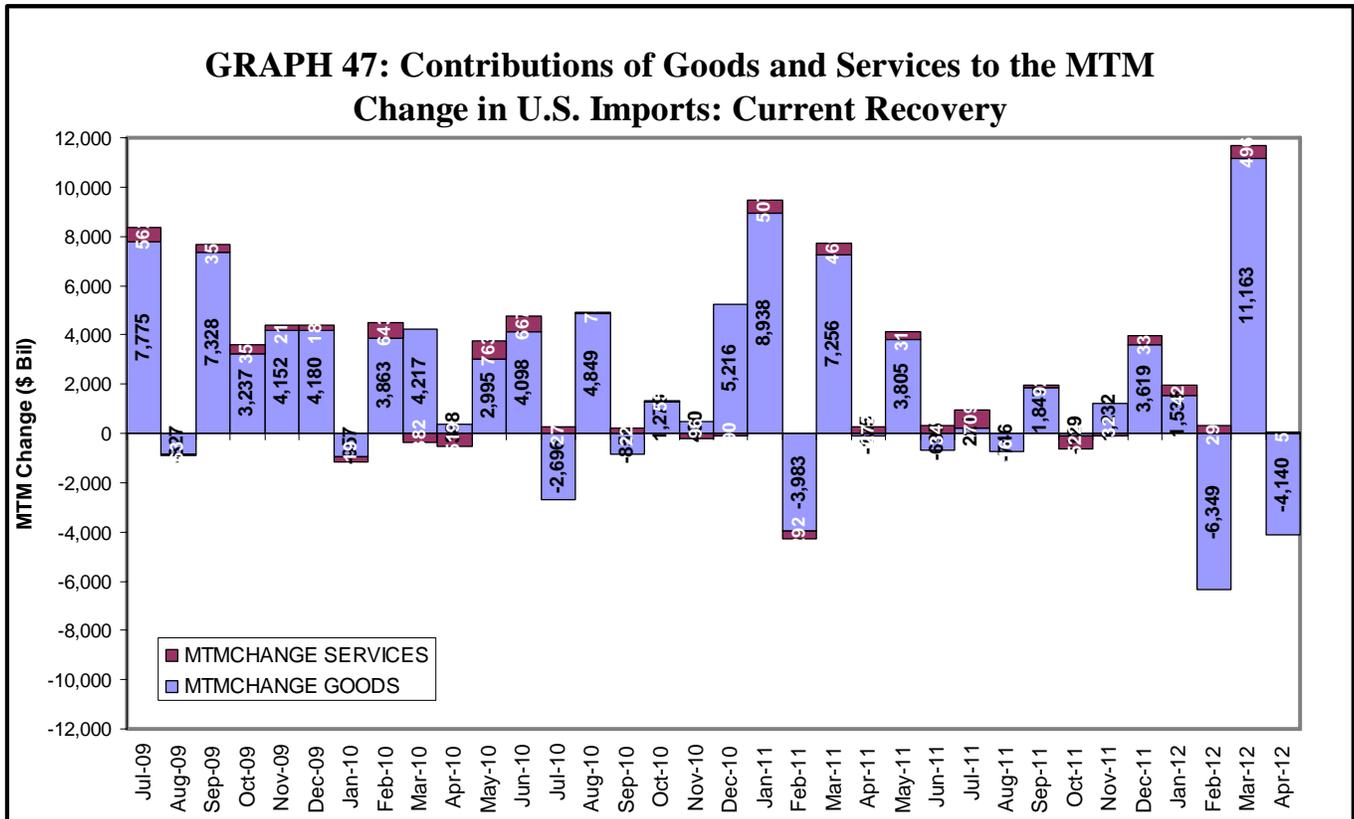
As can be seen from Graph 46, which is similar to Graph 30 that plotted Goods as a share of U.S. Exports, except it plots Goods as a share of U.S. Imports. Over the current recovery, Goods, as a share of Imports, rose from 79.80% of total Imports in June 2009 (the trough of the last recession) to 83.92% by April 2012, the last period of available data. This is much higher than Goods are as a share of U.S. Exports, which were 71.44% in April 2012 (see Graph 30). As can be seen in Graph 47, Goods dominate the MTM change in Imports even more than they did for Exports (see Graph 31).

The consequence for Net Exports is presented in Graph 48. Both, U.S. trade surpluses and deficits, on a MTM basis, over the current recovery, have been driven by U.S. Exports and Imports of Goods. And, it has been the Goods portion of the Current Account that has driven



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

the increased volatility in Exports, but especially in Imports, and Net Exports over the first four months of 2012.



SOURCE: U.S. Census and author’s calculations.

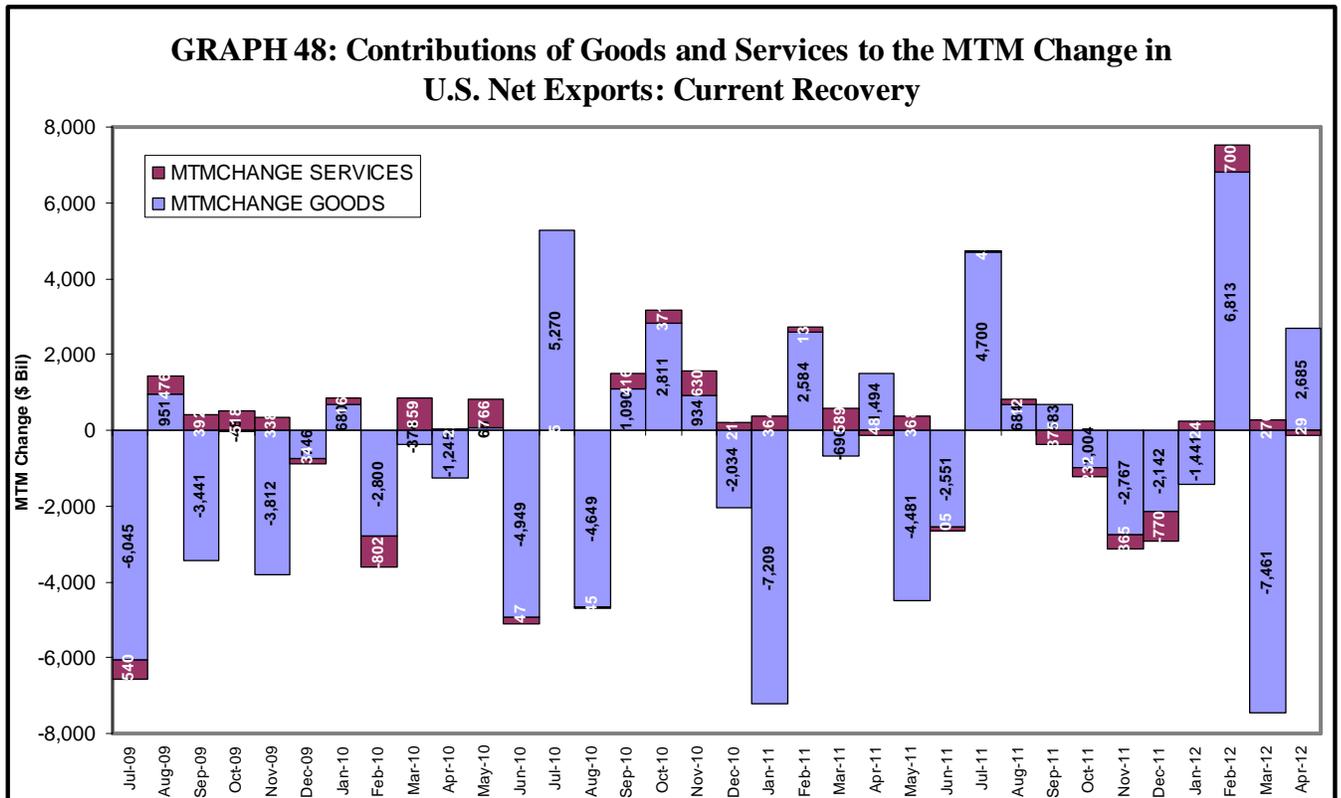
The largest drivers of the surge in U.S. Imports in March 2012 were Consumer Goods (+\$3.2 billion), Capital Goods (+\$3.1 billion), and Industrial Supplies, which included Petroleum and Petroleum Products (+\$1.5 billion). The largest contributors to the decline in U.S. Imports in April 2012 were the decline in Autos and Motor Vehicles (-\$2.6 billion) and Capital Goods Imports (-\$2.1 billion).

Of course, the net result of the change in Exports and Imports is the change in Net Exports. The MTM Change in Net Exports is presented in Graph 48. In February 2012, there was a jump in the U.S. Trade Surplus of \$6.8 billion, largely due to the \$6.4 billion drop in Imports, discussed above. This was followed by an even bigger Trade Deficit in March. Even though U.S. Exports jumped by \$3.7 billion in March 2012, Imports surged by \$11.2 billion, resulting



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

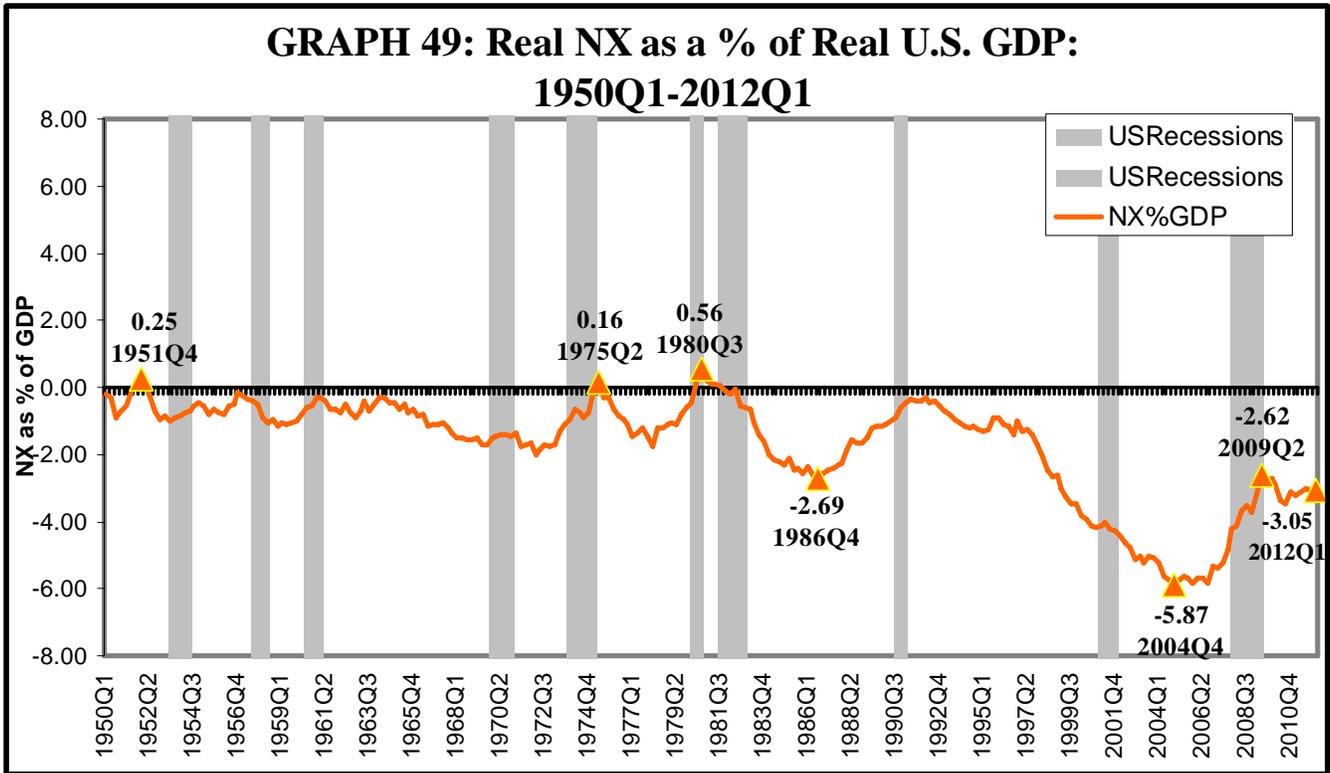
in a \$7.5 billion Trade Deficit. In April, the last month of currently-available data, the U.S. Current Account had a surplus of \$2.7 billion, but this was due to Imports dropping by more than Exports.



SOURCE: U.S. Census and author's calculations.

Graph 49 tracks the U.S. Trade Balance (Real Net Exports) as a percent of Real GDP from 1950Q1 to 2012Q1. As shown on Graph 49, with the advent of the Twin Deficits of the 1980's, the U.S. Trade Deficit reached its largest value, as a percent of GDP, at -2.69% in 1986Q4. It then subsided after the Plaza Accord. After 1995Q4, the growth in the U.S. Trade Deficit, as a percent of GDP, began to accelerate and peaked at -5.87% in 2004Q4. With the popping of the housing bubble, and the on-set of financial panic and recession, the U.S. Trade Deficit declined, as a percent of GDP, until 2009Q2, when it reached -2.62%, its lowest point since 1986Q2. Since the current recovery began, it has gone back up slightly to -3.05% in 2012Q1.





SOURCE: U.S. BEA and author's calculations.

C. BALANCE SHEETS: Net Worth of Major Sectors

As noted in the opening lines of Chapter I-INTRODUCTION to this outlook, it is the drag forces from the recent Balance-Sheet Recession and its aftermath, which has continued to hamper the economy's ability to make a strong comeback throughout this struggling recovery, and still constrains growth at the time of writing in Mid-2012. Thus, this section's topic, Balance Sheets, plays a central role in this entire business cycle, one they have not played since the Great Depression. Critical to putting the economy back on the path to strong growth, among other policies, is debt relief, or at least, restructuring of mortgages for homeowners underwater in order to repair their balance sheets, which would restore their Net Worth, and restore their access to credit. As will be shown below, Asset Values very closely track Net Worth, which implies that stabilizing housing values is the key to stabilizing Net Worth, which in turn, is the key to recovering from a Balance Sheet Recession. Thus, the current problems with credit is not just due to the supply of credit, because in a Balance Sheet Recession, the



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

lack of demand for credit plays as strong a, and probably, an even stronger role, than the supply of credit in reducing Aggregate Demand, as households pay down their debt (i.e., deleverage) in order to repair their balance sheets. This is reflected in the current challenge faced by policy makers when an economy is up against the zero, lower-bound in interest rates, or what Keynes called the Liquidity Trap.

i. HOUSEHOLDS' BALANCE SHEETS

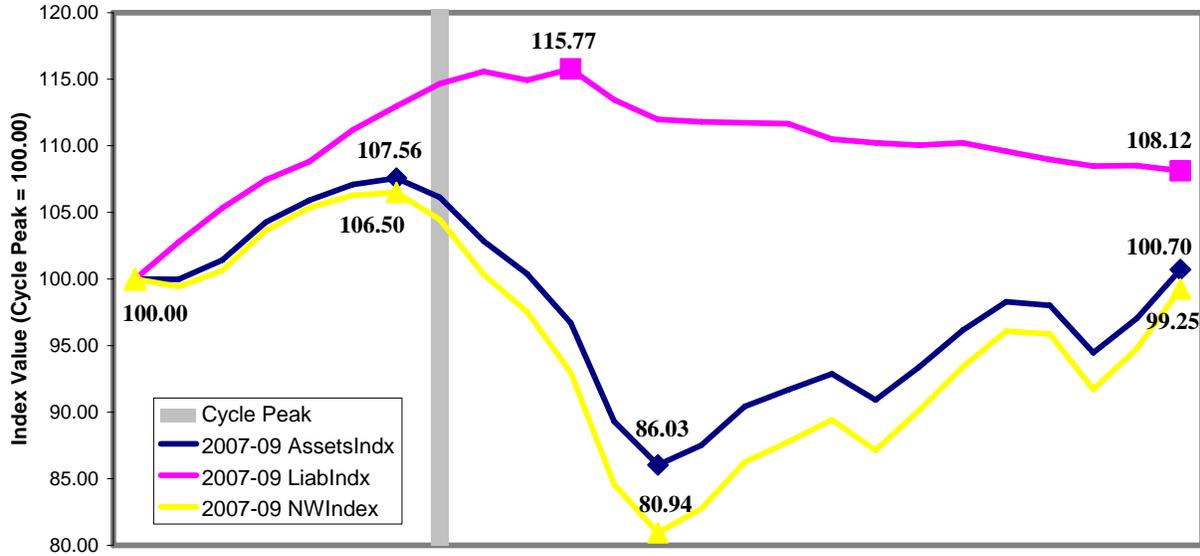
Graph 50 shows the behavior of the major components of households' balance sheets, Assets, Liabilities, and Net Worth (= Assets – Liabilities). An index, which is constructed as the ratio of the value of the major balance-sheet component to a base period. In this case, the Base Period is seven quarters before the business-cycle peak (1999Q1 for the Tech Boom/Bust Cycle, and 2006Q1 for the Housing Boom/Bust, and recovery cycle, where the index value is 100.00), and 17 quarters after the peak. Panel A presents the behavior of the indices for Assets, Liabilities, and Net Worth for the Tech Boom/Bust Period and Panel B tracks these balance-sheet components for the Housing Boom/Bust Cycle up to 2012Q1.



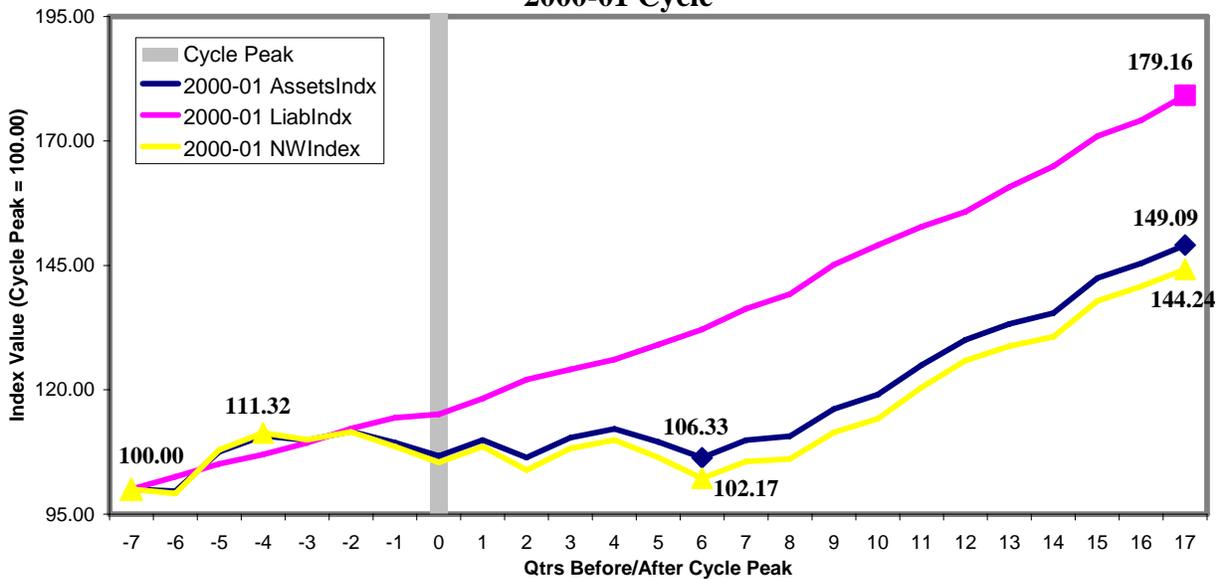
CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013

GRAPH 50: Behavior of U.S. Households' Assets, Liabilities, and Net Worth: Tech Boom/Bust Cycle and Housing Boom/Bust Cycle

**PANEL A: Index of U.S. HHs Assets, Liabilities, and Net Worth:
Current Cycle**



**PANEL B: Index of U.S. HHs Assets, Liabilities, and Net Worth:
2000-01 Cycle**



SOURCE: Federal Reserve Board and author's calculations.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

The first thing to note in both panels, A and B, in Graph 50, is that Assets and Net Worth very closely track each other over both cycles. In neither case does Net Worth closely track Liabilities. This implies that the rise and fall in Asset values play the dominant role in driving changes in Net Worth, however high debt-loads reinforce asset-driven declines in Net Worth, as in the case of the recent popping of the housing bubble in conjunction with high debt loads.

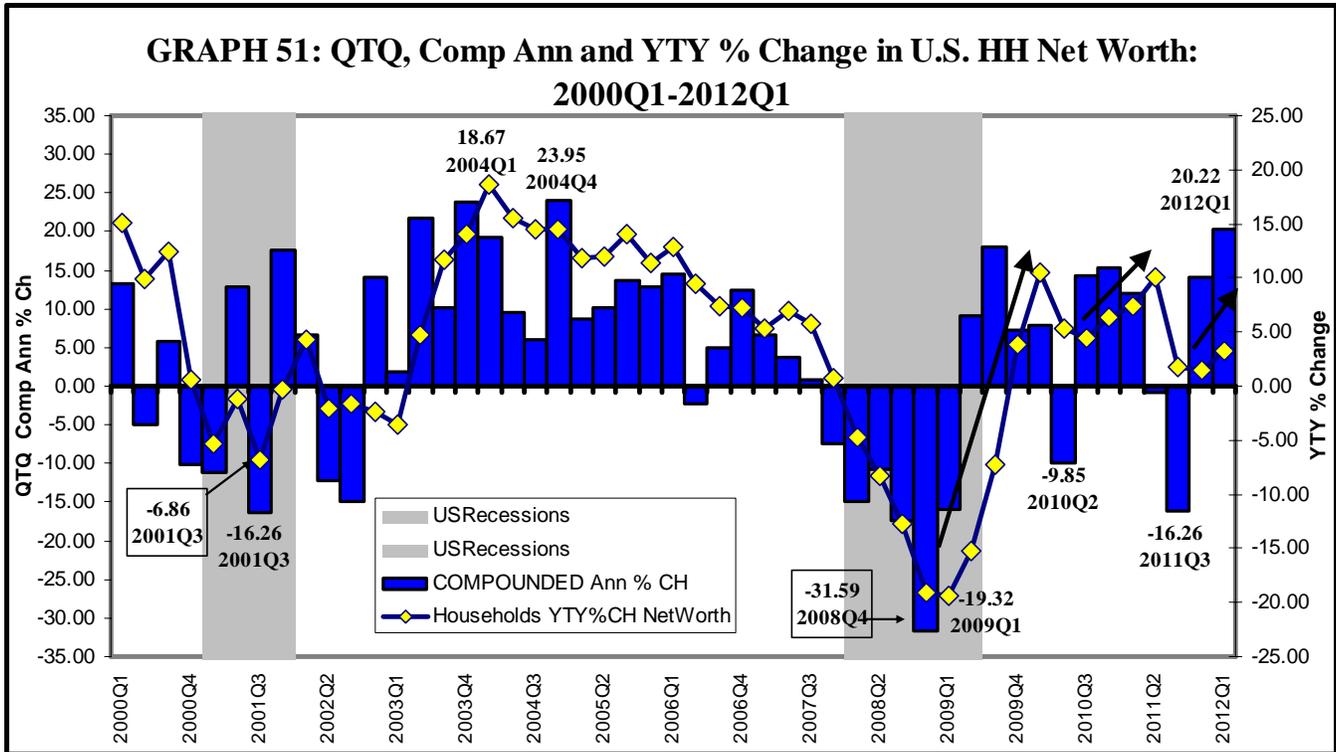
Another pattern that jumps out at the reader is the opposite tracks taken by the Index for Liabilities over the two cycles depicted in Graph 50. From Panel B, with the credit bubble, driven by sub-prime mortgages and Mortgage Equity Withdrawals (MEW's), as many homeowners used their houses as ATM's, accelerating after the 2001 Recession, and 911 Attacks, U.S. Households' Liabilities exploded by 79.16% between 1999Q1, seven quarters before the cycle peak in 2001Q1, and 2005Q2, seventeen quarters after the previous expansion peak in 2001Q1. However, as depicted in Panel A, after the popping of the housing and credit bubbles, the Index for Liabilities moved in the opposite direction over the current cycle, beginning in 2006Q1, seven quarters before the cycle peak in 2007Q4. After peaking in 2009Q3, Liabilities actually fell 6.61% by 2012Q1, seventeen quarters after the previous expansion peak in 2007Q4, as households began to deleverage.

Assets, of course, declined over both busts, the Tech Bust and the Housing Bust. But while Assets declined 4.48% after the Tech Bust (see Panel B), they declined by 20.02%, more than four times the loss in value after the Housing Bust, compared to the Tech Bust (see Panel A). As a consequence, while U.S. Households' Net Worth declined by 8.22% after the Tech Bust it contracted by nearly three times as much after Housing Bust, Net Worth contracted by 24.00% between 2007Q3 and 2009Q1.

The summary of the behavior of Net Worth over the Tech Boom/Bust and Housing Boom/Bust is presented in Graph 51. The bars represent the Quarter-to-Quarter (QTQ) change in Net Worth (measured on the left vertical scale), and the line represents the Year-to-Year (YTY) change in Net Worth (measured on the right vertical scale) from 2000Q1 to 2012Q1, the last period of available data from the Flow-of-Funds at the time of writing.



CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013



SOURCE: Federal Reserve Board and author's calculations.

From Graph 51, the hit to Net Worth from the popping of the Housing Bubble, compared to the popping of the Tech Bubble is nothing less than dramatic. The first thing to note is that there were two instances of back-to-back declines after the Tech Bust: 2000Q4 and 2001Q1, and 2002Q2 and Q3. Conversely, after the Housing Bust, and financial panic following the collapse of Lehman Brothers, there was one period of consecutive declines in Net Worth, but that period of declines continued for six straight quarters. On a QTQ basis, the steepest decline in Net Worth after the Tech Bust was the 16.26% decline in 2001Q2, compared to the 31.59% decline in Net Worth in 2009Q1, after the Housing Bust and financial panic. On a YTY basis, at its steepest decline after the Tech Bust, in 2001Q1 U.S. Households' Net Worth was 6.86% below that for the same period a year earlier. The steepest YTY decline after the Housing Bust and Financial Panic was in 2009Q1, when households' Net Worth was 19.32% below that of the same period a year before. In addition to the severity of the collapse in households' Net Worth over the Housing Bust/Financial Panic, compared to the aftermath of the Tech Bust, Tangible Assets, including housing, were beginning to strongly increase in value, especially households' real estate values, as the Housing Bubble was accelerating, even as Financial



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Asset-values fell in the wake of the collapse of the Tech Bubble. But, after the bust in housing, Tangible Assets, in particular housing, took a bigger relative hit than Financial Assets, which heavily impacted the Middle Class, as their house is their most important asset. This, in turn had a much greater effect on depressing aggregate spending in the economy. This will be discussed in more detail below, but first, a final observation from Graph 51.

Notice that the three accelerations in the YTY growth-rate in households' Balance Sheets (and highlighted by the arrows in Graph 51), pretty closely matches the "three recoveries" in Non-Farm jobs over the current recovery and noted in graphs 35-A and 35-B and the Hires-to-Separation Ratio in Graph 37, in the above section on Human Resource Utilization and the Labor Market. Given the nature of the current Balance Sheet recession and its implications (discussed above) for the level of households' spending, there is certainly a strong case, theoretically¹² and empirically, for arguing that there is a link between the coincidence in the three instances of the rise-and-fall of Net Worth, on a YTY basis, over this recovery and the three rises and declines in Non-Farm jobs and the Hires-to-Separations Ratio. In fact, after a QTQ 16.26% decline in Net Worth in 2011Q2 (equaling the steepest QTQ decline in Net Worth after the Tech Bust), the QTQ growth in Net Worth turned positive, and accelerated, so that by 2012Q1, the QTQ growth-rate in Net Worth was 20.22%, the strongest QTQ growth-rate since the 23.95% in 2004Q4. This coincides with the U.S. Economy's "Arab Spring" in the last half of 2011, and into the first quarter of 2012. Thus, in addition to a record warm winter, and confounded seasonal factors, a surge in the growth in Net Worth may have also played a role.

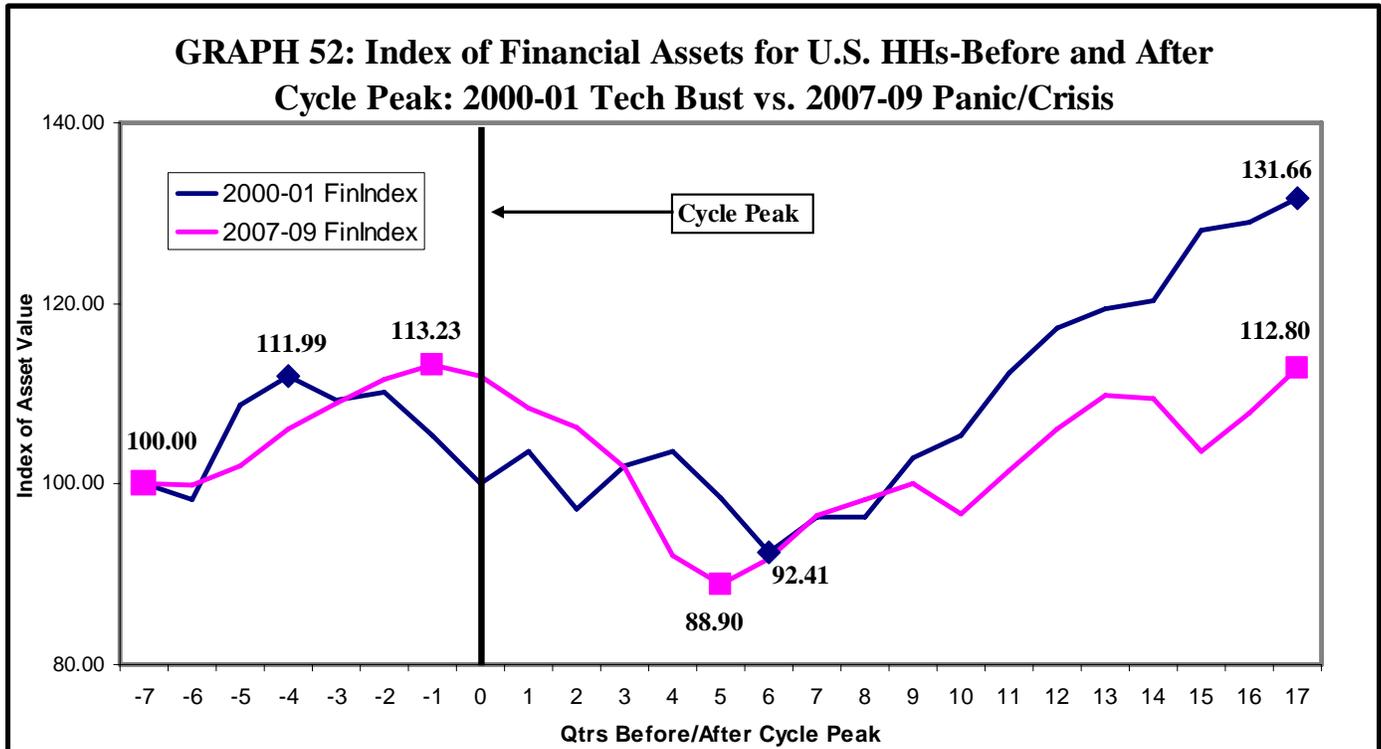
The important distinguishing feature about the aftermath of the Housing Bubble, compared to the popping of the Tech Bubble, is that the Tech Bubble almost exclusively affected Financial Assets, and had virtually no affect on Tangible Assets. But, even just focusing on Financial Assets, as shown in Graph 52, they too took a bigger hit over the Housing Bust than they did over the Tech Bust. From their peak to their low point, after the Tech Bust, U.S. Households'

¹² In Macroeconomic Theory, the Life Cycle-Permanent Income Hypothesis (LC-PIH) predicts that spending would be based on both income and wealth. In particular, Wealth is measured as Net Worth (See Gordon, Robert J, MACROECONOMICS (2011) p.)



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Financial Assets declined by 17.48%. After the Housing Bust and financial panic, from their peak to their trough, Financial Assets declined by 21.49%.



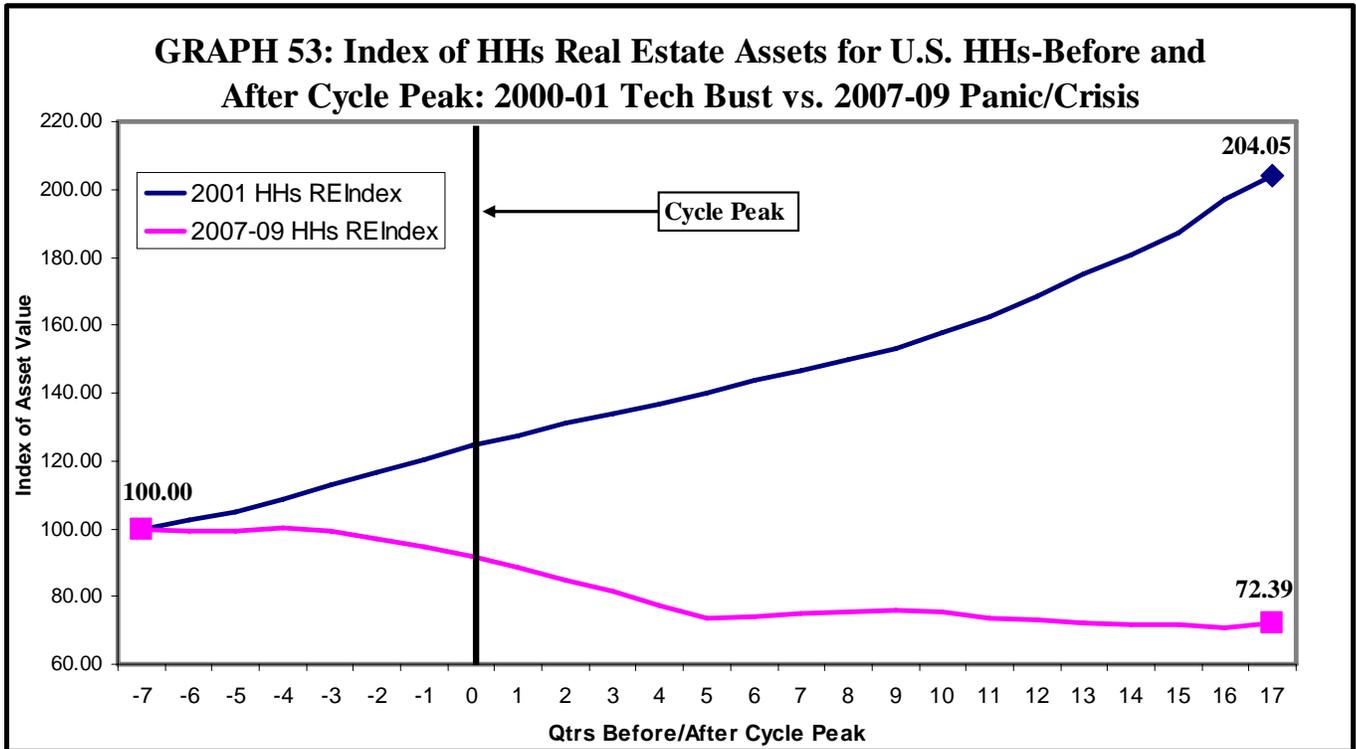
SOURCE: Federal Reserve Board and author's calculations.

The recovery in the value of Financial Assets has also been more muted over this cycle. By 2012Q1, seventeen quarters from the peak of the previous expansion, and twelve quarters from their lowest point. Financial Assets have recovered 26.88% of their value. But, seventeen quarters from the peak of the previous expansion, when the economy entered into the Tech Bust/2001 Recession, and ten quarters from their low point, Financial Assets had recovered 42.47% of their value. However, what really took the hit after the Housing Bust was the damage done to Tangible Asset values. In 2012Q1, seventeen quarters after the peak in the previous expansion (2007Q4), U.S. Households' Tangible Assets were down in value by 19.05%, and were at 84.14% of their 2007Q4 value. By contrast, seventeen quarters after the peak of the 1990's Expansion (2001Q1), Tangible Assets had increased by 54.87% and were at 154.87% of their 2001Q1 value. This, of course, reflected the Housing Bubble which was getting well underway. To isolate the effects of that housing bubble and bust, Graph 53 shows



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

the Index of the value of Household Real Estate over the comparable periods depicted in Graph 52. This focuses on the crux of the current situation.



SOURCE: Federal Reserve Board and author's calculations.

Based on the index reference point in Graph 53, seven quarters before the cycle-peak, where the index value equals 100.00, seventeen quarters after the previous cycle peak, U.S.

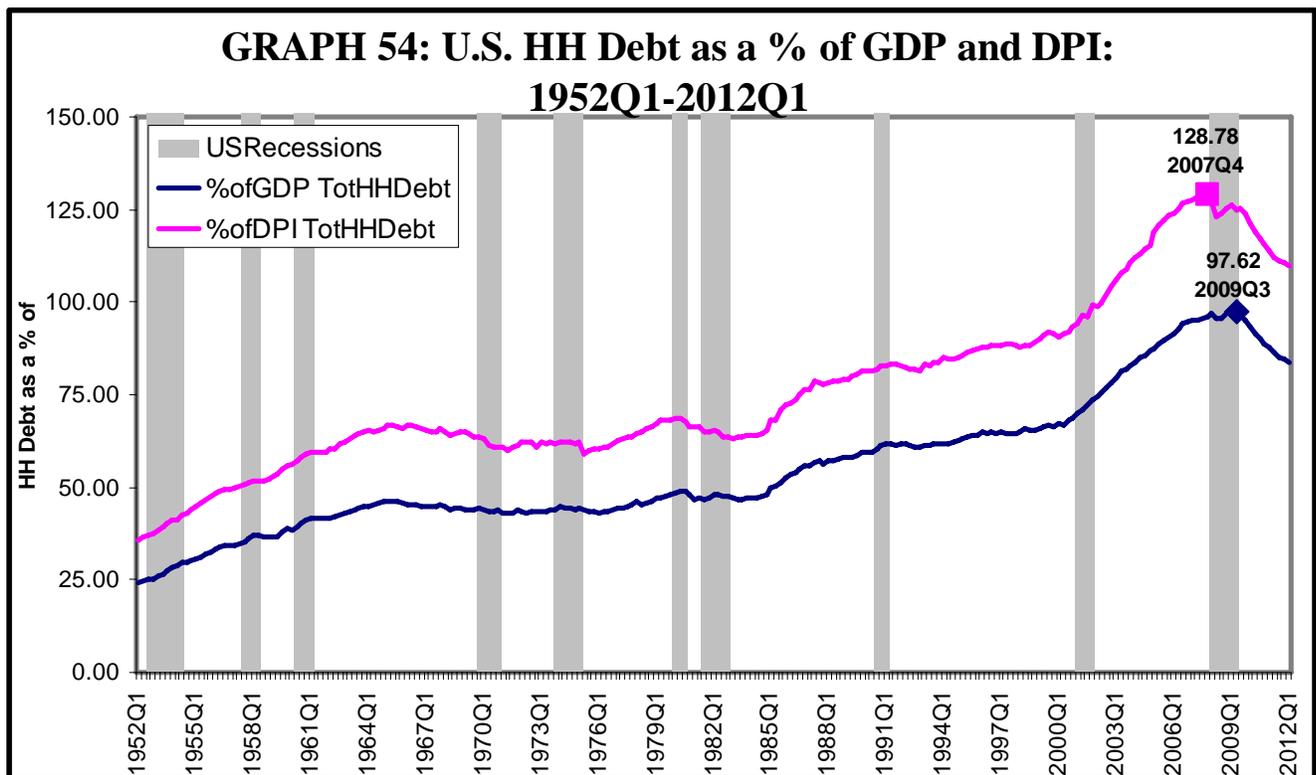
Households' value of Real Estate had increased by 104.05%, as the sub-prime mortgage/housing bubble was in full swing. Just from the cycle peak, 2001Q1 to 2005Q2, Real Estate Assets had increased in value by 87.59%. This contrasts with the behavior of the value of U.S. Households' Real Estate Assets over the current cycle in the wake of the popping of the housing bubble. Between 2007Q4, the peak of the last expansion, and 2012Q1, the last available period of available data at the time of writing, the value of U.S. Households' Real Estate declined by 29.39%, which, in conjunction with unsustainable levels of debt, wiped out the Net Worth of many middle class and working class families. This is the key to the differences in the impacts of the popping of the two different asset bubbles: the popping of the Tech Bubble affected those households for which Financial Assets were their most important



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

form of wealth, which are upper-middle and upper-income households, who, on average have a much lower Marginal Propensity to Consume (MPC) than families in the middle income and below ranges. However, the popping of the Housing Bubble most heavily impacted those families for which most of their wealth, was held in the form of their house, a Tangible Asset. Further, this affected those in the middle income range and below: those with the highest MPC's. Finally, between 2006Q1, seven quarters before the peak of the 2000's Expansion, and 2012Q1, seventeen quarters later, U.S. Households' Real-Estate Asset values had declined by 27.61%.

The other side of the coin for this Balance Sheet Recession is households' accumulation of unsustainable levels of debt. Though, as noted in the above discussion, Assets appear to play the dominant role in driving households' Net Worth, there is the other side of the Balance Sheet: Liabilities. And, Liabilities still play a role given that $Net\ Worth = Assets - Liabilities$.



SOURCE: Federal Reserve Board and author's calculations.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

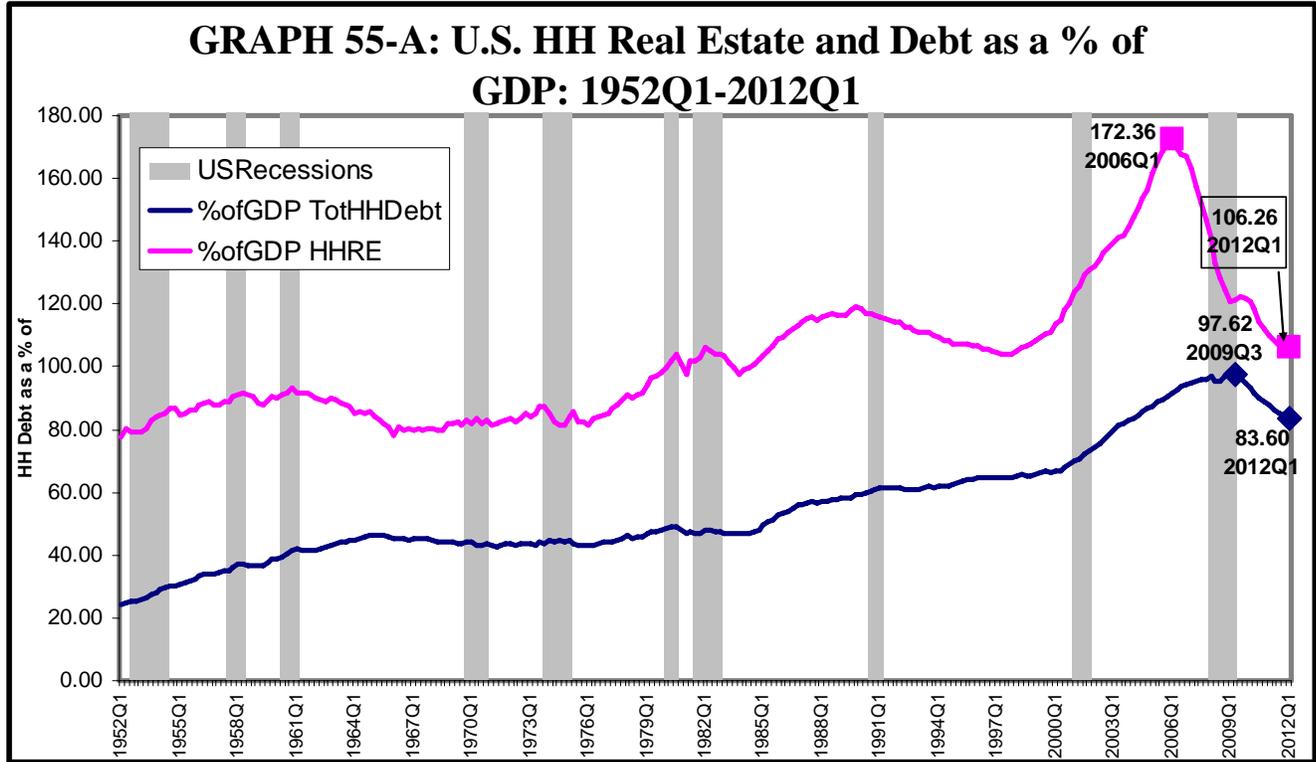
Over the entire range of data in Graph 54, 1952Q1 to 2012Q1, the highest ratio of Debt-to-GDP, or Debt-to-Disposable Personal Income (DPI) occurred over the recent panic and recession. In 2007Q4, Debt as a percent of DPI reached an unprecedented (at least, in the Post World War II Era), level of 128.78%. It first passed 100% in 2002Q3 coming out of the 2001 Recession and heading into the peak of the housing bubble. Household debt-levels reached 97.62% of GDP, in 2009Q3, a level not seen since 1929¹³. The growth in U.S. Household Debt appears to have had three periods of sustained growth since World War II. Each period of growth left household debt, as a percent of DPI and GDP at higher levels, which served as successively higher bases for the next round of increases. The first round of debt-growth began after World War II, and then leveled off around 1965, leaving debt-levels at two-thirds of DPI, and just under one-half of GDP. Debt-growth, as a percent of DPI and GDP then leveled off until 1984. That round ended around 2000. At that point, Debt-to-DPI had passed 90%, and Debt-to-GDP had passed above two-thirds. After 2000, the next round of debt-growth began to accelerate at unprecedented rates in the Post World War II Era. As noted above, Debt-to-DPI approached 129%, and Debt-to-GDP approached 100%, a level not seen since 1929.

Critical to the popping of the Housing Bubble, as opposed to the popping of the Tech Bubble, is the impact on middle income and working class households. That is, the distributional effects were much more devastating for Aggregate Spending, and the overall level of aggregate economic activity due to the Housing Bust. Again, as noted above, this is because for the vast majority of middle and working-class households, their house is either their most import asset, or their *only* asset and the collapse in its value destroys the Balance Sheets of these households.

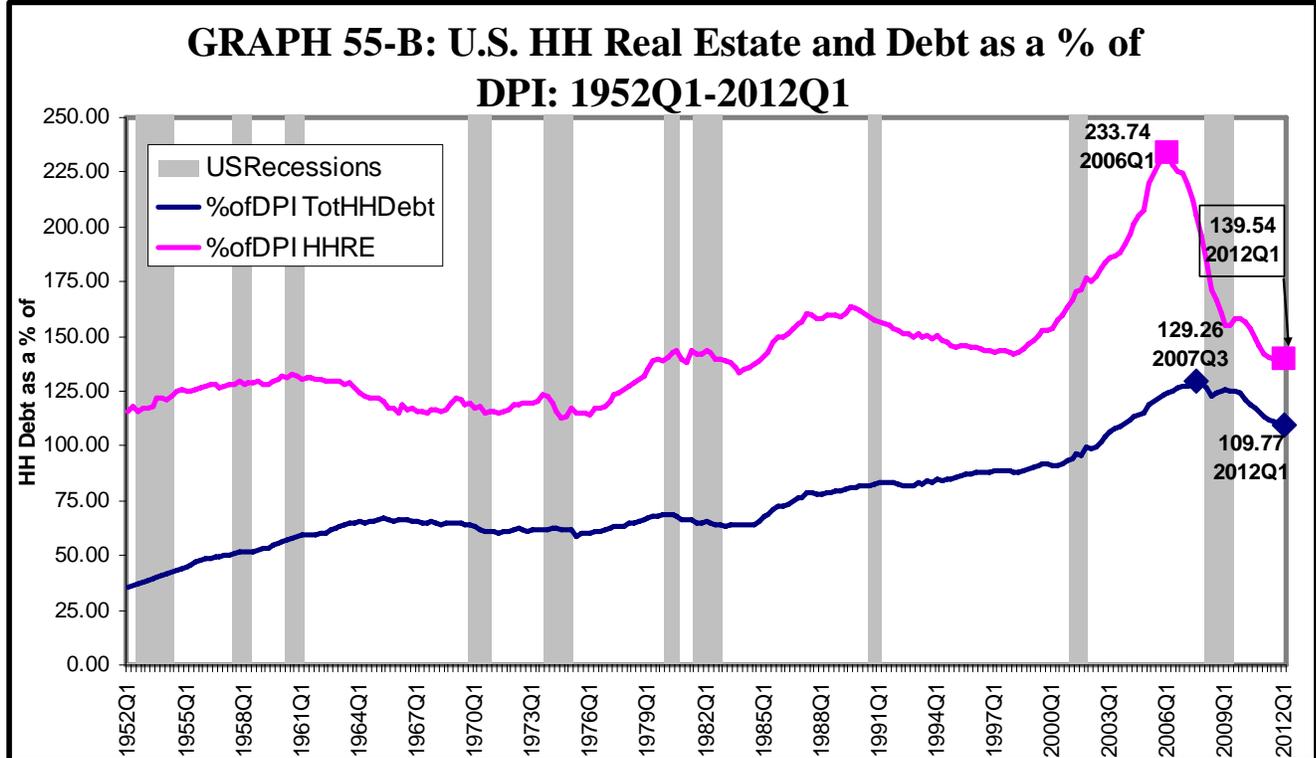
Graphs 55-A and 55-B show the value of U.S. Households' Real Estate and Total Debt as a percent of GDP (Graph 55-A) and as a percent of DPI (Graph 55-B). In a similar pattern observed in Graph 54, it was at the peak of the housing bubble that the value of households' Real Estate peaked as a percent of GDP. In 2006Q1, just as house prices peaked, the Ratio of Household Real Estate-to-GDP reached 172.36%. Then, over three years later, in 2009Q3, U.S. Households' Debt-to-GDP Ratio peaked at 97.62%. These same patterns are observed in the behavior of Real Estate and Debt to Disposable Personal Income (DPI) in Graph 55-B.

¹³ See





SOURCE: Federal Reserve Board and author's calculations.



SOURCE: Federal Reserve Board and author's calculations.



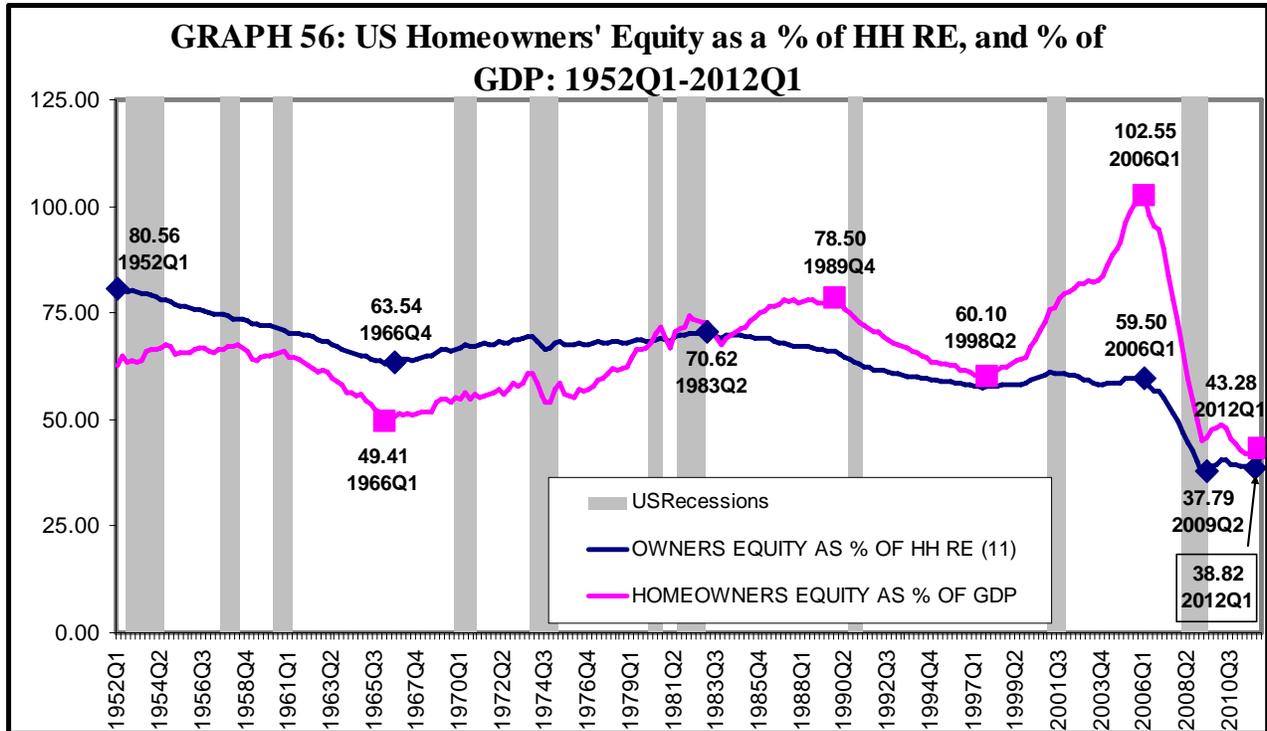
**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

From Graph 55-B, the Ratio of the value of U.S. Households' Real Estate-to-DPI peaked at the same time that the value of Real Estate-to-GDP Ratio peaked. Also, in 2006Q1, the Real Estate-to-DPI Ratio peaked at 233.74%. The highest it had reached before that was at the peak of the regionally-based real estate bubbles at the end of the 1980's when it peaked at 163.13% in 1989Q4. The Debt-to-DPI Ratio peaked at 129.26% in 2007Q3, eight quarters, or two years, before it peaked as a ratio to GDP. At the time of writing, the value of Households' Real Estate, as a percent of GDP had fallen by 38.35% to 106.26%, close to where it was in 1998Q2. And, as a ratio to DPI, the value of Households' Real Estate had fallen by 40.30%, back to 139.54%, a level last seen in 1984Q4.

In 2012Q1, the Ratio of Debt-to-GDP had fallen by 14.36% to 83.60%, comparable to that in 2004Q1, but still bubble-era levels. Debt as a percent of DPI had declined 15.08% to 109.77% by 2012Q1, but again, this still matched the previous bubble-era level period of 2003Q4. Further, in both cases, as a percent of GDP (Graph 55-A) and as a percent of DPI (Graph 55-B), the relative decline in Real Estate, both as a percent of GDP and DPI, was much steeper than the declines in Debt as a percent of GDP and DPI, implying that assets declined in value much more than liabilities, wiping out Net Worth. Reinforcing the result depicted in Graph 51.

As shown in Graph 56, the over-leveraging of homebuyers during the Sub-Prime/Housing Bubble resulted in Homeowners' Equity in their houses, already having been in a long-term secular decline since its Post-War peak of 80.56% in 1952Q1, when it fell off a cliff in 2006Q1, after having fallen to 59.50%, as house prices were peaking, dropping to 37.79% in 2009Q2, the lowest level of home equity over the 60 years of data in Graph 56. By 2012Q1, Homeowners' Equity, as a percent of the value of Homeowners' Real Estate had recovered slightly to 38.82%, but still in record-low territory. It is also quite dramatic in Graph 56 as to how strongly Homeowners' Equity as a percent of GDP is inflated by the housing bubble. In 1998Q2, the Homeowners' Equity-to-GDP Ratio was 60.10%, then, over the course of the Sub-Prime/Housing Bubble it soared by 42.45 percentage-points to 102.55% by 2006Q1, just as housing prices were set to collapse. This asset bubble produced on the part of homeowners what could be called a "Wealth Illusion" effect.





SOURCE: Federal Reserve Board and author's calculations.

By 2012Q1, the Homeowners' Equity-to-GDP Ratio had fallen by 59.27 percentage-points to 43.28%, the lowest value over the entire 60 years of data in Graph 56. The closest to that is the 49.41% in 1966Q1, which was the lowest Homeowners' Equity-to-GDP Ratio in the Post World War II Era until the 43.28% in 2012Q1.

1. Housing and Households' Net Worth

As illustrated in Graph 50, above, the side of the balance sheet that plays the active or dominant, role in driving Net Worth appears to be the Asset side. And, for middle-class households, and below, the most important asset is their house. This is clear from the results presented in graphs 53 to 56. And, those implications are further supported by the results of the Federal Reserve Board's *Changes in U.S. Family Finances from 2007 to 2010: Evidence from*

**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

the Survey of Consumer Finances published in June 2012¹⁴. And, the Fed noted that it was, in fact, housing that played the major role in the collapse of Net Worth:

The decreases in family income over the 2007–10 period were substantially smaller than the declines in both median and mean net worth; overall, median net worth fell 38.8 percent, and the mean fell 14.7 percent (figure 2). Median net worth fell for most groups between 2007 and 2010, and the decline in the median was almost always larger than the decline in the mean. The exceptions to this pattern in the medians and means are seen in the highest 10 percent of the distributions of income and net worth, where changes in the median were relatively muted. Although declines in the values of financial assets or business were important factors for some families, the decreases in median net worth appear to have been driven most strongly by a broad collapse in house prices¹⁵.

Again, reinforcing the above discussion in this outlook, the Fed noted the important role that housing plays in the wealth position of most families:

Housing was of greater importance than financial assets for the wealth position of most families. The national purchase-only Loan Performance Home Price Index produced by First American CoreLogic fell 22.4 percent between September 2007 and September 2010, by which point house prices were fully 27.5 percent below the peak achieved in April 2006. The decline in house prices was most rapid in the states where the boom had been greatest. For example, California, Nevada, Arizona, and Florida saw declines of 40 to 50 percent, while Iowa saw a decline of only about 1 percent. Homeownership rates fell over the period, in part because some families found it impossible to continue to afford their homes. By 2010, the homeownership rate was back down to a level last seen in the 2001 SCF, although that was still higher than in any previous SCF since at least 1989¹⁶.

Finally, the Fed’s report reveals the differential, distributional impacts of the decline in housing as an asset and its effect on the differential, distributional changes in Net Worth:

Housing wealth represents a large component of total family wealth; in 2010, primary residences accounted for 29.5 percent of total family assets. Over the 2007–10 period, this percentage declined 2.2 percentage points overall. The relative importance of housing in the total asset portfolio varies substantially over the income distribution,

¹⁴ Board of Governors of the Federal Reserve System, *Changes in U.S. Family Finances from 2007 to 2010: Evidence from the Survey of Consumer Finances* (June 2012) FEDERAL RESERVE BULLITEN: Vol 98, No 2

¹⁵ *ibid*, p. 1.

¹⁶ *ibid*, p. 4



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

with housing generally constituting a progressively smaller share of assets with increasing levels of income, as shown in the following table:

The median and mean values of the primary residences of homeowners fell between 2007 and 2010; overall, the median decreased 18.9 percent, and the mean fell 17.6 percent. These percentage losses in the median and mean translated into large dollar losses: \$39,500 for the median and \$55,700 for the mean. Homeowners in virtually all demographic groups saw losses in the median, and most of those losses were substantial; the one exception was the lowest quartile of the net worth distribution, where homeownership jumped 8.1 percentage points and the median home value increased 31.2 percent, most likely reflecting a compositional shift within that lowest wealth group. Otherwise, substantial decreases in median housing values were widespread¹⁷.

It is clear that any stronger, and sustained recovery from the recent popping of the housing and credit bubbles, and subsequent recession, must be tied to the full recovery in the housing market. The outlook for the economy keeps coming back to the same question: What is happening in the housing market; is it turning the corner?

2. Keynes's Liquidity Trap and the Housing Market

With the collapse of the housing bubble, and the unsustainable level of debt, household Net Worth collapsed, and as emphasized in the introduction to this outlook, this led to what has been called a Balance Sheet Recession. A characteristic of a Balance Sheet Recession, as pointed out by Koo¹⁸, is that as households deleverage to repair their balance sheets, this results in a drop in the *demand* for credit, which acts to reinforce the cutback in the supply of credit as banks try to repair their own balance sheets and become more risk-averse. This, as Koo, Krugman, and others argue, is what actually produces Keynes's Liquidity-Trap phenomenon, or what is more commonly referred to today as the Zero Lower-Bound of interest rates.

Nin-Hai Tseng argues that this drop in the demand for credit in financial markets is also what directly characterizes the state of the housing market on the heels of the collapse in the housing

¹⁷ *ibid*, pp. 47-49

¹⁸ Koo, Richard, *THE HOLY GRAIL OF MACROECONOMICS* (2009)



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

bubble. As he points out, the cost of borrowing is not the problem in the housing market.

Mortgage rates are at historical lows. As Tseng points out:

Sometimes cutting the rate of interest, even to zero, won't necessarily pull an economy out of a recession. British economist John Maynard Keynes called this the liquidity trap -- when virtually everyone becomes so risk averse that banks would rather sit on their cash than offer credit. And even if banks start lending more, people wouldn't want the credit anyway.

It is a grim scenario. And it appears today that no sector in the U.S. economy has suffered more from the liquidity trap than the housing market¹⁹.

And, as he goes on to point out, the Fed is addressing a problem that doesn't exist:

For all the attention policymakers placed on the Fed's actions over interest rates, the cost of borrowing is far from the problem. Record-low mortgage rates have done little, if anything, to encourage home purchases or even refinances. And while homebuilders way overbuilt in the years leading up to the 2008 housing bust, the fact that mortgage rates have had little influence over home purchases underscores how weaknesses from the demand side (as opposed to the supply side) is perhaps the bigger problem²⁰.

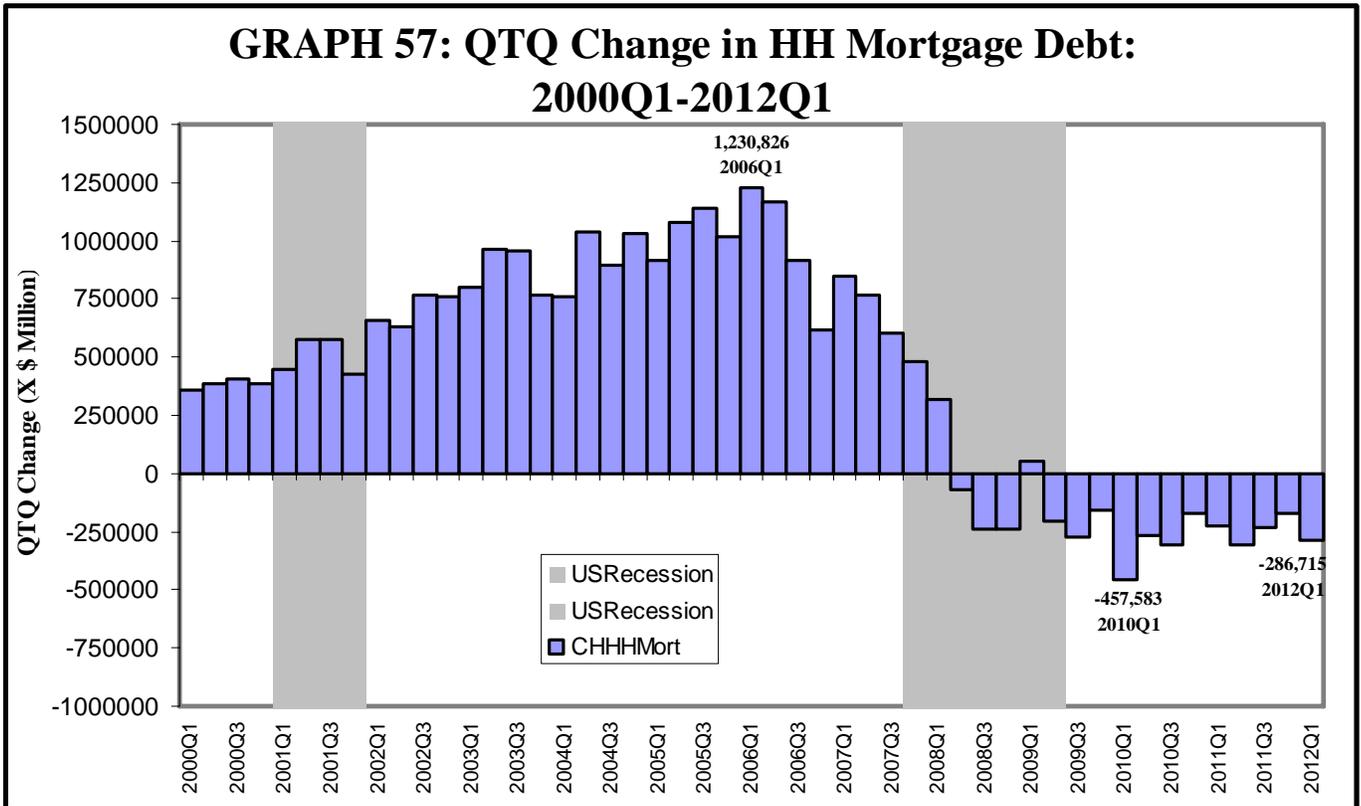
The point is that no amount of Quantitative Easing is going to jump-start the housing market. Only direct policies that help homeowners behind in their mortgages, underwater, or both is going to turn the housing market around. This point is highlighted in Graph 57. After a decelerating rate of reducing mortgage debt, U.S. Households accelerated their paying down their mortgage debt in 2012Q1, reducing it by \$286.7 billion. In fact, possibly contributing to the economy's "Arab Spring", households' Net Worth grew by more than 20%, on an annualized basis in 2012Q1, and a significant factor was the \$48.4 billion decline in Liabilities, which is in line with the reduction in mortgage debt. As long as households are paying down their mortgage debt, as well as their debt, in general, demand for mortgages is going to be muted. Again, the Fed is addressing a cost-of-credit problem, but as long as the demand for credit is constrained by households' paying down their mortgage debt, or being under water, it

¹⁹ Tseng, Nin-Hai, *Why the housing market is caught in a liquidity trap* (May 9, 2011) CNNMoney < <http://finance.fortune.cnn.com/2011/05/09/why-the-housing-market-is-caught-in-a-liquidity-trap/> > Accessed on August 23, 2012.

²⁰ *ibid.*



is the *demand* for credit that is keeping mortgages activity down not the cost of credit (price versus non-price factors).. Thus, the Fed’s policy is not addressing the problem.



SOURCE: Federal Reserve Board-Flow of Funds.

3. Is There a Housing Recovery in 2012?

Many commentators are noting that there seems to be a definite turn-around in the U.S. Housing market over the first half of 2012. Are we observing (Benanke’s now infamous) “Green Shoots” in the housing market? According to the 2012 release of Harvard University’s annual housing report, the U.S. Housing Market may be seeing a recovery in 2012. In their 2012 report released in June, the Joint Center for Housing Studies of Harvard University stated:

After several false starts, there is reason to believe that 2012 will mark the beginning of a true housing market recovery. Sustained employment growth



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

remains key, providing the stimulus for stronger household growth and bringing relief to some distressed homeowners.²¹

They went on to caution:

While gaining ground, the homeowner market still faces multiple challenges. If the broader economy weakens in the short term, the housing rebound could again stall²².

The Nation (and parts of Europe), are still struggling to recover from the housing bubble that popped in the Mid-2000's, and which was followed by a financial panic. Is this the light at the end of the tunnel, or an on-coming train? Graph 58 presents the Quarter-to-Quarter (QTQ) percent change (bars) in the Federal Housing Finance Agency's (FHFA) seasonally adjusted House Price Index (HPI) from 1992Q1 to 2012Q2, on the left vertical scale, and the Year-to-Year (YTY) percent change (line) on the right vertical scale. This index is calculated using the purchase price only, so this index is based on actual transactions. Graph 59 presents the Case-Shiller (C-S) Quarterly, Composite U.S. HPI, seasonally adjusted, from 1987Q1 to 2012Q2. The two indices have different bases for their calculations, and before proceeding it will be helpful to briefly review their similarities and differences.

The Federal Housing Finance Agency (FHFA) House Price Index (HPI) is based on transactions involving conforming, conventional mortgages purchased or securitized by FANNIE MAE or FREDDIE MAC. Only mortgage transactions on single-family properties are included²³. Conforming refers to a mortgage that both meets the underwriting guidelines of FANNIE MAE or FREDDIE MAC and that does not exceed the conforming loan limit²⁴.

²¹ Executive Summary, THE STATE OF THE NATION'S HOUSING: 2012 (June 2012) Joint Center for Housing Studies of Harvard University: Cambridge, MA., p. 1.

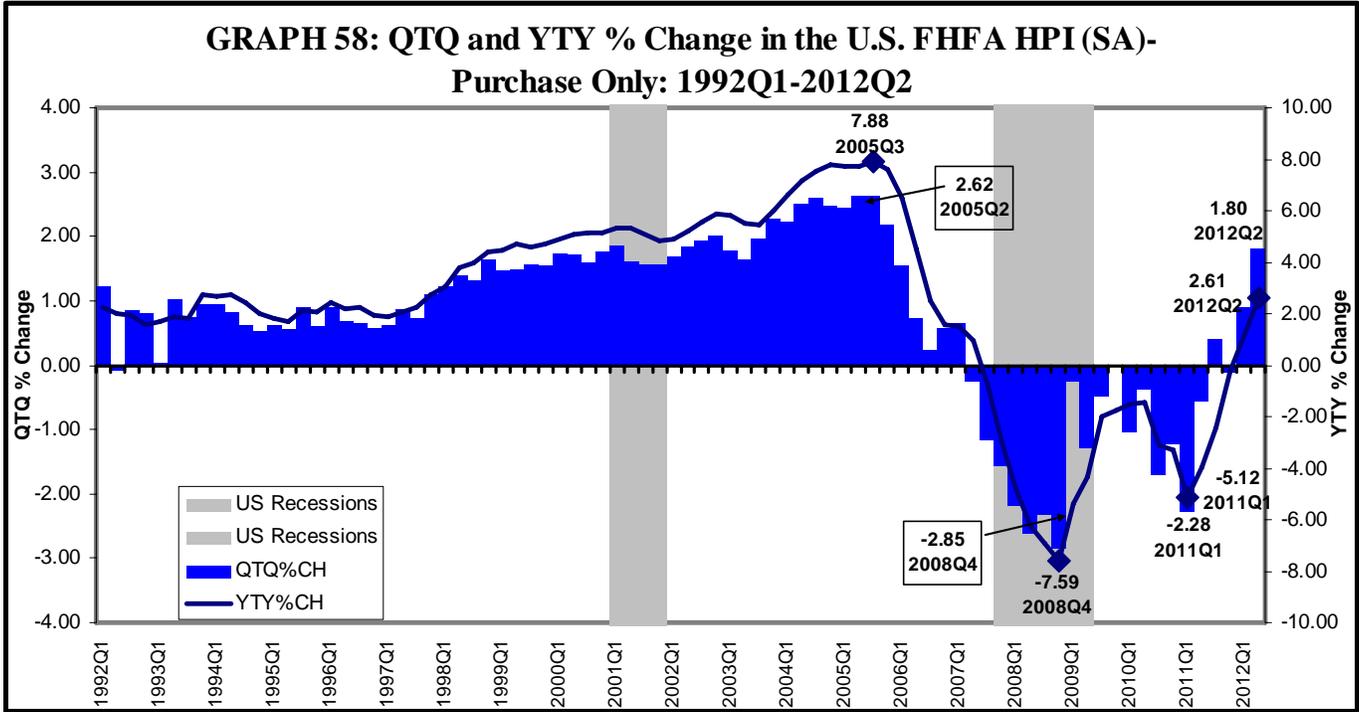
²² *ibid.*

²³ Federal Housing Finance Agency Website HOUSE PRICE INDEX FREQUENTLY ASKED QUESTIONS (Updated August 23, 2012) Question 2. What transactions are covered in the HPI? < <http://www.fhfa.gov/Default.aspx?Page=196> > Accessed on September 5, 2012)

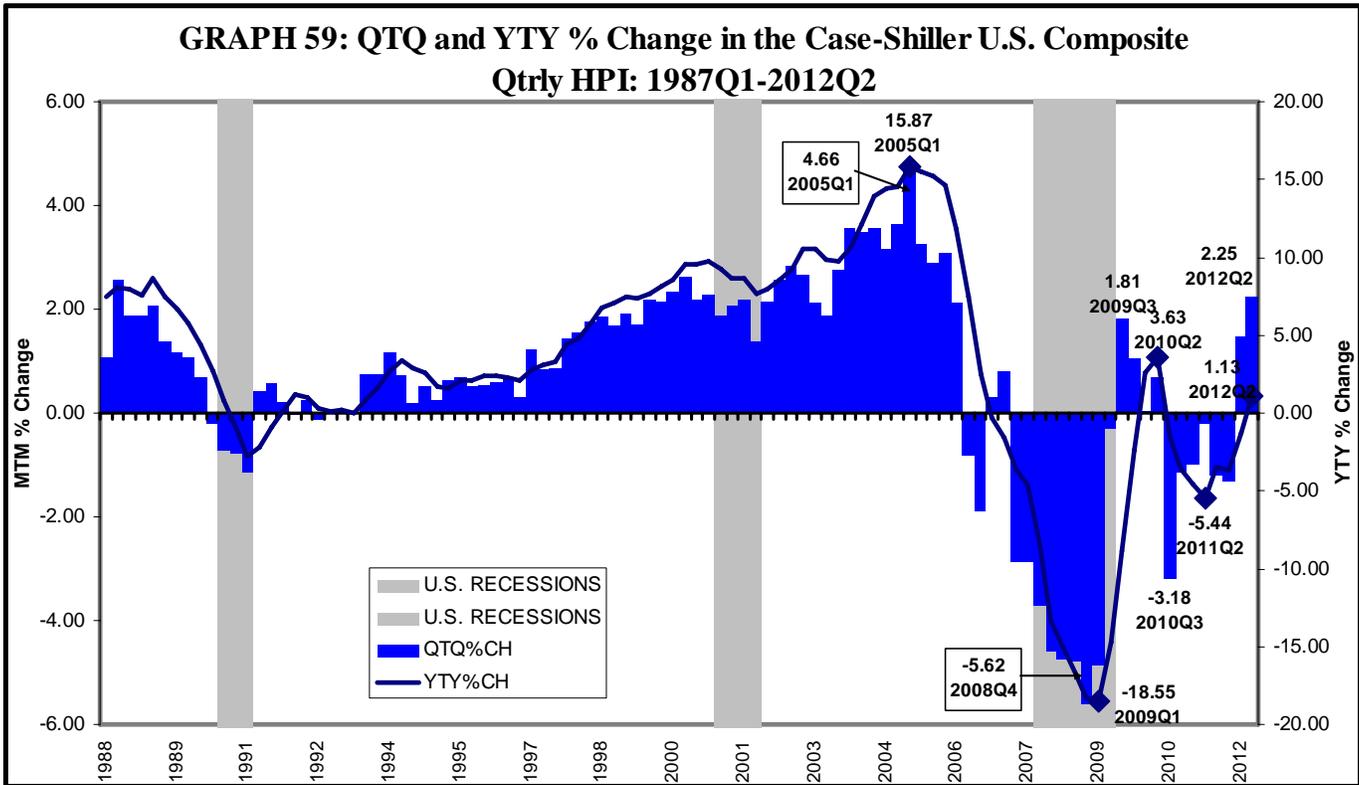
²⁴ For loans originated in the first nine months of 2011, the loan limit was set by Public Law 111-242. That law, in conjunction with prior legislation, provided for loan limits up to \$729,750 for one-unit properties in certain high-cost areas in the contiguous United States. Mortgages originated after September 30, 2011 were no longer subject to the terms of prior initiatives and, under the formula established under the *Housing and Economic Recovery Act of 2008*, the "ceiling" limit for one-unit properties in the contiguous United States fell to \$625,500.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



SOURCE: FHFA



SOURCE: Case-Shiller/Standrd & Poors



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

The S&P/Case-Shiller National U.S. Home Price Index tracks the value of single-family housing within the United States. The index is a composite of single-family home price indices for the nine U.S. Census divisions and is calculated quarterly²⁵.

The first thing to note about the two quarterly indices is that the volatility of both the QTQ and YTY percent-changes is much higher for the Case-Shiller HPI compared to the FHFA HPI. In addition, because of the higher variation in the QTQ and YTY percent-changes, the range of changes is much greater for the Case-Shiller HPI, compared to the FHFA HPI. This is due to the FHFA HPI being confined to those transactions restricted to conforming-mortgage financed houses. The Case-Shiller HPI covers a broader spectrum of transactions: conforming and non-conforming.

For the FHFA Quarterly HPI, U.S. housing prices didn't peak until 2007Q1. Housing prices then fell by 20.06% over the next 17 quarters. That translates into a compounded, annualized rate of 5.13%. For the Case-Shiller Quarterly HPI, nationally, house prices peaked one year earlier in 2006Q1. House prices then fell 33.84% over the next 23 quarters, which is an annualized decline of 6.93%. The decline in house prices bottomed in 2011Q2, based on the FHFA's HPI, and have recovered by 3.03% over the next four quarters up to 2012Q2, the last quarter of available data. Given that the recovery, so far, has been over the last four quarters, that is also equal to the annual rate. According to the Case-Shiller HPI, house prices did not turn around until two quarters after the FHFA HPI (2011Q4), making the current recovery two quarters, in which house prices increased by 3.73%, which is an annualized rate of 7.59%.

Both HPI's showed a rebound in housing prices over the first half of 2012, on a QTQ basis. The FHFA index shows a QTQ gain of 0.90% in 2012Q1, which doubled to 1.80% in 2012Q2. The Case-Shiller index gained a stronger 1.45% in 2012Q1, and an even stronger 2.25% in 2012Q2. However, on a YTY basis, Case-Shiller still showed a decline of 1.31% in 2012Q1, but then turning positive in 2012Q2, increasing by 1.13%. FHFA's index increased on the

²⁵ S&P Dow Jones Indices, PRESS RELEASE: *Home Prices Rose in the Second Quarter of 2012 According to the S&P/Case-Shiller Home Price Indices* (August 28, 2012) New York.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

YTY basis over both quarters. In 2012Q1, the FHFA HPI showed house prices increasing by 1.21% on a YTY basis, and then increased by 2.61% in 2012Q2.

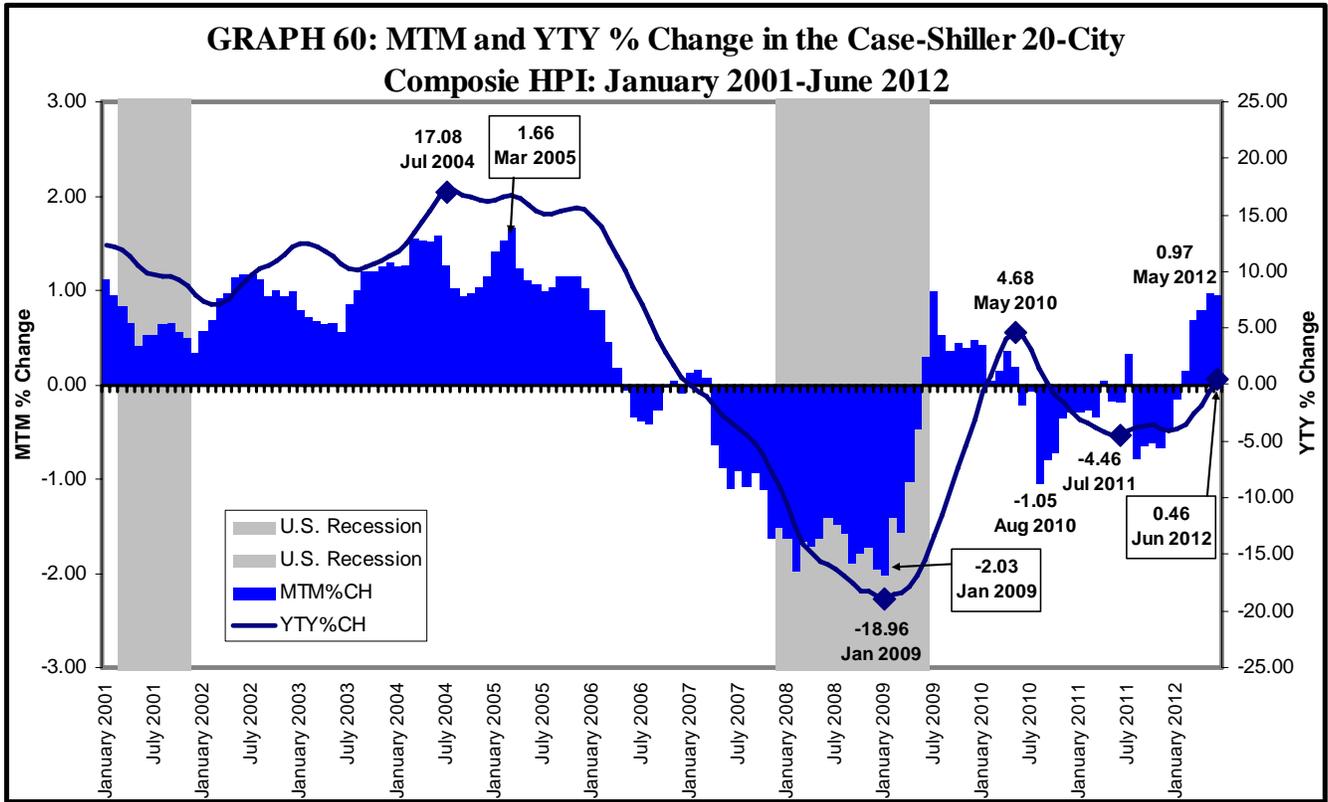
Graph 60 presents the 20-City Composite of the Case-Shiller (C-S) HPI, monthly House Price Index (HPI). It is seasonally adjusted, and covers the period from January 2001 to July 2012. The C-S HPI 20-City Composite is a higher-frequency index than the quarterly indices discussed above and depicted in graphs 57 and 58. On the left vertical scale the Month-to-Month (MTM) percent-change (bars) is measured, with the YTY percent-change (line) on the right, vertical scale. Both indices seem to indicate a possible turn-around in house prices. The S&P/Case-Shiller Composite of 20 Home Price Index is a value-weighted average of the 20 metro area indices. The indices have a base value of 100 in January 2000; thus, for example, a current index value of 150 translates to a 50% appreciation rate since January 2000 for a typical home located within the subject market. The monthly S&P/Case-Shiller Home Price Indices use the “repeat sales method” of index calculation, which uses data on properties that have sold at least twice, in order to capture the true appreciated value of each specific sales unit²⁶.

From Graph 60, the Case-Shiller monthly HPI shows that after declining by 0.15% in January 2012, housing prices, on a MTM basis, then increased over the next five months until June 2012, the last period of available data. On a YTY basis, house prices continued to decline, though at a decelerating rate, and then grew slightly, by 0.46% in June, the first positive YTY growth-rate since September 2011.

There seems to be a pattern that comes through in both the quarterly indices and the monthly index. After the bottom of the initial housing bust, house prices recover from the last half of 2009 through the middle of 2010, which coincides with the first-time homebuyers’ tax credit program. Then, into the last half of 2010, and into 2011, prices fell again with the double-dip in the housing market. The double-dip was attributed to the end of the first-time homebuyers’ tax credit, and the re-setting of Option ARM Mortgages originated in 2005.

²⁶ S&P Dow Jones Indices, *S&P/Case-Shiller Home Price Indices Methodology* (November 2009), p. 3.





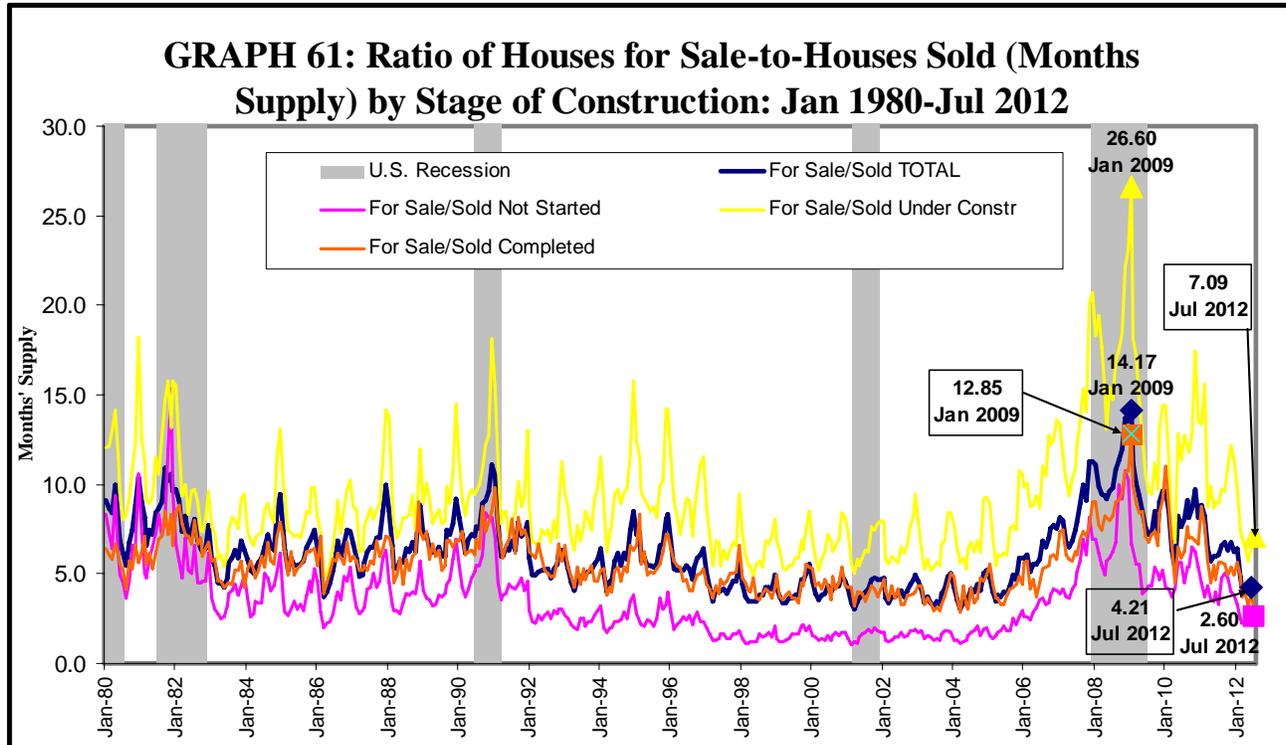
SOURCE: Case-Shiller/Standrd & Poors

All three indices seem to clearly indicate a recovery in housing prices in 2012. So, is the housing market recovering?

Dark Shadows?

A debate over the extent of the “shadow inventory” in the housing market is tempering the optimism over the signs of what could be a recovery in the housing market. Graph 60 tracks the ratio of houses for sale, by stage of production, to houses sold, which may be interpreted as the number of months supply on the market, given the then rate of sales. Clearly the most speculative stage of a house sale is when the unit has not even been started yet, next would be the sale of a unit that is still under construction, with the sale of a completed unit reflecting no speculation about its completion. Graph 61 tracks the ratio of houses for sale-to-houses sold for the three states of construction, and for the total, all stages from January 1980 to July 2012.





SOURCE: U.S. Census Bureau.

The ratio of houses for sale-to-houses sold for units under construction is the highest for all the stages of construction. It peaked at the depths of the financial panic, and period of economic free-fall, in January 2009 at 26.60 months of supply. The only other month that the inventory of unsold units, under construction, exceeded 20 months, over the entire period from January 1980 to July 2012, was in December 2007, the first month of The 2007-09 Recession. The only other period in which the months of accumulated inventory exceeded 18 months was December 1990 and December 1980. After exceeding 17 months in November 2010, during the double-dip in the housing market, it has since fallen to 7.09 months by July 2012. After peaking at 12.85 months of supply in January 2009, the inventory of completed houses, also jumped during the double-dip, and was back up to 11.00 months by January 2010. Since then, it has fallen to 2.92 months in July 2012, the lowest recorded ratio of houses for sale-to-houses sold, for completed units, of the entire range of data (January 1980 to July 2012), and lower than the ratio for units not started, which was 2.60 in July 2012. And, as would be expected, the same pattern holds for Total Houses for Sale-to-Total Houses Sold. After peaking at 17.70



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

months supply in January 2009, and then spiking again at 9.63 months in January 2010, the ratio for total inventory (i.e., all stages of construction), fell to 4.18 months by July 2012.

This data on the visible housing inventory strongly indicates a dramatic decline in the accumulation of excess inventory of housing units on the market, at all stages of the construction process, since the peak following the popping of the housing bubble and the onset of financial panic and recession. But: what about the *Shadow Inventory*?

According to some analysts, there are as many as 90% of REO's²⁷ that are withheld from sale, according to estimates recently provided to AOL Real Estate by two analytics firms²⁸. It's a testament to lenders' fears that flooding the market with foreclosed homes could wreak havoc on their balance sheets and present a danger to the housing market as a whole. As of April 2012, 390,000 repossessed homes sat in limbo, while about 39,000 were actually listed for sale, said Sam Khater, senior economist at CoreLogic²⁹.

But Realtors who want more bargain-priced homes to sell may not get their way anytime soon. Foreclosed properties are an extreme liability to lenders, holding the potential not just to dent their profits but to actually bankrupt them altogether. That's because when a lender carries an REO on its books, it is allowed to value the home at the price that the foreclosed-on borrower originally paid for it. Once the lender sells the home, it must book a loss: the difference between the original purchase price and the current value. And since home values have fallen by nearly a third since the housing bust, that translates into huge losses for the bank. REOs typically sell at a 33% discount³⁰. Academic estimates are in the 10-25% range³¹.

²⁷ An REO is a *Real Estate Owned* property. An REO is typically a bank, government agency, or government loan insurer. The term REO originates from the term *Other Real Estate Owned* (OREO), which is used on financial statements to classify real estate property owned by a financial institution but which is not directly related to its business. In balance sheet terms, OREO assets are considered non-earning (non-performing) assets for purposes of regulatory accounting [For a more detailed discussion, see *Wikipedia*, William Roark (2006), *Concise Encyclopedia of Real Estate Business Terms* ISBN 0-7890-2341-5, and *Investopedia*].

²⁸ Wiggan, Teke, 'Shadow REO': As Many as 90% of Foreclosed Properties Held Off the Market, *Estimates Suggest* (Posted Jul 13th 2012 10:00AM) AOL Real Estate.Com <
<http://realestate.aol.com/blog/2012/07/13/shadow-reo-as-much-as-90-percent-of-foreclosed-properties-are-h/> >
Accessed on September 5, 2012.

²⁹ *ibid.*

³⁰ *ibid.*



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

According to a June article in *Forbes*, there are still more than 10 million properties with underwater mortgages, and a shadow inventory of 1.5 million, or four months supply. Negative equity will continue to take its toll on consumption, while the shadow inventory, worth about \$246 billion according to CoreLogic, will constrict lending and probably affect banks' earnings³². On the other hand, in an August article in the *Wall Street Journal*, there are several reasons why the shadow inventory is not as big a threat: It's concentrated in a handful of markets, and therefore not inherently a national phenomenon. It is being offset by improved demand, particularly from investors. And the housing vacancy rate is low, which is a product of very little new home construction over the past few years that could counterbalance continued high inventories of foreclosed homes³³. However, another factor in how the shadow inventory, or potential shadow inventory, could affect any housing turnaround is a new policy on *Short-Sales*³⁴ that took effect on June 15th.

Going Short³⁵

As of June 15, 2012, the Federal Housing Finance Agency, (FHFA) which regulates FANNIE MAE and FREDDIE MAC, will require both agencies to give short-sale buyers a final decision within 60 days. Federal regulators hope that the new rules will streamline the short-sale process. FANNIE and FREDDIE now must respond to initial requests for a short sale within 30 days of receiving the buyer's submission. Distressed homeowners often prefer a short sale to a foreclosure. According to Michael McHugh, President and Chief Executive of Continental Home Loans and the President of the Empire State Mortgage Bankers Association (a trade group), expedited sales as a result of the new directive will benefit the entire housing market. It

³¹ Federal Housing Finance Agency, MORTGAGE MARKET NOTE 12-01: *A Primer on Price Discount of REO Properties* (September 17, 2012), p. 4.

³² Schaefer, Steve, *10 Million Underwater Mortgages And Shadow Inventory Worth \$246B Mean Housing Trouble* (6/26/2012 @ 4:48PM) FORBES < <http://www.forbes.com/sites/afontavecchia/2012/06/26/10-million-underwater-mortgages-and-shadow-inventory-worth-246b-mean-housing-trouble/> > Accessed on September 5, 2012.

³³ Timiraos, Nick, *Shadow Inventory: It's Not as Scary as It Looks* (August 14, 2012, 9:55 AM) WALL STREET JOURNAL < <http://blogs.wsj.com/developments/2012/08/14/shadow-inventory-its-not-as-scary-as-it-looks/> > Accessed on September 5, 2012.

³⁴ In a *Short Sale*, a lender agrees to accept less than the balance on a mortgage.)

³⁵ This section draws on Elmer, Vickie, *Speeding Up Short Sales*, NEW YORK TIMES (May 24, 2012) < http://www.nytimes.com/2012/05/27/realestate/mortgages-speeding-up-short-sales.html?_r=1&nl=your-money&emc=edit_my_20120529 > Accessed on September 5, 2012.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

could also remove some risks for buyers — many of whom previously had to wait months for a decision and then ended up not getting the house they wanted. According to CoreLogic, a data analytics company, in March, the most recent month for which data were available, short sales represented more than 14% of existing home sales, compared with 12% for all of 2011 and about 10% in 2010. And as the number of short sales has risen, foreclosures have fallen. Completed foreclosures represented 25.3% of home sales in March, versus 34.9% in all of 2011 and 42.7% in all of 2010.

Lenders favor short sales because they are less costly and more efficient than foreclosures, however, for borrowers, they never know how long process will take or how badly their credit will be hurt. And, in fact, the impact on borrower's credit scores, versus foreclosures, is actually rather slight, according to Rod Griffin, the director of consumer and public education at Experian, one of the major credit bureaus.

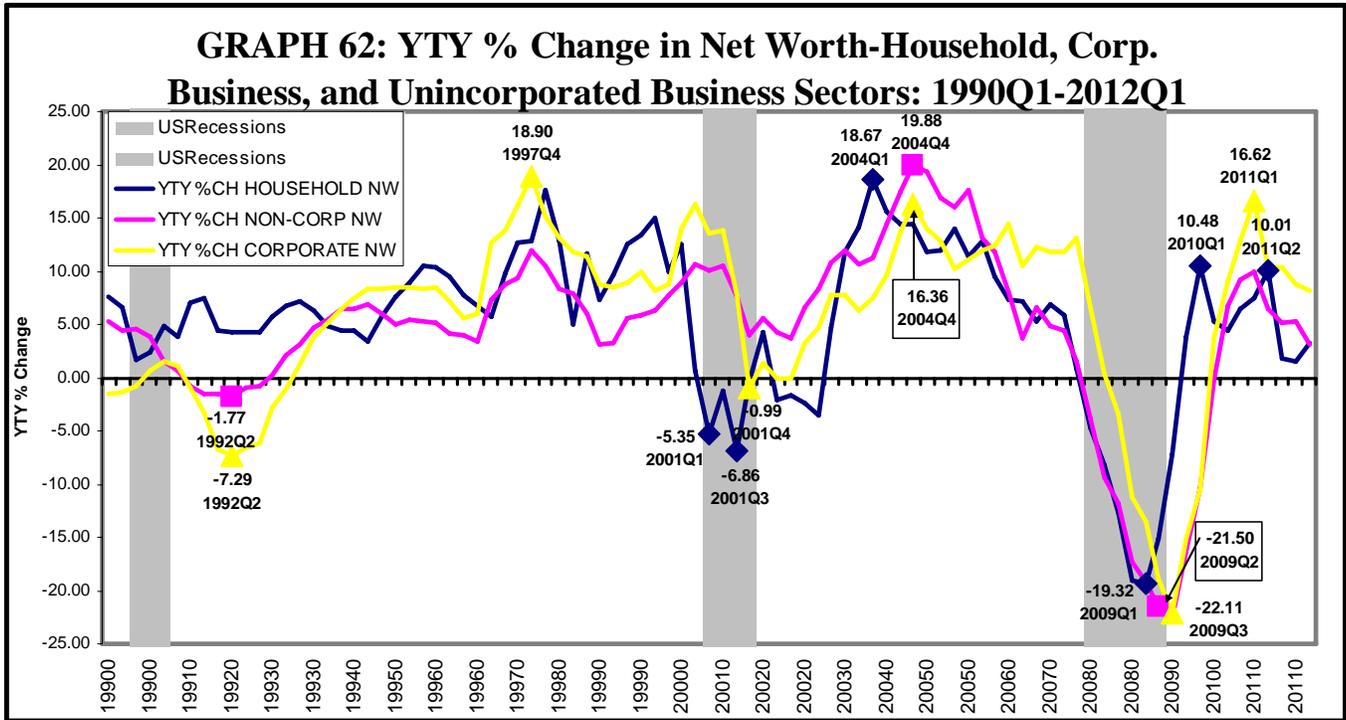
At this point, it's hard to tell, which side may be the most accurate in their assessment of the current state of the housing market, at the national level. Clearly, if the shadow inventory is as large as estimated by those who are less optimistic about the appearance of a housing recovery in 2012, then the housing market could be in for, at best, a drag on the apparent recovery, slowing its momentum, or at worse a “triple-dip” in the housing market. However, if the shadow inventory is not a problem, as the shadow inventory critics contend, and if policies like the Federal Government's new rules for short-sales reduce the number of foreclosures, then the apparent housing recovery in 2012 may be real after all.

ii. BUSINESSES BALANCE SHEETS

Another difference in the 2008 Panic/Recession, not only compared to other Post World War II Era recessions, but even different from other Post Cold War Era recessions, is that Net Worth declined in all sectors of the economy. Graph 62 presents the less noisy Year-to-Year (YTY) percent-change in Net Worth for three major sectors of the economy: Households, Incorporated Businesses, and Unincorporated Businesses. It covers the period 1990Q1 to 2012Q1.



CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013



SOURCE: Federal Reserve Board-Flow of Funds.

The first point that stands out is, that over the 1990-91 U.S. Recession, the Household Sector's Net Worth never declined, on a YTY basis, in current-dollar terms. The steepest YTY decline was in the Corporate Sector (-7.29%) in 1992Q2, three quarters after the end of the recession. Non-Corporate Sector Net Worth declined too, but only by 1.77%, on a YTY basis. After the popping of the Tech Bubble, it was the Household Sector that took the biggest hit to Net Worth. The Unincorporated Business Sector saw no contraction in the YTY growth-rate of its current-dollar Net Worth. The Corporate Sector saw a slight 0.99% YTY decline in its Net Worth in 2001Q4, the quarter following the 9/11 Attacks. However, one quarter after the popping of the Tech Bubble, and in particular, the NASDAQ, Household Net Worth declined, on a YTY basis, in 2001Q1, by 5.35% in nominal terms. This was followed by two more dips: -6.86% in 2001Q3, the quarter of the 9/11 Attacks, and after a 4.32% recovery in the YTY growth-rate in 2002Q1, a final dip, for that cycle, of -3.49% in 2003Q1.

The bursting of the 2000's Housing Bubble, the 2007 Recession, and The 2007-08 Financial Panic are a much different story. All major sectors of the U.S. Economy took a hit to their Net



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

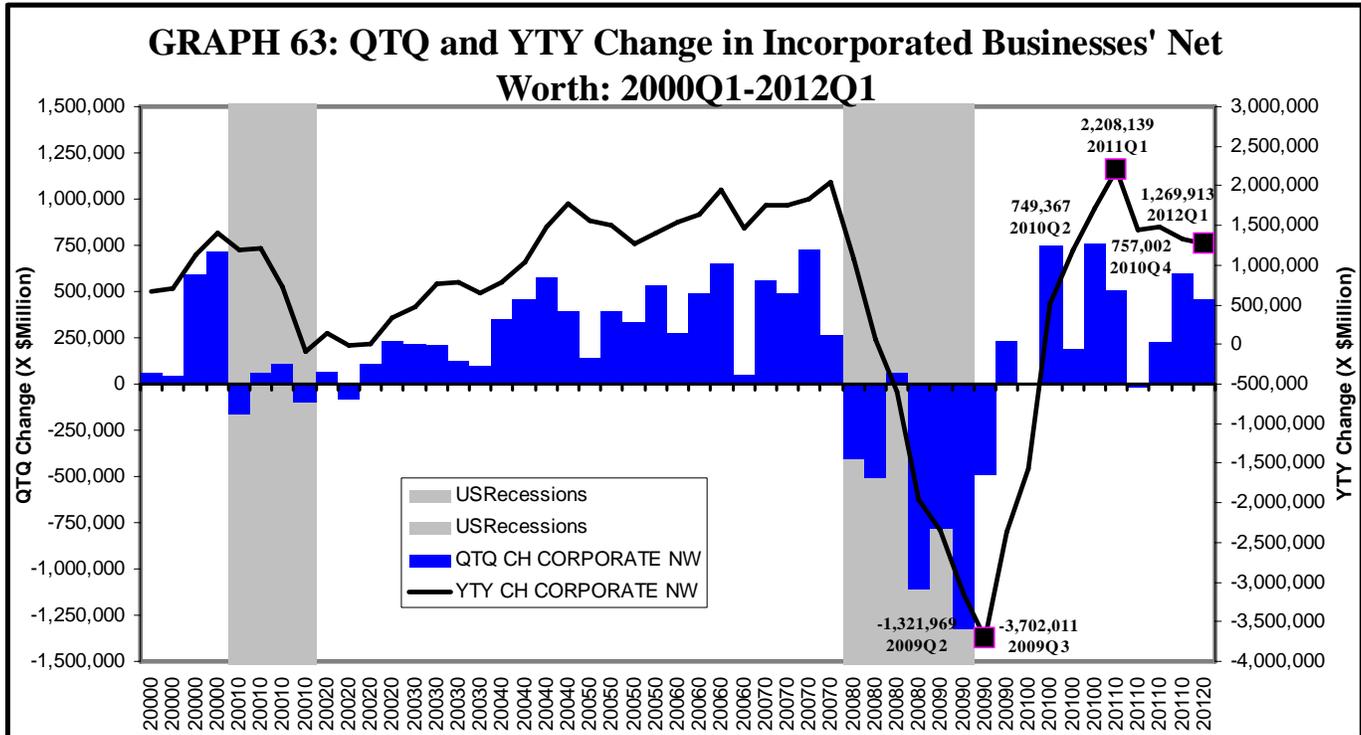
Worth, whether measured on a QTQ basis, YTY basis, or in real or current-dollar terms. Further, as illustrated in Graph 62, the collapse in Net Worth, for all sectors, was steeper than anything experienced since the Great Depression. While, in nominal terms, Household, current-dollar, Net Worth contracted by 19.32%, on a YTY basis, in 2009Q1, the quarter following the collapse of Lehman Brothers, the following quarter (2009Q2), Corporate Sector Net Worth, in nominal terms, fell by 21.50%, on a YTY basis, but, one quarter later (2009Q3), the Non-Corporate, Business Sector's Net Worth plunged by 22.11%, on a YTY basis. The next two sub-sections discuss the differential impacts of the popping of the housing bubble and subsequent financial panic on the Incorporated and Non-Incorporated Business sectors.

1. INCORPORATED BUSINESSES

Though every sector of the economy was adversely affected by the bursting of the housing bubble and the financial panic and recession, in relative terms, the Incorporated Business Sector seems to have been the least damaged by the meltdown. Graph 63 tracks the behavior of Net Worth of the Incorporated Business Sector from 1990Q1 to 2012Q1, the latest period of available data. The Quarter-to-Quarter (QTQ) change in current-dollar Net Worth, represented by the bars, is measured on the left vertical scale (in \$ million), and the Year-to-Year (YTY) change in nominal Net Worth, represented by the line, is measured on the right vertical scale (in \$ million).

The Incorporated Business Sector was not unscathed by the crisis. In 2008Q4, the quarter of the collapse of Lehman Brothers, the corporate sector recorded its first QTQ decline of current-dollar Net Worth that exceeded \$1 trillion (-\$1.1 trillion) over the entire 22-year range of the data. This was followed by a QTQ decline of \$1.2 trillion in 2009Q2, the trough of the last recession. The steepest YTY decline in nominal Net Worth, over the range of data, is the \$3.7 trillion decline in 2009Q3. However, the corporate sector's recovery was relatively stronger than that for unincorporated businesses or households. In 2010Q2, Net Worth increased, on a QTQ basis, by \$749.4 billion, and the QTQ growth surpassed \$700 billion again in 2010Q4.





SOURCE: Federal Reserve Board-Flow of Funds.

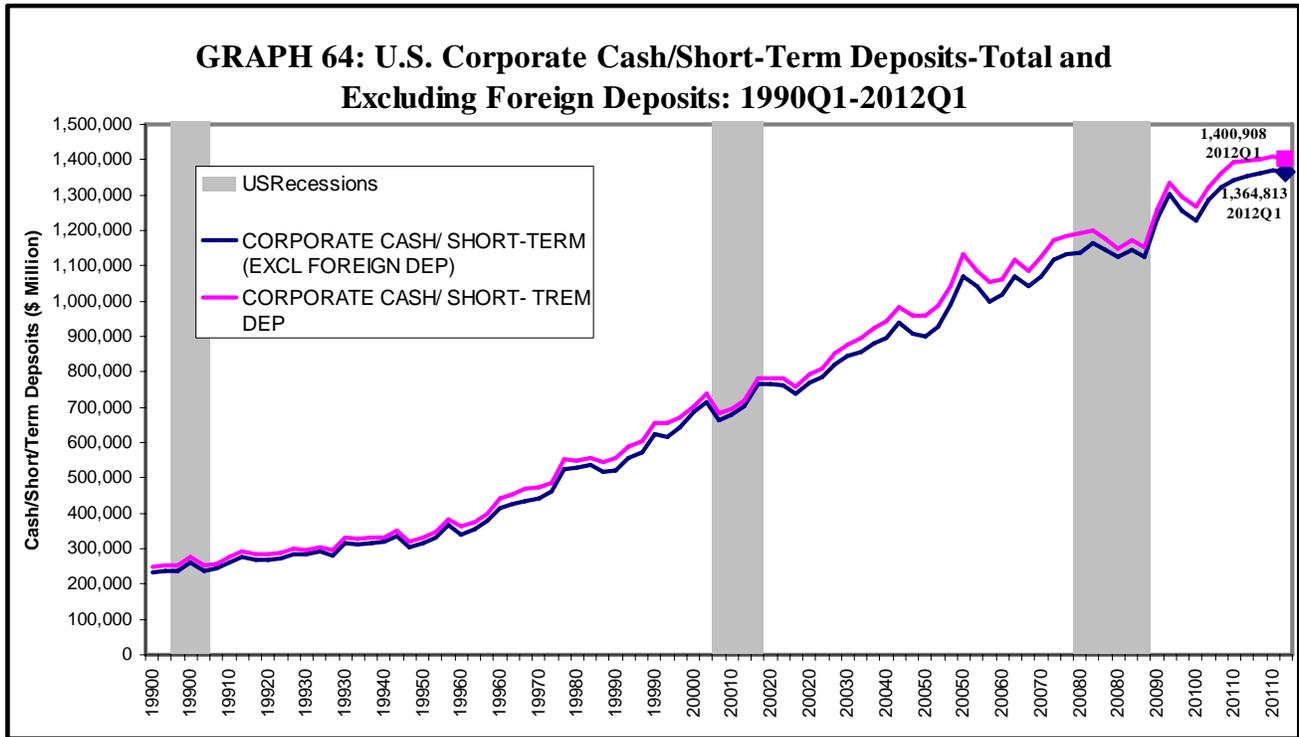
The YTY growth in current-dollar Net Worth surged in 2011Q1, when corporate, current-dollar Net Worth was \$2.2 trillion above its level in 2010Q1. And, over the first quarter of 2012, YTY, nominal Net Worth increased by \$1.3 trillion. After peaking at \$17.6 trillion in 2007Q3, the Corporate Sector's current-dollar Net Worth declined by \$4.6 trillion, 25.91%, over the next seven quarters, and bottomed out at \$13.0 trillion in 2009Q3. Between 2009Q3 and 2012Q1, the latest period of available data, at the time of writing, nominal Net Worth has recovered by \$3.7 trillion, or 28.55%, to \$16.8 trillion. That still leaves Corporate, current-dollar Net Worth \$838.3 billion, or 4.76% below its 2007Q3 peak. In 2012Q1, current-dollar Net Worth, (QTQ) grew by 2.80%, which translates into an 11.68% annualized growth-rate.

After 1996, the Business Sector, both corporate, and non-corporate, began building up holdings in cash, but especially the Corporate Sector. Graph 64 shows the accumulation of cash and short-term deposits, both including and excluding Foreign Deposits, from 1990Q1 to



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

2012Q1³⁶. The acceleration on the growth of holding short-term deposits and cash can be seen quite clearly in Graph 64. By 2012Q1, the U.S. Corporate Sector was holding \$1.4 trillion in cash and short-term deposits.



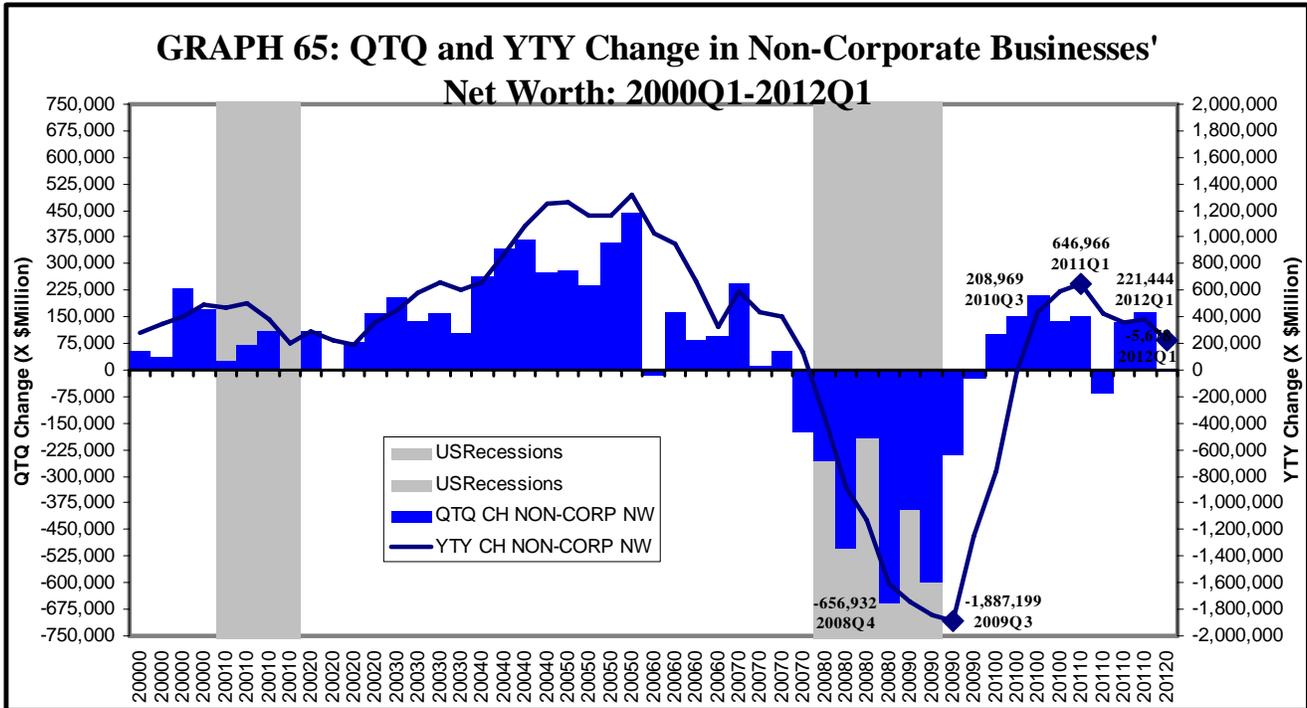
SOURCE: Federal Reserve Board-Flow of Funds.

2. UNINCORPORATED BUSINESSES

The Unincorporated Business Sector, whose current-dollar, Net Worth did not decline over the 2001 Recession, suffered a significant hit over the recent crisis and recession. Graph 65 reproduces the QTQ and YTY changes in Net Worth depicted in Graph 63, except it is for the Unincorporated Business Sector. The deceleration of the YTY growth in current-dollar Net Worth for the Unincorporated Business Sector began eight quarters, in 2005Q4, eight quarters before the slowdown in YTY growth for the Incorporated Sector. This reflects the dependence of smaller businesses on the owner's as a source of financing.

³⁶ Cash and Short-Term Deposits include Checkable Deposits/Currency, Time and Savings Deposits, and Money Market Funds. In addition, Corporate Sector Cash and Short-Term Deposits includes Foreign Deposits.





SOURCE: Federal Reserve Board-Flow of Funds.

And, while the Corporate Sector's Net Worth began contracting, on a QTQ basis, in 2008Q1, the Unincorporated Sector's current-dollar Net Worth began contracting one quarter earlier in 2007Q4. Its steepest QTQ decline was the \$656.9 billion loss of Net Worth in 2008Q4. The steepest contraction in current-dollar Net Worth, on a YTY basis, for the Unincorporated Business Sector, was the \$1.9 trillion loss in 2009Q3. Since the recovery began, the QTQ growth in Net Worth exceeded \$200 billion only once, in 2010Q3. Further, the latest Flow-of-Funds data release shows that Non-Incorporated Businesses Net Worth fell by \$5.7 billion, on a QTQ basis, in the first quarter of 2012. The YTY growth in Net Worth peaked in 2011Q1 at \$647 billion. In 2012Q1, the YTY change in Net Worth was \$221.4 billion.

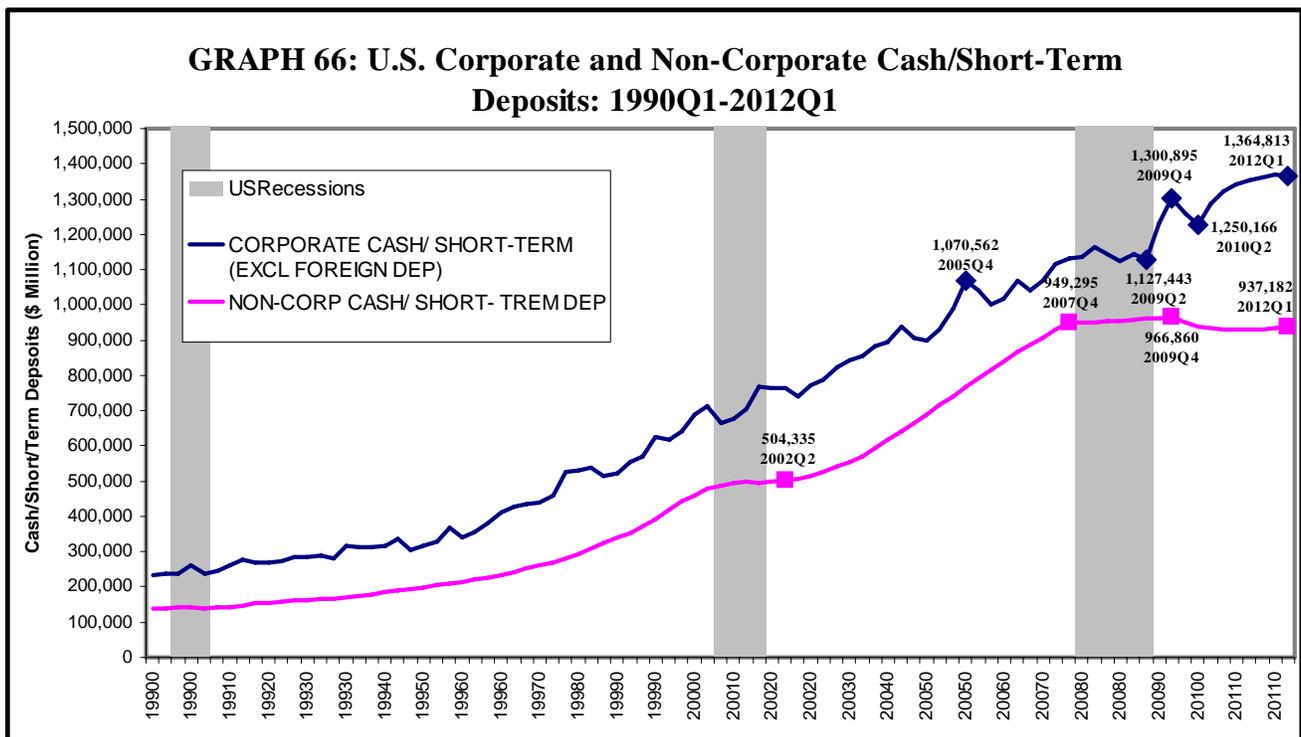
Unincorporated businesses' Net Worth peaked at \$9.5 trillion in 2007Q3. It then declined for nine straight quarters to \$6.5 trillion in 2009Q4. That represents a \$3.1 trillion, or 31.99%, loss in Net Worth, a bigger relative decline than the 24.0% loss in Net Worth by households, or the 25.91% by the Corporate Sector. By 2012Q1, the Unincorporated Sector's Net Worth was still \$2.1 trillion, or 21.80%, below its peak. Since it bottomed in 2009Q4, the unincorporated sector's Net Worth has recovered somewhat by \$968 billion, or 14.98%. Clearly, the



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

unincorporated business sector has taken the biggest relative hit, in terms of the loss of Net Worth, compared to the Corporate Sector, and in relative terms, an even bigger hit than the Household Sector.

Graph 66 compares the cash and short-term deposits of Unincorporated Business Sector to Incorporated Businesses. As is apparent from Graph 66, while the incorporated sector continues to accumulate cash and short-term deposits, the cash and short-term deposits held by unincorporated businesses, after peaking at \$966.9 billion in 2009Q4, has declined since then, and in 2012Q1, the Unincorporated Business Sector had \$937.2 billion on hand in cash and short-term deposits, down \$29.7 billion, or 3.07% from 2009Q4.



SOURCE: Federal Reserve Board-Flow of Funds.



3. U.S. ECONOMY STILL DELEVERAGING

Though households have been paying off a considerable amount of debt since the bursting of the housing bubble, and it appears the fall in housing values may be stabilizing, the U.S. Economy is still deleveraging. Clearly the corporate part of the Business Sector has been the sector that has come out of the 2007-08 Panic in their balance sheets in the best shape. Households are still in the process of repairing their balance sheets, and the Non-Corporate Business Sector is still yet to recover from the crisis.

TABLE 4-A : Duration of Decline and Recovery of Net Worth: by Sector

SECTOR	PEAK	TROUGH	QTRS OF DECLINE	TROUGH-TO-CURRENT	QTRS OF RECOVERY
Household	2007Q3	2009Q1	6	2012Q1	12
Corp Businesses	2007Q4	2009Q3	7	2012Q1	10
Non-Corp Bus	2007Q3	2009Q4	9	2012Q1	9

SOURCE: Federal Reserve Board-Flow of Funds

As shown in Table 4-A, the U.S. Household Sector's Net Worth peaked in 2007Q3, the period of the liquidity crisis in August 2007, in which the Asset-Backed Commercial Paper (ABCP) collapsed. Net Worth then declined for six consecutive quarters, bottoming in 2009Q1. As of 2012Q1, Household Net Worth had been recovering for 12 quarters. The Corporate Sector's Net Worth peaked in 2007Q4, and then declined for seven straight quarters, turning around in 2009Q3, one quarter after the end of the NBER-designated recession. As of 2012Q1, the Corporate Sector's Net Worth had been recovering for 10 quarters. It is the Non-Corporate Business Sector that experienced the longest decline in Net Worth. Peaking in the same quarter as the peak in household Net Worth (2007Q3), the unincorporated sector's Net Worth then declined for nine consecutive quarters until 2009Q4, the longest decline of the three sectors depicted in Table 4-A. As of 2012Q1, the recovery in the Net Worth of the Non-Corporate Sector, at nine quarters, is the shortest recovery period of the three sectors.

An even more dramatic picture of the struggle by the Unincorporated Sector to recover its Net Worth is drawn in Table 4-B.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

TABLE 4-B: Decline and Recovery of Net Worth: by Sector

SECTOR	PEAK	TROUGH	DECLINE (\$Mill)	DECLINE (%l)	AS OF 2012Q1	RECOVERY		BELOW PEAK	
						(\$ Million)	RECOVERY (%)	(\$ Million)	% BELOW PEAK
Household	67,459,228	51,271,484	-16,187,744	-24.00	62,865,582	11,594,098	22.61	-4,593,647	6.81
Corp Businesses	17,600,268	13,039,502	-4,560,766	-25.91	16,761,947	3,722,445	28.55	-838,321	4.76
Non-Corp Bus	9,498,816	6,459,980	-3,038,836	-31.99	7,427,940	967,960	14.98	-2,070,876	21.80

SOURCE: Federal Reserve Board-Flow of Funds



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

During the Housing Bubble, U.S. Households' Net Worth peaked at \$67.5 trillion. This created a "Wealth Illusion" effect that caused households to accelerate their accumulation of additional debt, even though their debt levels were already high. The popping of the housing bubble, the financial panic, and recession, wiped out \$16.2 trillion, or 24%, of Net Worth in the U.S. Household Sector. Since the bottom, households, as of 2012Q1, have recovered \$11.6 trillion, or 22.61%, of their Net Worth. Nevertheless, this still leaves households \$4.6 trillion, or 6.81%, below their level of Net Worth at the peak of the bubble.

The Corporate Business Sector was, relatively, hit harder than the Household Sector in the decline in Net Worth. The Corporate Sector's Net Worth declined by \$4.6 trillion, or 25.91%. However, the incorporated businesses bounced back more strongly, as Net Worth recovered by \$3.7 trillion, or 28.55%, by 2012Q1. Corporate Net Worth was down \$838.3 billion in 2012Q1, compared to its peak, which was not only the lowest gap of the three sectors depicted in Table 4-B, but also relatively, as this sector's Net Worth was "only" 4.76% below its peak level over the previous expansion.

The sector taking the largest hit in Net Worth over the recent crisis was the Unincorporated Business Sector. The \$3.1 trillion decline in Net Worth represented a 31.99% loss in Net Worth, far steeper than the relative loss of Net Worth in either the Household or Corporate sectors. As of 2012Q1, it had only regained \$968 billion, or 14.98% of its lost Net Worth. This resulted in the Unincorporated Business Sector's Net Worth still down by \$2.1 trillion, or 21.80%, from its peak, as of 2012Q1, three-to-four times the gap of the other two sectors. There are a couple of factors operating here. First, the Corporate Sector has a diversified portfolio of product markets, including the domestic and foreign markets. For a large part of the unincorporated businesses, many of them small businesses, their product markets are largely, or exclusively the domestic market. The second is the decline in value, with falling housing prices, of an important source of collateral for securing small business loans and lines of credit.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

In a 2010 research report by the Cleveland Federal Reserve Bank, they found a significant number of small businesses had used their homes as collateral to obtain a securitized loan, or equity line of credit. In fact, small businesses apparently took advantage of the rise in home prices to obtain financing during the bubble. As the Cleveland Fed reports:

A more direct source of data on small business borrowing is again derived from the Federal Reserve's Survey of Consumer Finances. It shows that from 1998-2007, small-business-owning households took on larger amounts of home equity debt faster than households headed by someone employed by others. As figure 2 shows, between 1998 and 2007, the home equity debt of households headed by the self-employed rose 110 percent while that of households led by those employed by others grew only 46 percent³⁷.

They conclude that:

While we would agree that these factors have had an effect on the decline in small business borrowing through commercial lending, we believe that other limits on the credit of small business borrowers are also at play and could be harder to offset. Specifically, the decline in home values has constrained the ability of small business owners to obtain the credit they need to finance their businesses³⁸.

Again, this gets back to the problem of aggregate demand, and the connection between housing and the rest of the economy. With the accumulation of debt during the bubble, and the inability to obtain financing in the post-bubble era because of the decline in their home values, without generating cash-flow from increased sales, small businesses lack the ability to pay down their debt, and thereby, repair their balance sheets, and begin hiring, or re-hiring workers. Clearly, not only does some mortgage relief help home owners, but it would also help small businesses. Thus, there is a direct link from fixing housing to reviving spending to businesses hiring.

If the apparent recovery in housing discussed in Part 3-*Is There a Housing Recovery in 2012?* of Sub-Part A-HOUSEHOLDS' BALANCE SHEETS, is real, then this would go

³⁷ Schweitzer, Mark E and Scott A. Shane, ECONOMIC COMMENTARY: *The Effect of Falling Home Prices on Small Business Borrowing* (2010) FEDERAL RESERVE BANK OF CLEVELAND < <http://www.clevelandfed.org/research/commentary/2010/2010-18.cfm> > Accessed on September 5, 2012.

³⁸ *ibid.*



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

a long way toward reviving consumer spending. As has been noted repeatedly in this, and previous, outlooks, this is what has been called a Balance Sheet Recession. And, what has particularly decimated the balance sheets of middle-income households has been the collapse in housing prices, since their house is typically their most important, or in some cases, only asset. This, in combination with unsustainably high levels of debt, for many, wiped out their Net Worth. This, in turn, resulted in the massive deleveraging process, which lead to a collapse in aggregate demand. Reduced debt, and an increase in housing values, could revive consumer spending.



III. DRIVERS AND DRAGS ON THE CURRENT RECOVERY

As we enter the last half of 2012, the U.S. Economy's employment-growth has slowed since its spurt in the first quarter, and GDP growth was only 1.85% over the first half of 2012, on an annualized basis. As noted in previous discussions in this outlook, the underlying drag on the recovery has been the deleveraging by households, as they pay down debt to re-build Net Worth, further, with the popping of the housing bubble, an important source of collateral for both consumer and small-business secured financing has been eliminated as a source of credit. Still, there have been factors that have been driving growth and preventing the headwinds from sending the economy back into recession—at least, so far. These factors are discussed below as *Drivers* and *Drags* on the momentum of the current recovery.

Three critical drivers seem to have helped keep the economy afloat as the stimulus wound down and the Eurozone Crisis caused jitters in the World Economy, including the U.S.: Private Sector job-growth, the renaissance in manufacturing, especially the U.S. Auto Industry, and the spending-support from the Payroll Tax Holiday. But, there are also drags on the current recovery that threaten to pull the economy down. At the time of writing, late summer of 2012, food and oil prices are, once again, on the rise, and the drag on the economy from the winding down of support for local governments, in particular, is continuing to subtract jobs from the economy every month.

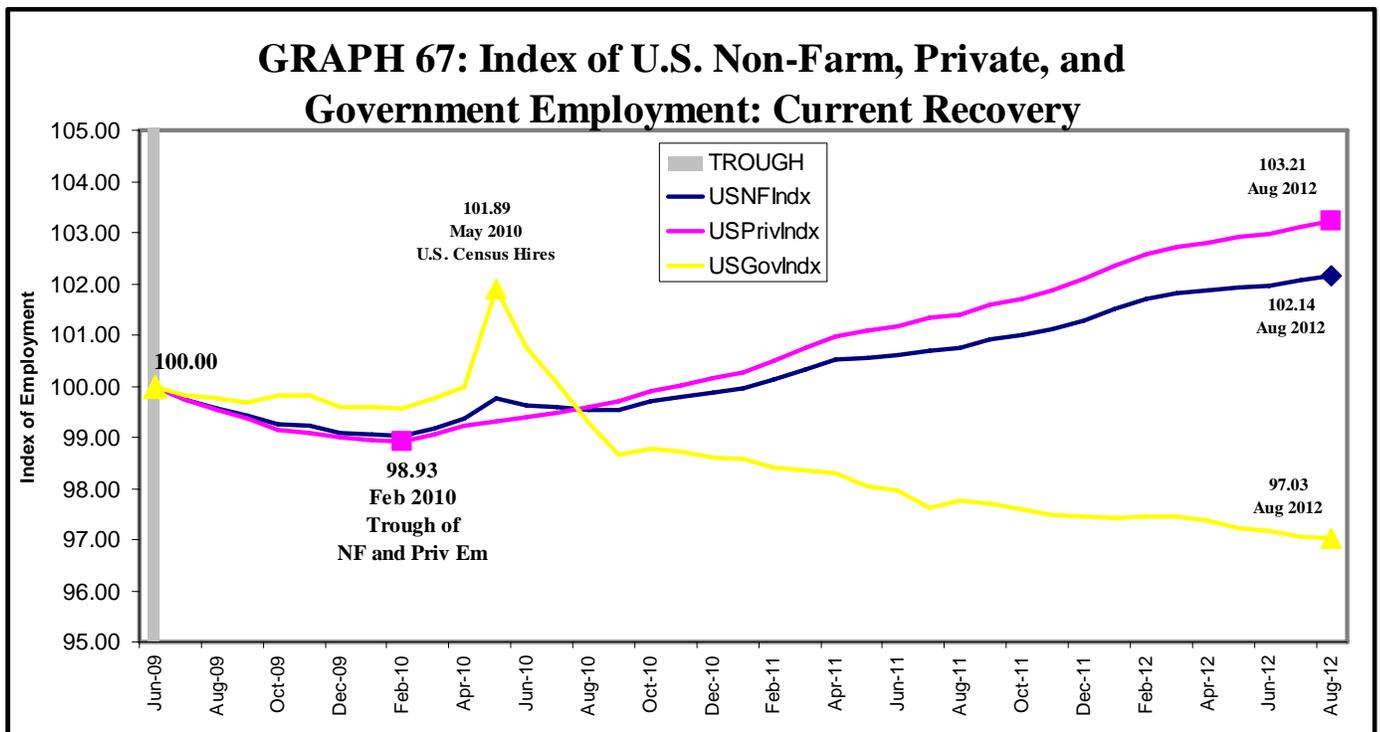
A. DRIVERS

This sub-section turns to a brief discussion of three major drivers of the current recovery: Private-Sector job-growth, the Manufacturing Sector's renaissance including the comeback of the U.S. Auto Industry, and the spending support from the Payroll Tax Holiday and the extension of UI Benefits.



i. PRIVATE-SECTOR JOB-GROWTH

The bright spot in the jobs numbers through the current weak recovery has been the steady growth in Private-Sector jobs. Since U.S. Non-Farm Employment bottomed in February 2010, Government Employment, save the temporary boost from the Census, has continued to fall (discussed in more detail below). However, after the third quarter of 2010, Private Sector Employment growth exceeded that of the Public Sector, and has never looked back. This is illustrated in Graph 67.



SOURCE: U.S. BLS and author’s calculations.

Both public and private employment continued to decline after June 2009, the National Bureau of Economic Research’s (NBER) officially designated end of the recession. Non-Farm Employment did not trough until February 2010. While Government Employment, save the period of the Census-boost in the spring and early summer, has declined from the Non-Farm Employment bottom in February 2010 to August 2012 by 1.74%, Total Non-Farm jobs have grown by 3.13% over the same period. Over the same 30-month

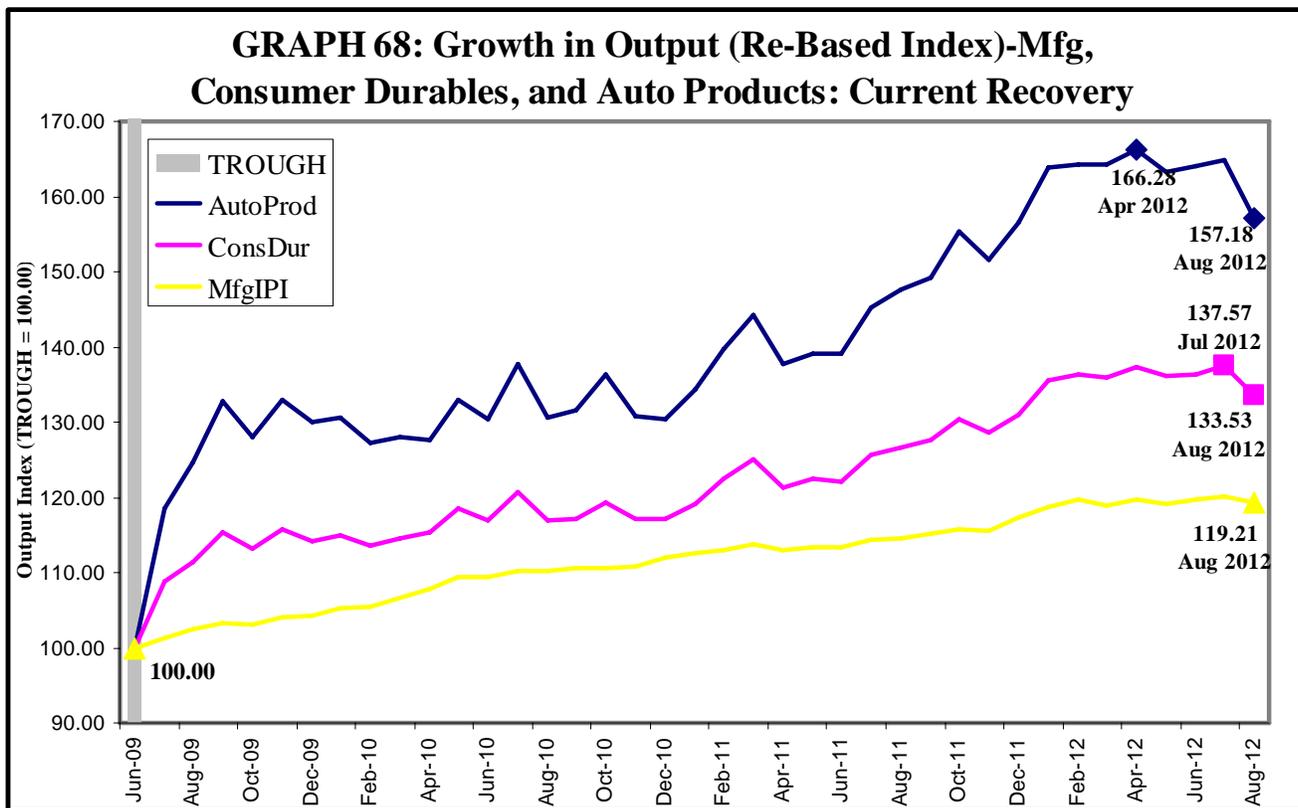


**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

period, Private-Sector jobs have grown by 4.35%. As of August 2012, that represents a net addition of 4.6 million Private-Sector jobs since the U.S. Job Market troughed in February 2010.

**ii. MANUFACTURING RENAISSANCE:
The Comeback of the U.S. Auto Industry**

Clearly a bright spot during the entire recovery has been the apparent renaissance in U.S. Manufacturing. In particular, the comeback of the U.S. Auto Industry seems to have played a significant role.



SOURCE: Federal Reserve Board-Industrial Production.

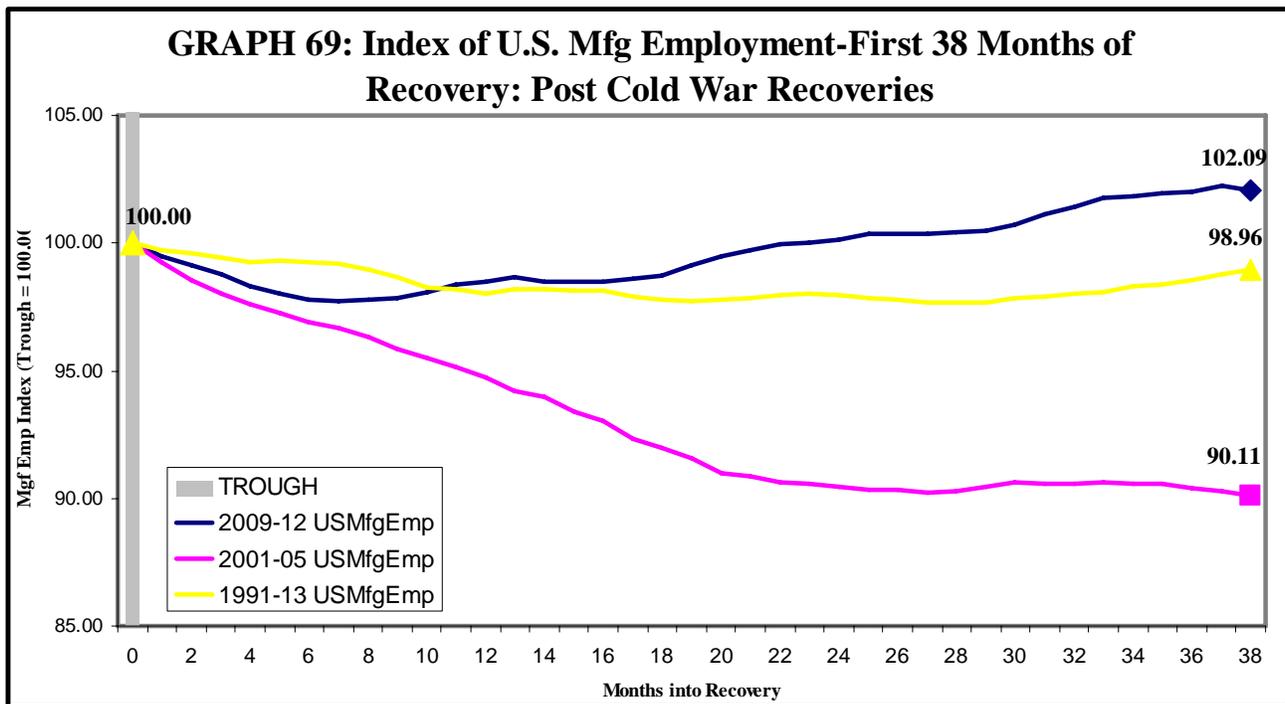
Graph 68 plots the re-based Industrial Production Index (IPI) for the U.S. Manufacturing Sector, Consumer Durables, and Automotive Products. All three indices have been re-



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

based so that the official NBER-designed trough of the recent recession, June 2009, is equal to 100.00. Though industrial output for the entire Manufacturing Sector had grown by 19.21% by August 2012, 38 months into the current recovery, the output of Consumer Durables was clearly an important driver, increasing by 37.57% as of July 2012, though falling back somewhat to 33.53% above its June 2009 level by August. An even stronger driver has been Automotive Products. Output in Automotive Products was two-thirds higher than its June 2009 level by April 2012. Again, due to a slowing economy since then, output declined somewhat, but was still 57.18% above its June 2009 in August 2012, the last available period of data at the time of writing.

The comeback in manufacturing has also translated into job creation in this sector, which bucks the pattern coming out of the previous recessions, and particularly the trend of Post Cold War recoveries.



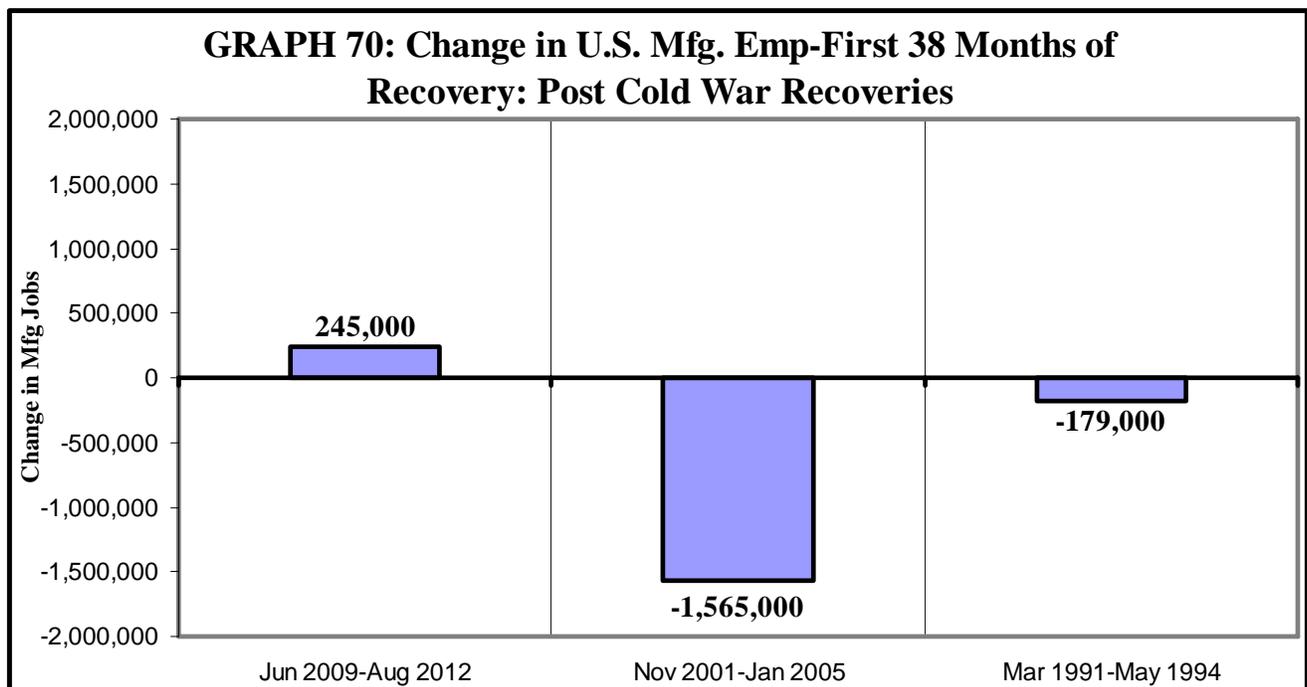
SOURCE: U.S. BLS and author's calculations.

Graph 69 plots an index of manufacturing employment for the first 38 months of recovery from the Post Cold War recessions. The base is the month of the NBER-



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

designated trough, and is equal to 100.00. The thing that stands out in Graph 69 is that the current recovery is the only recovery in which the index is above 100.00 38 months into recovery. By August 2012, U.S. Manufacturing Employment was 2.09% above its level at the trough of the recession in June 2009. The index values for the other two recoveries indicate losses in manufacturing jobs over the first 38 months of recovery. After 38 months of recovery after the 1990-91 Recession, U.S. Manufacturing jobs were down by 1.04%. The losses in manufacturing jobs were even steeper following the 2001 Recession. Thirty-eight months into recovery, U.S. Manufacturing Employment was down by 9.89% from its level at the trough of the recession November 2001. Graph 70 translates these index values into actual job-changes in the Manufacturing Sector over the three recoveries.



SOURCE: U.S. BLS and author's calculations.

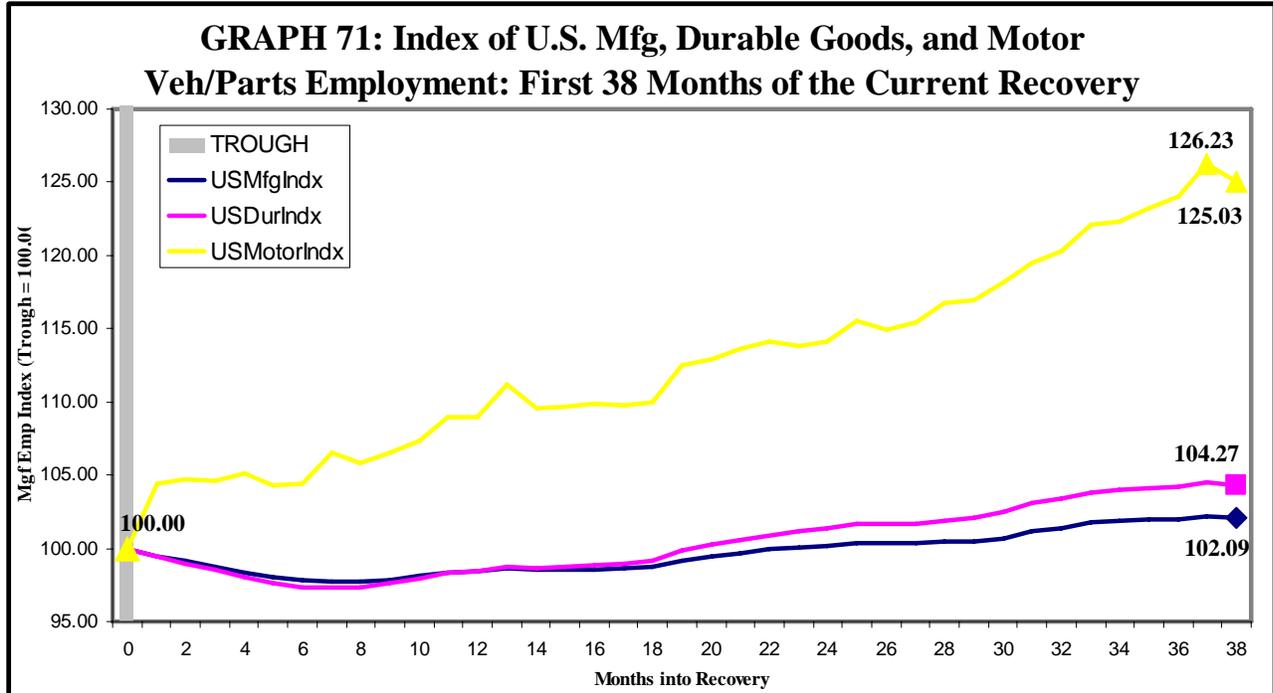
Looking at the actual job-changes in Graph 70, over the current recovery, 245,000 net, new manufacturing jobs have been added to the U.S. Economy between June 2009 and August 2012. Over the 38-month period from March 1991 and May 1994, the U.S. Economy shed 179,000 manufacturing jobs. And, between November 2001 and January



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

2005, after 38 months of recovery, the U.S. Economy had a net loss of 1.6 million manufacturing jobs.

Graph 71 breaks out the job-gains in manufacturing over the current recovery into more detail. Specifically, it focuses on job growth in the Durable Goods and Motor Vehicles and Parts sector and sub-sector of Manufacturing.



SOURCE: U.S. BLS and author's calculations.

Again, an index of employment has been constructed. The base period is June 2009, the trough of the recession where the index value equals 100.00. By August 2012, after 38 months of recovery, U.S. Manufacturing Employment was 2.09% above its June 2009 level. However, Durable Goods Employment was 4.27% above its June 2009 level. And, even stronger growth was experienced in the Motor Vehicles and Parts sub-sector. By July 2012, the motor vehicle sector's employment was 26.23% above its June 2009 level, however, by August, employment had fallen back somewhat but still remained 25.03% above its level in June 2009.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

The strong performance in manufacturing employment over the current cycle, compared to past cycles (especially over the Post Cold War Era) appears to be driven by the renaissance of the auto industry since 2009. According to the Center for Automotive Research (CAR), eight million private-sector jobs are impacted by auto manufacturers, suppliers, and dealers, and \$500 billion in compensation. Vehicle manufacturing has a total employment multiplier of 10, while the employment multiplier for the entire auto industry is 4³⁹.

The performance of the auto industry seems to have provided some evidence that the U.S. Government's bailout of GM and Chrysler was the right way to go. According to the nonpartisan Center for Automotive Research (CAR), by 2012, four years after the bailout, there are 1.45 million people who are working as a direct result of the \$80 billion bailout, both at the carmakers and, via multiplier effects, associated businesses downstream in the economy⁴⁰.

**iii. PAYROLL TAX HOLIDAY AND
EXTENSION OF UI BENEFITS**

Another driver, or more aptly, a policy that prevented a drag on the economy from expressing itself, at least in 2012, is the Payroll Tax Holiday and the extension of Unemployment Insurance (UI) benefits. According to the Congressional Budget Office (CBO), in 2011, the U.S. Economy was operating at about \$900 billion below its potential, that is, GDP was nearly one trillion dollars below what it would be if the economy were operating at full employment/full capacity⁴¹. This is called the *Output Gap*. While the Payroll Tax holiday and UI Benefits extension would, in all likelihood,

³⁹Hill, Kim, Debbie Meranger Menk, and Adam Cooper, CONTRIBUTION OF THE AUTOMOTIVE INDUSTRY TO THE ECONOMIES OF ALL FIFTY STATES AND THE UNITED STATES (April 2010) Center for Automotive Research: Ann Arbor, MI., *Executive Summary* and Table 2-1, p. 29

⁴⁰ Editorial, *A Million Jobs*, NEW YORK TIMES (February 25, 2012) < http://www.nytimes.com/2012/02/26/opinion/sunday/a-million-jobs.html?_r=0 > Accessed on October 5, 2012. Also see CAR Research Memorandum, *The Impact on the U.S. Economy of the Successful Automaker Bankruptcies* (November 17, 2010) Center for Automotive Research: Ann Arbor, MI.

⁴¹ Congressional Budget Office, THE BUDGET AND ECONOMIC OUTLOOK: Outlook: An Update (August 2011)



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

not contribute to closing the Output Gap, it would certainly prevent the Output Gap from widening. Again, as noted above, it might not serve as an outright driver of growth, but it certainly has served as a counterweight to a potential drag on the economy that could have reduced GDP-growth over the current year (more on this below).

The legislation that finally passed and was signed into law by President Obama earlier this year extended the Payroll Tax Holiday, continued Federal help for the long-term unemployed, and blocked a 27% Medicare pay cut for doctors⁴².

Under the Payroll Tax holiday, workers are getting a break equal to 2% of earnings up to the Social Security taxable maximum of \$106,800. The temporary tax cut was part of a deal struck at the end of 2010 to extend the Bush tax cuts for two years⁴³. The payroll tax cut and unemployment benefits for the long-term unemployed were extended for only one year, presumably based on (unwarranted) optimism about the economic recovery, but the implosion of the Eurozone and the overhang from the housing market collapse kept the economy very weak. Thus, there was clearly a need to continue economic stimulus, if not to boost growth, at least to offer spending support to the economy to keep it from falling back into recession. The bill finally passed and signed by the President also cut the Social Security payroll tax rate in half (from 6.2 to 3.1%) for 2012 and also for a similar payroll tax break for employers on the first \$5 million of payroll⁴⁴. And he has also urged extension of unemployment benefits.

The goal of the Payroll Tax holiday and UI-Benefits extension seem to have been achieved. Mark Zandi of Moody Analytics has argued that failure to extend the payroll tax cut would have cut economic growth by almost 1% and might even thrust the economy back into recession⁴⁵.

⁴² Geewax, Marilyn, *What's The Economic Impact If The Tax Break Dies?* (December 22, 2011) NATIONAL PUBLIC RADIO < <http://www.npr.org/2011/12/22/144072081/whats-the-economic-impact-if-the-tax-break-dies> > Accessed on October 12, 2012

⁴³ Burman, Len, *Payroll Tax Holiday is not Perfect, but Far Better than Inaction* (December 2, 2011) TAXVOX.COM < <http://taxvox.taxpolicycenter.org/2011/12/02/payroll-tax-holiday-is-not-perfect-but-far-better-than-inaction/> > Accessed on July 27, 2012.

⁴⁴ *ibid.*

⁴⁵ Zandi, Mark, *An Analysis of the Obama Jobs Plan* (September 9, 2011) MOODY ANALYTICS: Dismal Scientist < http://www.economy.com/dismal/article_free.asp?cid=224641 > Accessed on October 5, 2012.



B. DRAGS

In addition to the drivers of growth discussed above, there are also drags on the economy that slow its momentum. In addition to the underlying background drags on the economy, the typically slow recovery from a financial crisis, the collapse in household Net Worth that households are still rebuilding, and their consequent deleveraging, and the uncertainty over the on-going Eurozone Crisis, there are, at least, three additional drags that are constraining growth. These drags are discussed below. The first is, of course, the political paralysis due to 2012 being a presidential election year, which means nothing will get through Congress. In fact, the extension of the Payroll Tax Holiday, as part of the *Middle Class Tax Relief and Job Creation Act of 2012*, passed by Congress and signed into law by President Obama back in February was about the last piece of legislation, directed at stimulating, or at least supporting, consumer spending that will see the light of day this year. And, even that was not without a standoff before the Republicans, in the House, blinked. And, at the time of writing, late Summer/early Fall 2012, food and oil prices are, once again, on the rise, and the drag on the economy from the winding down of support for local governments, in particular, is continuing to subtract jobs from the economy every month.

i. PRESIDENTIAL ELECTION-YEAR POLITICS

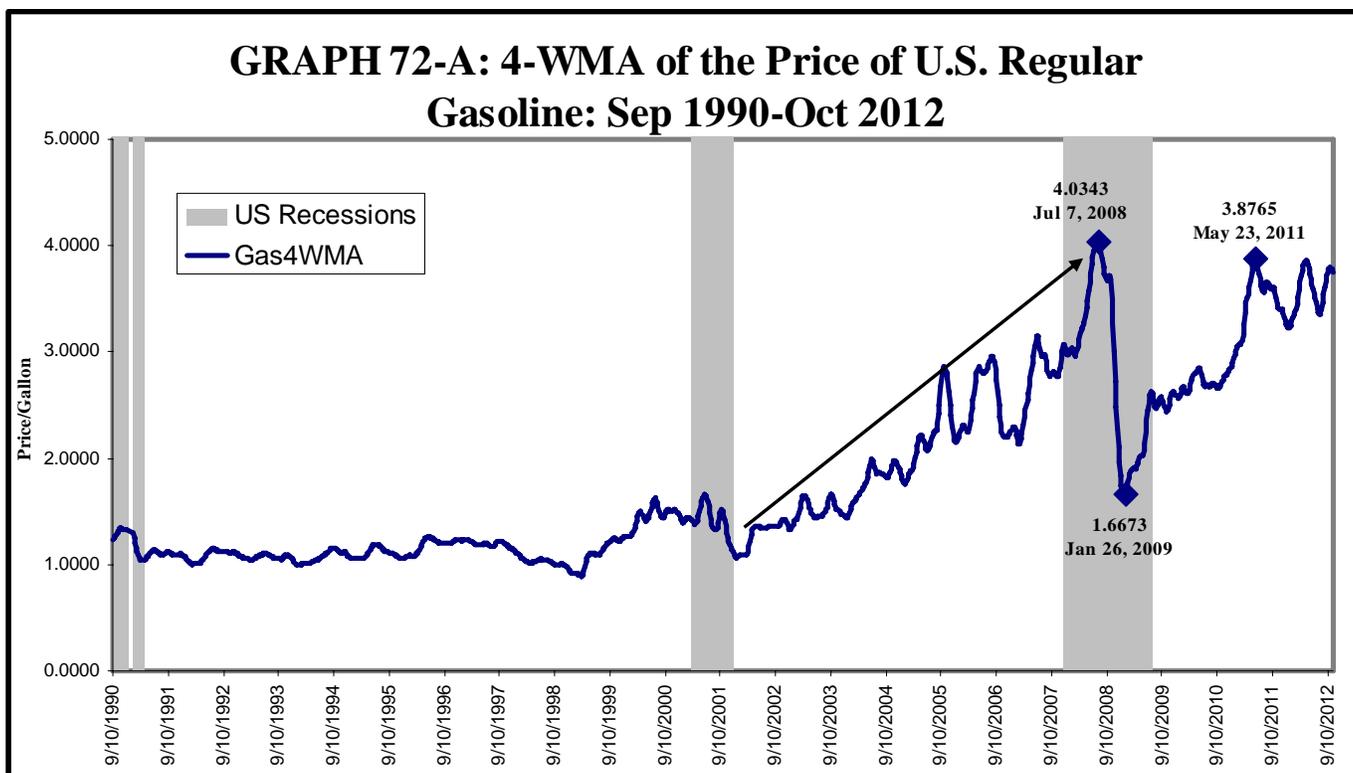
With the presidential election looming in November, in addition to the entire House of Representatives up for re-election again, as well as 31 seats in the Senate, getting anything through the Congress of any substance, particularly in the economy, would be about as likely as the proverbial camel going through the needle's eye. Even getting the *Middle Class Tax Relief and Job Creation Act of 2012* passed in February was a struggle, and aspects of that bill, such as the extension of the Payroll Tax holiday (see discussion above) had overwhelming popular support. So, any further policy initiatives to stimulate economic growth, or address the so-called looming "fiscal cliff" will not be forthcoming



until after the elections, or until the new Congress and President take office in January 2013, and even that depends on who is President, and what the Congress looks like.

ii. THEY'RE BAAACK! Rising Gasoline and Food Prices

Well, it is déjà vu all over again. Graph 72-A tracks the four-week moving average (4-WMA) of the U.S. Regular Conventional Retail Gasoline Prices (Dollars per Gallon). As can be observed, the price/gallon of regular U.S. Gasoline began an upward climb throughout the first decade of the 21st Century, after remaining flat throughout the 1990's, save the Tech Boom/Bust toward the end of the decade (and century). After bottoming at \$1.0660 on December 24, 2001, the price/gallon (4-WMA) began an upward trajectory that peaked on July 7, 2008, at \$4.8343 per gallon—a 353.50% increase in the price/gallon of Regular Gasoline.



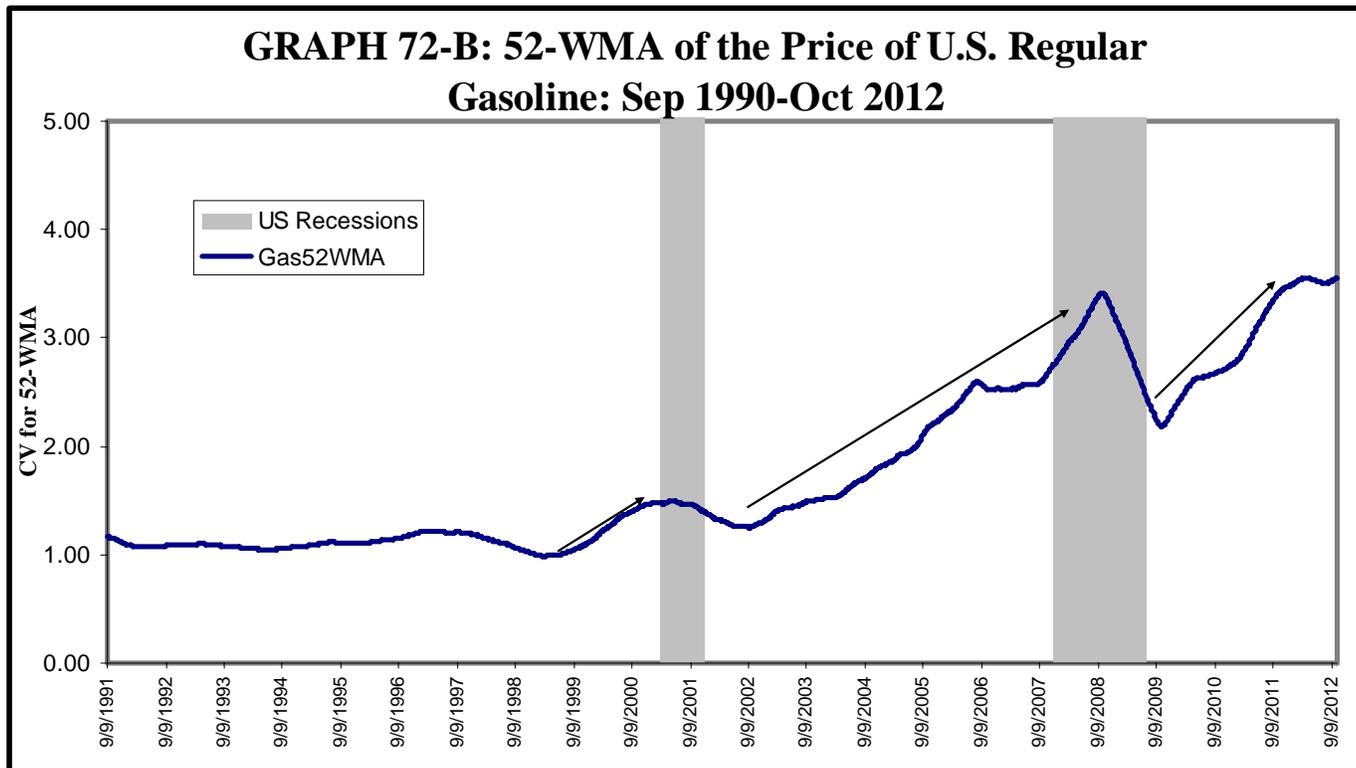
SOURCE: U.S. EIA and author's calculations.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

With the financial panic and economic freefall, the 4-WMA of the price/gallon of U.S. Regular Gasoline collapsed from \$4.8343 per gallon the week of July 7, 2008 to \$1.6672 by the week of January 26, 2009. That represented a 65.51% drop in the price/gallon in six months. With the official end of the U.S. Recession in June 2009, the 4-WMA of the price of regular gasoline began to recover, and after a price decline between May and October 2010, the 4-WMA of the price/gallon of regular U.S. gasoline began to accelerate once again, peaking the week of May 23, 2011 at \$3.8765. This represented a 132.50% increase in the price/gallon over the 28 months between January 2009 and May 2011. After peaking in May 2011, the 4-WMA of the price/gallon then declined again by 16.94% over the next eight months to \$3.2200/gallon the week of December 26, 2011. In 2012, there have been two peaks: \$3.8653 the week of April 16th and \$3.8008 the week of September 24th.

Graph 72-B presents the 52-WMA of U.S. Gasoline prices, which shows a smoother slightly less noisy time-series and demonstrates even more clearly the trends suggested in Graph 72-A.



SOURCE: U.S. EIA and author's calculations



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Graphs 73-A and 73-B are Shewhart-type control charts. The control chart was invented by Walter A. Shewhart while working for Bell Labs in the 1920s. He published his ideas in the *Bell System Technical Journal* in 1921⁴⁶. The Shewhart Control Chart plots a process through time, with warning tracks that alert the analyst the process is “out of control”. Chebyshev’s Theorem tells us that the probability **P** that an observed value of *Y* will lie within a given set of limits so long as the quality standard is maintained satisfies the inequality⁴⁷:

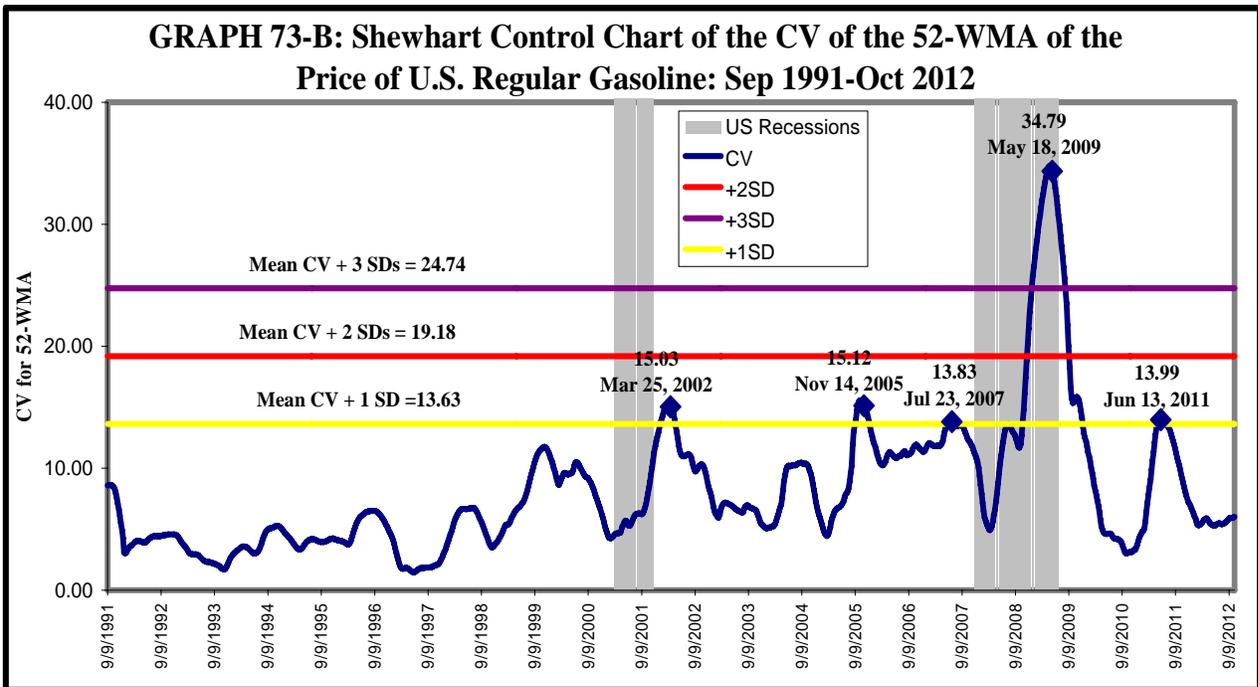
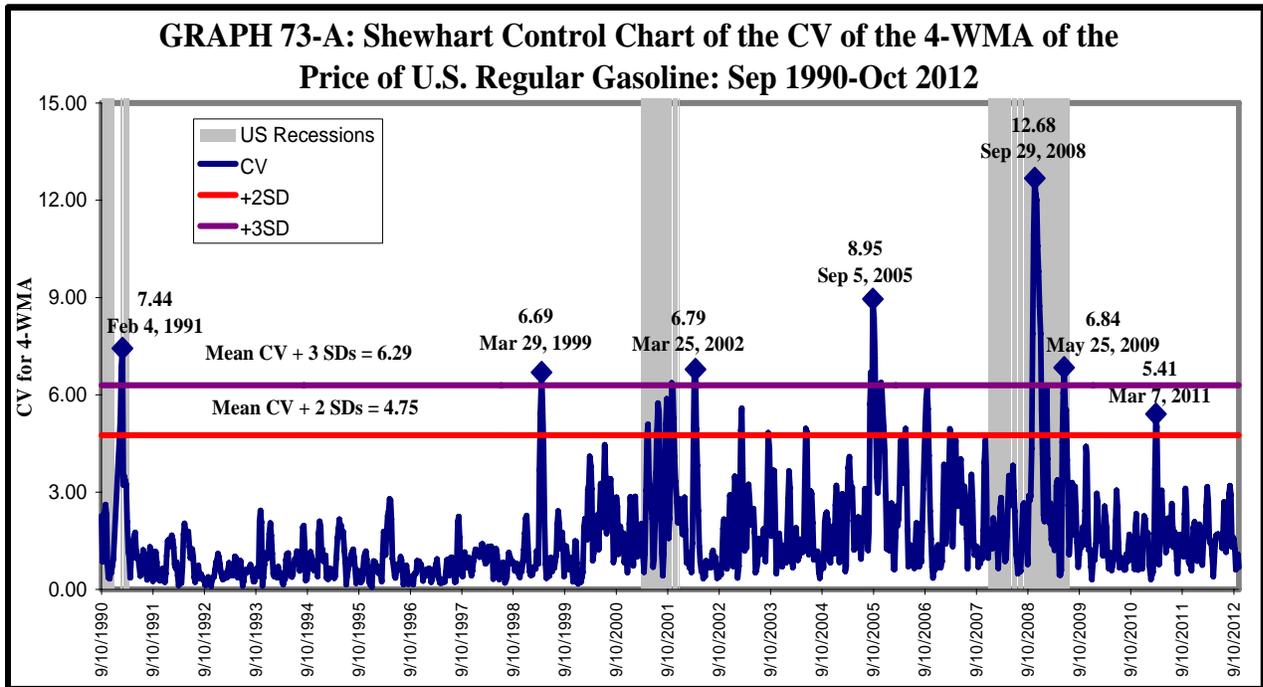
$$P > 1 - \frac{1}{t^2}$$

⁴⁶ Shewhart, W.A., *Quality Control Charts* BELL SYSTEM TECHNICAL JOURNAL (1921) pp. 593-603.

⁴⁷ See Wheeler, Donald J. *Are You Sure We Don’t Need Normally Distributed Data?* (November 1, 2010) < <http://www.qualitydigest.com/inside/twitter-ed/are-you-sure-we-don-t-need-normally-distributed-data.html> > Accessed on November 8, 2012.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



SOURCE: U.S. EIA and author's calculations

When faced with the choice of t , experience indicates that $t = 3$ seems to be an acceptable economic value. While the Chebyshev Inequality will only guarantee that three-standard



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

deviation (3SD's) limits will cover at least 89% of the area under the probability model, the reality is that 3SD's limits will give values for **P** that are much closer to 1.00 in practice⁴⁸.

Graph 73-A tracks a moving Coefficient of Variation [$CV = (\text{Standard Deviation} / \text{Mean})$] constructed from the ratio of the 4-WMA to the 4-Week Moving Standard Deviation (4-WMSD). Unlike the Standard Deviation (SD), the CV takes into account the scale of the SD relative to the scale of the mean. This allows a scale-adjusted measure of the variation, or volatility of the series. The Shewhart-type control chart approach in Graph 73-A clearly shows that, save the volatility in the price/gallon the week of February 4, 1991 and March 29, 1999, which exceeded the mean plus 3SD's, the CV in the 4-WMA of the price of U.S. Gasoline never came close to the mean plus 2SD's warning track until the 2001 Recession. Then between 2001 and 2007, there were numerous instances in which the 4-WMA of the CV exceeded the inner warning track (the mean plus 2SD's). And, in four instances, the 4-WMA of the CV exceeded the mean plus 3SD's (the outer warning track), with it spiking to 12.68 on September 28, 2008, the month of the financial panic, and a week after the collapse of Lehman Brothers. Since the recovery from the 2007-09 Panic and Recession, save March 7, 2011, when it exceeded the mean plus 2SD's, but not 3SD's, it has not even exceeded the mean plus 2SD's. A longer-term, more trend-pronounced perspective is depicted in Graph 73-B, which shows the 52-WMA of the CV of U.S. Gasoline prices. There are four instances in which the 52-WMA of the CV of the price of U.S. Gasoline exceeded the mean plus 1SD, and again, they were all in the post-2001 period. There are no instances over the September 1991-October 2012 period spanned in Graph 73-B in which the 52-WMA of the CV of the price of U.S. Gasoline exceeded the mean plus 2SD's. There is one instance in which it exceeded the outer warning track (the mean plus 3SD's), and that is when it was at its highest value over the range of data: 34.79 on May 18, 2009. The question is: What accounts for the increased volatility, which can be observed in both the 4-WMA and the 52-WMA of the price/gallon of U.S. Regular Gasoline?

⁴⁸ *ibid.*



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Graph 74 tracks the monthly U.S. production of crude oil (left vertical scale) and the spot price of West Texas Intermediate (WTI), at Cushing (right vertical scale), from January 2000 to December 2011. It is apparent from Graph 74 that U.S. crude production began to decline after January 2001 to February 2005, when production began to recover slightly. Then, after May 2005, after U.S. crude production of 173.0 million barrels (bbls), it then plummeted to 126.1 million bbls/month by September 2005. Over this same period, the price/bbl of WTI increased from \$27.26/bbl to \$65.59/bbl. By January 2006, production had recovered somewhat to 158.3 million bbl/month. After peaking at \$133.37/bbl in July 2008, with the financial crisis in September, WTI fell to \$39.09/bbl by February 2009. U.S. crude-oil production had collapsed to 177.9 million bbls/month in September 2008, but recovered by January 2009. And by December 2011, U.S. crude production had recovered to 182.2 million bbls/month. However, as US crude production recovered, so did the spot price of WTI, and by April 2011, it briefly surpassed \$109/bbl. So, as U.S. production recovered, then why did the price/bbl of WTI begin climbing again? Was the growth in demand outstripping the growth in supply?

In fact, as illustrated on Graph 75-A, as the trend in U.S. oil imports declined after September 2006, and the trend in U.S. crude production increased after November 2005, depicted in Graph 75-B, the price of WTI increased. And, not only did U.S. crude production increase over this period, as imports fell, but, according to The International Energy Agency, the U.S. will become the world's largest oil producer by around 2020, temporarily overtaking Saudi Arabia, as new exploration technologies help find more resources⁴⁹. So, why the rise in oil prices in the face of increased domestic production, reduced imports, and flat, to declining, domestic demand?

OIL PRICES, SPECULATION, AND IRAN

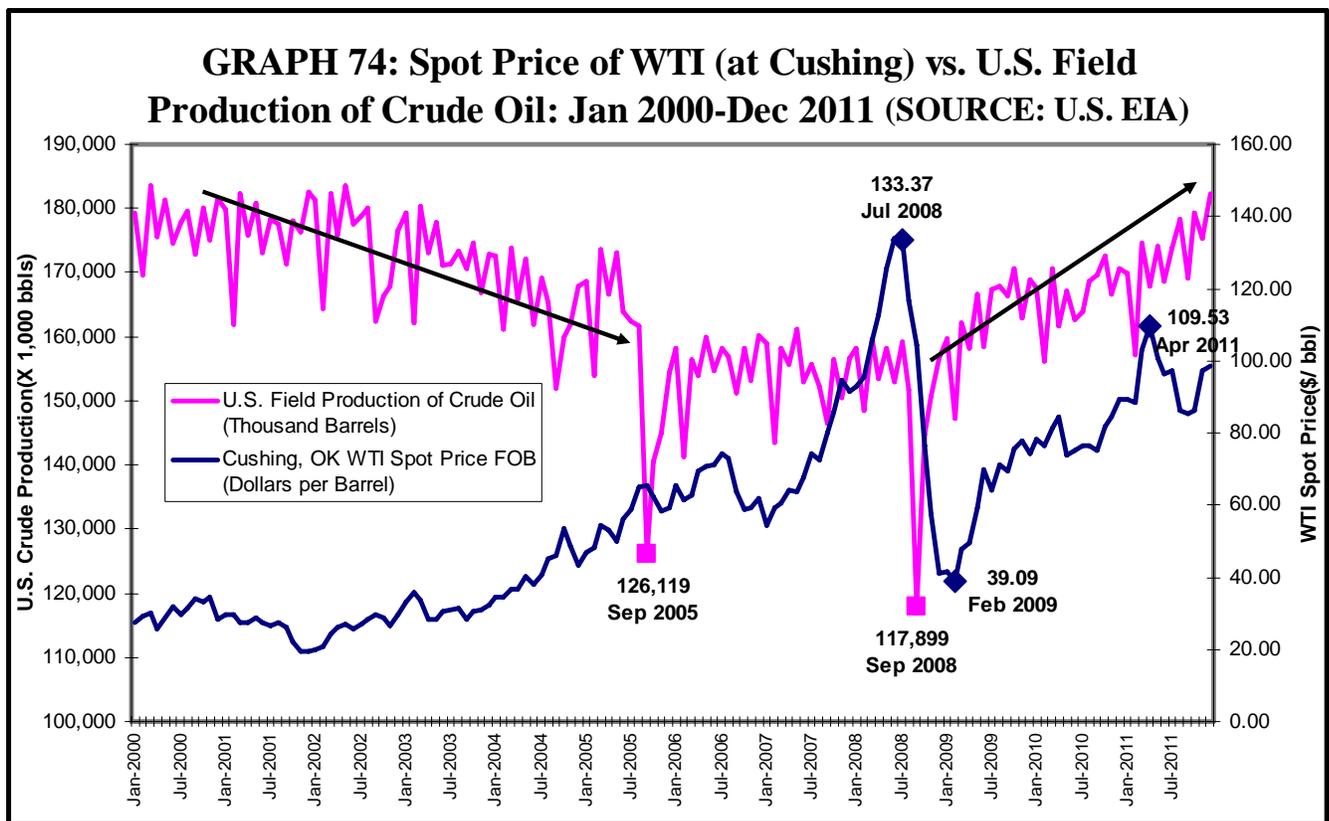
The most important input into the refining of gasoline is, of course, crude oil. According to the U.S. Energy Information Administration (EIA), over the 2000-11 period 54% of

⁴⁹ Associated Press, *News Summary: US will be biggest oil producer* (November 12, 2012) < <http://finance.yahoo.com/news/news-summary-us-biggest-oil-174936407.html> > Accessed on November 16, 2012.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

the retail price/gallon of regular gasoline was due to the cost of crude oil. For just 2011, the cost of crude oil increased to 68% of the share of the price/gallon of regular gasoline. However, Federal and state taxes, refining costs, and distribution and marketing all declined as a share of the cost of producing a gallon of gasoline.⁵⁰ This means that in 2011, the cost of crude oil had a much greater role in determining the price/gallon of regular gasoline than it did over the previous decade or so. Further, just as crude oil was increasing as its share of the cost of a gallon of gasoline, speculators may have begun to price in a military confrontation with Iran .

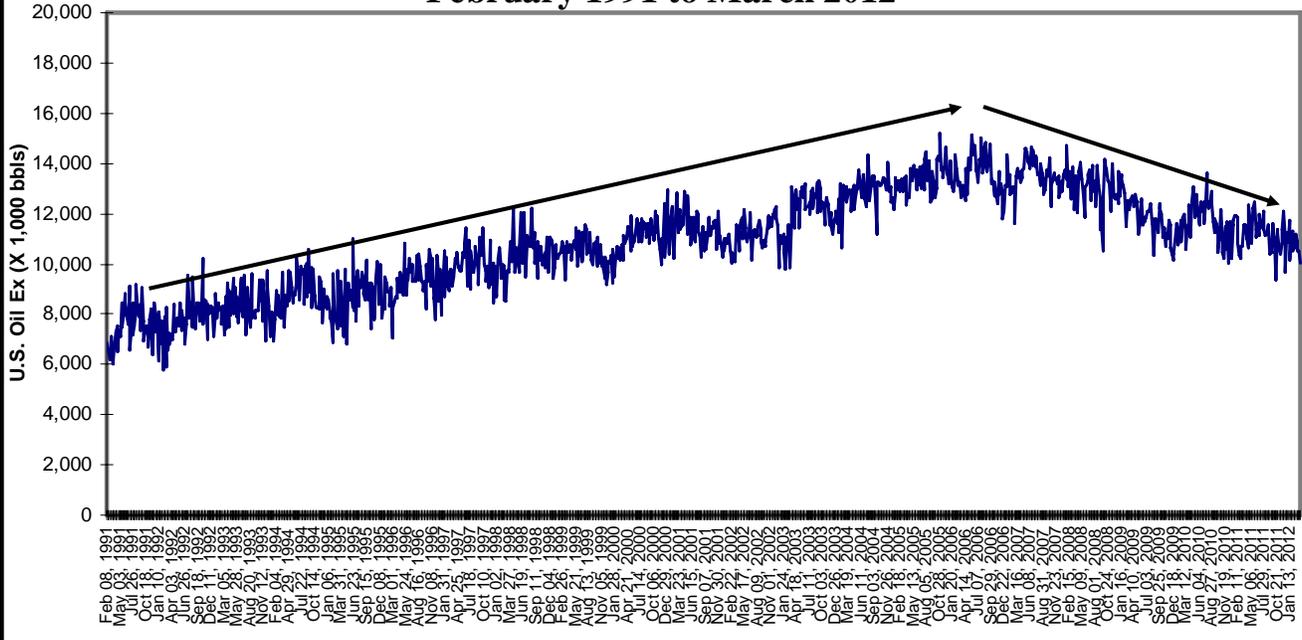


SOURCE: U.S. EIA and author's calculations.

⁵⁰ U.S. Energy Information Administration, GASOLINE EXPLAINED: Factors Affecting Gasoline Prices – Basics < > Accessed on October 16, 2012.

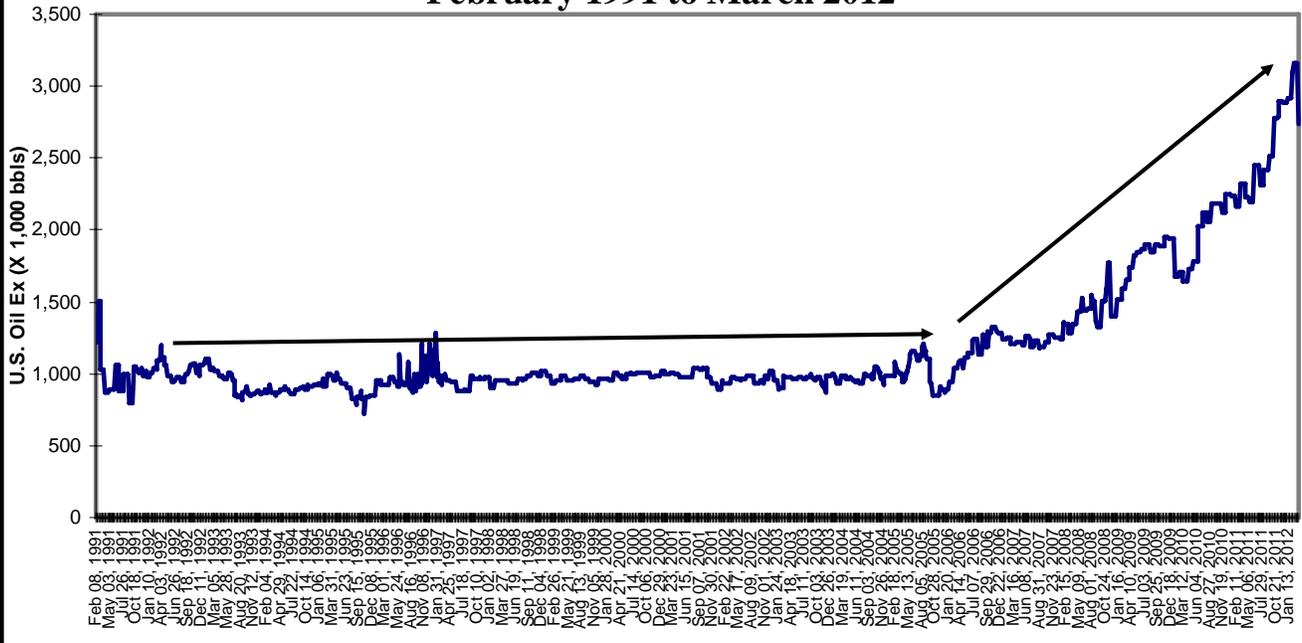


**GRAPH 75-A: U.S. Weekly Imports of Crude Oil-
February 1991 to March 2012**



SOURCE: U.S. EIA and author's calculations.

**GRAPH 75-B: U.S. Weekly Exports of Crude Oil-
February 1991 to March 2012**



SOURCE: U.S. EIA and author's calculations.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Rhetoric in the U.S. presidential campaign over a more aggressive response to Iran’s pursuing its nuclear program, including indications by Israeli Prime Minister Netanyahu to take “decisive action” to thwart Iran’s nuclear ambitions, as well as, posturing by Iran, raise the specter of war in the Middle East and a disruption in oil supplies⁵¹.

The issue of speculation was addressed in Volume 1 of the Economic Outlook for 2010-12⁵². As noted in the 2010-12 *Outlook*, speculation in commodity markets, and particularly oil and food, played a role, not only in rising oil prices, but also the increased volatility of the oil futures market over the first decade of this century. In June 2011, the Political Economy Research Institute (PERI) at the University of Massachusetts released a report that found that U.S. consumers paid an 83-cent premium for a gallon of gasoline in May 2011 because of speculation in the futures market for oil⁵³.

The Financialization of Commodities

Ke Tang Wei Xeing (2011)⁵⁴ found that concurrent with the rapid growing index investment in commodities markets since early 2000s, futures prices of non-energy commodities in the U.S. became increasingly correlated with oil and this trend was significantly more pronounced for commodities in the two popular SP-GSCI and DJ-UBS commodity indices. Their finding reflects a financialization process of commodities markets and helps explain the largely increased price volatility of non-energy commodities around 2008. With regard to oil in particular, the PERI report (discussed above) noted that:

⁵¹ Philips, Matthew, *Have Oil Speculators Already Priced In War With Iran?* (March 07, 2012) < <http://www.businessweek.com/articles/2012-03-07/have-oil-speculators-already-priced-in-war-with-iran> >

⁵² See Kennedy, Daniel W., *Current Conditions and Outlook for the U.S. and Connecticut Economies:2010-2012VOLUME 1: CURRENT CONDITIONS AND OUTLOOK FOR THE U.S. ECONOMY: 2010-2012* (July 2011) Office of Research, Connecticut Department of Labor: Wethersfield, pp. 92-96

⁵³ Kennedy, Daniel W., , *Current Conditions and Outlook for the U.S. and Connecticut Economies: 2010-2012* (July 2012) Connecticut Department of Labor: Wethersfield, CT., p. 93.

⁵⁴ Ke Tang Wei Xeing, *Index Investment and Financialization of Commodities* (March 2011) National Bureau of Economic Research: Cambridge, MA.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

The reason the crude oil futures market has exploded is that a new type of trader has come to dominate the futures market. These traders entered the market with enormous financial resources, enabling them to influence the ups and downs of market prices to an unprecedented degree. To a large extent, these traders are affiliated with major investment banks, such as Goldman Sachs or UBS. They became involved in this market to buy energy futures contracts as an alternative to holding stocks, bonds, or other types of derivative assets, such as mortgage-backed securities. But when these traders came to hold dominant positions in the market, they also gained the power to move prices up or down through their own trading decisions⁵⁵.

OIL: From Commodity to Asset

Dan Dicker, in his book, *OILS'S ENDLESS BID* noted that by 2003, the dominating forces in oil trade were no longer the oil companies. In 2006, just before the New York Mercantile Exchange (NYMEX) went public, oil companies held 22 seats on the NYMEX, while investment banks held 56 seats⁵⁶. Until the 1990's, the oil companies held twice as many seats as they did in 2006. The largest number of seats held was nine, by the French bank BNP Paribas. The second largest number of seats held (six), was held by AIG! And, in fact, in 1998, Goldman Sachs attempted to buy the NYMEX⁵⁷. Thus, the financial sector has had their eye on the oil-trading market for a couple of decades. In addition, Dicker cites the introduction of electronic/on-line trading as also driving increases in the volatility in the price of oil⁵⁸. Further, this new set of players are not interested in the price of oil per se, but, instead, but instead, bet on the *Crack Spread*⁵⁹, rather than the specific price. That is, they tend to be *Spread Traders*, rather than *Outright Traders*⁶⁰.

Thus, since the wholesale entry of the investment banks into the oil futures market, in the first decade of this century, oil has been treated as another investment in a portfolio. That

⁵⁵ Pollin, Robert and James Heintz, *How Wall Street Speculation is Driving Up Gas Prices Today* (June 2011) Political Economy Research Institute University of Massachusetts: Amherst, p. 3.

⁵⁶ Dicker, Dan, *OIL'S ENDLESS BID: Taming the Unreliable Price of Oil to Secure Our Economy* (2011) John Wiley & Sons: New York, pp. 101-106.

⁵⁷ *ibid*, pp. 111-112.

⁵⁸ *ibid*, Chapter 5.

⁵⁹ See U.S. EIA, *An introduction to crack spreads* <
<http://www.eia.gov/todayinenergy/detail.cfm?id=1630#>>

⁶⁰ *ibid*, pp. 12-18 and Chapter 6.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

is, it is being treated just like a stock or other asset, as opposed to a commodity. Further, with investment banks now accounting for a significant volume of trading in oil futures, cash-settlement contracts have now come to dominate physical-settlement contracts. That is, the trading of oil futures has become a purely financial transaction. This trend has been further evidenced in a recently released report by the Federal Reserve Bank of Saint Louis that confirms, and reinforces, the above reported findings. The Saint Louis Fed released a revised and updated version of their October 2011 report, *Speculation in the Oil Market*, in February 2012⁶¹. Their findings included the following: While global demand shocks account for the largest share of oil price fluctuations, speculative shocks are the second most important driver (Abstract). The increase in oil prices in 2004 coincided with a large flow of investment in commodity markets and an increased price co-movement between different commodities (p. 27). The speculative view of oil price determination suggests that a growing participation in oil futures by non-market players can push the price above the level that should result from purely fundamental factors (p. 28).

OR, IS IT LOGISTICS?

According to Matthew Philips, it is logistics. He writes in **BUSINESSWEEK**:

The sudden rise in U.S. oil production has outpaced our ability to refine it efficiently. Most of that new domestic crude is coming from the middle of the country: North Dakota, Texas, Oklahoma, and Kansas. As of May, North Dakota was producing 639,000 barrels of oil per day, 75 percent more than it was 12 months earlier. The problem is that no refineries exist up there. The biggest refining hub in the U.S. is along the Gulf Coast, followed by the Philadelphia/New Jersey area and Southern California. That made sense in the days when the U.S. imported most of its oil. Now, with foreign imports falling and domestic production skyrocketing, not so much⁶².

⁶¹ Juvenal, Luciana and Ivan Petrella, *Speculation in the Oil Market* (October 2011, Revised February 2012) Working Paper 2011-027C, Federal Reserve Bank of Saint Louis: Saint Louis.

⁶² Philips, Matthew, *Solving the Mystery of Rising Gasoline Prices* (August 14, 2012) **BUSINESSWEEK** <
<http://www.businessweek.com/articles/2012-08-14/solving-the-mystery-of-rising-gasoline-prices> >



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

In the Northeast, refiners have to use imported oil, which is tied to Brent Crude, rather than West Texas Intermediate (WTI), prices, so gasoline prices are higher. Currently, a number of efforts are underway to get that North Dakota oil from the Bakken field to the East Coast by rail⁶³. Further, there was a sharp, 31-cent rise in Southern California pump prices over the first half of October 2012 after refinery outages created a severe supply shortage there, even though gasoline demand was down 3.1%, Year-to-Year (YTY)⁶⁴.

It may, in fact, be both, speculation and logistics. Finally, it should be kept in mind that, in the final analysis, the price of oil is determined on the international market. And, even though *The Energy Policy and Conservation Act of 1975* (P.L. 94-163, EPCA) directs the President to restrict the export of crude oil, refined products (e.g., gasoline) can, in fact, be exported⁶⁵. Further, Shell and other oil companies operating in the U.S. have applied to export crude oil from the U.S.⁶⁶ So, increases in domestic production will not necessarily translate into lower gasoline prices, especially if a significant portion of our domestically-refined distillates, and possibly, crude oil, are exported.

In terms of oil's impact on consumer spending, as has been noted in past outlooks, an increase in gasoline and heating oil prices, acts as a regressive tax increase. Since there are no available substitutes, consumers must absorb the price-increase, which leaves less money left over for spending on other activities. Further, the lower the income, the higher the percentage of income spent on gasoline and heating oil, and that acts as a regressive tax increase depressing aggregate demand.

⁶³ *ibid.*

⁶⁴ Reuters, *UPDATE 1-US gasoline demand dips as prices rise* (Oct 16, 2012) < <http://www.reuters.com/article/2012/10/16/usa-gasoline-demand-idUSL1E8LGE5J20121016> >

⁶⁵ Nerurkar, Neelesh, *U.S. Oil Imports and Exports* (April 4, 2012) Congressional Research Service: Washington, p. 21.

⁶⁶ Tait, Carrie, *Shell eyes U.S. oil exports as domestic supplies weigh on market* (Oct. 12 2012) GLOBE AND MAIL: Toronto < <http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/shell-eyes-us-oil-exports-as-domestic-supplies-weigh-on-market/article4607737/> > Accessed on November 18, 2012.

>



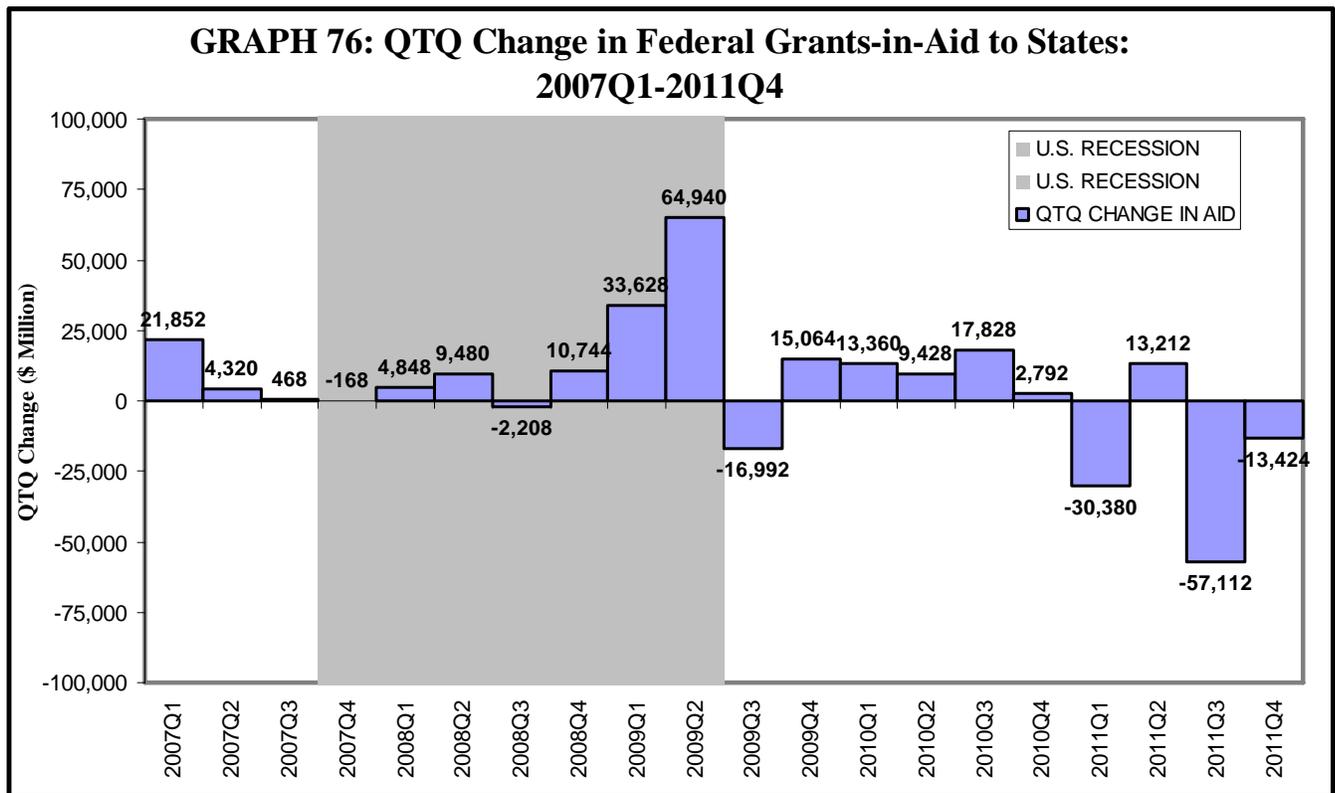
**iii. FROM FISCAL STIMULUS TO FISCAL DRAG:
The ARRA and State and Local Budgets (Impacts of
Fiscal Federalism in Reverse)**

Another Drag Force on the economy is the winding down of the *American Recovery and Reinvestment Act* (ARRA) stimulus. As a consequence, the recovery, which began officially in June 2009, has proceeded in fits-and-starts. This is reflected especially in the loss of 586,000 Government jobs between June 2009 and March 2012, even as the Private Sector steadily added jobs. Of these, 492,000, or 84%, of those lost jobs were Local Government as ARRA/Stimulus support for maintaining employment-levels of teachers and public safety workers was withdrawn. This was illustrated in Graph 27 (see page 54, above). As the ARRA went into effect in the second quarter of 2009, state and local budgets had, in the aggregate, gone from a \$10.0 billion surplus in 2007Q3, one quarter before the official start of the recession, a \$118.1 billion deficit by 2009Q2, when the ARRA Grants-in-Aid began to kick in. Since most states, save a few like Vermont, must, according to their constitutions, balance their budgets, they were forced to cut spending, raise taxes, or both. Either one, and certainly both take spending out of the economy resulting in the Public Sector subtracting from, rather than supporting, Aggregate Demand. As the ARRA part of the Grants-in-Aid to the states funded states' operations, especially for Medicaid, Education, and Public Safety, state and local budget deficits began to subside. In 2009Q2, the first quarter it went into effect, state and local governments received \$49.4 billion in ARRA Grants-in-Aid, which peaked at \$104.8 billion in 2010Q2; one quarter later (2010Q3), state and local budget deficits, in the aggregate, reached their lowest point over the current recovery: -\$5.3 billion. Since then, ARRA Grants-in-Aid have declined to state and local governments and were only \$18.0 billion in the first quarter of 2012. With the continuous, successive declines in ARRA funding to state and local governments, since 2010Q2, state and local budgets have returned to successively deteriorating in each quarter corresponding to the cuts in ARRA funding. In 2012Q1, the budget deficit for state and local governments, in the aggregate, was \$87.7 billion.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Graph 76 tracks the Quarter-to-Quarter (QTQ) change in Federal Grants-in-Aid to the states from 2007Q1 to 2011Q4. After peaking at \$64.9 billion in 2009Q2, the quarter the ARRA went into effect, Federal Grants-in-Aid actually fell by \$17.0 billion in 2009Q3. After that, Grants-in-Aid to the states grew for five straight quarters, but only at a fraction on the nearly \$65 billion in 2009Q2. Save 2011Q2, Federal Grants-in-Aid declined each quarter, including two steep declines: -\$30.4 billion in 2011Q1 and -\$57.1 billion in 2011Q3.



SOURCE: U.S. BEA and author's calculations

Graphs 77-A and 77-B detail the changes in the categories of Grants-in-Aid, and their QTQ changes over 2009-10 and 2010-11. Beginning with 2009Q1, Federal grants to the states for Housing and Community Services accounted for all of the growth in Federal aid to the states, increasing by \$45.1 billion, on a QTQ basis, while Federal aid to Education declined by \$7.4 billion. In 2009Q2, the quarter of the most significant impact of the ARRA (see Graph 76, above), \$36.5 billion of the QTQ growth in Federal Grants-in-Aid

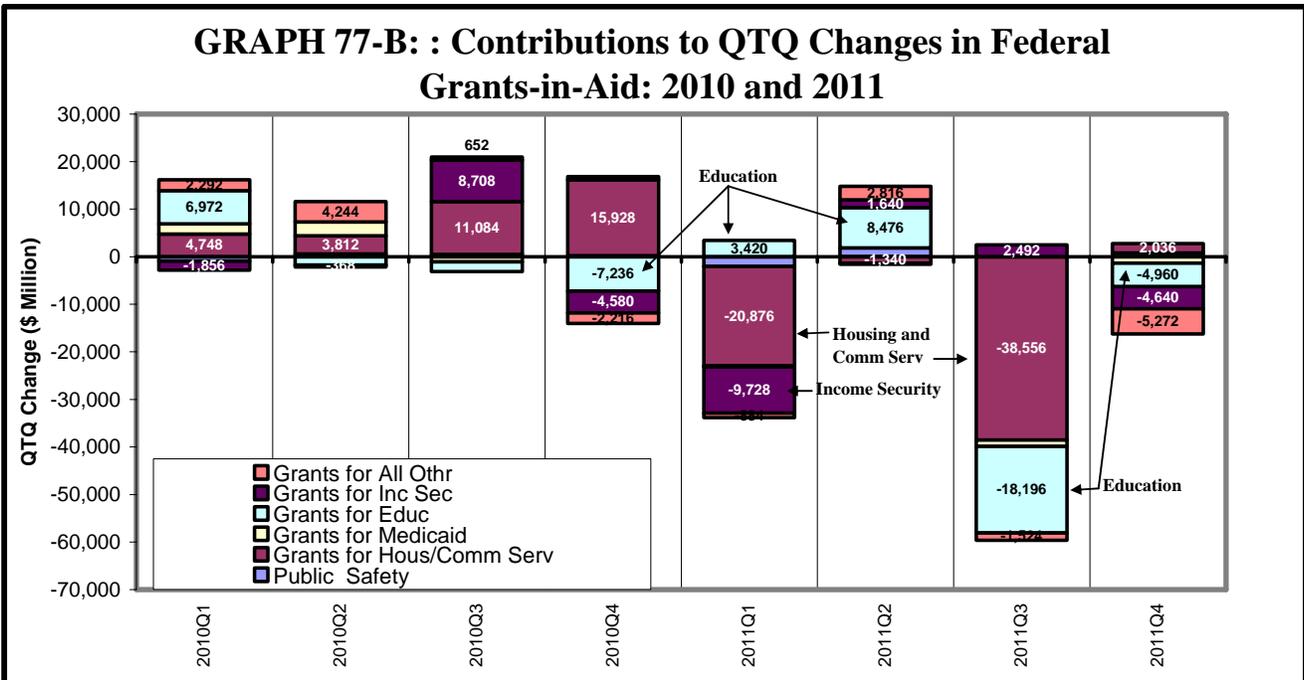
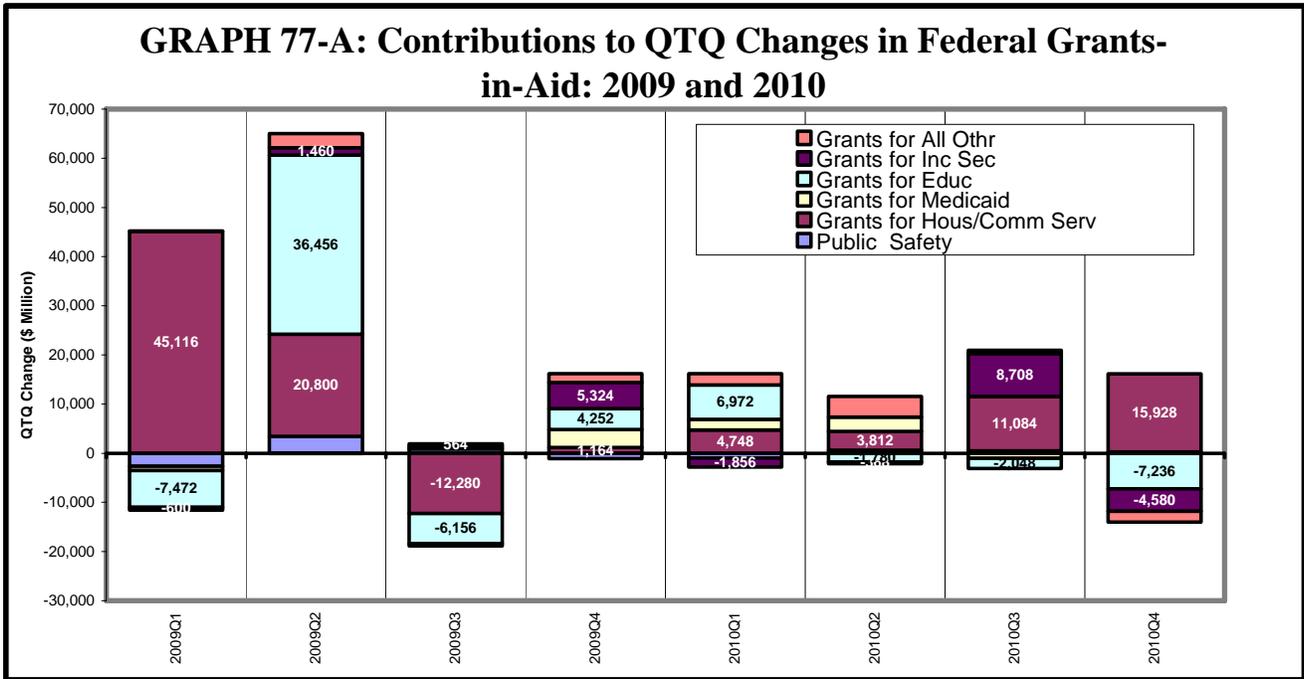


**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

to the states was for Education, and \$20.8 billion was for Housing and Community Services. In addition, grants for Public Safety increased by \$3.4 billion, and aid for Income Security increased by \$1.5 billion. Then, in 2009Q3, Federal Grants-in-Aid to the states declined, on a QTQ basis (see Graph 76), led by a \$12.3 billion decline in grants for Housing and Community Services, and a \$6.2 billion decline in aid to the states for Education.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



SOURCE: U.S. BEA and author's calculations.

The year 2009 was followed by modest QTQ growth in Federal Grants-in-Aid to states, with consistent QTQ growth in grants to states for Housing and Community Services, including an \$11.1 billion increase in 2010Q3 and a \$15.9 billion increase in 2010Q4.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

But, after 2011Q2, this was followed by steep QTQ declines in most categories of Federal aid to the states as well as total aid (see Graph 76, above), throughout 2011. The two steepest declines were in 2011Q1 and 2011Q3 (again, see Graph 76). The first quarter, QTQ decline, was led by a \$20.9 billion decline in aid to the states for Housing and Community Services, and a \$9.7 billion decline in aid for Income Security. The steepest QTQ decline, in 2011Q3 (see Graph 76), was led by a \$36.6 billion decline in Federal aid to the states for Housing and Community Services, and a \$18.2 billion decline in aid to Education (see Graph 77-B).

The ultimate burden of these cuts in Federal aid has been borne by local governments, as illustrated in Graph 27 (see page 54, above). The result of this reduction in Federal aid to the states was reflected in the continuous shedding of local government jobs over the current recovery (see Graph 28, page 56, above). Declines in Government Employment have continued into 2012, and local government continues to account for the majority of the job-losses. This, in turn, has acted as a drag on the growth of total Non-Farm Employment jobs, as Private-Sector jobs have increased throughout 2010 and 2011, and into 2012, those Private-Sector increases have been offset by the subtraction of government job-losses. The net result has been a muting of the month-to-month job-growth throughout the current recovery.

And, in fact, the behavior of Government employment, over the current recovery, is an anomaly when compared to other Post World War II recoveries, and particularly compared to the other two Post Cold War recoveries. As Federal support to the states and local governments, in the form of Grants-in-Aid, particularly under the ARRA, has been withdrawn, there has been a loss of 586,000 Government jobs between June 2009 and March 2012, compare this to the 309,000 Government jobs added over the first 35 months of recovery from the 2001 Recession, and the 659,000 Government jobs added coming out of the 1990-91 Recession. This was illustrated in Graph 28, above (see page 56, above). This is the first Post World War II recovery in which Government did not lead, or at least reinforce, the recovery in the job market, but instead acted as a drag on the jobs recovery by subtracting significant numbers from the monthly jobs data.



IV. EUROPE'S CRISIS: Angela Merkel and the Ghosts of Heinrich Brüning and Walter Eucken (Will Greece Leave the EU?)

As recounted in the 2009-11 Outlook:

The Greek debt crisis was touched off by the credit-rating agencies' downgrade of Greece's bonds based on their belief that Greece's national debt was at unsustainable levels. Was the timing of the credit agencies' downgrade of Greece motivated by their being caught off guard by Dubai's postponing repayment of their bonds? Regardless of the timing, one thing is clear, the drop in tourism and shipping, the mainstays of the Greek economy, due to the recent World financial and economic crisis, precipitated the current fiscal crisis in Greece. But, in addition to structural problems in Greece itself, there are also contradictions in the structure of the European Union (EU), or Eurozone, which also must be resolved⁶⁷.

It was October 2009 when George Papandreou became Prime Minister of Greece and discovered that the previous government had hidden the extent of Greece's debt. And, because the Greek debt crisis exposed the fissures within the entire European Union, it touched off the Euro Crisis that still threatens the World's economies as 2012 comes to a close.

EU CONTRADICTIONS: Current-Account Imbalances with No Adjustment

Mechanism:

In his *Fixing Flaws in the Eurozone*⁶⁸, Stanley Black notes that Greece, Italy, Portugal, and Spain faced a brighter future when they entered the Eurozone. Suddenly capital was available to them on essentially the same terms enjoyed by Germany. This sparked a vast construction boom, financed by private capital eager to assist the newly credible borrowers. Repayment was guaranteed in Euros, whose value could not be undermined by devaluation. Unfortunately, as Black points out, much of the construction went into

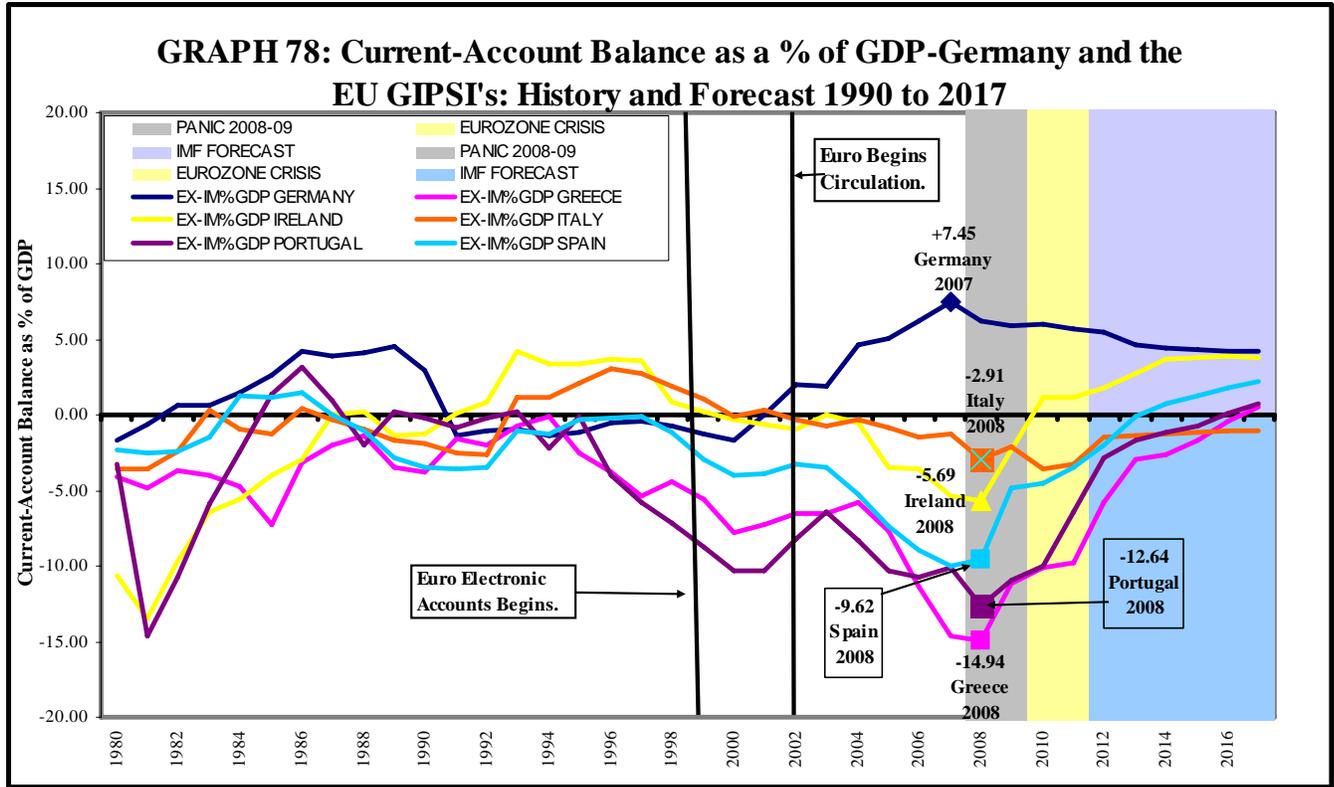
⁶⁷ Kennedy, Daniel W., *Current Conditions and Outlook for the U.S. and Connecticut Economies: 2009-2011* (August 2010) Office of Research, Connecticut Department of Labor: Wethersfield, p. 139

⁶⁸ Black, Stanley w., *Fixing the flaws in the Eurozone* (November 23, 2010) VOXEU.Com <
<http://www.voxeu.org/article/fixing-flaws-eurozone> > Accessed on March 15, 2012.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

housing and other *non-tradable goods* sectors. Wages rose more rapidly than in Germany and productivity growth did not exceed the norm. As costs rose, eventually real exchange rates became overvalued and external competitiveness suffered. Deteriorating external positions could be financed by continued capital inflows, as long as not too many questions were asked about repayment.



SOURCE: International Monetary Fund (IMF), *World Economic Outlook* (October 2012)

This is reflected in the deteriorating Current-Account Balance (CAB) of the GIPSI's (Greece, Italy, Portugal, Spain, and Ireland) illustrated in Graph 78, which tracks the history of the GIPSI's CAB, as a percent of GDP, from 1980 to 2011, and the IMF's forecast from 2012 to 2017. The first trend to note on Graph 78 is that the CAB's, as a percent of GDP, of the GIPSI's have all deteriorated relative to Germany's CAB, as a percent of its GDP. On the eve of the 2008 Financial Panic, Greece's CAB, as a percent of its GDP, was -14.94%, Portugal's CAB was -12.64% of GDP, Spain's CAB was -9.62% of GDP, Ireland's CAB was -5.69% of GDP, and Italy's CAB was at -2.91% of its GDP.



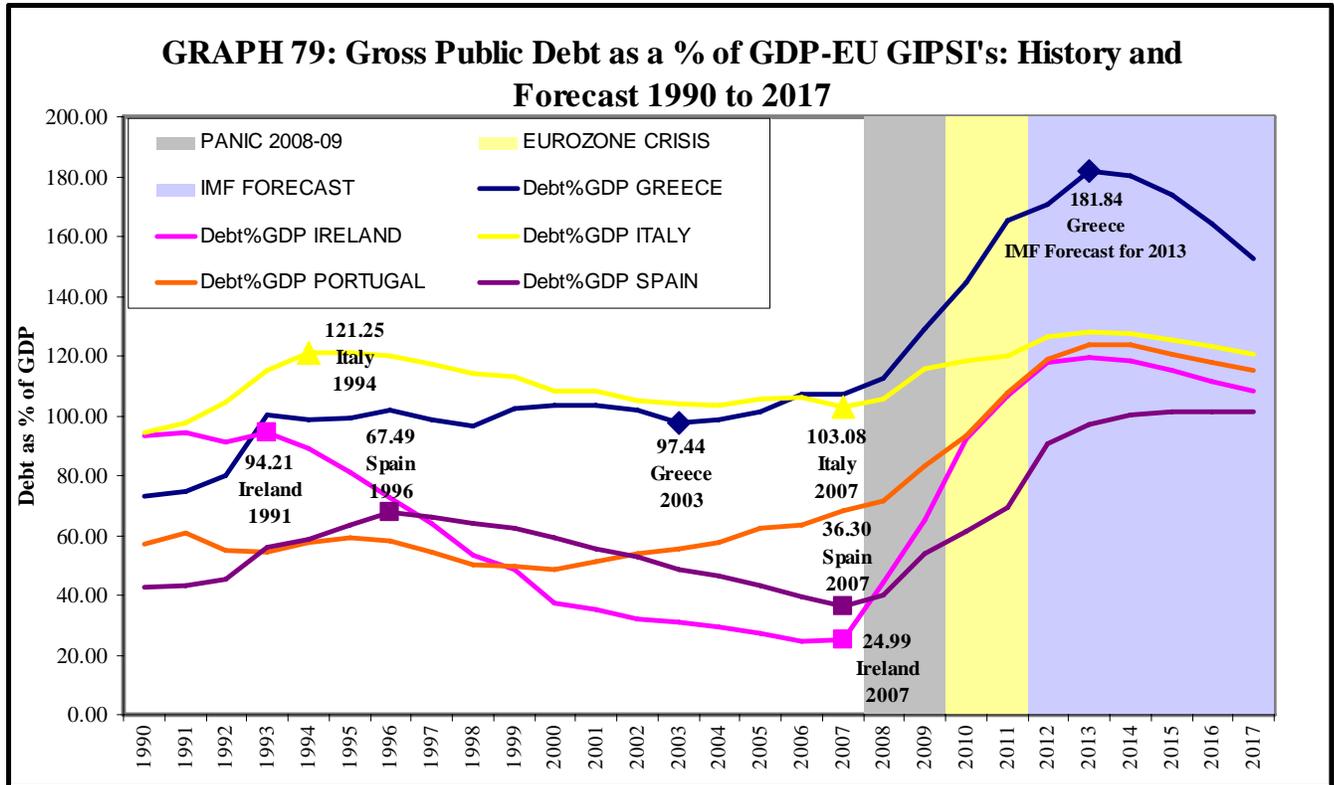
**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Even France (not shown) ran a CAB deficit of 1.74% of GDP in 2008, at the onset of crisis. Of the major EU economies, Germany alone was running chronic CAB surpluses. In 2007, Germany's CAB was at a surplus equal to 7.45% of its GDP. With the onset of crisis, Germany's CAB surplus had declined slightly to 6.21% of GDP. Though it declines, Germany's CAB surplus is projected to continue into the IMF's forecast horizon to 2017, as Ireland, Spain, and Portugal's CAB'S are expected to go into surplus, as well. Even Greece is expected to be in balance by 2017. Italy is expected to have a slight deficit.

The mechanism that transmitted this capital inflow into the Southern European countries from the north, as Maurer⁶⁹ explains, was the higher inflation in these countries, which translated into lower real interest rates than in Germany, feeding a soon-to-be vicious circle of increased private debt and rising real exchange rates. The lower real interest rates in the high-inflation countries induced them to borrow from the low inflation countries, whose lenders could find more willing takers than home borrowers, who faced relatively higher real interest rates at the same nominal rate. These were private debts, not fuelled by government borrowing. In fact, Maurer shows that government deficits in the high-inflation countries were declining as a percentage of GDP up to the onset of the financial crisis that began in 2007. This is illustrated in Graph 79.

⁶⁹ Maurer, Rainer Willi (2010) *The eurozone debt crisis – A simple theory, some not so pleasant empirical calculations and an unconventional proposal*. Working Paper, Hochschule Pforzheim University.





SOURCE: IMF, WEO (October, 2012)

Graph 79 tracks the history of the Public Debt of the GIPSI's from 1990 to 2011, and the IMF's forecast from 2012 to 2017. Ireland's Public Debt fell from 94.61% of GDP in 1991 to 24.99% of GDP just before the onset of crisis in 2007. Spain's Public Debt fell from 67.49% of GDP in 1996 to 36.30% of GDP by 2007, and though Italy's Public Debt has been at higher levels than that of Ireland, Spain, Portugal, or even Greece, its Public Debt, nevertheless, fell from 121.25% of GDP in 1994 to 103.08% of GDP by 2007. Although Portugal's Public Debt increased from a low of 48.36% of GDP in 2000, by 2007, at 68.27% of GDP, it was still much lower than the level of debt, as a percent of GDP, than either Greece or Italy.

Greece is a unique case among the GIPSI'S. After rising from a low of 22.58% of GDP in 1980 (not shown on Graph 79), it began to sharply increase after 1989, reaching 100% of GDP by 1993 (see Graph 79). It hovered just over 100% of GDP until the onset of the World-wide financial panic in 2008 when it jumped to 112.62% of GDP, and then



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

climbed to 128.95% of GDP in 2009. With the onset of the EU Crisis, Greece's Public Debt, as a percent of GDP, surged to 144.55% in 2010, and 165.41% in 2011. The IMF projects that Greece's Public Debt, as a percent of GDP, will peak at 181.84%, in 2013.

Many are quick to blame high wages and overly-generous retirement and other benefits to Greek workers as the excesses that led to the current crisis, particularly, as it relates to Greece. However, what is overlooked by the exclusive focus on Greece's social spending is the relatively enormous Greek defense budget. As noted by the Atlantic Council of Canada:

Greek military spending has consistently been among the highest, as a proportion of GDP, in the Alliance for decades, largely in response to tensions with their neighbour, fellow NATO member, and longstanding rival, Turkey. Despite the country's tip into recession, the Greek defense budget actually rose nominally by 6.9 percent in 2009 from €5.81 billion to €6.24 billion. A country with a population of 11 million, Greece was the world's fifth-biggest weapons importer between 2005 and 2009, according to the Stockholm International Peace Research Institute (SPIRI)⁷⁰.

Further, Greece is bankrupt but their military is shopping for arms. In 2010 Greece spent a greater share of its income on arms than any other NATO country except the US.⁷¹ Greece's top military brass plan to buy up to 60 Eurofighter aircraft, costing €4 billion, as well as, a number of French frigates and German subs⁷². Above and beyond Greece's social and military spending, as noted by *Businessweek* is that the heart of Greece's problem is that, outside of tourism and shipping, they do not produce anything⁷³.

⁷⁰Atlantic Council of Canada, *Greek Military Spending in Light of the Euro Zone Crisis* (Jun 08, 2010) < <http://atlantic-council.ca/greek-military-spending-in-light-of-the-euro-zone-crisis/> > Accessed on November 15, 2012.

⁷¹Atkinson-Small, Janice, *Greece needs to stop its military spending or there will be no country there to defend* (31 January 2012 5:29 PM) DAILY MAIL ONLINE < <http://atkinsonsmallblog.dailymail.co.uk/2012/01/greece-needs-to-stop-its-military-spending-or-there-will-be-no-country-there-to-defend.html> > Accessed on November 15, 2012.

⁷² *ibid.*

⁷³ *What a Return to the Drachma Really Looks Like*, BUSINESSWEEK (May 28-June 3, 2012), pp. 13-14.



SO DID THE HIGH DEBT CAUSE THE CRISIS, OR DID THE CRISIS CAUSE THE HIGH DEBT?

Maurer⁷⁴ goes on to point out that many blame the high-inflation countries for running excessive government deficits and recommend fiscal contraction. While it is true that the debts of the high-inflation countries may be unsustainable, that is not the source of their problems. This is quite clear from Graph 79, above. As is depicted, the Public Debt of the GIPSI's (save Greece and Portugal), was declining significantly until the onset of the financial crisis in 2008. Therefore, solving the, so-called, running-up-of-unsustainable-levels-of-sovereign-debt problem is not the solution to the problem since the high debt-levels are the *consequence* of the problem, and not the cause. Further, solving it will not remove the real interest rate incentives for over-borrowing.

So, what is the solution? Maurer sees the problem as one of unsustainable external current-account deficits leading to a build-up of private debt induced by real interest rate differentials (see Graph 78, above). Therefore, Maurer suggests correcting for the real interest rate differentials noted above by a value-added-tax-cum-subsidy on credits to be determined by the ECB. This would require fiscal actions by each of the member states, which would be difficult politically. His solution is equivalent to having the ECB set different interest rates for different member countries. Instead, the refinancing rate can be differentiated among member countries according to fundamental conditions in each of the member economies. Something similar has been done before. From 1914 to 1941, the US Federal Reserve System operated just such a policy, allowing the discount rate to be set district by district.

Again, as noted above: Maurer stated that, while it is true that the debts of the high-inflation countries may be unsustainable, that is not the source of their problems. Solving it will not remove the incentives for over-borrowing created by real interest rate differentials.

⁷⁴ Maurer (2010).



SATAYANNA, MERKEL, AND THE GHOSTS OF BRÜNING AND EUCKEN

As discussed above, the Euro-debt crisis has been approached as if the source of the problem is due to the high-inflation countries running excessive government deficits, which, as shown above, is the consequence of the problem, not the root cause. Further, the solution, grounded in “Expansionary Austerity” is as much an economic oxymoron, as the term itself is an oxymoron. In addition, the recommended policy solution of fiscal contraction demonstrates an inability to learn from history. So what is at the heart of this insistence on slashing budgets and economic policy of contraction?

George Santayana’s words “Those who cannot remember the past are condemned to repeat it”⁷⁵ are screaming out here. It seems as if Angela Merkel has forgotten those words as Germany imposes severe austerity on Greece in return for bailing them out of the current crisis. Or, is she drawing the wrong lessons from history? Many seem to confuse the hyperinflation in 1923 and 1924 as being what propelled Hitler to power in 1933. But, it was, in fact, the policies of severe austerity, implemented by decree, with the onset of the Great Depression, by the last Weimar Chancellor, Heinrich Brüning, that exacerbated mass unemployment, and reinforced the downward spiral of *deflation*, not inflation, let alone hyperinflation. But whereas the 1930s is seared in American memory, it is less clearly remembered in Germany. The reason, says Professor Carl-Ludwig Holtfrerich of the Free University of Berlin, is that Germany returned to full employment more quickly, thanks partly to Hitler's own form of Keynesian stimulus: notably autobahn-building and rearmament⁷⁶. (Ironically, Brüning, cancelled building the autobahn).

However, this time, it is not Germany, but Greece that may be vulnerable to extremists coming to power because of self-defeating austerity policies:

⁷⁵ Santayana, George, REASON IN COMMON SENSE, Volume 1: *The Life of Reason* (1905) Dover Paperback Edition (June 1980).

⁷⁶ Charlemagne, *Angela Merkel is drawing the wrong lessons from the chaos of German history* (Jun 16th 2012) THE ECONOMIST < <http://www.economist.com/node/21556949> > Accessed on November 21, 2012.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

The prospect of a 1930s-like breakdown now is perhaps most palpable in Greece. In the fifth year of recession, Greeks chose in May to vote in large numbers for the extreme left and right, punishing mainstream parties that supported the austerity and reforms which came as conditions of the country's bail-out. Even in the best scenario, in which centrists return to power in this weekend's second election, a "Grexit" might only be delayed. And once the idea takes hold that a euro member can be pushed out, nobody knows where it will stop⁷⁷.

The historical irony of Germany's pushing austerity measures on today's crisis countries is that Germany's key problem in 1931 was also foreign debts. The US was Germany's biggest creditor. Germany's debts were denominated in US Dollars. Since the mid-1920s, its government had borrowed huge sums abroad to service war-reparation payments vis-à-vis France and Great Britain. Foreign credit also financed Germany's Roaring Twenties – the economic boom after the 1923 hyperinflation. Like Spain, Ireland and Greece today, Germany's 1920s upswing was caused by a credit bubble⁷⁸. As a lack of national currencies prevents the current accounts of the GIPSI's from adjusting under the EU's single-currency regime, so too, to earn Dollars Germany had to turn its huge current account deficit into a surplus in the early 1930's. But like today's crisis countries, Germany was trapped in a currency system with fixed exchange rates, the gold standard, and could not devalue its currency. However, even upon leaving the gold standard, Chancellor Brüning and his economic advisers feared the inflationary effects of devaluation and a replay of the 1923 hyperinflation⁷⁹, again, fearing hyperinflation when *deflation* was the problem.

But, there is another ghost haunting Angela Merkel, and that is Walter Eucken. Hans Kundnani, in an article in *The Guardian* writes that each stage of the Euro Crisis during the past two years, Chancellor Angela Merkel has seemed to do the absolute minimum needed to keep the single currency together – but no more⁸⁰. This minimalist approach to

⁷⁷ *ibid.*

⁷⁸ Lindner, Fabian, *European Austerity – Is this 1931 All Over Again?* (23/11/2011) SOCIAL EUROPE JOURNAL < <http://www.social-europe.eu/2011/11/european-austerity-is-this-1931-all-over-again/#> > Accessed on November 15, 2012.

⁷⁹ *ibid.*

⁸⁰ Kundnani, Hans, *The eurozone will pay a high price for Germany's economic narcissism* (Friday 6 January 2012 09.30 EST) THE GUARDIAN <



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

the Euro Crisis may have ultimately cost Germany more in terms of bailouts than it would have if it had acted sooner and more decisively. On the other hand, it has kept inflation down and the Euro weak – both of which are good for German exports⁸¹. But, what is driving this austerity approach by Merkel to the crisis? Is it solely learning the wrong historical lessons, or have one of Keynes's long-dead academic scribblers caught Merkel's attention?

The economic theory that seems to lurk behind this minimalist approach to the Euro Crisis is Ordoliberalism, or Neoliberalism. It is a peculiarly German form of economic liberalism influenced by Adam Smith but also by 20th-century German history. Developed in the 1930s and 1940s by Walter Eucken and the Freiburg School, Ordoliberalism is based on the idea that the role of the state is to create an economic and legal framework to enable the market to work efficiently – above all through the maintenance of price stability⁸². While they believed in greater state interference in the market than classical Anglo-Saxon liberals (in particular to prevent the emergence of monopolies and oligopolies), they also believed in less interference than Keynesians. For example, Ordoliberals staunchly oppose expansionary fiscal and monetary policy during an economic downturn⁸³. This would certainly explain a good part of Germany's approach to the whole Euro Crisis.

DESIGN FLAWS IN THE *Maastricht Treaty*

The *Treaty of Rome*, officially the Treaty establishing the European Economic Community (TEEC), was an international agreement that led to the founding of the European Economic Community (EEC) on January 1, 1958. It grew out of a plan to foster Franco-German cooperation after the carnage of World War II. It was created out of the existing structure developed through the European Coal and Steel Community

<http://www.guardian.co.uk/commentisfree/2012/jan/06/eurozone-germany-ordoliberalism> > Accessed on November 20, 2012.

⁸¹ *ibid.*

⁸² *ibid.*

⁸³ *ibid.*



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

(established in 1951 by the *Treaty of Paris*), and the BENELUX Union⁸⁴. To further the goal toward a political and economic union, and, in what led to the current set of circumstances, the *Maastricht Treaty* went into effect in November 1993, which created the European Union as it exists today. The following year, the *Schengen Agreement* came into force between seven member nations, expanding to include nearly all others by the end of 1996. The 1990s also saw the further development of the single currency, the Euro. In January 1994, the second stage of the Economic and Monetary Union of the European Union begin with the establishment of the European Monetary Institute and at the start of 1999 the Euro as a currency was launched and the European Central Bank (ECB) was established⁸⁵. On January 1, 2002, notes and coins were put into circulation, replacing the old currencies entirely, and the circulating Euro (€) currency was born.

Heavily influenced by Germany's view of central banking and monetary policy, the European Central Bank (ECB) was established to set monetary policy independent of any political influence. It was an integral part of the European Monetary Union (EMU). The ECB together with the central banks of all the members of the European Union form the European System of Central Banks, or ESCB, which is charged by statute with maintaining price stability as its primary objective. The formulation of price stability as a primary ESCB objective, compared to the U.S. Federal Reserve's multiple mandates of price stability, full employment, and moderate long-term interest rates, was again, driven by German views on fiscal conservatism, and, reflected in a German pre-condition for sacrificing the Deutsche mark.⁸⁶

Was the single Euro-currency set up to fail from the start? As the Congressional Research Service (CRS) notes in its report *The Future of the Eurozone and U.S. Interests*:

From the start of the euro area, various academics and policymakers argued that a single currency for many different economies would face numerous challenges and some even argued that it was bound to fail. According to these

⁸⁴ *Treaty of Rome*, Wikipedia.

⁸⁵ *History of the European Union*-Wikipedia.

⁸⁶ Ahearn, Raymond J, James K. Jackson, Derek E. Mix, and Rebecca M. Nelson, *The Future of the Eurozone and U.S. Interests* (January 17, 2012) Congressional Research Service: Washington, p. 6.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

critics, a big weakness of the project was the lack of a common fiscal policy to support it. This, in turn reflected the fact that it was a currency with a central bank but without a government that has taxation and spending authority. The creation of the euro also meant that members of the Eurozone lost their ability to use monetary and exchange rate policy tools as a way to respond to changes in economic conditions.⁸⁷

Feldstein (2010) notes three key economic reasons why the United States is able to operate with a single currency, despite major differences among its fifty states: (1.) labor mobility, (2.) wage flexibility, and (3.) a central fiscal authority. None of these conditions are present in Europe⁸⁸.

And, there were contradictions inherent in the basic structure of the European Central Bank (ECB). There was no provision in the *Maastricht Treaty* to allow the ECB to act as a lender of last resort to Eurozone members in the case of a financial crisis. According to the EMU's design, each member must finance its deficits by itself. A "no-bail-out" clause explicitly stipulates that neither the European Union nor any member state is liable for or can assume the debts of any other member state. However, EU financial assistance is allowed in case of "severe difficulties caused by natural disasters or exceptional occurrences beyond the control of a member state"⁸⁹.

And, as Feldstein (2010) notes:

The European Central Bank must set monetary policy for the eurozone as a whole, even if that policy is highly inappropriate for some member countries. When demand in Germany and France was quite weak early in the last decade, the European Central Bank reduced interest rates sharply. That helped Germany and France, but it also inflated real-estate bubbles in Spain and Ireland. The recent collapse of those bubbles caused sharp downturns in economic activity and substantial increases in unemployment in both countries.⁹⁰

⁸⁷ *ibid* p. 7

⁸⁸ Martin Feldstein, "The Euro's Fundamental Flaws," *THE INTERNATIONAL ECONOMY* (Spring 2010) p. 12.

⁸⁹ Ahearn, et al (2012) p. 6

⁹⁰ Feldstein (2010) p. 12



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

It is this contradiction in the structure of the ECB that produced the vicious circle of increased-private-debt-and-rising-real-exchange-rates dynamic, discussed above at the beginning of this section (see the sub-heading *EU CONTRADICTIONS: Current-Account Imbalances with No Adjustment Mechanism* above, p. 144), in which differentials in the real interest rate between Northern and Southern EU members, given a uniform nominal interest rate, fueled the capital flows that fed the housing bubbles.

THE EURO CRISIS AND THE U.S.

The Eurozone Crisis can affect U.S. economic and political interests in important ways. As noted by the Congressional Research Service (CRS) in their report *The Future of the Eurozone and U.S. Interests*:

A major U.S. concern is that a sovereign default by Greece or other Eurozone member or the failure of a major European financial institution could reverberate throughout the global economy in much the same way as the U.S. sub-prime crisis did in 2008. At a time when the U.S. economy is weak, another wave of credit freeze-ups and instability in the European banking sector could weaken U.S. financial institutions and nudge the U.S. economy into recession. Slower growth or a recession in the Eurozone could also adversely affect U.S exports and sales of U.S. companies operating in Europe and over time adversely affect U.S. GDP growth⁹¹.

The U.S. and Eurozone economies play major roles in the world economy and are crucially important for each other's prosperity. The U.S. and the EU combined account for around 40% of world GDP, 25% of world trade, 60% of world Foreign Direct Investment (FDI) flows, and 60%-70% of world banking assets and financial services. They also remain each other's most important export markets, and are each other's primary source for FDI. And, U.S. companies operating in the EU and EU companies operating in the U.S. employ up to 15 million workers on both sides of the Atlantic⁹².

⁹¹ Ahearn, et al (2012) p. 22

⁹² *ibid* p. 22



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Given these strong economic linkages, it is not surprising that the U.S. economy can be negatively impacted by the Eurozone Crisis via both financial and trade linkages. There have been instances when deepening of the EU Crisis has precipitated extreme volatility in U.S. stock prices. For example: on September 9, 2011, an influential member of the ECB unexpectedly resigned, which contributed to a 5% drop in European stock markets and a decline of more than 2% in major U.S. stock indices⁹³.

But, what may be even more worrisome is the exposure U.S. banks have, especially indirectly through Credit Default Swaps (CDS). A CDS is tantamount to insurance against non-payment on fixed-income debt (bonds). U.S. banks had about \$500 billion in exposure in CDS's to core European countries at the end of 2011, including about \$200 billion in exposure to banks in Greece and Spain⁹⁴. Further, European banks have played a much bigger role in the U.S. economy than has been generally thought, and could therefore do a lot more damage than expected if they pull back European banks grew not only by making direct loans to U.S. businesses but also by accounting for vast U.S. money-market deposits and purchasing U.S. mortgage securities.⁹⁵ In addition, during the previous decade, "European banks may have played a pivotal role in influencing credit conditions in the United States," and that helped fuel the U.S. housing and financial bubble, but now it could hurt the U.S. recovery as European banks shrink and bolster their capital reserves⁹⁶.

⁹³ibid p. 22

⁹⁴ *Eurozone Crisis Explainer That Will Finally Make You Care* (June 12, 2012) HUFFINGTON POST < http://www.huffingtonpost.com/2012/06/12/eurozone-crisis-explainer_n_1590446.html > Accessed on November 27, 2012.

⁹⁵ Mufson, *Steven, Ailing European banks could hamper the U.S. economy* (December 25, 2011) WASHINGTON POST < <http://www.startribune.com/business/136171548.html?refer=y> > Accessed on December 3, 2012.

⁹⁶Shin, Hyun Song, *Global Banking Glut and Loan Risk Premium* (November 10–11, 2011) Jacques Polak Annual Research Conference, International Monetary Fund: Washington.



A DEAL AT LAST: Will the Greek Bailout Buy Some Time?

In late November 2012, at the Eurogroup meeting a deal was finally agreed to over Greece's bailout program. The deal would, at last, unlock the country's long-awaited aid payments⁹⁷. The deal will see Greece's debt cut by €40billion, dropping to 124% of GDP by 2020 – a slightly less taxing target than before. The country's international lenders also promised to take further measures to bring Greece's debts significantly below 110% of GDP, in 2022. This implies that there may be some form of debt write-off being considered⁹⁸.

According to *The Gaurdian*, the lenders agreed to the following steps⁹⁹:

- 1) Cutting the interest rate on official loans, extend their maturity by 15 years to 30 years, and granting Athens a 10-year interest repayment deferral.
- 2) To return €1billion of profits accrued through the European Central Bank's purchase of distressed Greek government bonds
- 3) To conduct a debt-buyback scheme.

Greece will receive its aid in stages, starting with €34.2billion in December 2012. Much of the money will be used to re-capitalize its banks. However, this deal is only tentative, as the International Monetary Fund (IMF) won't hand over its share of the money until the debt buyback has been conducted. And, the deal must be approved by the national parliaments.¹⁰⁰

⁹⁷ *Eurozone crisis as it happened: Greek debt deal brings relief, and criticism* (November 27, 2012) THE GAURDIAN < <http://www.guardian.co.uk/business/2012/nov/27/eurozone-crisis-greece-debt-deal-agreed> > Accessed on December 3, 2012.

⁹⁸ *ibid*

⁹⁹ *ibid*

¹⁰⁰ *ibid*



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

This action by the European Union (EU) and the IMF has, at least, removed the specter of a Greek default, at least, for a couple of years, but the Eurozone could still face a Japanese-style lost decade¹⁰¹.

As Paul Taylor noted in his article on the Greek bailout for Reuters:

The euro's survival may no longer be in much doubt after the ECB stepped in and the Germans decided to keep Greece inside the currency area, but the euro zone faces at best a slow grind back up the hill¹⁰².

¹⁰¹ Taylor, Paul, *Analysis: Greek deal puts euro zone in slow recovery room* (December 2, 2012)
REUTERS <http://www.reuters.com/article/2012/12/02/us-eurozone-crisis-idUSBRE8B103020121202> >
Accessed on December 3, 2012.

¹⁰² *ibid*



V. THE DEFICIT, THE DEBT, AND *The Budget Control Act of 2011*

The country and the World were put through unnecessary trauma in the Summer of 2011 over the debt ceiling, which resulted in a hostage-taking standoff by radical members of the House of Representatives¹⁰³. A deal was finally reached between the White House and Congress that culminated in *The Budget Control Act of 2011*, which has given us what some call the “Fiscal Cliff”, while others contend that it is not really a cliff, but a curb or a slope.

According to the Congressional Budget Office (CBO), the enforcement procedures described in *The Budget Control Act of 2011* would result in the following¹⁰⁴:

Reduce deficits by a total of \$1.1 trillion over the 2013–2021 Period.
That amount comprises savings of:

\$140 billion in projected mandatory spending,
of \$749 billion from lower discretionary appropriations,
and
of \$169 billion in projected debt-service costs

According to Macroeconomic Advisors, the debt-ceiling deal would result in little fiscal drag in 2012, but would pose big risks for the economy in 2013.¹⁰⁵ If enacted as planned — \$917 billion of initial cuts followed by \$1.5 trillion of additional cuts to be recommended by a Joint Select Committee (JSC) of Congress — the average impact on annual GDP growth over the next decade would be roughly 0.1 percentage

¹⁰³ For a discussion of some of the issues surrounding the deficit and the debt, see Kennedy, Daniel W., *Current Conditions and Outlook for the U.S. and Connecticut Economies: 2010-2012* (July 2011) Office of Research, Connecticut Department of Labor: Wethersfield, p. 137-151.

¹⁰⁴ Congressional Budget Office, *Estimated Impact of Automatic Budget Enforcement Procedures Specified in the Budget Control Act* (September 12, 2011): Washington, p. 10.

¹⁰⁵ Macroeconomic Advisors, *Debt Ceiling Deal: Little Fiscal Drag in '12, Big Risk in '13* (August 1, 2011) < <http://macroadvisers.blogspot.com/2011/08/debt-ceiling-deal-little-fiscal-drag-in.html> > Accessed on April 1, 2012.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

point before multiplier effects, with the peak effect probably never more than 1/4 percentage point. However, if the JSC recommendations are not enacted, automatic spending cuts could subtract up to 0.7 percentage point of GDP-growth from FY 2013, again before multiplier effects.

BACKGROUND FISCAL DRAG

What has been missing throughout the whole deficit/debt debate, accompanied by acrimony and posturing, as well as some obligatory hand-wringing, is that, in fact, the Federal Deficit has been falling as a percent of GDP since 2009. And, this process has been adding to the fiscal drag on the economy over this struggling recovery, from the winding down of the ARRA, particularly with regard to Federal aid to the states, and especially local governments, was discussed above in Sub-Section iii of Section B (Drags on the Economy). But, what has flown under the radar screen has been the background fiscal drag that has been exerting inertial forces on the economy. The U.S. Federal Deficit has been contracting at a faster pace over the past three years than it has in any such stretch since demobilization from World War II¹⁰⁶. In 2009, the Federal Deficit peaked at \$1.413 trillion in 2012 it is projected to have declined to \$1.089 trillion¹⁰⁷. Thus, the deficit fell from 10.1% of GDP in 2009 to a projected 7.0% in 2012¹⁰⁸. This 3.1 percentage-point decline represents the largest contraction in the Federal Deficit as a percent of GDP since demobilization from World War II in the 1940's. This translates into a \$324.0 billion reduction in spending in the economy, which has exerted a fiscal drag on the economy over the last three years. Rapid reductions in the deficit helped send the U.S. Economy into recession 1937 and Japan's Economy into recession in 1997.¹⁰⁹

¹⁰⁶ Graham, Jed, U.S. *Deficit Shrinking At Fastest Pace Since WWII, Before Fiscal Cliff* (11/20/2012) INVESTORS BUSINESS DAILY < <http://news.investors.com/blogs-capital-hill/112012-634082-federal-deficit-falling-fastest-since-world-war-ii.htm> > Accessed on December 3, 2012.

¹⁰⁷ Congressional Budget Office, *MONTHLY BUDGET REVIEW: Fiscal Year 2012* (November 7, 2012), p.

1.

¹⁰⁸ *ibid*

¹⁰⁹ For a discussion of budget-cutting and fiscal drag, see Kennedy, Daniel W., *Current Conditions and Outlook for the U.S. and Connecticut Economies: 2010-2012* (July 2011) Office of Research, Connecticut Department of Labor: Wethersfield, p. 123-133.



PUTTING THE DEFICIT AND DEBT IN PERSPECTIVE

The U.S. Debt can be broken into two components. The *Total U.S. Debt* (or *Gross Debt*) is the amount of the Federal government's outstanding debt issued by the Treasury and other Federal government agencies, totaling about \$14.8 trillion at the end of Fiscal Year (FY) 2011¹¹⁰. The two components of *Gross Debt* are¹¹¹:

- (1) Debt Held by the Public-Federal debt held by all investors outside of the Federal government, including individuals, corporations, state or local governments, the Federal Reserve and foreign governments and,
- (2) Debt held by Government Accounts-Federal debt owed to government accounts, primarily to Federal Trust Funds such as Social Security and Medicare. The cumulative surpluses, including interest earnings, of these trust funds and other government accounts have been invested in Treasury securities, almost always nonmarketable. Whenever a government account needs to spend more than it takes in from the public, the Treasury must provide cash to redeem debt held by the government account. Consequently, this reflects a future burden on the economy.

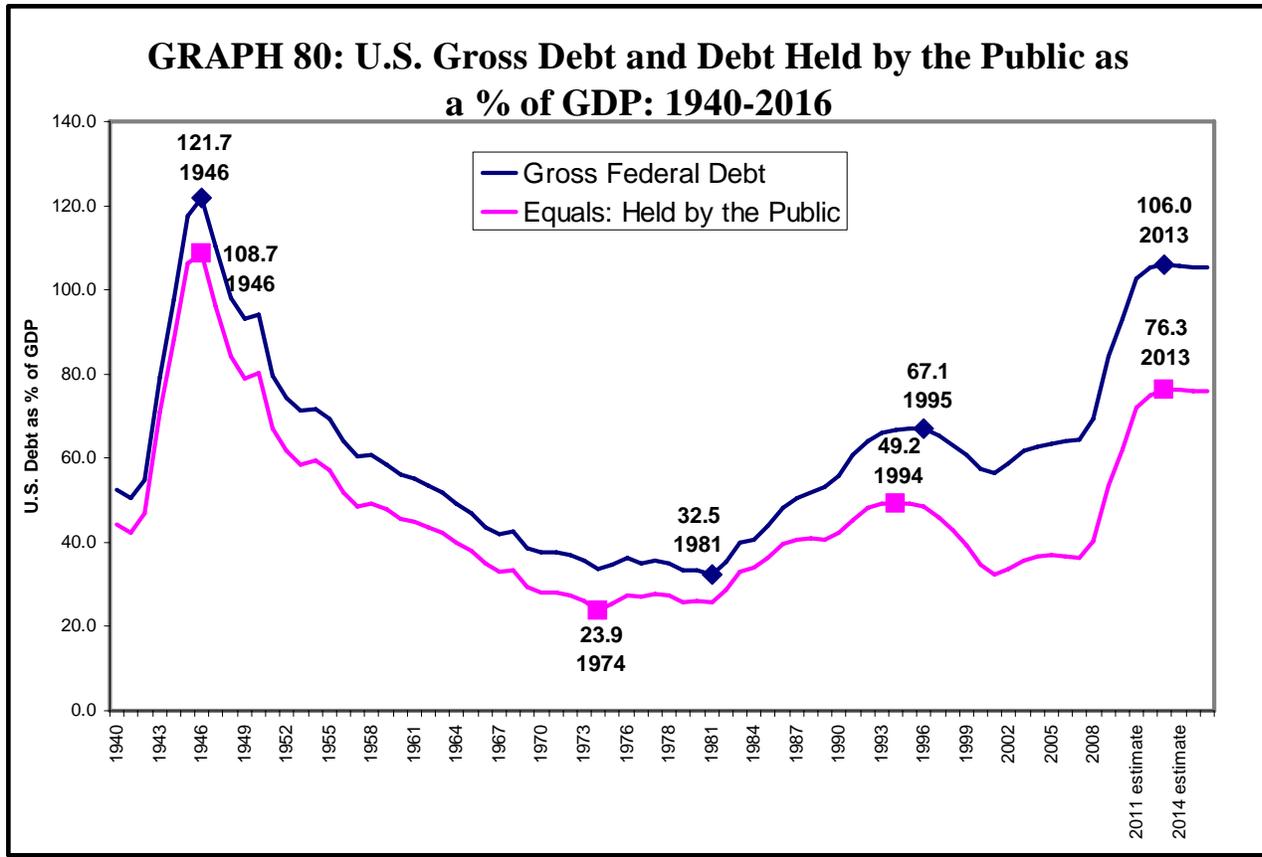
Graph 80 tracks the U.S. Total Debt, and U.S. Debt Held by the Public from 1940 to the Office of Management and Budget estimates for 2011 and 2012, and projections to 2016¹¹².

¹¹⁰ Government Accountability Office, *Federal Debt Basics* < <http://www.gao.gov/special.pubs/longterm/debt/debtbasics.html> > Accessed on December 6, 2012.

¹¹¹ *ibid*

¹¹² Office of Management and Budget, Table 7.1—FEDERAL DEBT AT THE END OF YEAR: 1940–2016 < <http://www.whitehouse.gov/sites/default/files/omb/budget/fy2012/assets/hist07z1.xls> > Accessed on April 12, 2012.

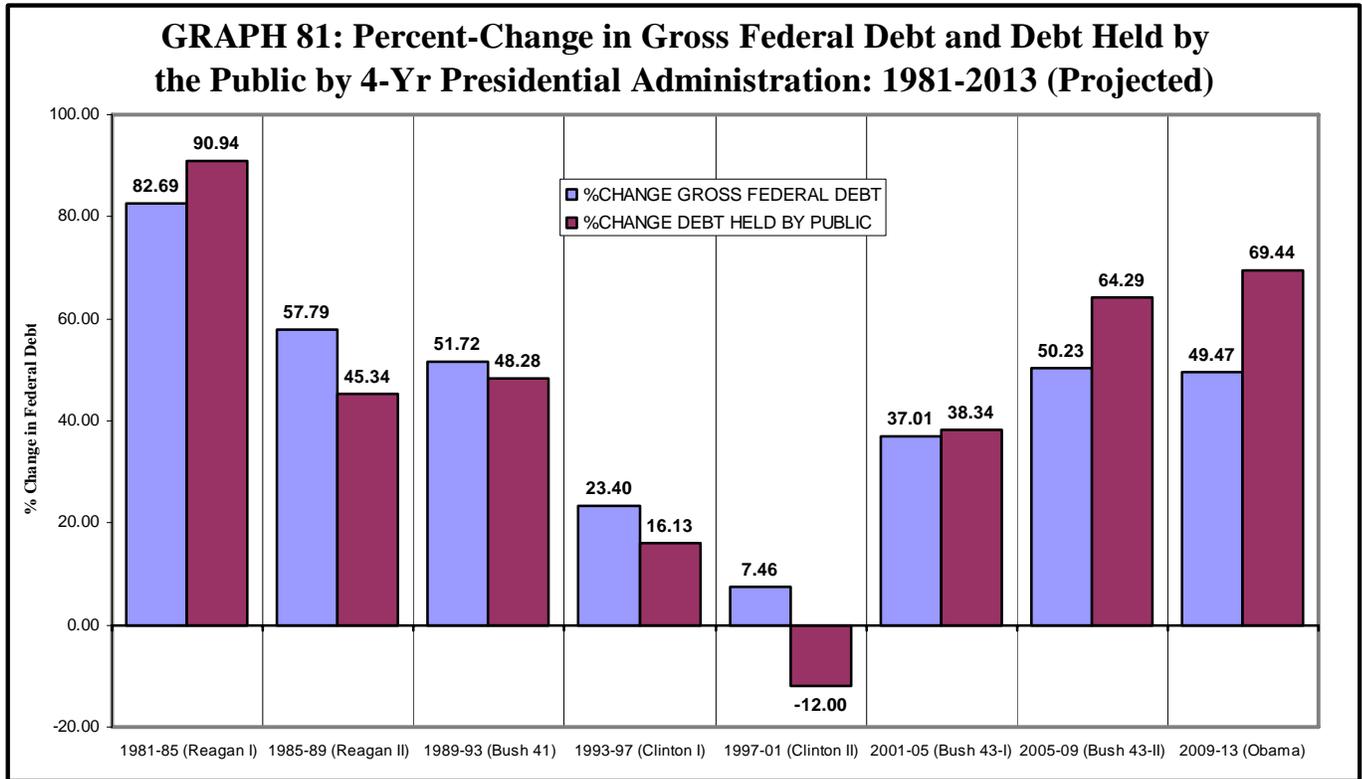




SOURCE: OMB, Table 7.1 (2012).

In 1946, after massive spending to fight World War II, Total U.S. Debt reached 121.7% of GDP, and Debt Held by the Public was 108.7%. Strong growth, in the 1950's, 1960's, and even for much of 1970's, save the steep, 1973-75 Recession, brought down, both the Total Debt, and Debt Held by the Public, as a percent of GDP as Nominal GDP grew faster than the debt. Then, with the 1981 Supply-Side tax cuts, and largest peace-time boost in defense spending, Total Debt, after bottoming in 1981 at 32% of GDP, and Debt Held by the Public declining to 23.9% of GDP in 1974, then reversed course. By 1995, Total Debt was 67.1% of GDP, and by 1994, Debt Held by the Public was 49.2% of GDP. Then, the budget surpluses in 1999 and 2000 were followed by eight straight years of budget deficits, and then the financial and economic crisis of 2007 and 2008. And, by 2013, CBO estimates that the Total Debt will reach 106.0% of GDP. And Debt Held by the Public will be 76.3% of GDP.





SOURCE: OMB, Table 7.1 (2012).

Graph 81 shows the percent-increase in both, the Total (Gross) U.S. Federal Debt, and the U.S. Federal Debt Held by the Public, over each four-year presidential administration, from 1981 to the CBO’s projection for 2013. For presidents who served two terms, such as Reagan and Clinton, each of their four-year terms is shown separately. The largest four-year term increase in the Gross U.S. Federal Debt over the 1981-2013 Period was the 82.69% increase in Reagan’s first term. The largest increase in the U.S. Federal Debt Held by the Public was also in Reagan’s first term: +90.94%. The next largest increase in the Gross Debt was the 57.79% growth in Reagan’s second term, followed by the 51.72% increase in George H.W. Bush’s term (Bush 41). The second-largest increase in the Federal Debt Held by the Public, if CBO projections hold, will be the 69.44% increase in Obama’s first term. This would be followed by the 64.29% increase in George W. Bush’s second term (Bush 43). The smallest increase in the Gross U.S. Federal debt was the 7.46% growth in Clinton’s second term, also, it was in Clinton’s second term that the U.S. Federal Debt Held by



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

the Public, for the only time over the entire 1981-2013 Period, actually declined by 12.0%.

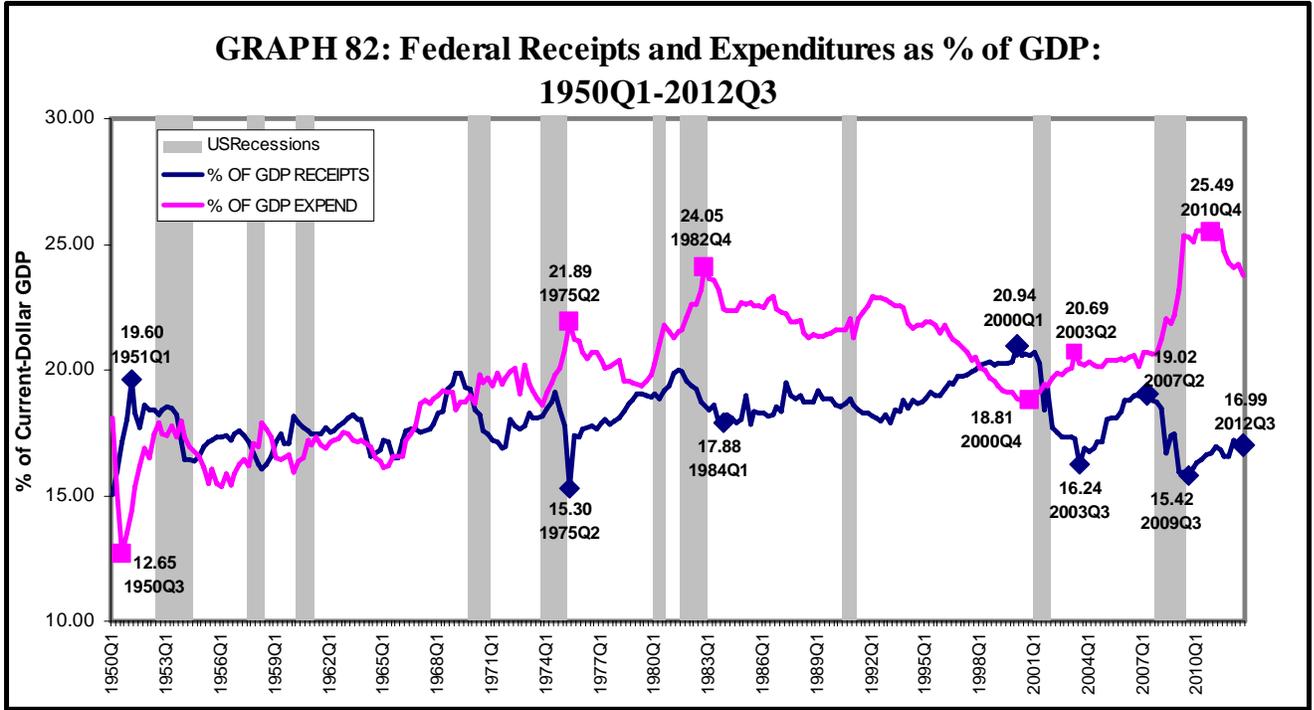
With the onset of recession, there is a decline in revenues to the Federal Government (and other levels of government as well), and an increase in expenditures, at especially the Federal level, as the Automatic Stabilizers kick in¹¹³, and as aid to the states increases, as for most of them, they cannot deficit-spend to counteract the recession-driven decline in spending. This results in the increase in Federal spending as a percent of GDP, and a decrease in Federal revenues, as a percent of GDP, and an increase in the Federal deficit, both in absolute terms, and as a percent of GDP. Graph 82 tracks U.S. Federal receipts and expenditures, as a percent of U.S. GDP from 1950Q1 to 2012Q3. Graph 83 tracks the U.S. Federal budget deficit, as a percent of U.S. GDP from 1950Q1 to 2012Q3.

It is quite clear from Graph 82 that, save 2003Q2, Federal expenditures exceeded 20% of GDP coming out of the three most severe recessions in the Post World War II Era: the 1973-75, 1981-82, and 2007-09 recessions. And, save 2003Q3, Federal receipts fell as the result of every single recession since 1950. Because of the financial crisis, and popping of the housing bubbles, the U.S. fell into the most severe recession since the Great Depression. This resulted in Federal expenditures increasing to 25.49% of GDP in 2010Q4, exceeding the previous high of 24.05% in 1982Q4. Expenditures declined to 23.78% of GDP in 2012Q3.

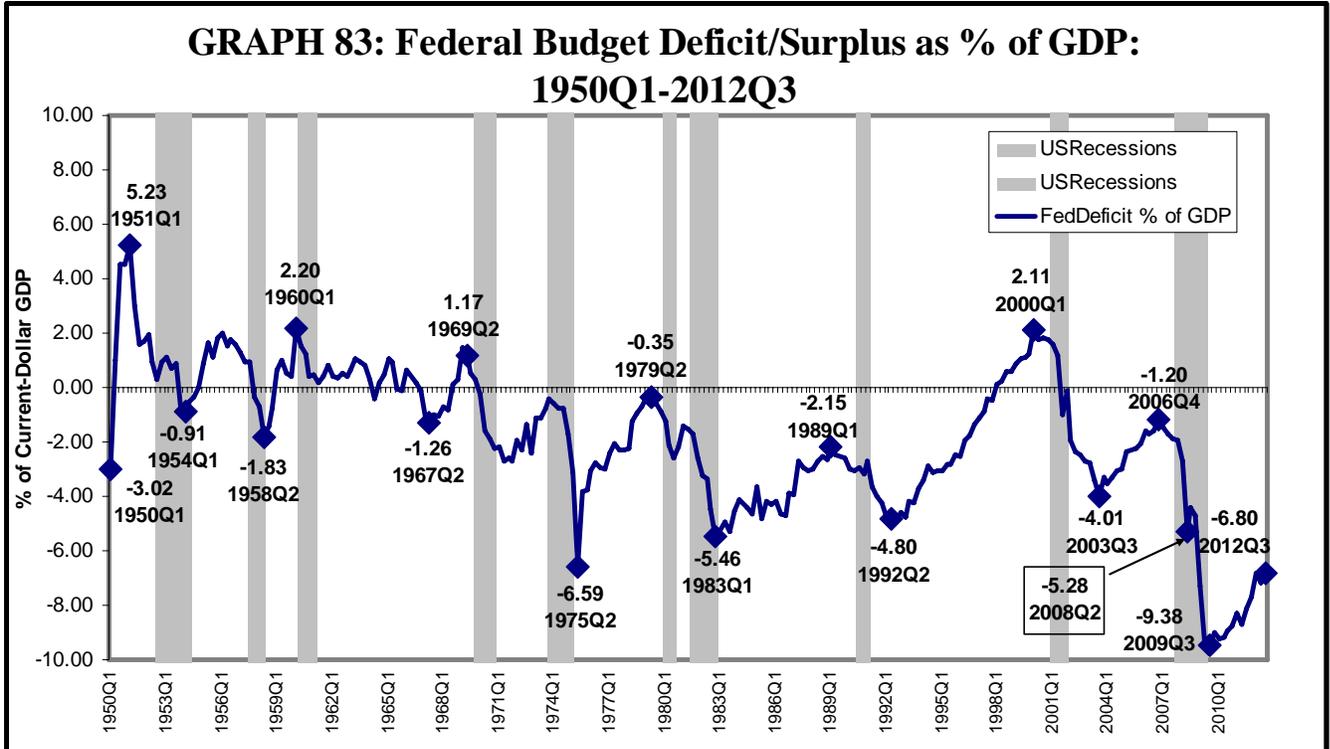
¹¹³ For a discussion of the effects of the Automatic Stabilizers over the business cycle, see Kennedy, Daniel W., *Current Conditions and Outlook for the U.S. and Connecticut Economies: 2010-2012* (July 2011) Office of Research, Connecticut Department of Labor: Wethersfield, p. 139-150. .



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



SOURCE: U.S. BEA



SOURCE: U.S. BEA



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Federal revenues fell to 15.42% of GDP by 2009Q3, surpassed only by the low of 15.30% in 1975Q2. Federal Revenues, as a percent of GDP, was back up to just under 17% by 2012Q3, but well below the 19.82% in 2007Q2. Also of note, 2003Q2 was the only time that Federal expenditures exceeded 20% of GDP during a recovery/expansion.

Turning to Graph 83 and the Federal Deficit as a percent of GDP, in the Post World War II Era, there have been five periods when the U.S. Federal Budget was in surplus: 1950Q2-1953Q3, during the Korean War; 1955Q1-1957Q3; 1959Q1-1964Q1; 1968Q3-1969Q4, during the Vietnam War; 1998Q1-2001Q2, on the heels of the Clinton-Greenspan agreement on bringing down the deficit/debt. The largest budget surplus, as a percent of GDP, since World War II, was the +5.52% in 1951Q1, less than a year into the Korean War. There were three other periods of peaks in the budget surplus, as a percent of GDP: the second largest, the +2.20% in 1960Q1, during Eisenhower's second term; followed by the +2.11% in 2000Q1, Clinton's second term; and the 1.17% in 1969Q2, during the Vietnam War.

The three largest budget deficit's, as a percent of GDP, were at, or just after, the troughs of the three steepest recessions in the Post World War II Era: -9.38% in 2009Q3, one quarter after the trough in the 2007-09 Recession; -6.95% in 1975Q2, the quarter of the trough in the 1973-75 Recession, and -5.46% in 1983Q1, one quarter past the trough of the 1981-82 Recession. After the 1990-91 Recession, the budget deficit peaked five quarters after the trough of the recession when it reached -4.80% of GDP in 1992Q2. After the 2001 Recession, the budget deficit reached -4.01% of GDP in 2003Q3, seven quarters after the trough in the recession. By 2012Q3, the U.S. Budget Deficit, as a percent of GDP, had declined, from its peak in 2009Q3, by 2.58 percentage-points to -6.80%.

Unlike other Post World War II recessions, even the two previous severe recessions in 1973-75 and 1981-82, the recent, 2007-09 Recession was brought on by the collapse of an asset bubble in housing, and the first Worldwide banking panic since



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

the 1930's. As has been noted previously in this outlook, and in past outlooks, recessions accompanied by financial panics are steeper, last longer, and are followed by weaker recoveries.¹¹⁴ Hence, the largest budget deficit, as a percent of GDP, occurred over the 2007-09 Recession (see discussion above). Further, though the U.S. Debt Held by the Public is estimated to be \$11.9 trillion in 2012, by the Office of Management and Budget (OMB)¹¹⁵, which is expected to exceed 75% of GDP, it could have been a higher absolute number, as well as a higher percent of GDP. Rogoff and Rhienshart (2009), in their study of 800 years of sovereign debt crisis, and 400 years of banking crisis, found that for those nations in which there was a banking crisis, three years after its onset, their national debt increased, on average, by 86%¹¹⁶. Given that the U.S Debt Held by the Public was \$5.803 trillion in 2008, the year of the collapse of Lehman Brothers, given the average increase in the national debt, within three years of the onset of crisis, the U.S Debt Held by the Public should have been \$10.794 trillion by 2011. It was, in fact, \$10.128 trillion, an increase of 75%, and \$666.1 billion lower than it would have been if it were to have grown by the average increase in the national debt Rogoff and Rhienshart found of 86%, three years after the onset of financial crisis.

As noted in the Outlook for 2010-12, the question regarding all the hawkish discussion about brining down the debt is this: Does high debt cause slow growth, or does slow growth cause high debt? Rogoff and Reinhart, cited and, which was noted above, published their study of 800 years of sovereign debt crises, and 400 years of banking crises titled *This Time Is Different*. In an article for Bloomberg.Com, they stated that their empirical research on the history of financial crises and the relationship between growth and public liabilities supports the view that current debt

¹¹⁴ Also see Congressional Budget Office, AN UPDATE TO THE BUDGET AND ECONOMIC OUTLOOK: Fiscal Years 2012 to 2022 (August 2012) Box 2-2, p. 40.

¹¹⁵ Office of Management and Budget, Table 7.1—FEDERAL DEBT AT THE END OF YEAR: 1940–2016 < <http://www.whitehouse.gov/sites/default/files/omb/budget/fy2012/assets/hist07z1.xls> > Accessed on April 12, 2012.

¹¹⁶ Rogoff, Kenneth and Carmen M. Rhienshart, THIS TIME IS DIFFERENT (2009) Princeton University Press: Princeton, NJ.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

trajectories are a risk to long-term growth and stability, with many advanced economies already reaching or exceeding the important marker of 90% of GDP.¹¹⁷

However, Paul Krugman disputes the existence of a solid debt threshold or danger level, arguing that low growth causes high debt rather than the other way around. He points out that the assertions made by Rogoff and Reinhart are based on a simple correlation in which causality could go in either direction (or, in fact, both could even be driven by a third factor). In other words, it is statistical association; not cause-and-effect. Given this, Krugman suspects that much of the rest of their result reflects reverse causation: He points out that in Europe, Japan, and the US this has been the case. Japan had low debt and fast growth before the 90s, high debt and slow growth since, but surely it was Japan's financial crisis (the popping of their real estate bubble and crash of the Nikkei Index) that both slowed growth and increased debt, particularly as a percent of GDP. In the US the only period of debt over 90% of GDP was after World War II when real GDP was falling, not because of debt problems, but because wartime mobilization was winding down and Rosie the Riveter was becoming a suburban housewife. Further, Krugman states that Reinhart and Rogoff have not, as far as he can tell, made any effort to disentangle the causation¹¹⁸.

Further, severe cuts in public budgets in the United Kingdom and the German-led austerity measures, as a condition for bailouts, in the EU peripheral countries have put them back into recession, or prevented them from recovering. These were lessons that should have been clear from the consequences of fiscal contraction by FDR in 1937 and Hashimoto in 1997¹¹⁹.

¹¹⁷ Kennedy, Daniel W., *Current Conditions and Outlook for the U.S. and Connecticut Economies: 2010-2012* (July 2011) Office of Research, Connecticut Department of Labor: Wethersfield, p.148.

¹¹⁸ *ibid* pp. 148-149

¹¹⁹ *ibid* pp. 123-133



BACK TO THE FUTURE: The Real Fiscal Cliff?

It's back to the future. After the country and the World was put through unnecessary trauma in the Summer of 2011 over the debt ceiling, which resulted in a hostage-taking standoff by radical members of the House of Representatives, it looks like a replay may be in the works to start off 2013. In fact, it was the stand-off over the debt ceiling in mid-2011 that led to *The Budget Control Act of 2011* and the pending, so-called, "Fiscal Cliff" that we may go over going into 2013.

But are the expiration of the Bush Tax Cuts and sequestering civilian and defense spending the real Fiscal Cliff? Bruce Bartlett, writing in the *New York Times* thinks not. He writes:

Washington is all abuzz over the impending tax increases and spending cuts referred to as the fiscal cliff, an absurdly inaccurate term that both Democrats and Republicans have unfortunately adopted in order to pursue their own agendas. In truth, it is a nonproblem unless every impending tax increase and spending cut takes effect permanently - something so unlikely as to be effectively impossible¹²⁰.

He also notes that:

So if the fiscal cliff is a faux problem, why do we hear that industry and financial markets are deeply fearful of it? The answer is that there is a very real fiscal problem that will occur almost simultaneously - expiration of the debt limit. Much of what passes for fiscal-cliff concern is actually anxiety about whether Republicans in Congress will force a default on the nation's debt in pursuit of their radical agenda¹²¹.

¹²⁰ Bartlett, Bruce, *The Debt Limit Is the Real Fiscal Cliff* (December 3, 2012) Economix, NEW YORK TIMES < <http://economix.blogs.nytimes.com/2012/12/03/the-debt-limit-is-the-real-fiscal-cliff/?partner=rss&emc=rss> >

¹²¹ *ibid*



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

The Treasury Department expects the country to hit its debt ceiling, a legal limit on the amount the government is allowed to borrow, close to the end of the year. That would give Congress only a matter of weeks to raise the ceiling, now about \$16.4 trillion, before sending financial markets into a panic¹²². Republicans in Congress have made it clear that the debt ceiling will be part of the intense negotiations over the so-called fiscal cliff, with many members unwilling to raise the ceiling without a broader deal. That has raised financial analysts' worries of a financial market panic over the ceiling in addition to the slow bleed of the tax increases and spending cuts¹²³.

Congressional action is required to raise the debt limit. The Treasury can jostle payments for a few months. But expenses will eventually overwhelm revenue, putting the administration in the position of choosing which bills to pay. It might stop paying soldiers, for instance, or sending Social Security payments.¹²⁴

A July report by the Government Accountability Office (GAO) found that the delay in raising the debt limit increased the country's borrowing costs by about \$1.3 billion in the 2011 fiscal year. "However, this does not account for the multiyear effects on increased costs for Treasury securities that will remain outstanding after fiscal year 2011," the report noted, adding that the debt-limit fight diverted Treasury's time and resources from other priorities¹²⁵.

FISCAL CLIFF IMPACTS UPDATE

In November 2012, the Congressional Budget Office (CBO) released *Economic Effects of Policies Contributing to Fiscal Tightening in 2013*, an updated study of

¹²² Lowery, Annie, *Debt Ceiling Complicates a Tax Shift* (November 8, 2012) NEW YORK TIMES < http://www.nytimes.com/2012/11/09/business/debt-ceiling-complicates-fiscal-cliff.html?_r=0 > Accessed on November 26, 2012.

¹²³ *ibid*

¹²⁴ For a brief history of the debt limit, see Kennedy, Daniel W., *Current Conditions and Outlook for the U.S. and Connecticut Economies: 2010-2012* (July 2011) Office of Research, Connecticut Department of Labor: Wethersfield, p. 133-136.

¹²⁵ Government Accountability Office, *DEBT LIMIT: Analysis of 2011-2012 Actions Taken and Effect of Delayed Increase on Borrowing Costs* (July 2012)



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

their assessment of the effects of *The Budget Control Act of 2011* on the U.S. Economy in 2013. Substantial changes to tax and spending policies are scheduled to take effect in January 2013, significantly reducing the Federal budget deficit. According to the CBO projections, if all of that fiscal tightening occurs, Real GDP will drop by 0.5 percentage-points in 2013 (measured 2012Q4 to 2013Q4). This reflects a decline in the first half of the year, followed by renewed growth at a modest pace later in the year. The contraction of the economy, over the first half of 2013, will cause employment to decline and the unemployment rate to rise to 9.1% by 2013Q4. The CBO then expects economic growth will pick up, and the labor market will strengthen in 2014, returning output to its potential level (reflecting a high rate of use of labor and capital), and shrinking the unemployment rate to 5.5% by 2018.¹²⁶

Table 5 summarizes the CBO's estimates of the effects of the major components of fiscal tightening on the U.S. Economy in 2013, as mandated by *The Budget Control Act of 2011*, if they were to take place as scheduled in January 2013. Making all of the changes described in items (1.) and (2.) in Table 5—which captures all of the policies included in the first two years of CBO's alternative fiscal scenario—would boost real GDP by about 2¼% by the end of 2013 (as CBO estimated in their August report). Thus, of the total difference in the projected growth of GDP next year under current law and under the alternative fiscal scenario, about two-thirds owes to changes in tax policies and about one-third owes to changes in spending policies¹²⁷.

¹²⁶ Congressional Budget Office, *Economic Effects of Policies Contributing to Fiscal Tightening in 2013* (November 2012), p.1

¹²⁷ *ibid*, p. 2



TABLE 5: Estimated Economic Effects of Eliminating Various Components of Fiscal Tightening Scheduled for 2013: 2012Q4-13Q4

BUDGET-TIGHTENING ITEM	PERCENT-CHANGE IN GDP BY THE END OF 2013
(1.) Eliminating the automatic enforcement procedures established by the <i>Budget Control Act of 2011</i> that are scheduled to reduce both discretionary and mandatory spending starting in January and maintaining Medicare’s payment rates for physicians’ services at the current level.	+0.75
(2.) Extending all expiring tax provisions other than the cut in the payroll tax that has been in effect since January 2011—that is, extending the tax reductions originally enacted in 2001, 2003, and 2009 and extending all other expiring provisions, including those that expired at the end of 2011, except for the payroll tax cut—and indexing the alternative minimum tax (AMT) for inflation beginning in 2012.	< +1.50
(3.) Extending all expiring tax provisions other than the cut in the payroll tax and indexing the AMT for inflation— except for allowing the expiration of lower tax rates on income above \$250,000 for couples and \$200,000 for single taxpayers. .	+1.25
(4.) Extending both the current 2 percentage-point cut in the payroll tax and emergency unemployment benefits— extensions that are not assumed in the alternative fiscal scenario	+0.75

SOURCE: CBO (November 2012), pp. 1-2.

The estimated economic effect next year of the changes in spending, in items (1.) and (2.), is about half the estimated effect of extending the expiring tax provisions, even though the budgetary impact of the changes in spending is less than one-quarter of the impact of the changes in taxes. The larger “bang for the buck” next year of the spending policies under the alternative fiscal scenario occurs because, CBO expects, a



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

significant part of the decrease in taxes (relative to those under current law) would be saved rather than spent¹²⁸.

The effect of Item (3.) is nearly as large as the effect of making all of those changes in law and extending the lower tax rates on higher incomes as well (which CBO estimates to be a little less than 1½ percent, as noted above), primarily because the budgetary impact would be nearly as large (and secondarily because the extension of lower tax rates on higher incomes would have a relatively small effect on output per dollar of budgetary cost).¹²⁹

The changes in Item (4.), along with making all of the changes in the CBO's alternative fiscal scenario would boost real GDP by about 3.00% by the end of 2013¹³⁰.

¹²⁸ *ibid*, p. 2

¹²⁹ *ibid*, p. 2

¹³⁰ *ibid*, p. 2



VI. WHERE DO WE GO FROM HERE? The Outlook for 2011-2013 and Beyond

As noted in the last section, above, the country and the World were put through unnecessary trauma in the Summer of 2011 over the debt ceiling, which resulted in a hostage-taking standoff by radical members of the House of Representatives¹³¹. A deal was finally reached between the White House and Congress that culminated in *The Budget Control Act of 2011*, which mandates substantial changes to tax and spending policies that are scheduled to take effect in January 2013. The abrupt tax increase and spending cuts, scheduled to take place after the first of the year have been called, by some, a “Fiscal Cliff”, while others contend that it is not really a cliff, but a curb or a slope.

What this means is that though the election is over, the President has been re-elected, and the make-up of the Congress is known, the uncertainty hanging over the economy as we go into 2013 has only intensified. This potential massive fiscal drag on the economy comes as the U.S. Economy is struggling to recover from the most severe collapse in aggregate demand, which has generated the worst level of demand-deficit unemployment since the Great Depression. It has come on the heels of the first U.S., and Worldwide, systemic banking panic since the 1930's, in conjunction with the first collapse of a shadow banking system since 1907¹³², and the first succession of collapses in asset bubbles in housing and the stock market, in conjunction with unsustainable levels of household debt since the 1920's¹³³. The recent collapse of the housing and credit bubbles, which left households with unsustainable levels of debt, resulted in what has been called a *Balance Sheet Recession*.¹³⁴ The Great Depression was a balance-sheet recession, as

¹³¹ For a discussion of some of the issues surrounding the deficit and the debt, see Kennedy, Daniel W., *Current Conditions and Outlook for the U.S. and Connecticut Economies: 2010-2012* (July 2011) Office of Research, Connecticut Department of Labor: Wethersfield, p. 137-151.

¹³² 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

¹³³ White, Eugene N., *The Great American Real Estate Bubble of the 1920s: Causes and Consequences* (October 2008) National Bureau of Economic Research: Cambridge, Ma.

¹³⁴ Koo, Richard C., *THE HOLY GRAIL OF MACROECONOMICS: Lessons from Japan's Great Recession* (2009) John Wiley & Sons: New York



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

was the recession that followed the collapse of Japan's real estate bubble in 1989. Balance sheet recessions are steeper and last longer than non-balance-sheet recessions, and they are followed by weaker recoveries. And, not only will the Fiscal Cliff pull spending out of an economy that is struggling to recovery, but, according to the Congressional Budget Office (CBO), going over the Fiscal Cliff will probably send the weak recovery back into recession by the second quarter of 2013. But, driving the whole Fiscal Cliff scenario is a debate that is currently dominated by a demand for spending cuts.

But, as also noted in the previous section of this outlook, the real Fiscal Cliff may be the one that has not gotten much air or press time: the debt ceiling. Yes! Here we go again. The Treasury Department expects the country to hit its debt ceiling close to the end of the year. That would give Congress only a matter of weeks to raise the ceiling, now about \$16.4 trillion, before sending financial markets into a panic. Republicans in Congress have made it clear that the debt ceiling will be part of the intense negotiations over the so-called Fiscal Cliff, with many members unwilling to raise the ceiling without a broader deal. That has raised financial analysts' worries of a financial market panic over the ceiling in addition to the slow bleed of the tax increases and spending cuts. It is this uncertainty along with the EU economic uncertainty and the slowdown in overall Global growth that clouds the forecasts for 2012 and, especially, 2013.

A. FORECASTS FOR 2012 AND 2013

For this outlook, as in previous outlooks, five forecasts for the U.S. Economy by five macroeconomic forecasters are used to assess the outlook for the U.S. Economy for 2012 and 2013. Table 6 presents the five forecasters and the identifier used for each forecaster in Table 7 and the following discussion. The forecasts used in this outlook are the Congressional Budget Office's (CBO) forecast, released in August 2012, and the October forecasts of Ray C. Fair (Fair) and the International Monetary Fund (IMF), and the November-released forecasts of the Research Seminar in Quantitative Economics



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

(RSQE) at the University of Michigan (UMich), and the Blue Chip Economic Indicators (BCEI).

The forecasts for the growth-rate in annual, U.S. GDP for 2012 and 2013 are presented in Table 7. For comparison, and to give the base period, the growth-rate of U.S. GDP for 2010 and 2011 also appear in Table 7. The last two columns, on the right, in Table 7 show the percentage-point difference in the previous year's GDP growth-rate.

TABLE 6: Forecasters and Their Identifiers

IDENTIFIER	FORECASTER
CBO	Congressional Budget Office
IMF	International Monetary Fund
UMich	University of Michigan
Fair	Ray C. Fair
BCEI	Blue Chip Economic Indicators

HOW WILL 2012 COME IN?

From Table 7, the average forecast for the five forecasters for 2012 is that U.S. GDP, on an annual basis, will have grown by 2.18% in 2012. This is up 0.37 percentage points, or 37 basis points, from the 1.81% growth-rate in 2011. However, it is still 0.21 percentage-points (21 basis points) below the 2.39% annual, growth-rate of U.S. GDP in 2010. As would be expected, as the forecasts were produced in the third and fourth quarters of the forecast year, the range in the forecasts is quite tight for the 2012 forecasts. The most optimistic forecast was that of Ray C. Fair's forecast, which predicted that U.S. GDP would have grown by 2.31% in 2012, while the CBO and UMich had the most



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

pessimistic forecasts, expecting U.S. GDP to grow by 2.10%. The range for the 2012 forecast is 0.21 percentage points (21 basis points).

Again, from Table 7, the average for the 2012 annual, level of the Unemployment Rate (UR) by the five forecasters is 8.15%. This is 0.80 percentage points (80 basis points) down from the 8.95% annual level of the UR in 2011, and down 1.47 percentage points, or 147 basis points, from the 9.63% annual UR in 2010. Again, as for the 2012 GDP forecasts, the range of forecasts for the 2012 annual UR, are fairly tight. The IMF expects the highest UR for 2012 at 8.23%, and the lowest rate expected for 2012 is the 8.09% projected by the BCEI. That is a range of 0.14 percentage points, or 14 basis points.



CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013

TABLE 7: 2012 U.S. Macro Forecasts for 2012 and 2013

Real GDP	% CHANGE		% CHANGE		Pct-Pt Diff	Pct-Pt Diff
	2010	2011	2012	2013	2011-12	2012-13
CBO ¹	2.39	1.81	2.10	-0.30	0.29	-2.40
IMF ²	2.39	1.81	2.17	2.12	0.36	-0.05
UMich ³	2.39	1.81	2.10	2.00	0.29	-0.10
Fair ⁴	2.39	1.81	2.31	3.73	0.51	1.41
BCEI ⁵	2.39	1.81	2.20	2.00	0.39	-0.20
AVERAGE	2.39	1.81	2.18	1.91	0.37	-0.27

Unemployment Rate	% LEVEL		% LEVEL		Pct-Pt Diff	Pct-Pt Diff
	2010	2011	2012	2013	2011-12	2012-13
CBO	9.63	8.95	8.20	8.80	-0.75	0.60
IMF	9.63	8.95	8.23	8.13	-0.72	-0.10
UMich	9.63	8.95	8.10	7.70	-0.85	-0.40
Fair	9.63	8.95	8.13	7.74	-0.82	-0.39
BCEI	9.63	8.95	8.09	7.75	-0.86	-0.34
AVERAGE	9.63	8.95	8.15	8.02	-0.80	-0.13

CBO ¹	Aug 2012 Forecast
IMF ²	Oct 2012 Forecast
UMich ³	Nov 2012 Forecast
Fair ⁴	Oct 2012 Forecast
BCEI ⁵	Nov 10, 2012 Consensus Forecast
*	No update available.



THE OUTLOOK FOR 2013

Given the minefield the economy must traverse going into 2013, as discussed in the previous two sections of this outlook, the forecasts for U.S. GDP growth are, save Ray C. Fair's forecast, much more pessimistic for 2013. The average forecast for 2013 is for U.S. GDP to grow by 1.91%, down 0.27 percentage points (27 basis points) from the average forecast for GDP growth in 2012. If it were not for Ray C. Fair's forecast for U.S. GDP-growth to accelerate 1.41 percentage-points (141 basis points) to 3.73%, on an annual basis, in 2013, the average forecast for 2013 would have been for U.S. GDP to grow by 1.45%, a 0.73 percentage-point (73 basis points) decline from the average forecast for U.S. GDP growth in 2012. And, as would be expected the range of the forecasts is much wider for the 2013 forecasts. But, what contributes even more to the width of the range between the highest and lowest forecast is the CBO's forecast for GDP-growth in 2013 that includes a recession in the first part of the year. As noted above, Ray C. Fair's forecast calls for U.S. GDP to grow by 3.73%, while the lowest forecast for GDP-growth in 2013 is the CBO's projection that the U.S. Economy will contract by 0.30% in 2013. This, of course, as discussed above in the last section of this outlook, is the expectation that all of the Bush tax cuts will expire, the Payroll Tax holiday will expire, the Unemployment Insurance (UI) Benefits extension will not be renewed, and that the budget-cuts mandated by the *Budget Control Act of 2011* will go into effect. As a consequence, the range of the forecasts (difference between the highest and lowest forecast) for 2013 is 4.03 percentage points, or 403 basis points, nearly nineteen times the size of the forecast range for the 2012 forecasts.

Though not as large as the forecasts for U.S. GDP-growth in 2013, the range of the 2013 forecasts of the U.S. UR, nevertheless, still expands significantly for the 2013 forecasts. The average forecast for the level of the U.S. UR in 2013 is 8.02%, a 0.13 percentage-point (13 basis points) decline from the expected level of the U.S. UR in 2012. However, that ranges from a high of 8.80%, as forecasted by the CBO, to a low of 7.70% by UMich. That is a range of 1.10 percentage points, or 110 basis points. The CBO is the only forecaster to expect the U.S. UR-level to increase by 0.60 percentage points (60



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

basis points) from an annual, average level of 8.20% in 2012, to an annual, average level of 8.80% in 2012. In fact, without the CBO's forecast, the average forecast for the U.S. UR in 2013 is 7.83%, a 0.32 percentage-point (32 basis points) decline from the expected 8.20% UR in 2012.

MEAN FORECASTS WITH BOOTSTRAPPED 90% CONFIDENCE INTERVALS.

In the discussion above, the average of the five forecasts, and the range, for each forecast year, 2012 and 2013, for U.S. GDP growth, and the U.S. level of the UR were presented. But, in order to provide quantifiable confidence limits around the average forecasts for U.S. GDP and the level of the U.S. UR for 2012 and 2013, we would need to know the underlying distribution that the five forecasts were drawn from. The problem is well stated by Varian (2005):

So suppose that we have just one sample. Is there any way to use that one sample to compute an estimate of the sampling distribution of a statistic? This is where the bootstrap comes in.¹³⁵

That one sample we have is composed of the five forecasts. Actually, we have four samples: one for the U.S. GDP-growth forecasts for 2012, one for the GDP-growth forecasts for 2013, one for the U.S. UR-level for 2012, and one for the U.S. UR-level for 2013.

The question now is: Is there any way to use each one of these samples to compute an estimate of the sampling distributions of the four sample statistics? This is where *The Bootstrap* comes in. Again, from Varian:

The idea is to repeatedly sample (with replacement) from the single sample you have, and use these "samples" to compute the sampling distribution of the statistic in which you are interested. In the previous Monte Carlo exercise, we

¹³⁵ Varian, Hal, *Bootstrap Tutorial*, THE MATHEMATICA JOURNAL (2005) 9:4, © 2005 Wolfram Media, Inc., p. 770.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

drew a “fresh” sample each time; in the bootstrap case, we resample from the single sample that we have. Other than that difference, the procedures are essentially the same. If our original sample is reasonably representative of the population, then resampling from that sample should look pretty much like drawing a new sample¹³⁶.

As Varian goes on to point out, the remarkable thing about the bootstrap is that even though we only have a single sample (in this case, four samples), it can often be used to give a quite good estimate of what would happen if we really were able to draw new, fresh samples¹³⁷.

Singh and Xie also provide a good explanation of the basics of *Bootstrapping*:

To understand bootstrap, suppose it were possible to draw repeated samples (of the same size) from the population of interest, a large number of times. Then, one would get a fairly good idea about the sampling distribution of a particular statistic from the collection of its values arising from these repeated samples. But, that does not make sense as it would be too expensive and defeat the purpose of a sample study. The purpose of a sample study is to gather information cheaply in a timely fashion. The idea behind bootstrap is to use the data of a sample study at hand as a “surrogate population”, for the purpose of approximating the sampling distribution of a statistic; i.e. to resample (with replacement) from the sample data at hand and create a large number of “phantom samples” known as bootstrap samples. The sample summary is then computed on each of the bootstrap samples (usually a few thousand). A histogram of the set of these computed values is referred to as the bootstrap distribution of the statistic¹³⁸.

Bootstrapping is a computer-based technique that can be used to infer the sampling distribution of almost any statistics via repeated samples drawn from the sample itself, as opposed to the hypothetical re-sampling from the population¹³⁹.

The non-parametric Bootstrap Method was implemented using the RATS time-series econometric software to compute the sampling distribution of the Mean, and the Standard Errors. Each of the four sets of five forecasts from Table 7 is treated as if it were a

¹³⁶ *ibid*, p. 771

¹³⁷ *ibid*, p. 771

¹³⁸ Singh, Kesar and Minge Xie, *BOOTSTRAP: A Statistical Method*, Rutgers University, p. 2.

¹³⁹ Fook Chong1, Stephanie, MSc, CStat and Robin Choo, BSc, *Introduction to Bootstrap*, PROCEEDINGS OF SINGAPORE HEALTHCARE (2011) 20: 3, p. 236.

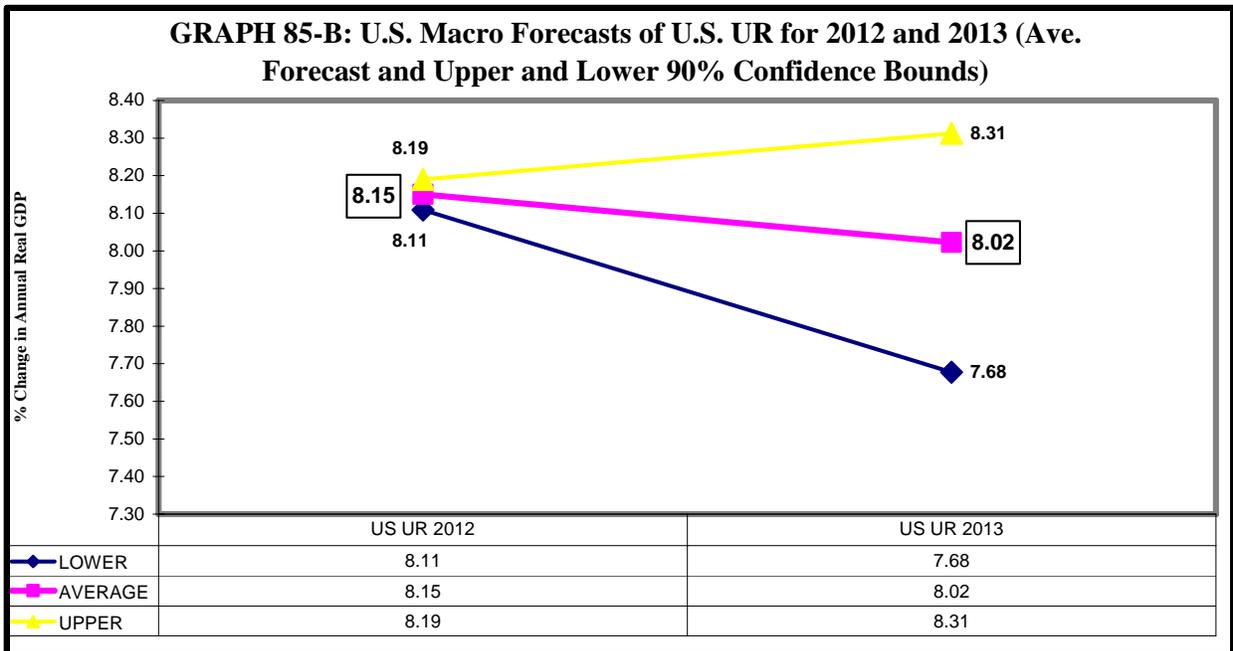
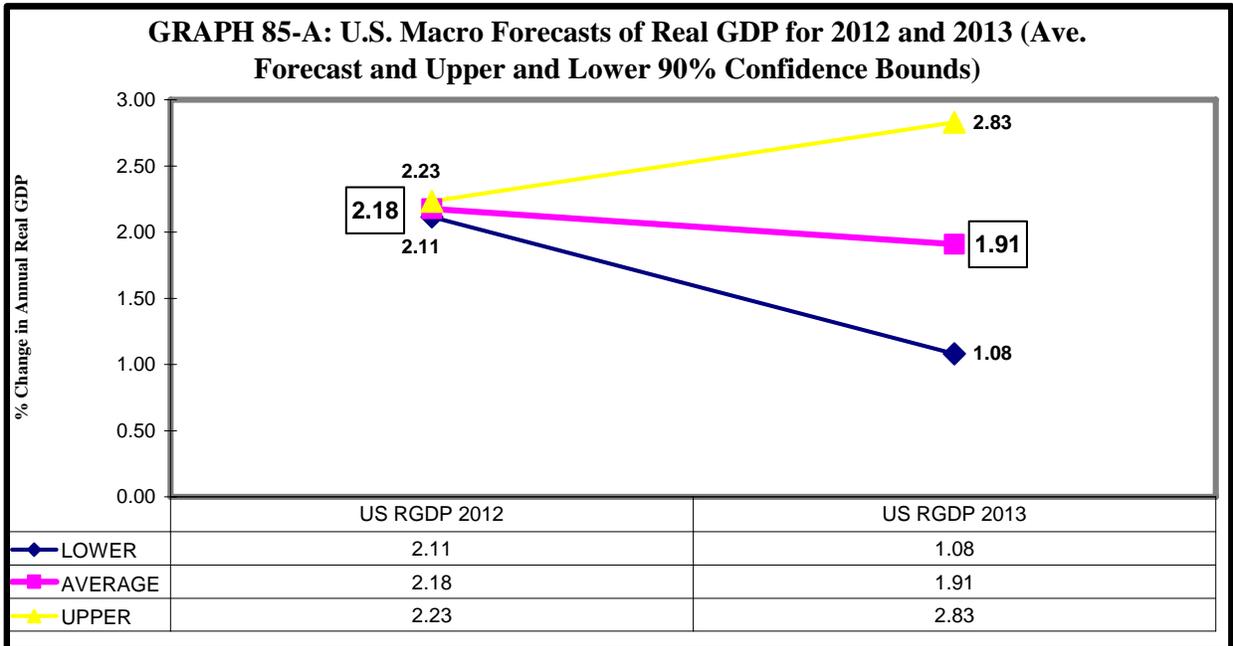


**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

population and a random sample of size $n = 5$, with replacement of values allowed, is drawn. This step is known as a *bootstrap resample*. A second, third, fourth and more re-samples were drawn from Table 7. In fact, there were 1,000 bootstrap re-samples drawn from the data in Table 7 for each of the four sets of five forecasts. The statistics of interest, the Mean Forecast for GDP growth, and the UR-level for 2012 and 2013 were calculated, along with the Standard Error of the Mean Forecast, with a 90% Confidence Interval. The results are presented in graphs, 85-A and 85-B, and their corresponding tables.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



Graph 85-A presents the mean forecasts for U.S. GDP growth in 2012 and 2013 and their 90% Confidence Intervals. The mean forecast for U.S. GDP-growth, of the five forecasters, for 2012, is 2.18%, on an annual basis. As with the discussion of the forecast-



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

range, above, the bootstrapped 90% Confidence Interval is quite tight around the mean, with a band of 0.12 percentage points (12 basis points) as expressed below:

$$2.11\% \leq 2.18\% \leq 2.33\%.$$

And, as discussed above, the bootstrapped 90% Confidence Interval for the mean forecast for 2013 is quite wide, at 1.75 percentage points, or 175 basis points. The interval for the mean U.S. GDP-growth-rate forecast for 2013 is:

$$1.08\% \leq 1.91\% \leq 2.83\%.$$

Graph 85-B presents the mean forecasts for U.S. UR-level in 2012 and 2013 and the 90% Confidence Intervals. The mean forecast for the U.S. UR-level, of the five forecasters, for 2012, is 8.15%, on an annual-average basis. As with the discussion of the forecast-range, above, and, similar to the results for the U.S. GDP growth-rate forecast, the bootstrapped 90% Confidence Interval is quite tight around the mean, with a band of 0.08 percentage points (8 basis points) as expressed below:

$$8.11\% \leq 8.15\% \leq 8.19\%.$$

And, as discussed above, and similar to the results for the U.S. GDP growth-rate forecast, the bootstrapped 90% Confidence Interval for the mean U.S. UR-level forecast for 2013 is quite wide, compared to the interval for the 2012 forecast, at 0.63 percentage points, or 63 basis points.. The interval for the mean U.S. UR-level forecast for 2013 is:

$$7.68\% \leq 8.02\% \leq 8.31\%.$$

Finally, depending on how the Fiscal Cliff/Debt Ceiling negotiations go, the lower band of 1.08% growth in U.S. GDP in 2013 could even be overly optimistic, as well as the upper band of an 8.31% U.S. UR-level for 2013 could also be overly optimistic, or in other words, not pessimistic enough.



VOLUME 2
Current Conditions and Outlook for
the Connecticut Economy:
2011-2013

July 2012

EXECUTIVE SUMMARY: Current Conditions and Outlook for the Connecticut Economy 2011-13

Prepared by Manisha Srivastava, Economist, CT Dept. of Labor

Drag Forces on the Economy vs. the Economy's "Arab Spring"

There are a number of drag forces acting on the economy, including the \$16.4 trillion collapse in net worth of U.S. households between 2007Q2 and 2009Q1. The decline in net worth has created what is known as a *balance sheet recession*. Balance sheet recessions are steeper, last longer than non-balance sheet recessions, and are followed by weaker recoveries. Another drag force on the economy is the winding down of stimulus from the *American Recovery and Reinvestment Act* (ARRA), which can be seen through the loss 586,000 government jobs between June 2009 and March 2012.

On a positive front, the U.S. and Connecticut economies had what could be dubbed their "Arab Spring" over the final months of 2011 and in the beginning of 2012. In the first quarter of 2012, Connecticut added 7,000 net new nonfarm jobs, the most since the 12,367 in 2010Q2. Conversely, there are signs that the economy's "Arab Spring" is losing momentum; real GDP slowed to a 1.9% pace in 2012Q1, and between December 2011 to May 2012 administration and support, a sector that generally drives growth over Post-Cold War cycles, shed 800 jobs.

The 2012 Benchmark

Starting in March 2011, the monthly statewide and major Labor Market Area (LMA) nonfarm job estimates were taken over by the U.S. Bureau of Labor Statistics. The move introduced greater variability in the month-to-month estimates of jobs counts. As was stated in the *Connecticut Labor Situation*, caution should be used in interpreting any



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

single month's estimates. The data are best interpreted to identify trends and cycles over several months.

The 2012 benchmark revealed Connecticut's recession lasted 23 months, rather than 22 months as previously estimated. Job losses due to the recession were slightly reduced to -117,500 from -119,000. According to the 2012 benchmark, Connecticut has gained 17,400 jobs between December 2009 and December 2011, 5,200 fewer than previously estimated. Likewise, the State's job deficit increased from 84,900 to 88,700.

Impact of the Panic/Recession on Connecticut's Regions

Even though Connecticut is a small state, the impact of the recent financial panic and recession was not uniform across the State's sub-state regions. The U.S. entered the recession in January 2008; Connecticut's nonfarm employment peaked two months later in March 2008. Hartford and New Haven entered the recession at the same time as the state. Bridgeport-Stamford and Danbury, which together make up Fairfield County, went into recession in 2007 primarily due to their large financial services sector, as well as construction and manufacturing. Waterbury, however, went into the recession first in December 2006. This implies that Waterbury may be reflecting a structural change in its economy, in addition to the effects of the recession.

The U.S., Connecticut, and all of Connecticut's LMA's, save Norwich-New London, turned the corner in early 2010. Norwich-New London did not turn around until April 2012, and even that is tenuous. Factors affecting the length of the Norwich-New London LMA's recession are related to the pharmaceutical industry and the decline in casino traffic over the recession and struggling recovery. The recession lasted between 23 to 25 months for the U.S., Connecticut, and the majority of Connecticut's LMA's. In Bridgeport-Stamford the recession lasted 31 months, and Norwich-New London was in recession the longest at 47 months (and possibly counting).

To gauge the relative steepness of each area's recession and the relative strength of its recovery, given differences in duration, the compounded growth rate of the job losses



CURRENT CONDITIONS AND OUTLOOK FOR THE U.S. AND CONNECTICUT ECONOMIES: 2011-2013

over the recession and job gains is considered. Danbury had the steepest recession, shedding jobs at a compounded, annualized rate of 4.61%, followed by Connecticut (statewide) at -3.64%. The mildest recession, though the longest, was in Norwich-New London, which lost jobs at a compounded, annualized rate of 2.50%. The U.S. lost jobs at an annualized rate of 3.11%. Given that its recovery has only been for one month, at the time of writing, the rate of recovery for the Norwich-New London LMA translates into a compounded, annualized rate of 17.61%. For areas with an extended recovery (i.e., more than one month), Danbury is the strongest at a 2.94% annualized rate. The rate of recovery for Connecticut, statewide, is the weakest at 0.97% on a compounded, annualized basis.

Current Connecticut Economic Conditions: Spring 2012

Economic signals are analyzed to assess the current state of the Connecticut economy and to gauge where it might be going. The signals sent by the Connecticut economy are categorized by major macroeconomic functions and activities in the form of macroeconomic indicators. The indicators assessed reflect levels and changes in aggregate economic activity including growth and output. Further, the contribution of major sectors, resources (natural and produced), and activities to the levels and growth in Aggregate Demand and Aggregate Supply in the Connecticut economy are considered, as well as the implications for the current state of the economy (at the time of writing), and its likely trajectory over the forecast horizon.

Indicators of Growth and Output: State GDP

Though State GDP is only available on an annual basis, with the release of 2011 data, a relatively current assessment for the current cycle can be made. To compare Connecticut's performance, the State's growth in real GDP is compared to its past performance, particularly over the current business cycle, and to other reference areas (the U.S., New England, and the Tri-State Region around New York City).

Connecticut grew at a rate of 2.77% between 2006 and 2007. The other compared areas all grew by less than 2%. However, Connecticut's contractions in GDP of 3.06% over



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

2007-08 and 5.31% over 2008-09 were much steeper than those experienced by the U.S., New England, or the Tri-State Region. With recovery from the panic and recession, Connecticut's GDP growth grew by just under 3% in 2009-2010, while growth in real GDP for the U.S., N.E., and the Tri-State Region exceeded 3%. With the supply chain disruptions due to the Japanese earthquake and tsunami, the clown show over the debt ceiling, and the re-intensification of the Eurozone Crisis, U.S. and world economic growth slowed in 2011. Connecticut's GDP growth, at 1.99%, was stronger than that for the U.S., New England, or the Tri-State Region. In fact, the Tri-State Region's GDP growth was quite flat at 0.79%.

Productivity, the output per worker, or its change, the job growth for a given change in real GDP, shows that the additional real GDP (output) from adding one more Covered Wage and Salary (CWS) worker was much higher for Connecticut over the 2003-07 expansion period than for the U.S., Massachusetts, New York, or New Jersey. During the panic/recession of 2007-2010, Connecticut's real GDP, or output, had to decline four times more than U.S. output before its economy eliminated a CWS job. The fact that Connecticut's percent decline in employment exceeded the U.S. implies this was the result of a steep contraction in real GDP. The level of output added to Connecticut's economy per additional CWS job over the 2010-2011 recovery period fell compared to the 2003-07 expansionary period. This was one and two-thirds larger than the decline for the U.S.

The flip-side of output-per-worker is the number of workers required to produce a \$ billion of output and is referred to as the *Employment Requirements Matrix*. The more capital intensive the production process is (i.e., the higher the Capital-Labor Ratio), the fewer the number of CWS workers, or the lower the employment requirements, to produce \$ billion of output (real GDP). Over the 2003-2007 expansionary years, Connecticut required 2,470 workers for each additional \$billion of real GDP; in comparison the U.S. required 5,970, New York required 2,848, and New Jersey required 3,234 extra CWS workers to produced an additional \$billion in output. While the U.S. economy shed 32,932 CWS jobs for every \$billion decline in real GDP, over the 2007-10



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

panic/recession years, Connecticut's economy only eliminated 7,922 CWS jobs, one-quarter as much.

Even with the massive purge of jobs over the crisis/recession period (2007-10), the argument for so-called structural change driving the current, weak job growth does not seem to be supported by the employment requirements during the 2010-2011 recovery period. The number of CWS workers to produce an additional \$billion of real GDP over the 2010-11 recovery period has actually increased compared to the 2003-07 expansionary period. Consequently, the persistently high unemployment rate is being driven by insufficient demand.

Indicators of Growth and Output: Real Earnings by Industry

Real Earnings by Industry is used as a proxy for output (i.e. GDP) at the state and regional level in order to get a more frequent and up-to-date estimate of output. Starting from 2005Q1, Connecticut's real earnings by industry peaked in 2008Q1 at \$137.2 billion, bottomed out in 2010Q2 at \$130.9 billion, and has since grown slowly reaching \$133.8 billion in 2012Q1. Following the recession, Connecticut's YTY growth rate in real earnings by industry peaked at 2.96% in 2011Q1. Since then, the YTY growth rate in Connecticut's real industry earnings has been rapidly decelerating over the last four quarters of available data. And, in 2012Q1, the YTY growth rate turned negative: earnings declined by 0.76%.

To get a sense of the relative impact the recent panic/recession and current struggling recovery has had on Connecticut's industry earnings, the State economy's performance is compared to that of the U.S., New England, and the Tri-State Region. Connecticut's growth in real earnings by industry over the current recovery has been the slowest, compared to the tri-state, the U.S., and to New England. Looking at the compounded, annualized growth rates for each area shows that Connecticut's real earnings by industry contracted at a much slower rate than the other areas, and that Connecticut's recovery has been weaker. Furthermore, the duration of Connecticut's decline in earnings was longer, and its recovery in real industry earnings has been shorter.



Indicators of Growth and Output: Connecticut Manufacturing Production Index

The Connecticut Manufacturing Production Index (CMPI) produced by the Office of Research of the Connecticut Department of Labor shows that after strong growth over the 2004-2008 expansion years, the CMPI plunged 33.66% over 28 months. This decline is steeper and longer than the one that occurred with the onset of Connecticut's 2000-2003 recession, in which the CMPI contracted by 22.59% over 22 months.

The compounded, annualized CMPI rate shows that the rate of decline, though shorter, was steeper over the 2000-2003 recession. However, the length of the decline was four times longer (28 months) over the 2008-2010 recession, compared to the 2000-2003 recession (7 months). Finally, the data shows the current state of manufacturing output in Connecticut is neither growing nor contracting, but rather in a holding pattern.

Indicators of Aggregate Demand: Income and Spending (Household Sector)

The most widely available income data available at the state, regional, and local levels is the State and Local Quarterly Personal Income (QPI) series produced and published by the U.S. BEA. First income, specifically residence-based income, will be considered, followed by Personal Income minus Transfer Payments (PI-Transfers) and then Disposable Personal Income (DPI). The declines in CT QPI, and its residence-based components, especially when adjusted for differences in duration, have been much steeper than the rate of recovery. Transfer payments put a floor under the fall in CT QPI. Over the 2008Q1-2009Q3 six-quarter period in which CT QPI declined, Transfer Payments increased by 22.55%. The support from transfer payments is even more pronounced if transfer payments are subtracted from QPI to yield PI-Transfers. Transfer Payments serve as automatic stabilizers to cushion the decline in income, and therefore in spending in the economy, to lessen the severity of an economic downturn.

Residence earnings did not decline as steeply as PI-Transfers. However, they have recovered more slowly than PI-Transfers. Dividends, Interest, and Rent (DIR) have made outsized contributions to the growth in PI-Transfers, both to the decline over the recession and the gains over the recovery.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Looking at real DPI, the key to consumers' spending power, shows that during the recent recession Connecticut's growth rate in real per capita DPI began to decelerate rapidly, and then plunged by 4.88% in 2009. Compared to the U.S., New England, and the Tri-State Region, CT real per capita DPI had the steepest decline over the recent recession. Further, by 2011, two years after the low point, CT's index for real per capita DPI had only recovered to 95.74, compared to 98.79 for New England, 98.18 for the U.S., and 98.17 for the Tri-State area.

Since the BEA's estimates of state-level DPI for 2012 will not be out until June 2013, two possible reference points for trying to infer how consumer spending has performed in Connecticut over the first one-half of 2012, and where it might be going the last half of the year is data on Connecticut sales and use tax revenue, and the recent trends in U.S. Personal Income, Its Disposition, and retail sales.

After declining from June 2008 to October 2010, the 12 month-moving-average (MMA) of Connecticut sales and use tax revenue turned up and has been increasing through April 2012. Furthermore, the year-to-year (YTY) growth rate in the 12MMA of Connecticut sales tax revenue has been strong in 2012. However, there are signs the economy's "Arab Spring" may be coming to an end. U.S. retail sales were down in April and May, and down in June as well YTY. Three straight months of MTM declines in Retail Sales does not bode well for where the economy is heading. This definitely reinforces other indicators, such as the jobs data, that seem to be pointing in the direction of a slowing economy.

The U.S. real per capita DPI indicates the long deceleration starting in October 2010, and then contraction in YTY growth rate had been reversed in February 2012. The month-to-month (MTM) growth rate in real U.S. per capita DPI has been weak and in an up-and-down fashion. However, the MTM growth rate in May 2012, at 0.29%, was the strongest MTM growth rate since May 2010.



Indicators of Aggregate Supply: Labor (Human Resource Utilization)

The one set of indicators available in great detail, and on a timely and high-frequency basis, at the state, regional, and local levels, are indicators of labor market conditions. Therefore, the assessment of indicators of Aggregate Supply at the state level will focus on the state and local labor market, discussed under the heading of human resource utilization.

Connecticut nonfarm employment grew by 6,767 jobs in 2012Q1, which is the strongest QTQ growth over the current recovery since 2010Q2. Even stronger, both nationally and at the state level, has been the growth in Private Sector jobs. Save the burst in job growth in 2010Q2, Private Sector job growth has outperformed total nonfarm employment over the entire recovery. Further, the Private Sector actually added 7,600 jobs in 2012Q1, compared to the 6,767 overall. Unique to this recovery, instead of leading, or at least reinforcing the growth in Private Sector jobs, Government has significantly subtracted from job growth.

With the surge in job growth coming into 2012, the 3MMA shows accelerating job growth from January through March. However, following the trend in job growth, at the national level, the 3MMA in Connecticut nonfarm employment contracted by 233 in April, and then by 1,767 in May. This, along with the behavior of Connecticut's real industry earnings, real per capita DPI, and other indicators appear to be sending signals that the State, as well as the national economy, is slowing after a burst of activity at the beginning of the year.

Turning now to what drove the burst in job growth activity at the beginning of 2012, the major contributor to job growth over the recovery has been the non-financial, private-services sector, the largest sector. Within the Non-Financial, Private-Services Sector, Health Care and Social Assistance, Education, and Retail Trade accounted for 7,266 jobs, or 87%, of the 8,367 jobs created. Unlike past recoveries, Connecticut's Goods Producing Sector, led by the Manufacturing Sector's renaissance, actually added jobs over the first year of recovery. Then the Goods-Producing sector slipped, and as of 2012Q1 is only



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

slightly above its 2010Q1 level. Financial services employment increased slightly over the first four quarters of the current recovery, however the trajectory has been downward since. By 2012Q1, financial services employment was nearly 2% below its level in 2010Q1. The Government Sector has fared the worst over this recovery, both nationally and at the state, and especially the local, levels. Government employment was down 3.61% from its level in 2010Q1.

Connecticut's Comparative Job Performance

Connecticut's job growth was stronger than that of the U.S., New England., or the Tri-State Region over the first one and one-half years of the current recovery. Then, Connecticut traded places with the U.S. and the Tri-State Region. After July 2011, U.S. job growth passed up Connecticut, and, in November, so did the job growth of the Tri-State Region. New England's job growth began to flatten after May 2010, and then it declined after April 2011. By August 2011, New England had nearly given back all the jobs it had gained back in the recovery, up to that point. Since April 2011, New England's job growth performance has fallen below that of Connecticut, the U.S., and the Tri-State Region.

The Dynamics of Job Growth

The Business Employment Dynamics (BED) Program of the U.S. Bureau of Labor Statistics (BLS) measures the gross number of jobs created and the gross number of jobs destroyed, by establishments (worksites) over each quarter. The difference between the number of jobs created and the number of jobs destroyed is the net change in jobs. It is this net change that is reported each month when the nonfarm employment report is released.

According to BED data, the steepest decline in the rate of jobs created per 100 destroyed was in 2009Q1, four quarters before the trough in the last recession. Interestingly, the strongest surge in the job creation rate was in 2010Q2 in the early stages of the current recovery. The gap between the job creation rate and the job destruction rate, and its



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

persistence, was the largest and lasted longer over the recent recession than over Connecticut's previous two post-Cold War recessions.

Unemployment, Residence Employment, and the Labor Force

Connecticut's lowest Unemployment Rate (UR), starting from January 2006, was 4.32% in April 2006. Being a lagging indicator, Connecticut's UR peaked eight months after the trough in the State's recession. By May 2012, the last period of available data, Connecticut's UR (7.83%) had fallen below that of both the Tri-State Region (8.70%) and the U.S. (8.21%), however was above New England's UR (6.81%).

After the recession and recovery, Connecticut's labor force was 5.58% larger than it was in January 2006. Connecticut's labor force continued to grow throughout the entire NBER-defined recession period, as well as the over the entire recovery period, save a brief stall in the last half of 2009. The growth in Connecticut's labor force over the recovery surpassed that of the U.S., New England, and the Tri-State Region.

One clue to Connecticut's relatively strong labor force growth may be in the behavior of household employment from the Current Population Survey (CPS). The household (HH) employment, labor force, and UR come from a survey of the State's households and are therefore residence-based measures. Nonfarm (NF) employment is drawn from a survey of the State's business establishments (worksites), and is therefore based on geographic location. For a small state like Connecticut, located close to major job centers, there can be a significant difference in the HH versus the NF employment series. Comparing the decline and recovery of Connecticut's HH employment to the U.S., New England, and the Tri-State Region finds that Connecticut had the weakest recovery, save the Tri-State Region. However, Connecticut also had the shallowest decline. Consequently, Connecticut's HH employment had virtually completely recovered by May 2012, only 0.10% below its level at the peak of the last expansion, compared to Connecticut's NF employment which was only at 95% of its pre-recession, peak level. Since residence employment includes those who reside in Connecticut, but commute to a job out of state, the answer may lie in relatively stronger job growth in these destinations.



Where do we go from Here? The Outlook for 2012-2013 and Beyond

Continued growth is expected over the forecast period, but growth in the annual average level of jobs is projected to decelerate over the 2011-2013 forecast horizon with 10,000 to 11,000 jobs added in 2012 and then slowing to just over 3,000 added in 2013. That would result in 14,000 net jobs on an annual basis over the 2011-2013 two-year forecast horizon. On a quarterly basis, the forecast calls for the State's economy to add another 22,000 jobs over the eight-quarter 2011Q4-2013Q4 forecast period. The 2011Q4-2012Q4 segment of the 2011Q4-2013Q4 forecast period should account for a larger share of the job growth as the forecast expects job growth to slow over the 2012Q4-2013Q4 segment of the forecast period.

It is expected that the Private, Non-Financial Services Sector will be the only major sector that will add jobs over the forecast period. Non-Financial Services is expected to add 28,500 net new jobs over the 2011Q4-2013Q4 forecast horizon. The Government (-1,376), Goods Producing (-1,718), and Financial Services (-3,242) sectors are all expected to subtract jobs from the economy between 2011Q4 and 2013Q4.

Within Non-Financial Services, two sectors that lost jobs over the 2009Q4-2011Q4 base period are expected to add jobs over the forecast period: the Construction (+1,633) and Arts and Entertainment (+370) sectors. Seven sectors that had job losses over the base period are also expected to subtract jobs from the State's economy over the forecast period. Manufacturing, though experiencing a renaissance over the current recovery—especially in durable goods—is expected to shed jobs again, especially over the last half of the forecast period: 2012Q4 to 2013Q4. The Utilities (-457), Information (-1,215), the entire Financial Services Sector, Mining (-34), and Government sectors, especially local government (-1,376), are expected to eliminate jobs over the forecast period.

Ten sectors added jobs over the base period and are also expected to add jobs over the forecast period. Leading the way is the Health Care and Social Assistance (HCSA) sector, mostly driven by the aging baby boom generation, which is expected to add



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

11,674 jobs between 2011Q4 and 2013Q4. The next most significant contribution is the 4,029 jobs that Administration and Support and Waste Management (Admin-Support) is projected to add over the forecast horizon. This sector's growth is driven by temporary workers (employment services, NAICS 56130), which accounts for between one-quarter to one-third of Admin-Support employment, but can account for most, or even all, of the sector's job growth, as the economy has moved more toward the use of contingent workers. Accommodation and food services is expected to add another 3,434 jobs over the 2011Q4-2013Q4 forecast period. This growth has been, and is expected to be, dominated by NAICS 722, food services, particularly eating and drinking places. Professional, Scientific, Technical Services (Prof-Tech) is projected to add another 3,027 jobs over the forecast period. Job growth, as well as decline, over the phases of the cycle in the Prof-Tech sector have been driven by the cyclical behavior of computer systems and design employment (NAICS 5415), as well as legal (NAICS 5411) and management consulting (NAICS 5416). Educational Services, mostly private sector, is expected to add 2,922 jobs between 2011Q4 and 2013Q4. Wholesale trade (+1,199) and retail trade (+1,028) are also projected to add more than 1,000 jobs each over the forecast period. Retail has been particularly driven by the resurgence of consumer durables sales over the current recovery, particularly in the last half of 2011 and the first quarter of 2012. Consumer durables, in turn, have been driven by employment increases in NAICS 4411, new car dealers. In Connecticut's surge in early 2010, NAICS 4451, grocery, had been strong, but employment growth turned negative going into 2011 as Shaw's pulled out of the State.

Risks to the Forecast

There are significant downside risks to the forecast. That is, risks that could render the forecast overly optimistic. As noted in the opening to this article, foreclosures, distressed sales, and underwater mortgage-holders, as well as high unemployment, are all keeping the housing sector from recovering from the popping of the bubble. Consumer debt is still high, and student loan debt may be the next financial crisis. Depressed asset values and high debt loads mean that as households and non-incorporated businesses continue to rebuild their net worth, it will act as a continued drag on the economy making it



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

vulnerable to slipping back into recession. With talk of fiscal austerity winning the day, and no new fiscal stimulus on the horizon, growth will proceed in fits-and-starts, but overall, it will remain weak. The Eurozone Crisis could, of course, finally plunge the world back into financial crisis as it has been threatening to do for months now.

The second half of the forecast period, 2012Q4-2013Q4, is the most uncertain part of the forecast. In addition to the uncertainty of the political landscape until after the November elections, unless Congress kicks the proverbial can down the road, *The Budget Control Act of 2011* could potentially push the economy over a cliff in 2013.¹⁴⁰ The spending cuts scheduled to take effect because of the failure of the so-called “Super-Committee” last November will take us down the same road as the United Kingdom, which has been plunged back into recession as a consequence of draconian budget austerity measures.

On the positive side, gasoline prices have been declining for about three weeks at the time of writing. This acts as a progressive cut, which can stimulate the economy. Private sector job creation has been slow, but steadily growing, even as government, especially local government, has been a drag on the economy. Finally, the auto industry has experienced a resurgence over the current recovery (at least, up to the time of writing).

¹⁴⁰ Congressional Budget Office, *Estimated Impact of Automatic Budget Enforcement Procedures Specified in the Budget Control Act* (September 12, 2011)



I. INTRODUCTION: Drag Forces on the Economy vs. the Economy's "Arab Spring"

Drag is the aerodynamic force that opposes an aircraft's motion through the air.¹⁴¹ If for our analogy we cast the aircraft as the economy, then the *drag force* on the economy is the \$16.4 trillion collapse in net worth of U.S. households between 2007Q2 and 2009Q1. As of the fourth quarter of 2011, U.S. household net worth was still down \$8.4 trillion from its peak. Further, the net worth of non-incorporated businesses was still down \$2 trillion from its peak, also in 2007Q2.¹⁴² As noted in *The Outlook to 2012Q4*, the recent downturn was no "ordinary" recession, and that this is not a "normal" recovery. This recovery has followed the first U.S. systemic banking panic since the 1930's, the first collapse of a shadow banking system since 1907¹⁴³, and the first succession of collapses in asset bubbles in housing and the stock market, in conjunction with unsustainable levels of household debt since the 1920's.¹⁴⁴ This wiped out the net worth a significant number of households, as well as unincorporated businesses, leaving in its wake what has been called a *Balance Sheet Recession*.¹⁴⁵ The Great Depression was a balance sheet recession, as was the recession that followed the collapse of Japan's real estate bubble in 1989. Balance sheet recessions are steeper and last longer than non-balance sheet recessions, and they are followed by weaker recoveries.¹⁴⁶ This is because rebuilding net worth is a long slog. Further, since for middle income and working class families, their home is their most important, or only asset, fixing housing is critical to repairing households' balance sheets.

¹⁴¹ National Aeronautics and Space Administration, *What is Drag?* <http://www.grc.nasa.gov/WWW/K-12/airplane/drag1.html> Accessed on May 8, 2012.

¹⁴² Board of Governors of the Federal Reserve, FLOW-OF-FUNDS, 2011Q4.

¹⁴³ 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

¹⁴⁴ White, Eugene N., *The Great American Real Estate Bubble of the 1920s: Causes and Consequences* (October 2008) National Bureau of Economic Research: Cambridge, Ma.

¹⁴⁵ Koo, Richard C., *THE HOLY GRAIL OF MACROECONOMICS: Lessons from Japan's Great Recession* (2009) John Wiley & Sons: New York

¹⁴⁶ Kennedy, Daniel, W., *THE UPS-AND-DOWNS OF RECOVERING FROM A BALANCE-SHEET RECESSION: The Outlook to 2012Q4* (May 2011) Office of Research, Connecticut Labor Department: Wethersfield



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Another drag force on the economy is the winding down of the stimulus from the *American Recovery and Reinvestment Act* (ARRA). As a consequence, the recovery, which began officially in June 2009, has proceeded in fits-and-starts, particularly with the winding down of the ARRA stimulus. This is reflected especially in the loss of 586,000 government jobs between June 2009 and March 2012. Of these, 492,000, or 84%, of those lost jobs were local government as support for maintaining employment levels of teachers and public safety workers was withdrawn. Compare this to the 309,000 government jobs added over the first 34 months of recovery from the 2001 recession, and the 659,000 government jobs added coming out of the 1990-91 recession. Further, austerity seems to have won the day, both in the U.S. and Europe, although, more so in Europe—so far. Recent elections results may change that.

THE ECONOMY’S “ARAB SPRING”

Whether due to the record warm winter, which wreaked havoc with the seasonal factors for the nonfarm employment numbers, or more fundamental factors, like the burst of growth in net worth in 2012Q1, the strongest QTQ growth rate since 2004Q4¹⁴⁷, the U.S. and Connecticut economies had what could be dubbed their “Arab Spring” over the final months of 2011 and into the beginning of 2012. Concerns about how real the momentum was surfaced as the growth rate in real GDP slowed to a 1.9% pace on 2012Q1.¹⁴⁸ On a less volatile quarterly basis, the strong growth in Connecticut’s nonfarm jobs can clearly be seen in Graph 1. In the first quarter of 2012, Connecticut added 7,000 net, new nonfarm jobs, the most since the 12,367 in 2010Q2. Though revisions were upward, when the month-to-month (MTM) change in Connecticut’s nonfarm employment for the first five months of 2012 is tracked, along with the MTM change in the three-month moving average (3MMA) in Graph 2-A, it is apparent that the MTM change in the 3MMA declines after February, and then turns negative in April and May. The same MTM changes are tracked for U.S. nonfarm jobs in Graph 2-B. Though the MTM change

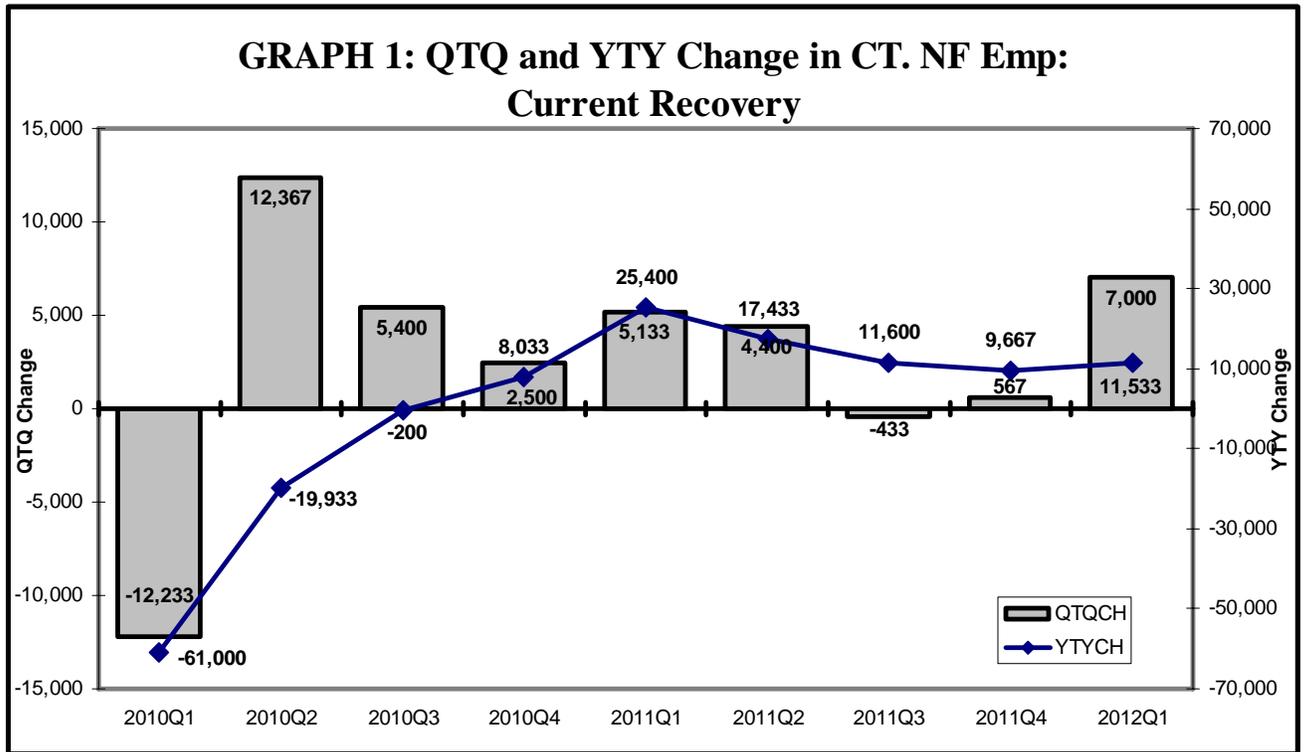
¹⁴⁷ See the discussion on Household Balance Sheets in Part I, Section C, Chapter II-CURRENT CONDITIONS, in Volume 1 of this outlook.

¹⁴⁸ U.S. Bureau of Economic Analysis, GROSS DOMESTIC PRODUCT: FIRST QUARTER 2012 (THIRD ESTIMATE), CORPORATE PROFITS: FIRST QUARTER 2012 (REVISED ESTIMATE) (June 28, 2012)



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

in the U.S. 3MMA does not turn negative, as it does for Connecticut, there is clearly a rapid deceleration in job growth, again after February, as job growth, in the 3MMA, decelerates from 260,000 in February to under 100,000 by May.

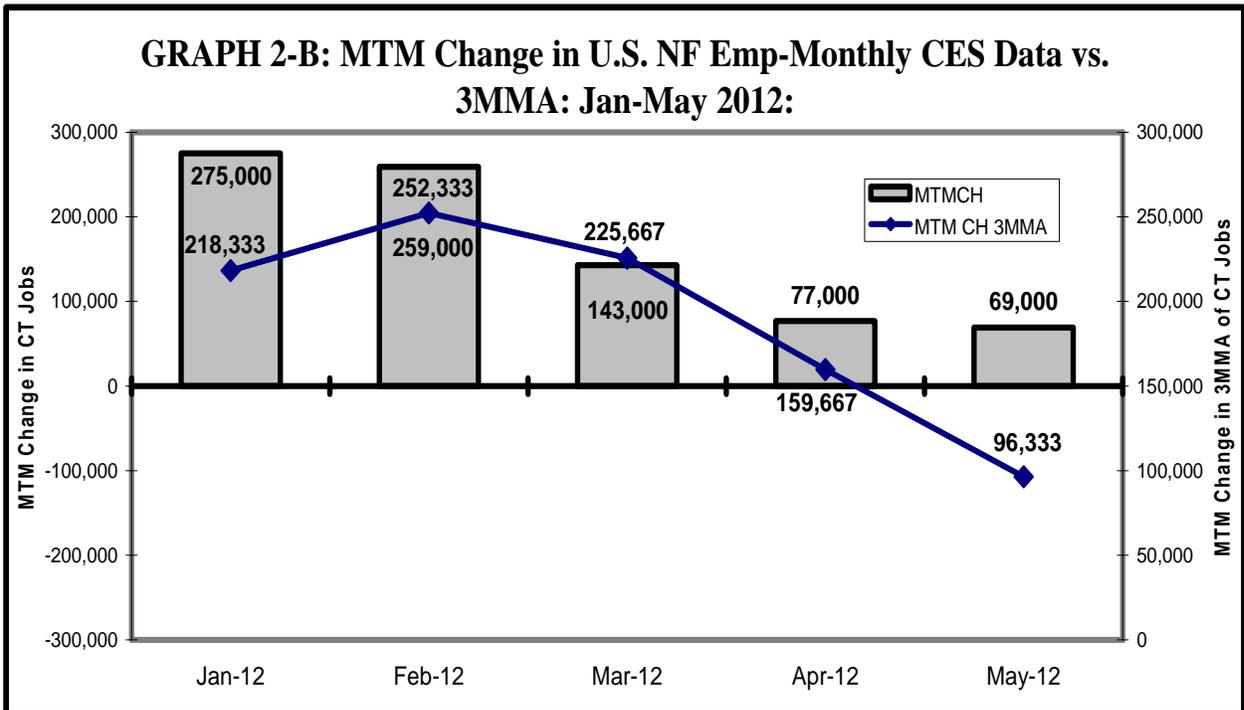
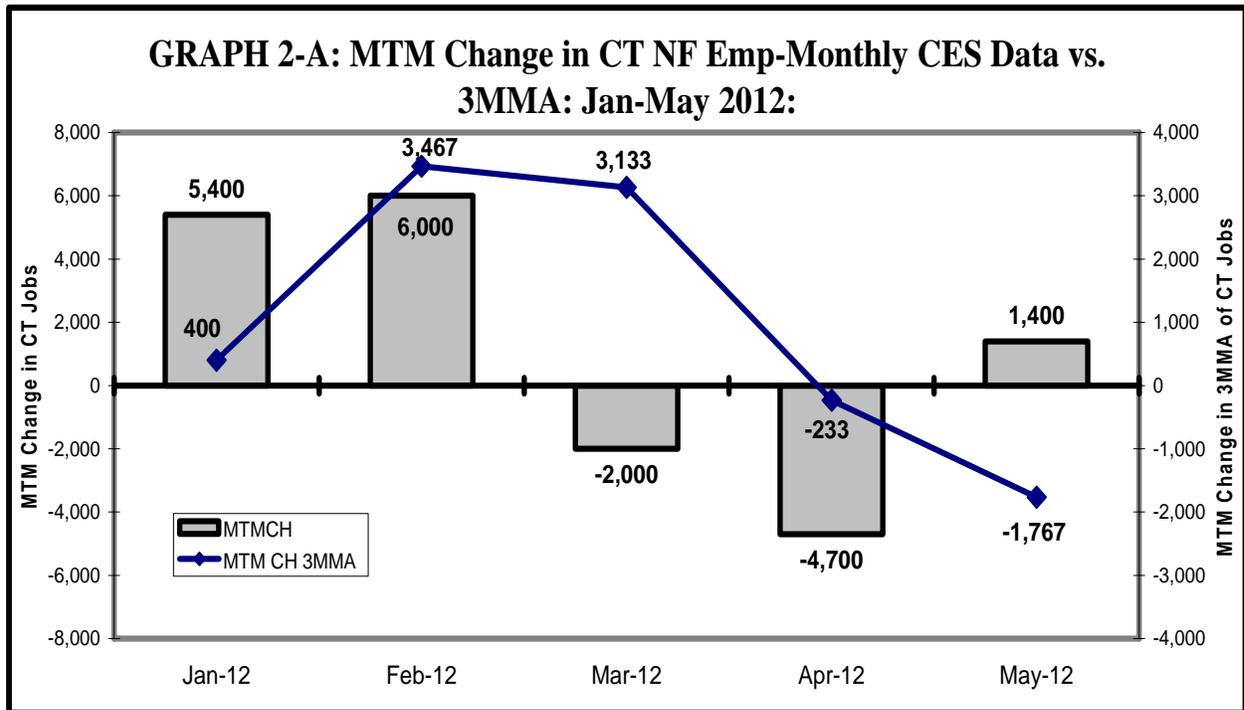


SOURCE: U.S. BLS, CTDOL-Research, and author's calculations.

Graph 3 digs down a little to uncover what exactly might have driven the first-quarter growth. On a monthly basis, between December and May, Connecticut added 6,100 net, new jobs. Private, non-financial services added 4,400 jobs, followed by the goods producing sector which added another 1,900 jobs. Both the financial services sector (-200) and the government sector (-400), subtracted jobs from the Connecticut economy between December 2011 and May 2012. Graphs 4A and 4B provide further detail on the industries driving the growth in the goods and non-financial services sectors.

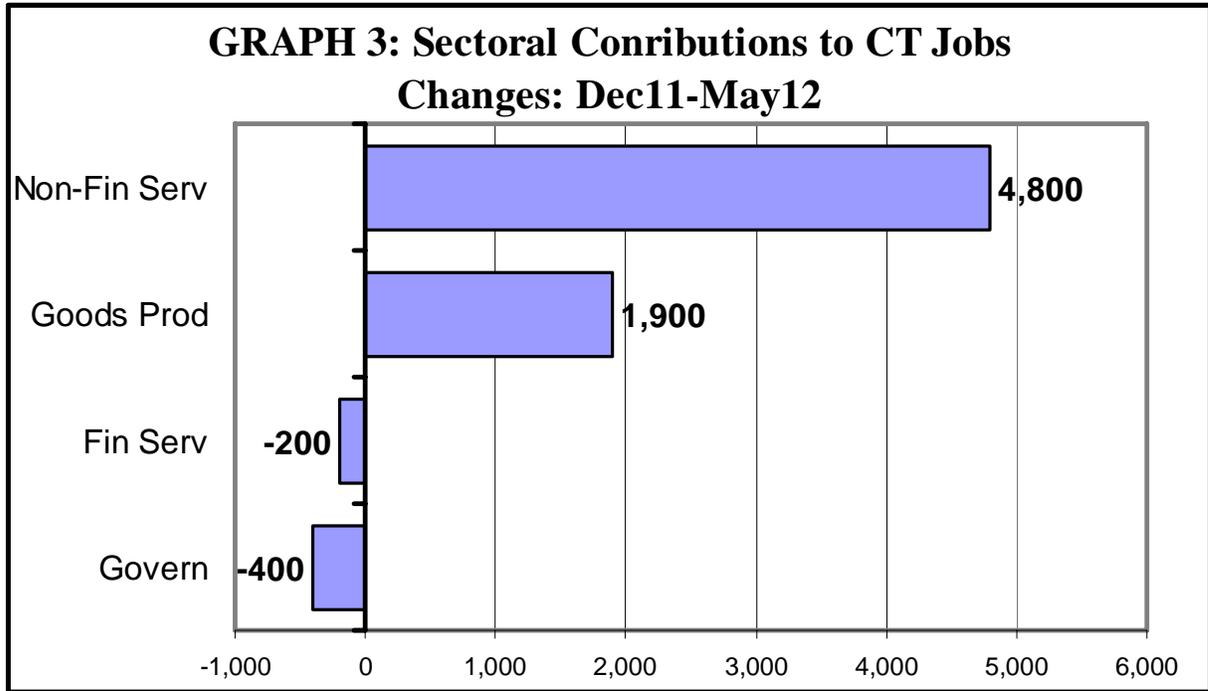


**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



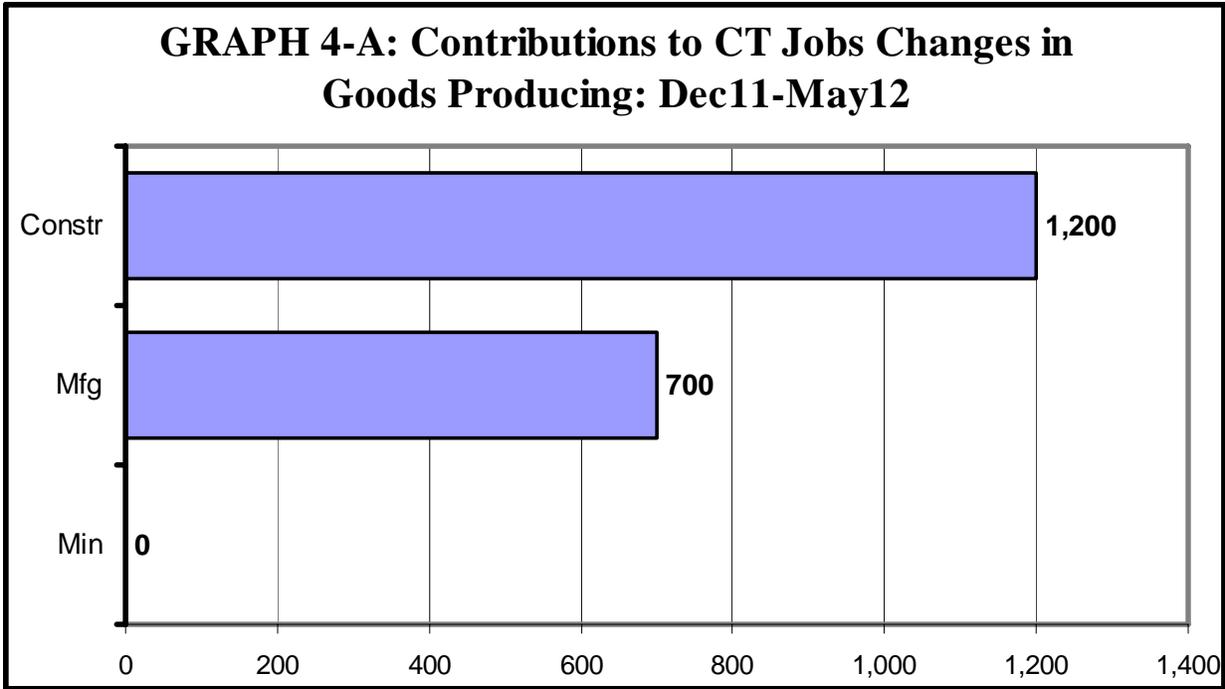
SOURCE: U.S. BLS, CTDOL-Research, and author's calculations



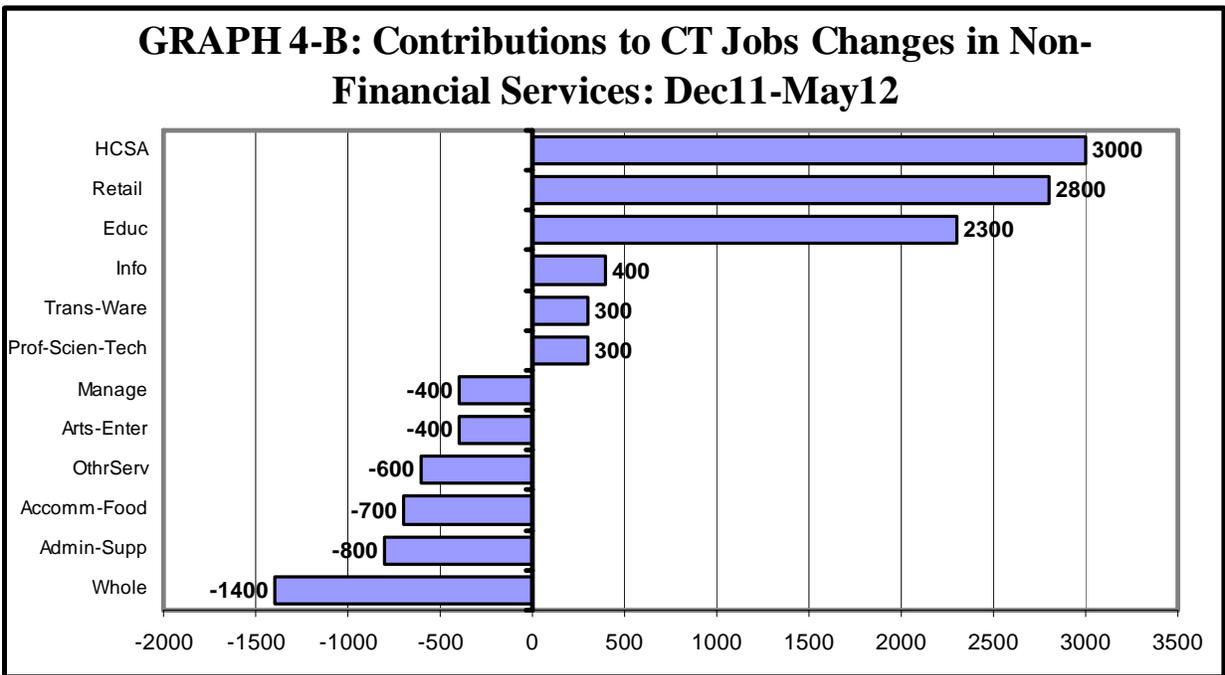


SOURCE: U.S. BLS, CTDOL-Research, and author's calculations.

Graph 4A breaks out the goods producing sector into its three component industries: mining and logging, construction, and manufacturing in order to identify the industries that contributed to this sector's 1,900 net, new jobs over the first five months of 2012. Both manufacturing and construction have had had some unexpected strength, and especially in 2012. Contrary to previous recoveries, certainly in the post-Cold War era, is the manufacturing sector's adding, rather than shedding jobs. Between December 2011 and May 2012, there were 700 net, new jobs created in manufacturing (see discussion above). Also, after taking the brunt, along with Manufacturing over the recent panic and recession, Construction has been showing some life, and between December 2011 and May 2012, 1,200 net, new construction jobs were added to Connecticut's economy. Mining, a small sector in Connecticut's economy, added no net, new jobs over the first five months of 2012.



SOURCE: U.S. BLS, CTDOL-Research, and author's calculations.



SOURCE: U.S. BLS, CTDOL-Research, and author's calculations.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Graph 3B breaks out the non-financial services sector into its component industries to identify those that made significant contributions to the 4,800 net, new jobs added by the largest major sector in the economy between December 2011 and May 2012. Six two-digit industries within this major sector added a total of 9,100 net, new jobs over the first five months of 2012, and six industries subtracted 4,300, for a net gain of 4,800 new jobs added between December 2011 and May 2012. Three of the six industries with net job gains each added more than 2,000 jobs over the first five months of 2012. It is the trend-driven health care and social assistance sector (HCSA) that dominated growth in the non-financial services sector adding 3,000 jobs. Both nationally and in Connecticut, demographics are pushing the growth of this sector over all phases of the business cycle. Retail added 2,800 jobs, dominated by motor vehicles and parts, and particularly new car dealers (see discussion on manufacturing and the auto industry above). General merchandise and building materials also significantly contributed to the growth in retail jobs. Education, while continuing to grow, had slowed for a while, but, over the first five months of 2012, regained its momentum and added 2,300 jobs. In a reversal, information added 400 net, new jobs over the first five months of 2012, and transportation and warehousing and professional and scientific each added 300 jobs.

Reversing a recent trend, wholesale trade led the non-financial services sector in subtracting jobs, eliminating 1,400 jobs between December 2011 and May 2012. Administrative and support, another reversal, shed 800 jobs. Since most of the growth in this sector over the post-Cold War cycles, especially over the current cycle, has been driven by temporary help, this could be another signal that the economy's "Arab Spring" is over and that the drag forces discussed in the opening paragraph of this introduction may be reasserting themselves. Accommodation and food services lost 700 jobs over the first five months of 2012, and arts and entertainment had a net loss of 400. These two sectors make up the larger leisure and hospitality sector, which had started off the current recovery in the first half of 2010 with very strong growth, another sign of the possible softening of the economy's momentum. Other services shed 600 jobs, and management of companies and enterprises lost 400 jobs.



II. THE 2012 BENCHMARK

On April 18, 2011, with the release of the March 2011, Connecticut nonfarm jobs data, the following announcement appeared in the *Connecticut Labor Situation*:

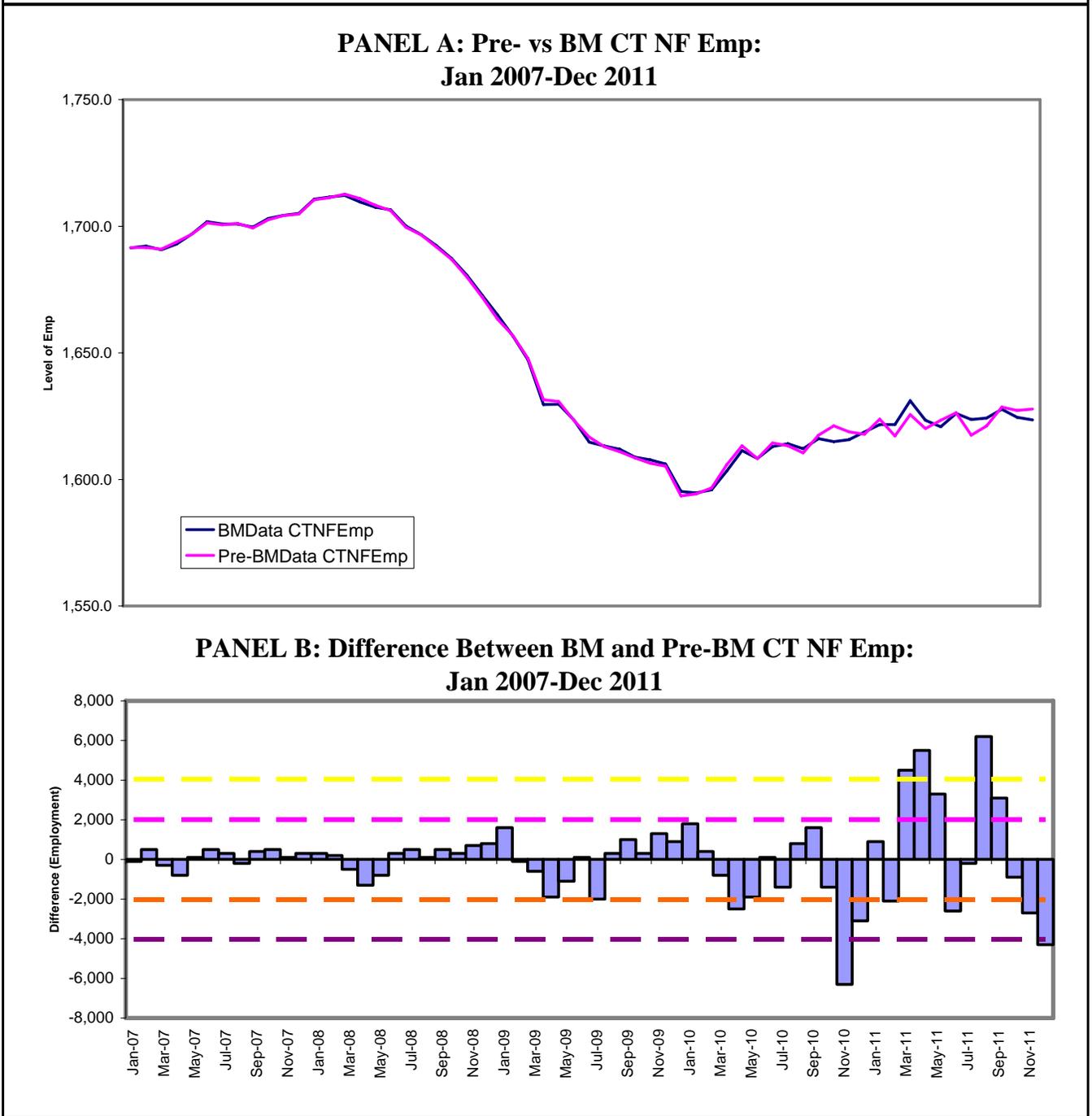
Starting with March, 2011, our monthly statewide and major LMA nonfarm job estimates have been taken over by the US Department of Labor Bureau of Labor Statistics. This is the final phase of transition in this program, which began in 2008. As a result of changes in the estimation procedures, you are likely to see more variability in month-to-month estimates of job counts. Caution should be used in interpreting any single month's estimate. The data are best interpreted to identify trends and cycles over several months and quarters¹⁴⁹

In particular, the passage “As a result of changes in the estimation procedures, you are likely to see more variability in month-to-month estimates of job counts” in the citation above is clearly visible in the pre- and post-benchmarked data from the benchmark (BM)-2012 Connecticut nonfarm employment data presented in Graph 5. Panel A tracks the level of both the pre- and post-benchmarked Connecticut nonfarm employment from January 2007 to December 2011. Note the pre- and post-BM'd levels of nonfarm data began to significantly diverge toward the end of 2010, but particularly into 2011. This divergence is highlighted in Panel B, which tracks the difference between the pre- and post-2012 BM'd Establishment Survey data. Panel B is a Shuhart-type control chart in which the differences are plotted against two warning tracks: the inner track represents one Standard Deviation (SD) from the mean, and the outer track represents 2 SD's from the mean. As is readily apparent, the size of the differences increases dramatically after the Establishment Survey is taken over by U.S. BLS. It is only after the centralization of the survey that the difference between the pre- and post-BM'd data exceed 2 SD's from the mean (i.e., go beyond the outer warning track). This is the visual manifestation of the increase in the volatility in the month-to-month estimates of the job counts noted in the above citation from the *Connecticut Labor Situation*.

¹⁴⁹ Office of Research, CONNECICUT LABOR SITUATION (April 18, 2011) Connecticut Department of Labor: Wethersfield, p. 4.



GRAPH 5: Differences Between the 2012 BM-ed CT NF Data and the Pre-BM-ed Series
(SOURCE: CT DOL-Research and author's calculations.)



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

As a consequence of the 2012 benchmark, in lieu of a larger difference between the pre- and post-BM'd data, the job changes by two-digit NAICS sector were significantly larger for the 2012 BM round. Table 1 shows the pre- and post-BM job changes, by two-digit NAICS sector for the December 2009-December 2012 period, which covers that part of the current recovery that also coincides with the benchmarked period. The second column from the left shows the pre-BM changes, the third column shows the post-BM job changes, and the last column presents the difference between the two (pre-BM – BM). Note that some of the differences are quite substantial. The largest downward revision, and the largest absolute value in the difference between pre- and post-BM job changes was for public administration (government), which had a pre-BM change of -2,900 jobs between December 2009 and December 2011, and a post-BM change of -8,200 jobs, a difference of -5,300. The lowest difference was zero, for mining and construction. That is their pre- and post-BM job changes were identical (i.e., their revisions were zero).

Manufacturing went from gaining 400 jobs over the 24-month period to actually losing 800 jobs, a pre-/post-BM difference of -1,200. Retail trade had a significant reduction in its gains: a pre-BM gain of +4,700 was reduced to a post-BM gain of +3,000, a pre-/post-BM difference of -1,700. The losses in finance and insurance were reduced from -3,900 jobs to -2,100 jobs, a difference of +1,800. Transportation and warehousing had their job gains boosted up by an order of magnitude, going from a pre-BM gain of 200, to a post-BM gain of 2,000. Professional, technical, and scientific (Prof-Tech) and management of companies and enterprises (Manage) both had losses revised to gains. Pre-BM, Prof-Tech lost 600 jobs. After the 2012 BM, Prof-Tech had job gains of 1,600, a difference of +2,200, and the second largest upward revision of any two-digit NAICS sector. Manage also went from losing jobs to gaining jobs. Pre-BM data showed Manage losing 400 jobs between December 2009 and December 2011. After the 2012 BM, it was revealed that Manage actually had gained 1,000 jobs, an upward revision of 1,400 jobs.



CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013

**TABLE 1: Change in CT Employ by NAICS Sector Before and After
2012 BM-Dec 2009-Dec 2011 (SOURCE: CT DOL-Research)**

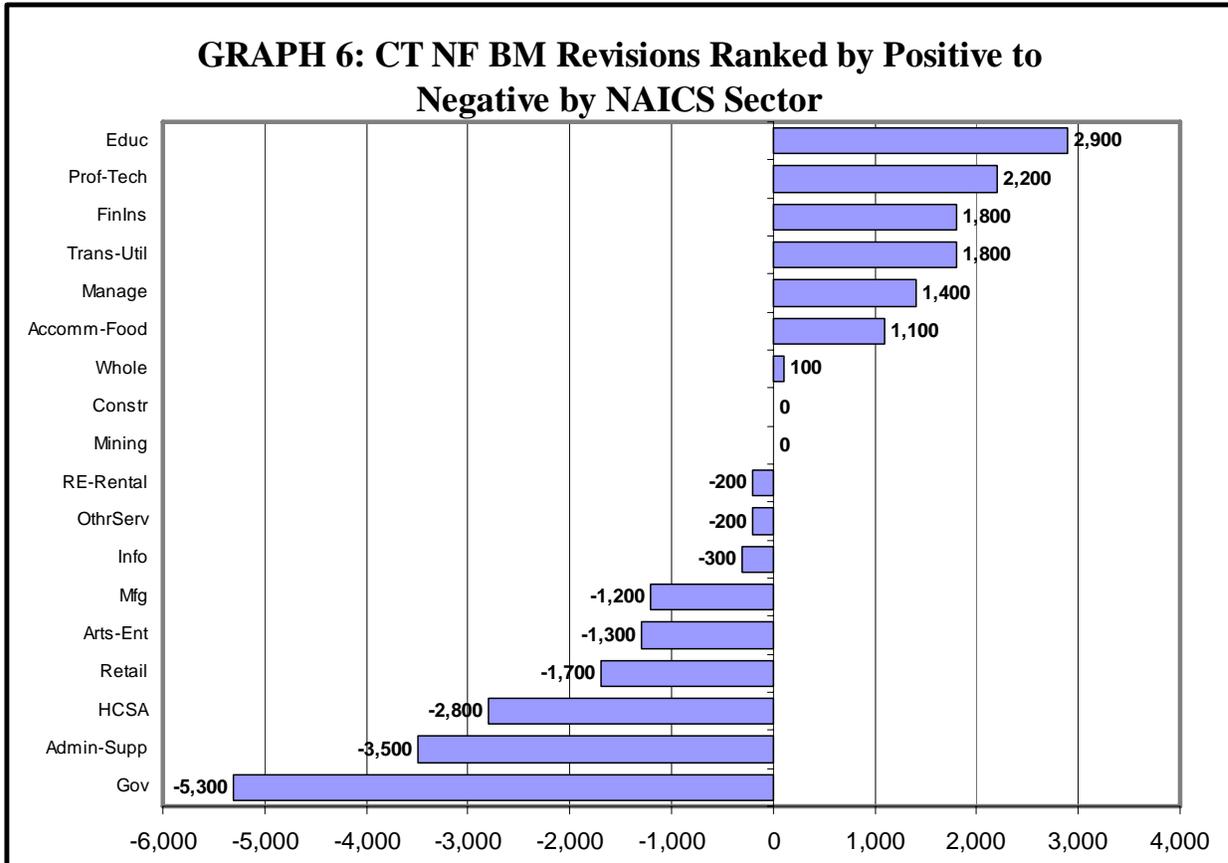
	Pre-BM	BM'd Data	BM -- Pre-BM DIFFERENCE
Sum of Sectors (Tot NF Emp)	22,600	17,400	-5,200
NAICS Sectors			
MINING	-100	-100	0
CONSTRUCTION	-3,000	-3,000	0
MANUFACTURING	400	-800	-1,200
Wholesale Trade	1,400	1,500	100
Retail Trade	4,700	3,000	-1,700
Transportation and Utilities	200	2,000	1,800
Information	-200	-500	-300
Finance and Insurance	-3,900	-2,100	1,800
Real Estate and Rental and Leasing	-300	-500	-200
Professional, Scientific, and Technical Services	-600	1,600	2,200
Management of Companies and Enterprises	-400	1,000	1,400
Admin and Support/Waste Manage/Remediation	9,300	5,800	-3,500
Educational Services	700	3,600	2,900
Health Care and Social Assistance	12,400	9,600	-2,800
Arts, Entertainment, and Recreation	2,200	900	-1,300
Accommodation and Food Services	3,400	4,500	1,100
Other Services (except Public Administration)	-700	-900	-200
Public Administration	-2,900	-8,200	-5,300

Education had the largest upward revision as a result of the 2012 BM. Pre-BM showed that the education sector had added 700 jobs over the 24 months between December 2009 and December 2011. However, the 2012 BM showed that Education actually added five times as many jobs: + 3,600, an upward revision of 2,900 (and second-largest revision in absolute value).

Pre-BM data showed that Connecticut had gained 22,600 nonfarm jobs between December 2009 and December 2011. However, the 2012 benchmark revealed that, in fact, the State had gained 17,400 jobs, or 5,200 fewer than the Pre-BM's data showed.

Graph 6 ranks the two-digit NAICS sectors by the size of their 2012 BM revision, from the highest upward revision to the lowest (greatest in absolute value) downward revision.





SOURCE: CT DOL and author's calculations.

CONNECTICUT'S RECESSION/RECOVERY AND THE 2012 BM

As can be seen from Table 2, each benchmark, since the recovery began, has added a month to Connecticut's 2008-10 recession length. The 2010 BM put the recession's length at 21 months with a loss of 103,400 jobs. The 2011 BM then increased that recession length to 22 months, and upped the job losses to 119,200. Finally, the 2012 BM tacked on one more month to the recession's duration bringing it up to 23 months. However, the job-losses were reduced somewhat to -117,500.

As a consequence of the lengthening of the recession by one month with each successive BM, the length of the recovery has been shortened by one month with each successive BM. The 2010 BM showed the current recovery started in December 2009, making it 24 months in length. The 2011 BM reduced that to 23 months, with recovery in January 2010. The 2012 BM moved it up to February making the current recovery 22 months.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

TABLE 2: CT Recession Characteristics-2010, 2011, and 2012 BM's

	<u>2012 BM CT NF Emp</u> <u>2008-10 RECESSION</u>	<u>2011 BM CT NF Emp</u> <u>2008-10 RECESSION</u>	<u>2010 BM CT NF Emp</u> <u>2008-10 RECESSION</u>
LENGTH	23 Months	22 Months	21 Months
JOBS LOST	-117,500	-119,200	-103,400
	<u>2012 BM CT NF Emp</u> <u>2010 RECOVERY</u>	<u>2011 BM CT NF Emp</u> <u>2010 RECOVERY</u>	<u>2010 BM CT NF Emp</u> <u>2009 RECOVERY</u>
LENGTH	22 Months	23 Months	24 Months
JOBS REGAINED (to Dec 2011)	28,800	34,300	N.A.
Job Deficit	-88,700	-84,900	N.A.

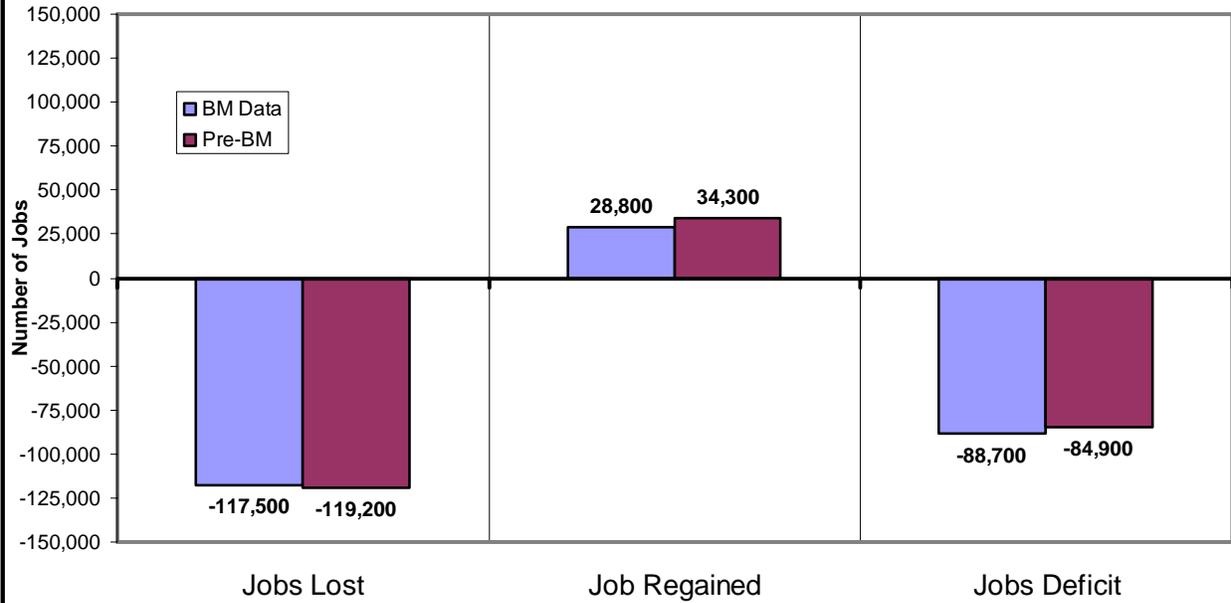
SOURCE: CTDOL-Reearsh and author's calculations.

The jobs recovered over the current recovery have also been revised downward. Measuring jobs gained as of December 2011 (which would leave out the 2010 BM), the 2011 BM showed that Connecticut's economy had recovered 34,300 of the jobs lost over the previous recession, and was therefore still down 84,900 jobs compared to the peak of the previous expansion. However, the 2012 BM revealed that the current recovery is actually weaker than first indicated. It showed that the State's economy actually gained back 28,800 jobs, as of December 2011, and was actually still down by 88,700 jobs compared to the previous peak.

Graph 7 summarizes the pre- and post-2012 BM recession job losses, jobs regained (as of December 2011), and the jobs deficit. As noted above, the 2012 BM reduced the job-losses over the recession somewhat, but then also reduced the number of job regained, as of December 2011. This, in turn, increased the size of the State's jobs deficit, compared to the peak of the previous expansion (March 2008), as of December 2011.



GRAPH 7: CT. Jobs Lost, Regained, and Deficit-BM vs. Pre-BM Series: Jan 2008-Dec 2011 (SOURCE: CT DOL-Research)



III. IMPACT OF THE PANIC/RECESSION ON CONNECTICUT'S REGIONS

Even though Connecticut is a small state, the impact of the recent financial panic and recession was not uniform across the State's sub-state regions. This is, of course, because even though Connecticut is a geographically small state, its sizable regional economies cross state lines. Part of the Norwich-New London MSA/LMA is in Rhode Island, Hartford and Springfield are "joined at the hip" and Fairfield County, which includes the Bridgeport-Stamford and Danbury LMA's is part of the New York CMSA. And, in fact, Fairfield County joined with Westchester County to successfully obtain a Workforce Innovation in Regional Economic Development (WIRED) Grant¹⁵⁰ as two contiguous cross-state counties that function as one economy. In fact, they were held up as a model for other cross-state areas functioning as one economy. So, the differential impacts of the recession/recovery on Connecticut's sub-state regions should come as no surprise.

This clearly comes through in Table 3, which depicts the cycle-phase durations for Connecticut's MSA-based LMA's over the recent recession and current recovery.

	RECESSION PHASE		RECESSION	RECOVERY
	PEAK	TROUGH	LENGTH (Months)	LENGTH (Months)
USNFEmp*	Jan-08	Feb-10	25	27
CTNFEmp	Mar-08	Feb-10	23	27
BrdgStamEm	Jul-07	Feb-10	31	27
DanNFEmp	Dec-07	Jan-10	25	27
HartNFEmp	Mar-08	Feb-10	23	27
NHNFEmp	Mar-08	Feb-10	25	27
NL-NorEmp	May-08	Apr-12	47	1
WaterEmp	Dec-06	Feb-10	38	27

*Based on the U.S. Emp. Cycle, not the NBER-defined cycle.

SOURCE: U.S. BLS, CTDOL-Research, and author's calculations.

¹⁵⁰ Fairfield County Business Journal, *Workplace Inc. Wins Training Funds* (February 8, 2010) <<http://news-business.vlex.com/vid/workplace-inc-wins-training-funds-75794110>> Accessed on July 5, 2012



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

For comparison, Table 3 also includes the U.S. and Connecticut, statewide. While the National Bureau of Economic Research (NBER) defined the U.S. recession as beginning in December 2007, the peak date in Table 3 is based on the peak level of U.S. nonfarm employment in the last expansion, which was in January 2008. This makes the U.S. cycle designations consistent with the state and local definitions, which are based on the peaks and troughs of the level of nonfarm employment.

Connecticut, Hartford, and New Haven all went into recession (based on the peak in the nonfarm employment series), in March 2008, two months after U.S. nonfarm employment peaked. This is a first in the post-Cold War period for Connecticut, as Connecticut's economy went into recession before the U.S. in both the 1989-92 and 2000-03 recessions. On the other hand, Bridgeport-Stamford and Danbury, which together make up Fairfield County, went into recession in 2007: Bridgeport-Stamford in July and Danbury in December, both before the U.S. and Connecticut, statewide. Fairfield County, of course, has a large financial services sector, which, along with Construction and Manufacturing, began shedding jobs early in the cycle as the Housing Bubble, popped, brining down the financial system along with it. However, it was Waterbury that went into recession first. Nonfarm jobs in the Waterbury LMA peaked in December 2006. This implies that Waterbury may be reflecting a structural change in its economy, in addition to the effects of the recession.

The U.S., Connecticut, and the LMA's, save Danbury and Norwich-New London, all turned the corner, in terms of nonfarm jobs, in February 2010. The Danbury LMA turned around one month earlier in January, and Norwich-New London did not turn around until April 2012, and even that is tenuous. The release of May's data may show that, in fact, Norwich-New London is still in recession. Factors affecting the length of the Norwich-New London LMA's recession are related to the pharmaceutical industry and the decline in casino traffic to the tribal nations over the recession and struggling recovery.

The U.S., and the Danbury and New Haven LMA's spent 25 months in recession (based on the behavior of nonfarm employment). The recession for Connecticut and the Hartford



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

LMA was two months shorter at 23 months. Bridgeport-Stamford, or Lower Fairfield County spent 31 months in recession, and Waterbury was in recession for 38 months. The longest LMA in recession was Norwich-New London, at 47 months, and as noted above, the June data may show that, in fact, Norwich-New London may still be in recession as of May 2012. And, as presented in Table 3, all LMA's (save Norwich-New London), Connecticut, and the U.S. have been in a jobs recovery for 27 months, as of May 2012, the latest period of available data at the time of writing.

Table 4 presents the job losses and gains over the current cycle, including recession and recovery, for the same areas depicted in Graph 3. The left side of the table shows the areas job performance over the recent recession, and the right side shows the job performance over the current recovery. The second column from the left shows the level of nonfarm employment at the peak of the previous expansion. The third column from the left shows the level of nonfarm employment at the trough of the recession. The fourth column from the left shows the number of jobs lost over the recession, and the fifth column shows the percent of jobs lost. The sixth column shows the rate of job loss. That is, the compounded, annualized rate of decline. This allows the intensity of job-loss over the recession to be compared across areas even though recession durations are different.

The right half of the table provides comparable statistics for the recovery part of the cycle. The sixth column, from the right, shows the level of nonfarm employment, as of May 2012, the last period of available data for the State and sub-state regions. The fifth column, from the right, shows the rate of job recovery, as of May 2012, based on the level of employment at the previous peak. The fourth column, from the right, shows the level of jobs recovered since the trough of the recession, and the third column shows the percent of jobs gained. The second column shows the compounded, annualized growth rate to measure the strength of the job growth over the recovery, and the last column on the right shows the percent of jobs recovered, based on the level at the expansion's peak.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

TABLE 4: Job-Growth Performance-Current Cycle (as of May 2012)

	RECESSION PHASE		JOBS LOST	% JOBS LOST	Comp Ann RATE	RECOVERY PHASE		JOBS GAINED	% JOBS GAINED	Comp Ann RATE	% Jobs Recovered
	PEAK	TROUGH				by May12	Rec Rate				
USNFEmp*	138,023	129,244	-8,779.0	-6.36	-3.11	133,009	42.9	3,765.0	2.91	1.28	42.89
CTNFEmp	1,712.2	1,594.7	-117.5	-6.86	-3.64	1,629.6	29.7	34.9	2.19	0.97	29.70
BrdgStamEm	422.0	392.0	-30.0	-7.11	-2.81	401.1	30.3	9.1	2.32	1.03	30.33
DanNFEmp	70.5	63.9	-6.6	-9.36	-4.61	68.2	65.2	4.3	6.73	2.94	65.15
HartNFEmp	561.2	528.0	-33.2	-5.92	-3.13	541.6	41.0	13.6	2.58	1.14	40.96
NHNFEmp	279.9	262.5	-17.4	-6.22	-3.03	268.5	34.5	6.0	2.29	1.01	34.48
NL-NorEmp	137.9	124.9	-13.0	-9.43	-2.50	126.6	13.1	1.7	1.36	17.61	13.08
WaterEmp	69.0	61.4	-7.6	-11.01	-3.62	64.3	38.2	2.9	4.72	2.07	38.16

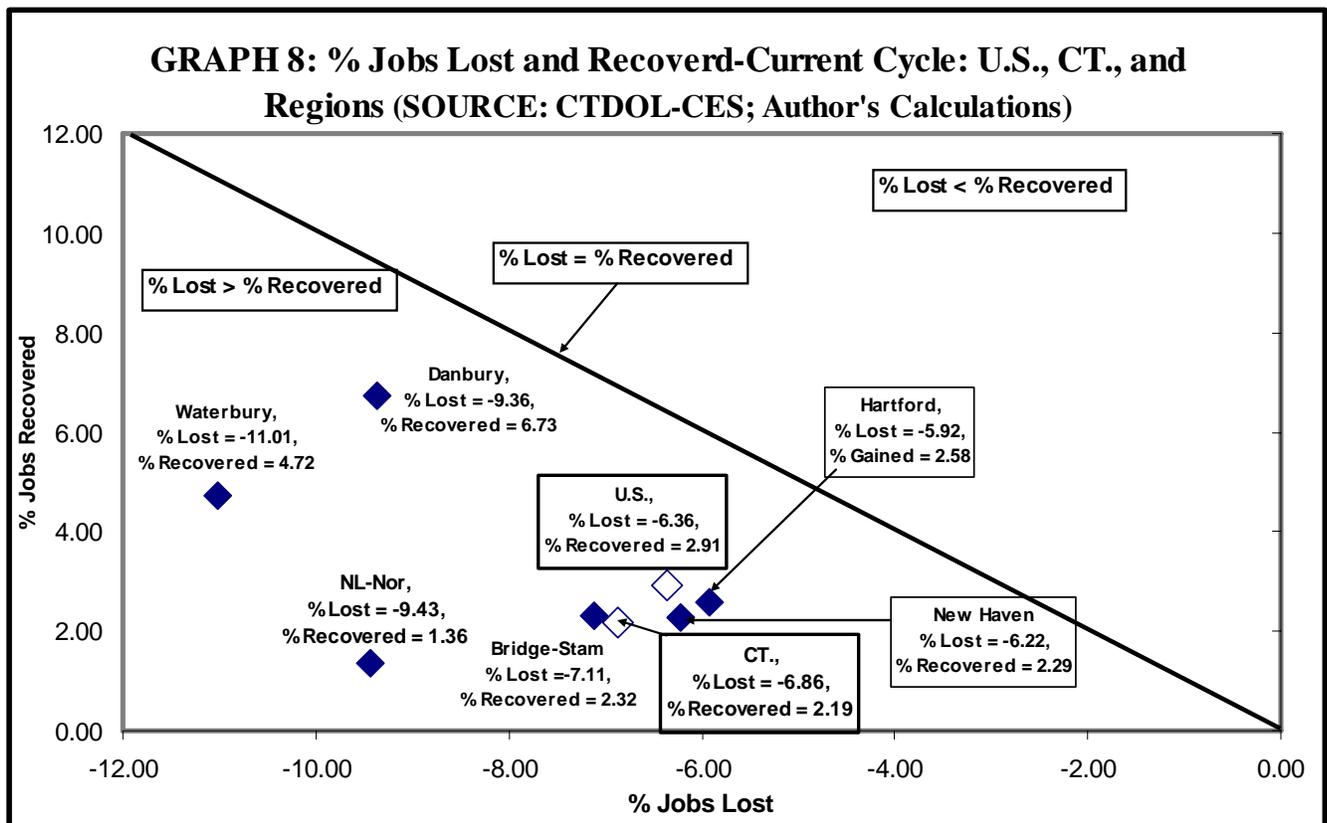
*The U.S. turning points are based on the Employment Cycle in order to conform to the state and regional definitions of the cycle.

**Number of jobs gained back per 100 lost..



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Graph 8 summarizes some of the information in Table 4 in visual form. Specifically, Graph 8 measures the percent decline in jobs over the recession on the horizontal scale, and the vertical scale measures the percent jobs gained in the recovery up to May 2012. The closer to the left vertical axis an area is along the horizontal axis, the steeper the percent-decline in jobs over the recession. The higher the area is along the vertical axis, the stronger the percent-gain in jobs over the recovery up to May 2012.



SOURCE: U.S. BLS, CTDOL-Research, and author's calculations.

The 45-degree reference line represents instances where the percent decline in jobs over the recession exactly equals the percent gain in jobs over the recovery. Above the line, the percent jobs gained exceeds the percent lost, below that, the percent lost exceeds the percent gained. Note that in no instance in Graph 8, is an area on, or above the 45-degree reference line. For the U.S., Connecticut, and the LMA's, their points lie below the 45-degree line. Thus, in all cases, the percent jobs lost over the recession exceeds the percent jobs regained over the recovery up to May 2012. .



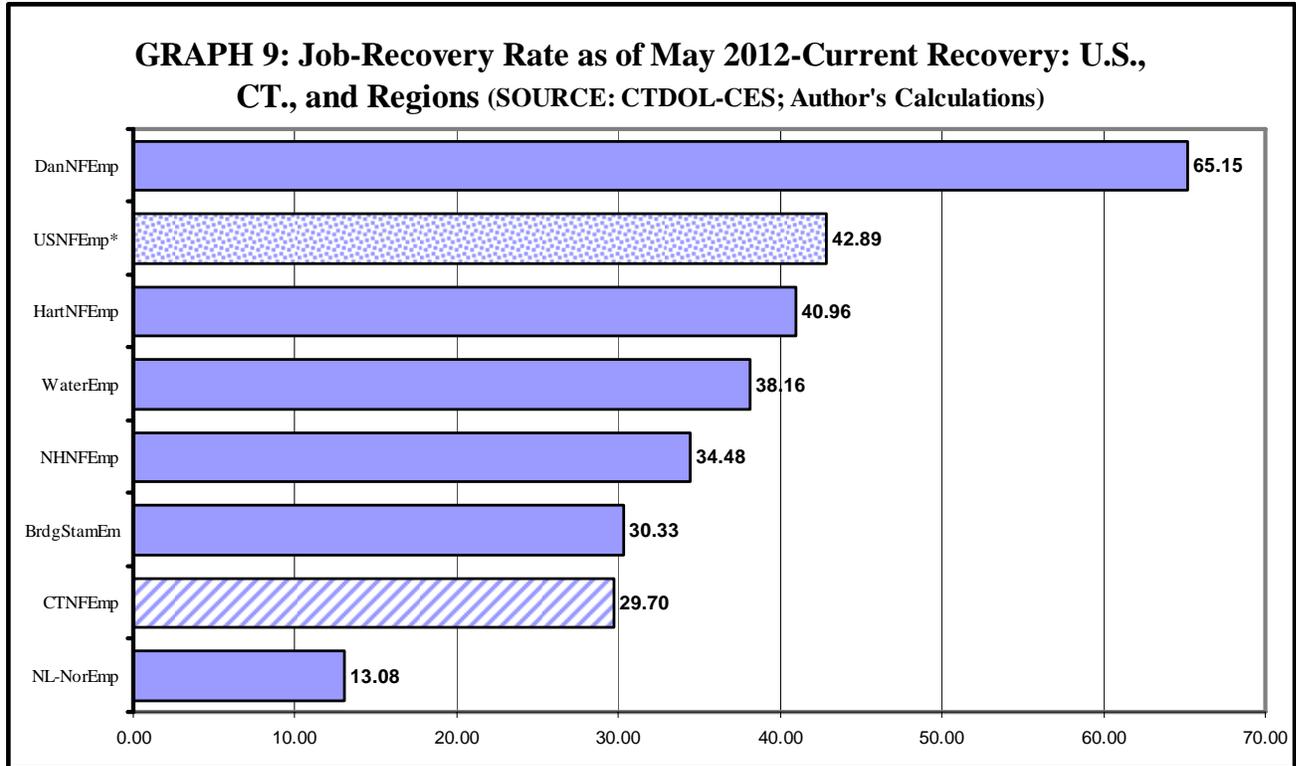
**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

The steepest job losses over the previous recession are the 11.01% decline for the Waterbury LMA, and the 9.43% decline for the Norwich-New London LMA. Danbury also had a steep decline of 9.36%. These areas had steeper declines than Connecticut (-6.86%), and Connecticut's relative job losses were steeper than that for the U.S. (-6.36%). The strongest relative jobs recovery has been in the Danbury LMA, where nonfarm jobs have increased by 6.73% since the trough of the recession. This is stronger than the recoveries in the other LMA's, or Connecticut, or the U.S. The next strongest relative recovery is Waterbury (+4.72%), which had the steepest relative decline of any area depicted in Graph 8. The Norwich-New London LMA has only grown by 1.36% since its trough, but then again, as noted above, that recovery has only been for one month.

As noted above, to gauge the relative steepness of each area's recession and the relative strength of its recovery, given differences in duration, the compounded growth rate of the job losses over the recession, and job gains is presented in Table 4. Based on this, Danbury had the steepest recession, shedding jobs at a compounded, annualized rate of 4.61%, followed by Connecticut (statewide) at -3.64%, and Waterbury at -3.62%. The mildest recession, though the longest, was in Norwich-New London, which lost jobs at a compounded, annualized rate of 2.50%. The U.S. lost jobs at an annualized rate of 3.11%. Given that its recovery has only been for one month, at the time of writing, the rate of recovery for the Norwich-New London LMA translates into a compounded, annualized rate of 17.61%. The strongest growth rate of any area with an extended recovery (i.e., more than one month) in Table 4 is Danbury, whose growth rate over the recovery has been at a 2.94% annualized rate. Waterbury's recovery in jobs has also been at a rate that exceeds 2% on a compounded, annualized basis. The rate of recovery for Connecticut, statewide, is the weakest at 0.97% on a compounded, annualized basis. Bridgeport-Stamford and New Haven are also recovering jobs at just over a 1% rate on an annualized basis.

The consequent relative recovery of jobs lost in the recession over the current recovery, up to May 2012, are summarized in Graph 9.





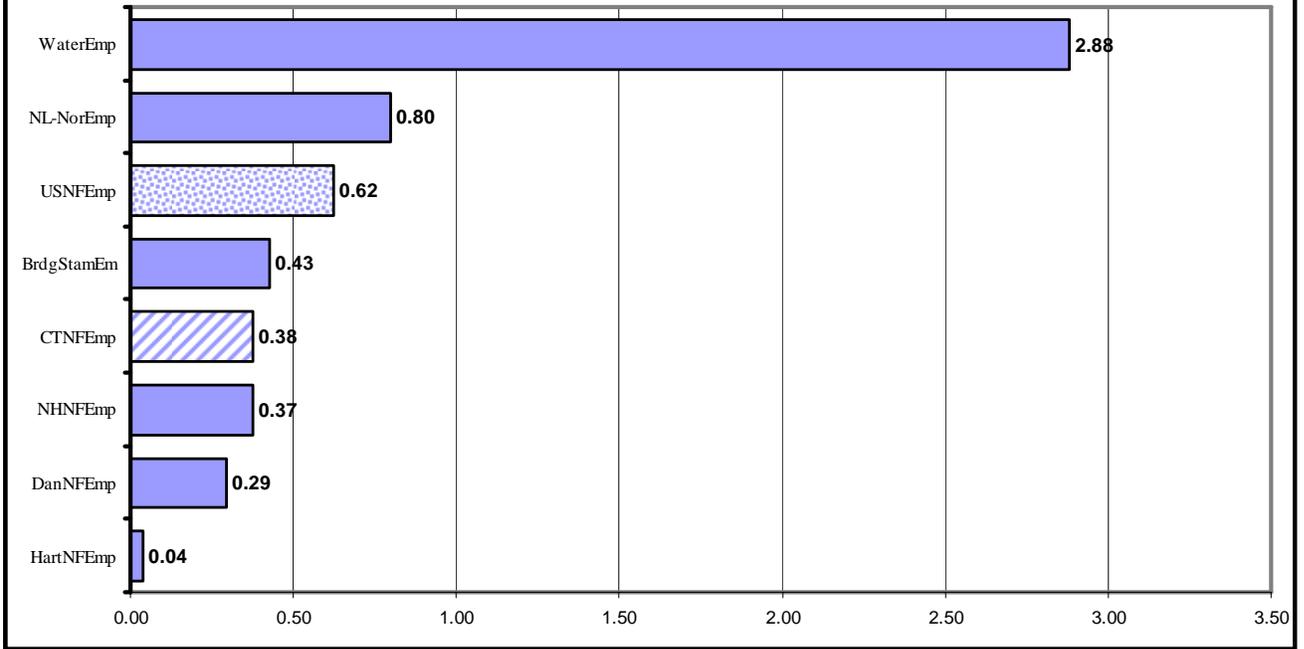
Due to its strong job growth over the recovery, as of May 2012, the Danbury LMA has recovered 65.15% of the jobs that it lost over the previous recession. The U.S. has recovered 42.89% of its jobs, but Connecticut has only recovered 29.70% of the jobs it lost in the last recession. As of May 2012, Norwich-New London, because of how short its recovery was, had only recovered 13.08% of the jobs lost over the previous recession.

Graphs 10 and 11 isolated the first five months of 2012, or the “Arab Spring” part of the current recovery to see which areas are performing strongly and which are experiencing weak recoveries. After a steep and long decline, Waterbury has been experiencing a strong comeback, especially over the first five months of 2012. As depicted in Graph 10, the Waterbury LMA’s nonfarm jobs grew by 2.88% between December 2011 and May 2012. This is more than three times the growth rate of the next-fastest growing LMA, New London (which has also rebounded from a long slump), added jobs at a rate of 0.80% over the first five months of 2012. This was four times the growth rate of the U.S. (+0.62%), and six times that of Connecticut’s nonfarm job growth (+0.39%). On the other hand, Hartford’s job growth stalled, adding jobs at an anemic rate of 0.04%.

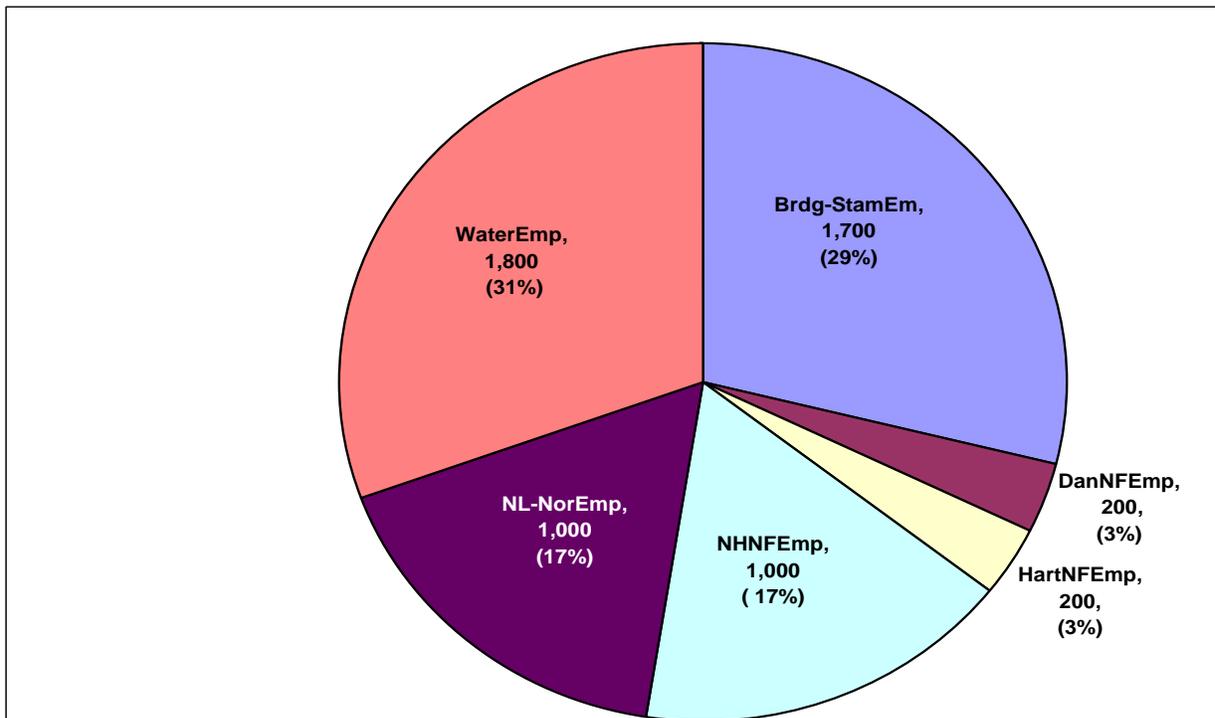


**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

**GRAPH 10: Job Growth-Rate in 2012--Dec 2011-May 2012: U.S., CT.
and Regional Economies (SOURCE: CTDOL-CES; Author's Calculations)**



GRAPH 11: Regional Contributions to CT Job-Growth-Dec 2011 to May 2012



SOURCE: U.S. BLS, CTDOL-Research, and author's calculations.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Graph 11 shows the contributions that the State's major regional economies made to the 6,100 jobs added to Connecticut's economy between December 2011 and May 2012. Again, reflecting the strong comeback from its steep recession, and highlighted in the above discussion, Waterbury's job growth has contributed 1,800 or 31% of the 6,100 jobs added to the State's economy over the first five months of 2012. Bridgeport-Stamford (Lower Fairfield County) contributed 1,700, or 29% of Connecticut's new jobs added between December 2011 and May 2012. Also making a strong comeback, and discussed above, is the New London-Norwich LMA, which contributed 1,000 jobs, and accounted for 17% of the State's job growth, and the New Haven LMA also contributed 1,000 new jobs, and accounted for another 17% of Connecticut's new jobs over the first five months of 2012. The two LMA's left behind in the economy's "Arab Spring" were Hartford and Danbury, each adding only 200 jobs, or 3% each, to the total job growth in Connecticut between December 2011 and May 2012.



IV. CURRENT CT ECONOMIC CONDITIONS: Spring 2012

This chapter is the Connecticut outlook's counterpart to Chapter II-U.S. ECONOMIC CONDITIONS: Spring 2012, in *Current Conditions and Outlook for the U.S. and Connecticut Economies: 2011-2013 VOLUME I: U.S. OUTLOOK*.¹⁵¹ The approach employed in Volume 1 of this outlook to assess the current conditions in the U.S. economy, which provided a vehicle for organizing our thoughts about interpreting the set of signals sent from the economy, is used here to assess the current state of the Connecticut economy in the spring of 2012, and to gauge where it might be going. In following that framework, this section turns to reading the signals that economy is sending us. These *Signals*, known as, *Economic Indicators*, are sent from their *Source*, the economy, to *Receptors*, those of us observing the economy, participating in the economy, or more likely, both. Following the same framework as that for gauging the economic conditions in 2012 for the U.S. economy, the signals sent by the Connecticut economy are categorized by major macroeconomic functions and activities in the form of macroeconomic indicators. The indicators assessed reflect the levels and changes in aggregate economic activity including growth and output, and the contribution of major sectors, resources (natural and produced), and activities to the levels and growth in aggregate demand and aggregate supply in the Connecticut economy, and the implications for the current state of the economy (at the time of writing), and its likely trajectory over the forecast horizon.

Sections A and B assess the current state of the Connecticut economy by looking at the economic indicators from the flow standpoint.¹⁵² Section A looks at the major indicators of aggregate economic activity: Growth and Output. Section B assesses the indicators of aggregate demand and aggregate supply.

¹⁵¹ See Kennedy, Daniel W., *Current Conditions and Outlook for the U.S. and Connecticut Economies: 2011-2013 VOLUME I: U.S. OUTLOOK* (June 2012) Connecticut Department of Labor-Office of Research: Wethersfield, Chapter II-U.S. ECONOMIC CONDITIONS: Spring 2012

¹⁵² Since the Fed's Flow-of-Funds data is available only at the national level, only flow-based signals will be assessed here, which implies that there can be no analysis of sectoral balance sheets (a *stock* concept) at the state and regional levels.



A. INDICATORS OF GROWTH AND OUTPUT

This section focuses on the indicators of Connecticut's growth and output. Unlike U.S. Gross Domestic Product (GDP), which is defined as the dollar-value of all current-period production of goods and services, state and local level GDP is not produced at the quarterly frequency. State and local level GDP is only available on an annual basis. But, a proxy for state and regional output, at the state and regional level, and available at the quarterly frequency, is *Earnings by Place of Work* from the quarterly State Personal Income series.¹⁵³ However, like for the U.S., GDP/earnings by place of work are not the only measure of growth and output for Connecticut's economy. As noted in Volume 1 of this outlook, GDP measures the goods and services produced over a given period, to meet *Final Demand*, but leaves out production to meet *Intermediate Demand* (i.e., industry goods and services produced for other industries, including themselves, who use this purchased output as inputs into the production of goods and services for final demand). Whereas, as noted in Volume 1, Industrial Production is calculated on a Gross Output (GO) basis that includes the intermediate inputs of purchased goods and services used in the production of final output. More specifically, in the analysis in Volume 1, the Manufacturing Industrial Production Index (IPI) was used rather than the Total IPI, in order to control for weather, and other factors that might distort the signals the economy is sending about the underlying level of manufacturing output. The Connecticut counterpart to the U.S. Manufacturing IPI, produced by the Federal Reserve Board, is the Connecticut Manufacturing Production Index (CMPI) produced by the Office of Research of the Connecticut Department of Labor.

¹⁵³ See Brown, Robert L., *Overview of the Bureau of Economic Analysis: Regional Accounts at the BEA*, PPT Presentation at Monitoring Mississippi: Data & Tools for Understanding Our State and Local Economies, Jackson, Mississippi on April 3, 2008.



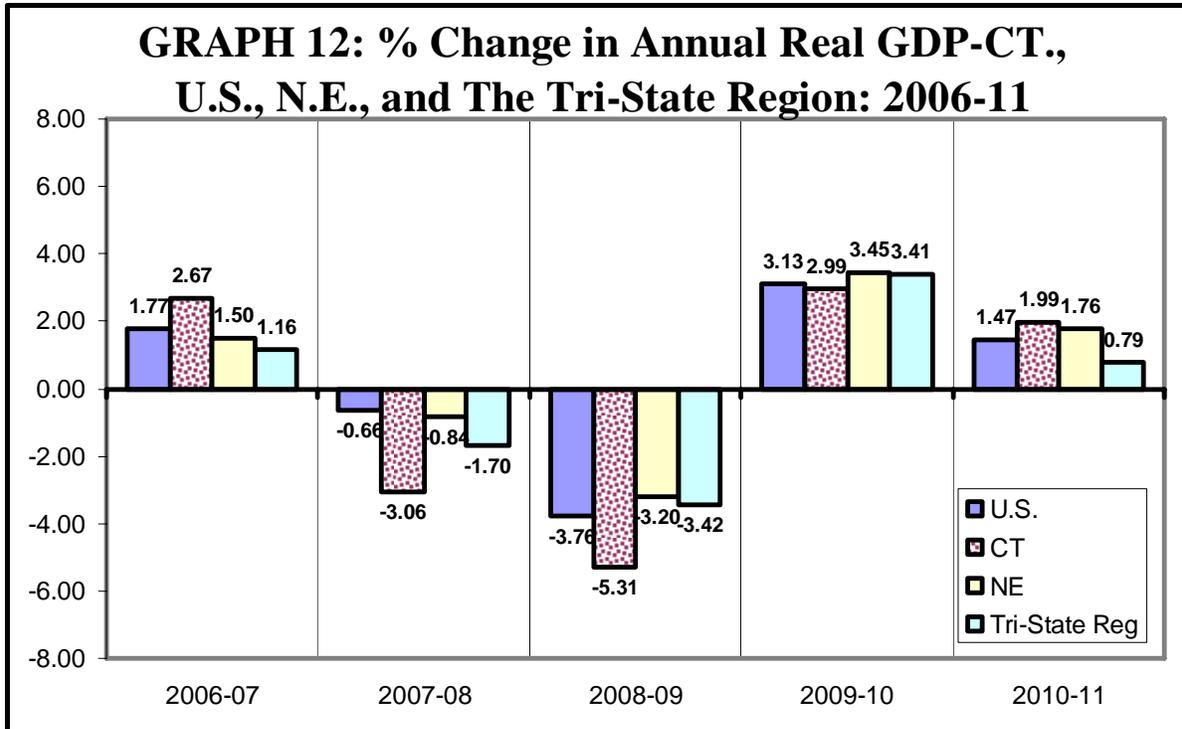
**i. State GDP (Annual only, unless converted to
Quarterly)**

Since GDP, at the sub-national level, is only available on an annual basis, an attempt at gauging a more current assessment of the level of Connecticut's economic output (output in 2012) will be put off until sub-parts ii and iii in the discussions of real earnings by industry and the CMPI. Though State GDP is only available on an annual basis, with the release of data for 2011¹⁵⁴, a relatively current assessment of the performance of Connecticut's GDP over the current cycle can be made. To compare Connecticut's performance, the State's growth in real GDP is compared to its past performance, particularly over the current business cycle, and to other reference areas. In addition to the U.S., there are actually two sets of states that can serve as references for gauging Connecticut's economic growth performance. Connecticut is actually part of two regions: New England, and the Tri-State Region around New York City. And, in fact while seven of Connecticut's eight counties are in the Boston Federal Reserve District, Fairfield County is in the New York Federal Reserve District, so the State is split between two Federal Reserve districts, reflecting its two regional identities.

Graph 12 compares the percent growth in Connecticut's annual, real GDP to that of the U.S., New England (N.E.), and the Tri-State Region from 2006, the last year of expansion before the recent panic/recession, to 2011, the last period of available data released by the U.S. BEA in June 2012. The last expansion year of the early 2000's, Connecticut's annual constant-dollar (real) GDP-growth outpaced the U.S., N.E., and the Tri-State Region by a significant amount. Connecticut grew at a rate of 2.77% between 2006 and 2007. The other compared areas all grew by less than 2%: the U.S. grew by 1.77%, N.E. by 1.50%, and the Tri-State Region only grew by 1.16%. However, Connecticut's contractions in GDP of 3.06% over 2007-08 and 5.31% over 2008-09 were much steeper than those experienced by the U.S., N.E., or the Tri-State Region. In fact, Connecticut's decline in GDP, over the 2008-09 period was the steepest contraction of any area over the years shown in Graph 12.

¹⁵⁴ U.S. Bureau of Economic Analysis, WIDESPREAD ECONOMIC GROWTH ACROSS STATES IN 2011 (June 5, 2012)



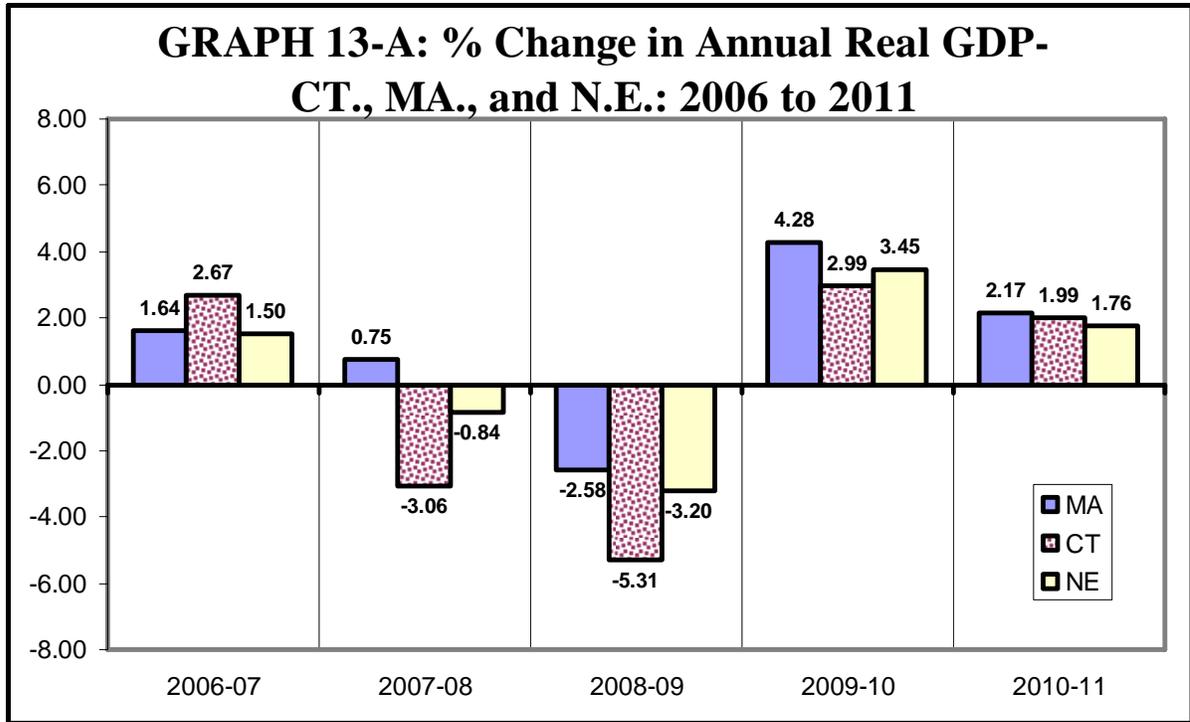


SOURCE: U.S. BEA and author's calculations.

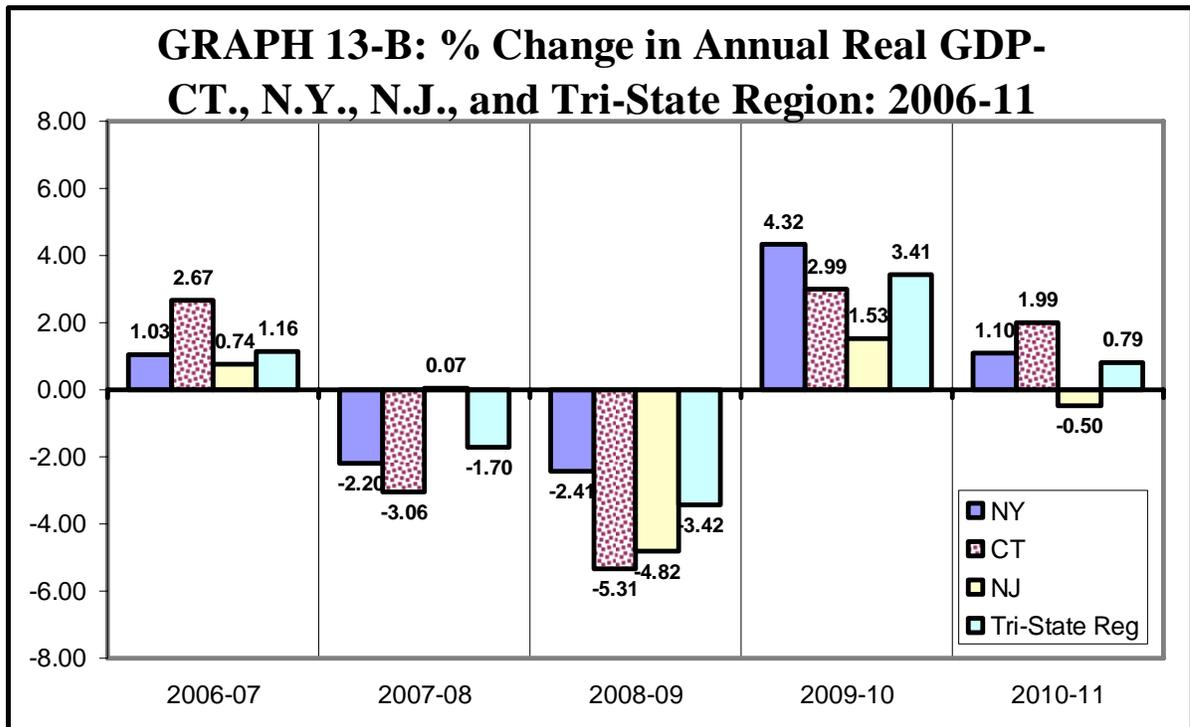
With recovery from the panic and recession, Connecticut's GDP growth grew by, just under, 3% in 2009-10, while the growth in real GDP for the U.S., N.E., and the Tri-State Region exceeded 3%. With the supply-chain disruptions due to the Japanese earthquake and tsunami, the clown show over the debt ceiling, and the re-intensification of the Eurozone Crisis, U.S. and World economic growth slowed in 2011. Consequently, real GDP growth decelerated for all areas compared in Graph 12 from 2010 to 2011. However, even though it was down one percentage-point from 2009-10, Connecticut's GDP growth, at 1.99%, was stronger than that for the U.S., N.E., or the Tri-State Region. In fact, the Tri-State Region's GDP growth was quite flat at 0.79%.

Graphs 13-A and 13-B compare Connecticut's GDP growth to the two relevant regions, and the major state economies within each region. Graph 13-A compares Connecticut's GDP growth to N.E. and the region's largest economy: Massachusetts. Graph 13-B compares Connecticut's GDP growth to the tri-state region and the two other component economies: New York and New Jersey.





SOURCE: U.S. BEA and author's calculations.



SOURCE: U.S. BEA and author's calculations.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

From Graph 13-A, not only did Connecticut grow faster than New England between 2006 and 2007, but it also grew faster than N.E.'s largest economy. Connecticut's 2.67% growth rate in real GDP was a percentage-point stronger than the 1.64% in Massachusetts's real GDP. The region grew by 1.50%. However, the Massachusetts economy continued to grow, albeit slowly, at 0.75%, the first recession year (2007-08), Meanwhile, Connecticut's economy contracted by 3.06%, with the region's economy experiencing a slight decline of 0.84%. The year, in which the effects of the panic/recession were the most severe, 2008-09, as shown in Graph 12, Connecticut's economy contracted severely, annual GDP declined by 5.31%, and while the Massachusetts economy also contracted, it was at only one-half the rate of Connecticut, at -2.58%. The New England region's economy contracted at a rate of 3.20% between 2008 and 2009. The first recovery year, 2009-10, the Massachusetts economy experienced a strong rebound, with annual, real GDP growing at a 4.28% rate. Connecticut's economy rebounded, but not as strongly, growing by 2.99%, while the New England region's economy grew by 3.45%. As noted above, with the supply-chain disruptions due to the Japanese earthquake and tsunami, the clown show over the debt ceiling, and the re-intensification of the Eurozone Crisis, U.S. and World economic growth slowed in 2011. As a consequence, the growth rate in Massachusetts's GDP was only half what it was the year before (+2.17%), Connecticut's GDP, growth rate slipped by a percentage-point to 1.99%, and the N.E. region's growth rate slipped by one-half to 1.76%.

As illustrated in Graph 13-B, Connecticut's economic performance over the 2006-07 period, when compared to that of the Tri-State region, is similar to its performance, when compared to the New England region. Connecticut's real GDP growth was two and one-half-times stronger than that of New York (which grew by 1.03%), more than three times stronger than New Jersey (+0.74%), and two and one-times stronger than the Tri-State Region (+1.16%). But, again, Connecticut was much more severely impacted by the panic/recession than New York, New Jersey, or the Tri-State Region. However, New Jersey's contraction in GDP was not too far behind Connecticut's at -4.82%.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Again, in the first recovery year, Connecticut's real GDP growth also lagged behind the Tri-State region, which grew at a 3.41% rate, as it did the New England region. New York grew the strongest in the Tri-State Region over the 2009-10 Period. New York's real GDP surged by 4.32%. However, New Jersey's real GDP growth lagged behind Connecticut, New York and the region, growing only by 1.53%. In fact, what stands out in Graph 13-B is New Jersey's weak growth, compared to New York, Connecticut, and the Tri-State Region throughout the five years of data presented. And, in fact, New Jersey's economy contracted by 0.50% over 2010-11. While, as noted above, the U.S. and World economies were severely effected by the events of 2011, and this slowing is reflected in the much lower growth-rates for Connecticut, and the other areas compared in Graph 12, and graphs 13-A and 13-B, nevertheless, of the areas compared, New Jersey is the only area where GDP actually declined. Further, the decline in growth, in 2011, was much steeper for the Tri-State Region than it was for the New England region. While the growth rate in New England's real GDP slowed from 3.45%, over 2009-10, to 1.76%, over 2010-11, the Tri-State Region's growth rate slowed from 3.41% (2009-10) to 0.79% (2010-11), one-fourth the growth rate of the previous year.

Not only changes in productivity, but the productivity, or the flip side of that, the *Employment-Requirements Matrix*, determine the job growth for a given change in real GDP. These factors are explored in Table 5 and Graph 14. In Panel A of Table 5, the change output, or real GDP per Covered Wage and Salary (CWS).¹⁵⁵ Job over the 2003-04 expansion period, the 2007-10 panic/recession period, and the 2010-11 part of the recovery for which there is available data. Panel B is the "flip side" of Panel A. It is the number of CWS workers required to produce \$ billion of output (i.e., real GDP). It is the *Employment Requirements*. That is, holding output constant (at \$ billion of real GDP), what is the employment requirement. The more capital intensive the production process is (i.e., the higher the Capital-Labor Ratio), the fewer the number of workers, or the lower the employment requirements, to produce \$ billion of output (real GDP).

¹⁵⁵ Covered Wage and Salary jobs are those jobs recorded in the Unemployment Insurance (UI) Tax Database known as the Quarterly Census of Employment and Wages (QCEW). All employers, subject to the UI Tax laws (i.e., hire at least one person to work for them) must report the number of persons and their Wage and Salary to the state employment security agency. It also serves as the frame from which the Establishment Survey is drawn for the Nonfarm Employment sample.



TABLE 5: CT Productivity Compared to the U.S. and Surrounding States			
PANEL A: Change in Real GDP/CWS Job			
	CH2003-07	CH2007-10	CH2010-11
U.S.	167,503	30,366	125,898
CT.	404,784	126,237	236,209
N.Y.	351,169	20,246	106,239
MA*.	209,118	-92,079	190,983
N.J.**	309,262	68,208	-93,406

*Real GDP increased, but MA still shed workers.
**NJ's GDP declined, but it still added workers.

PANEL B: Change in CWS Jobs / \$Billion Change in Real GDP			
	CH2003-07	CH2007-10	CH2010-11
U.S.	5,970	32,932	7,943
CT.	2,470	7,922	4,234
N.Y.	2,848	49,393	9,413
MA.	4,782	-10,860	5,236
N.J.	3,234	14,661	-10,706

*Real GDP increased, but MA still shed workers.
**NJ's GDP declined, but it still added workers.

SOURCE: U.S. BEA and author's calculations.

As is clear from the second column (from the left), in Panel A in Table 5, the change, or in this case, the additional real GDP (output) from adding one more CWS worker was much higher for Connecticut over the 2003-07 expansion period, than for the U.S., Massachusetts, New York, or New Jersey. Each new CWS worker added \$404,784 of real GDP to the State's economy, more than twice the rate of the \$167,503 added by an additional U.S. CWS worker. Connecticut's added output per additional CWS worker was also double that of Massachusetts, which was \$209,118. Connecticut's additional worker also added more than New York's additional worker (\$351,169), or New Jersey (\$309,262). Of course, the flip side of that is that Connecticut's output had to grow by



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

\$404,784, over the 2003-07 expansion years before it added a CWS worker. For that same increase in real GDP, over the 2003-07 expansion years, the U.S. economy added 2.42 CWS workers, Massachusetts added 1.94 CWS workers, New Jersey added 1.31 CWS workers, and New York added 1.15 CWS workers.

Moving on to the third column (from the left), which covers the panic/recession years (2007-10), requires some explanation. The positive numbers in the third column do not imply that real GDP grew over the panic/recession. If the numerator and denominator of a ratio both have negative signs, then dividing one into the other produces a result with a positive sign. Since, real GDP declined (a negatively-signed numerator), and CWS employment also declined (a negatively-signed denominator), the result is *positive*. Thus, for Connecticut, for every \$126,327 decline in real GDP, the State's economy eliminated one CWS job. And, this was the case, except for Massachusetts. The value for Massachusetts is the only negative value in Column Three. This is because, as real GDP grew over the recession years (see Graph 13-A), the Massachusetts economy still eliminated jobs. Thus, as Massachusetts real GDP continued to grow over the 2007-10 period (a positively-signed numerator), Massachusetts CWS employment declined (a negatively-signed denominator), the result produced a negatively-signed value (i.e., \$-92,079 for Massachusetts). That is, the numerator and denominator had opposite signs. This means that for every \$92,079 increase in real GDP, over the 2007-10 recession years, the Massachusetts economy actually eliminated one CWS job!

Also of note in column three, Panel A, of Table 5, is that Connecticut's real GDP, or output, had to decline four times more than U.S. output (\$30,366), before its economy eliminated a CWS job. And, the State's output had to decline six times more than the decline in New York's output (\$20,246) before eliminating a CWS job. Put another way, while a \$126,237 in real GDP, over the 2007-10 panic/recession years, resulted in Connecticut's economy eliminating one CWS job, the U.S. economy eliminated 4.16 CWS jobs, New York eliminated CWS 6.24 jobs, New Jersey eliminated CWS 1.85 jobs, and, as noted above, Massachusetts eliminated one CWS job for every \$92,079 increase in real GDP. Thus, the fact that Connecticut's percent decline in employment exceeded



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

the U.S. implies that this was the result of a steep contraction in real GDP, as illustrated in Graph 12 and Graphs 13-A and 13-B.

The last column, first from the right, shows the change in real GDP per CWS job added over the recovery years of available data. The first thing to note is the reduction in the change in real GDP per added CWS job. The level of output added, to Connecticut's economy, per additional CWS job over the 2010-11 recovery period fell by 41.65% to \$236,209, compared to the 2003-07 expansionary period. This was one and two-thirds larger than the decline for the U.S. (-24.84%). However, Connecticut's decline was not as steep as the 69.75% decline for New York, which added real GDP per additional CWS worker at a rate of \$106,239 over the 2010-11 recovery period, compared to a rate of \$351,169 over the 2003-07 expansionary period. The rate for Massachusetts was relatively small. The added output per added CWS job, at \$190,983, was only 8.67% below the rate over the 2003-07 expansionary period. Over the 2010-11 recovery period, New Jersey presents the opposite case of Massachusetts over the 2007-10 recession years. The value for New Jersey is negative because, while Massachusetts subtracted jobs, as real GDP grew over the recession, New Jersey added jobs, as real GDP continued to contract over the 2010-11 recovery years. Thus for every \$93,406 decline in output, New Jersey *added* a CWS job!

The other side of the coin to Panel A, in Table 5, is Panel B, which shows the *Employment Requirements*. That is, for every \$billion in additional real GDP, how many workers are required to produce that output. Beginning with the second column from the left (Panel B, Table 5), which shows the employment requirements to produce an additional \$billion in real GDP over the 2003-07 expansionary years. As explained above, the employment requirements approach is tantamount to holding the scale, or output effect, constant, and looking at the capital-to-labor ratio (i.e., the factor-input combination). The more capital intensive the production process, the fewer workers will be required to produce a given level of output (in this case, that level of output is \$billion). Since Connecticut's output-per-worker in Panel A, in Table 5, is, by far, the highest of those compared in Table 5, it follows that, the flip side, would imply that



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Connecticut requires the fewest number of CWS workers to produce \$billion of real GDP. And, in fact, over the 2003-07 expansionary years, Connecticut required 2,470 workers for each additional \$billion of real GDP. Over this same period, the U.S. economy required 5,970 additional CWS workers, or 2.4 times as many workers, to produce the additional \$billion in output. New York's employment requirements were close to Connecticut's, requiring an additional 2,848 additional CWS workers to produce an additional \$billion in real GDP, over the 2003-07 expansionary period. New Jersey required an extra 3,234 CWS workers to produce an additional \$billion in output, and Massachusetts required twice as much as Connecticut at 4,782.

Column Three, from the left, shows the number of CWS jobs lost per \$billion decline in real GDP over the 2007-10 panic/recession years. While the U.S. economy shed 32,932 CWS jobs for every \$billion decline in real GDP, over the 2007-10 panic/recession years, Connecticut's economy only eliminated 7,922 CWS jobs, one-quarter as much. Again, as noted above, what translated into steeper job losses for Connecticut, compared to the U.S., was the much steeper decline in real GDP for Connecticut, compared to the U.S. over the panic/recession (see Graph 12). New York, on the other hand, eliminated 49,393 CWS jobs for every \$billion decline in output over the panic/recession. This was seven times the job destruction rate, compared to Connecticut as a consequence of the economic crisis and recession. While New Jersey shed 14,661 CWS jobs for every \$billion in lost real GDP between 2007 and 2010, as noted above, Massachusetts actually added to real GDP over the 2007-10 panic/recessionary years. However, for every \$billion that Massachusetts added to real GDP over the 2007-10 period, it eliminated 10,860 CWS jobs, hence, the negative sign for the value in the third column in Panel B.

Even with the massive purge of jobs over the crisis/recession period (2007-10), the argument for the so-called structural change driving the current, weak job growth does not seem to be supported by the data in the last column (first column from the right) in Panel B of Table 5. The number of CWS workers to produce an additional \$billion of real GDP over the 2010-11 recovery period has actually increased compared to the 2003-07 expansionary period. If the Capital-to-Labor Ratio has actually declined, that is, more of



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

the labor-input is used to produce a given level of output, holding output constant (at \$billion), then what is suppressing employment growth is not the substitution effect (i.e., substituting capital for labor), but, instead, it is the *output*, or *scale* effect that is suppressing job growth. That is, the problem is the *top line*. It is the top line that reflects the level of sales revenue from selling your good or service. And, ultimately, without the top line, there is no other line, including the bottom line. Or, as Christina Romer wanted to title her testimony before the Senate in April 2010: “Its Aggregate Demand stupid!”¹⁵⁶ That is, the heart of the problem is *insufficient aggregate demand*. If there are not enough customers, either walking through the door, visiting the business’s website, or both, then there is little, or no, revenues coming through the door, which is reflected in there being no movement on the top line, which, in turn, translates into no scale, or output effect. In the final analysis, if the increase in the demand for the good or service is strong enough, which boosts the scale of output significantly then more factor-inputs, including labor, will be required to produce the increased output, regardless of the substitution effect (economists call this *Derived Demand*). Consequently, the persistently high unemployment rate is being driven by insufficient demand.

This seems to be evident in the first column, from the right, in Panel B, Table 5. Over the 2010-11 recovery period Connecticut’s economy required an extra 4,234 CWS workers to produce an additional \$billion in real GDP. That is 1.7 times as many additional CWS workers as Connecticut needed to produce an extra \$billion in output over the 2003-07 expansionary years. New York needed 9,413 CWS workers for every \$billion increase in real GDP over the 2010-11 recovery period. This was three times the number of CWS workers it needed to produce an additional \$billion of output over the 2003-07 expansionary years. The U.S. required 7,943 more CWS workers to produce an additional \$billion in real GDP over the 2010-11 recovery period, which was 2,000 more CWS workers than it needed to add \$billion to real GDP over the 2003-07 expansionary period. On the other hand, the employment requirements for Massachusetts did not change much over the 2010-11 period, compared to the 2003-07 period: 5,236 more CWS workers to produce an additional \$billion in real GDP over 2010-11, compared to 4,782 over 2003-

¹⁵⁶ Romer, Christina,

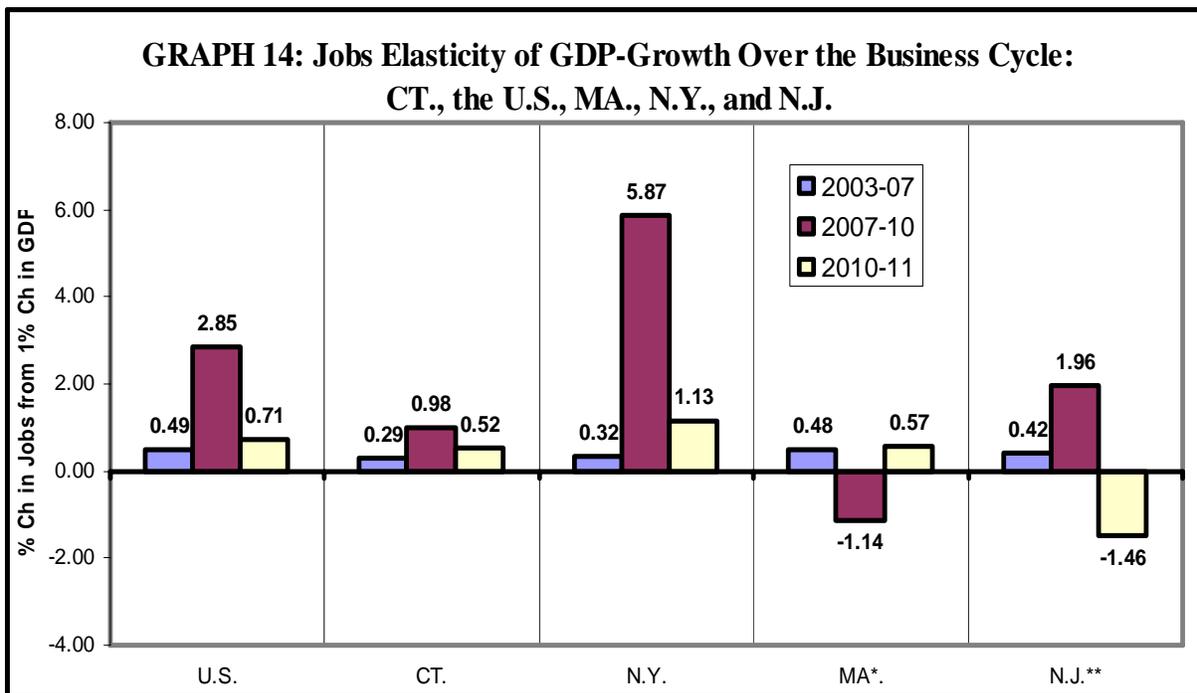


**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

07. Again, as noted in the discussion of Panel A, New Jersey was the anomaly here. Though New Jersey’s real GDP declined over the 2010-11 recovery years, it nevertheless, continued to add jobs, hence, the negative sign on its value in the first column (from the right), in Panel B, Table 5. While New Jersey added 3,234 new CWS jobs for every \$billion addition to real GDP over the 2003-07 expansionary period, it actually *added* 10,706 CWS workers for every \$billion *contraction* in real GDP over the 2010-11 recovery years.

The final part of the discussion on real GDP centers on the *CWS Jobs Elasticity of Real GDP-Growth*. The elasticity is defined as the ratio of percent changes. Thus, the jobs elasticity would be defined as:

$$JobsElasticity = \frac{\% \Delta Jobs}{\% \Delta GDP} \quad (1.)$$



SOURCE: U.S. BEA and author’s calculations.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

As would be expected from the above discussion, Connecticut has the lowest job elasticities. That is, for a percent change in real GDP, Connecticut has the lowest percent change in CWS jobs. Over the 2003-07 expansion period, for a 1% increase in real GDP, Connecticut's CWS jobs grew by 0.29%, compared to 0.49% for the U.S., 0.48% for Massachusetts, 0.42% for New Jersey, and 0.32% for New York, which was closer to Connecticut in its jobs elasticity.

For the discussion over the 2007-10 panic/recession years, again keep in mind that the positive elasticity values do not imply that jobs were created. They, in fact, declined, but as discussed above, with negative values in both the numerator and denominator, the result produces a positive sign. With that qualification, the first thing to note is that the jobs elasticity coefficients for all but Connecticut were elastic. That is for a 1% decline in real GDP, there was a greater than 1% decline in CWS jobs. For Connecticut, the elasticity was close to one making it close to unitary-elastic. For the U.S., over the panic/recession years (2007-10), for every 1% decline in real GDP, CWS employment contracted by 2.85%. However, even this large relative decline in jobs for the U.S. was doubled by the 5.87% decline in CWS jobs in New York for a 1% decline in real GDP. New Jersey's CWS jobs declined by 1.96% for every 1% decline in real GDP, and Connecticut had the lowest job loss response. For Connecticut, every 1% decline in real GDP brought about a 0.98% decline in CWS jobs. However, as noted in the above discussion, Connecticut's decline in real GDP was much steeper than that for the U.S., which had the net result of making Connecticut's employment losses relatively steeper, even though its jobs-elasticity coefficient was inelastic (though close to unitary-elastic) over the period, compared to the elastic response for the U.S. Finally, as discussed above, Massachusetts's real GDP and CWS employment moved in opposite directions over the panic/recession. For a 1% increase in Massachusetts real GDP, there was a 1.14% decline in CWS employment over the 2007-10 panic/recession years.

Save New York and New Jersey, with the recovery, the elasticity of jobs has once again returned to being inelastic. That is, a 1% change in real GDP generates a less than 1% increase in CWS job growth. However, as noted above, in the discussion of Table 5, even



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

though the jobs response, relative to real GDP growth is still inelastic, over the 2010-11 recovery period, the responses are not quite as inelastic, so that there is a little more response in CWS job growth over the 2010-11 recovery period compared to the 2003-07 expansionary period. Thus, Connecticut's elasticity increased to 0.52% increase in CWS jobs due to a 1% increase in real GDP. New Jersey had the largest increase with a 1% decline in real GDP actually resulting in a 1.46% increase in CWS employment. New York's jobs elasticity also went from being inelastic to elastic. Over the 2010-11 recovery period, a 1% increase in real GDP generated a 1.13% increase in CWS jobs. The U.S. also increased its jobs response, though still in the inelastic range. For every 1% increase in real GDP, U.S. CWS employment increased by 0.71%. This again, reinforces the argument above that it is, in fact, insufficient aggregate demand that is a drag on job growth and not "structural changes" (certainly not as a "first cause").

ii. Real Earnings by Industry (A Proxy for Output)

There are two problems with state GDP: the first is that it is annual, and the second is that the last available data is for 2011 so that no information for 2012 is available. A source of higher frequency series that provides more timely information on the State's economy, at least, through the first quarter of 2012 is from the State personal income series which is available on a quarterly basis. From the basic output-income identity we get:

$$\text{OUTPUT} = \text{INCOME}^{157}$$

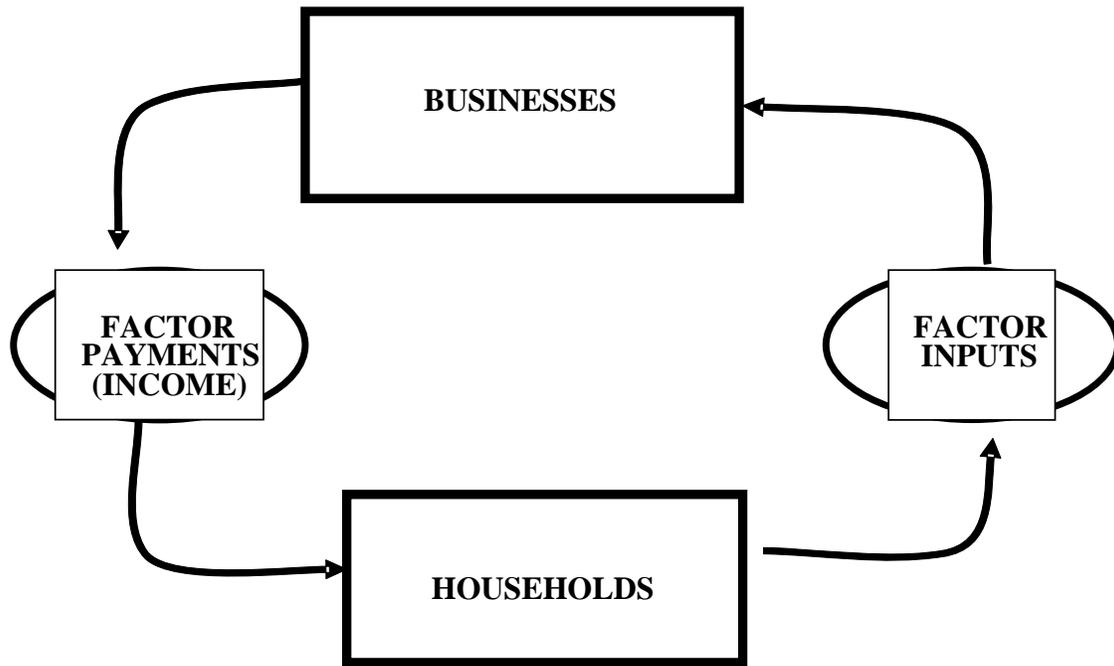
$$\text{Gross Domestic Product (GDP)} = \text{Gross Domestic Income (GDI)}$$

As illustrated in Figure 1, households provide factor-inputs to businesses (land, labor, and capital). Businesses, in turn, use factor-inputs to produce goods and services for sale back to households. Thus, for every dollar of output by businesses, there is one dollar of income received by households in payment for providing the factor-inputs to the production process, and therefore output equals income: two sides of the same coin.

¹⁵⁷ In actuality, they will differ slightly because of the differences in sources and a statistical discrepancy, but also because GDP is recorded on an Accrual Accounting basis, and GDI on a Cash, or Disbursal basis.



FIGURE 1: Circular-Flow of Factor-Inputs and Factor Payments



SOURCE: CTDOL-Research (Figure drawn by author).

**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Earnings by Place of Work or, *Earnings by Industry* represent the income earned by industries from selling their goods and services. As such, it is the flip side of the value of those goods and services they have sold. And, as illustrated in Figure 1, this implies that income earned from producing output can be used as a proxy for the value of output produced. And, in fact, earnings by industry is used as a proxy for output (i.e., GDP), at the state and regional level in order to get a more frequent and up-to-date, estimate of output, or GDP.¹⁵⁸

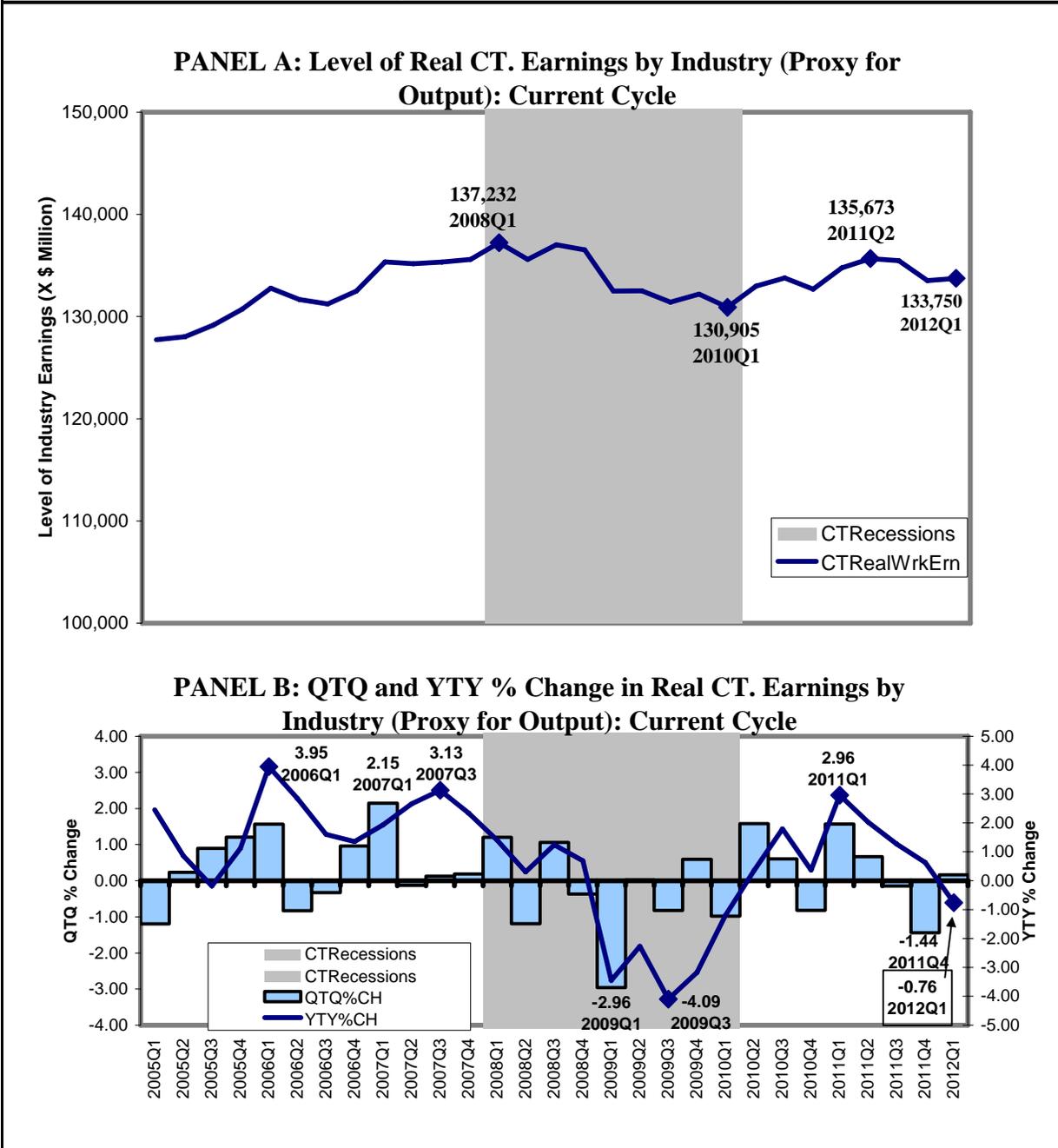
This subsection extends the analysis in the previous subsection on Connecticut State GDP. Using earnings by industry as a proxy for State GDP, this subsection turns to assessing the current and recent performance of Connecticut's output at the higher, quarterly frequency, and at a more up-to-date time frame: the first quarter of 2012. Graph 15 tracks Connecticut's earnings by industry over the current cycle from 2005Q1 to 2012Q1. Panel A depicts the level of earnings by industry, and Panel B shows the QTQ percent change, represented by the bars, and measured on the left vertical scale, and the YTY percent change represented by the line, and measured on the right vertical scale.

To obtain real earnings by industry, current-dollar earnings were deflated by the quantity index for Price Consumption Expenditures (PCE). The quantity index, rather than the price index, was used in order to reflect the use of the earnings series as a proxy for GDP, or output. The milestones in the level of earnings are marked with diamonds, and labeled in Panel A in Graph 15. Beginning in 2005Q1, the peak level of Connecticut's real earnings by industry (hereafter, "Real Industry Earnings"), over the last expansion, was \$137.2 billion in 2008Q1. Over the next eight quarters, or two years, Connecticut's real industry earnings fell by \$6.327 billion, or 4.61%, and bottomed at \$130.9 billion in 2010Q2. From that point on, real industry earnings began growing again, albeit weakly, increasing by \$2.845 billion or, 2.17% by 2012Q1. As of 2012Q1, the latest period of available data, the level of Connecticut's real industry earnings had only recovered to \$133.8 billion, which still left the level earnings down by \$3.482 from their peak in 2008Q1.

¹⁵⁸ Brown (April 3, 2008).



GRAPH 15: CT. Real Earnings by Industry (Proxy for Output): 2005Q1-12Q1



SOURCE: U.S. BEA and author's calculations.

From Panel B, an interesting pattern emerges in the QTQ growth-rate, over the period around the peaking, and then popping, of the national housing bubble. It was the four quarters between 2005Q2 and 2006Q2 that Connecticut's industry earnings grew for four consecutive quarters, and accelerating growth at that. After declining for two quarters,



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

industry earnings then had two QTQ bursts of growth, with the highest QTQ growth-rate, over the range of data in Graph 15, of 2.15%, in 2007Q1. The steepest decline in the QTQ growth-rate was during the recession period when real industry earnings declined by 2.96% in 2009Q1. In 2011Q4, earnings declined by 1.44%, on a QTQ basis, and growing at a weak 0.17% in 2012Q1.

The YTY growth-rate in Connecticut's real industry earnings is displaying a worrisome trend. From Panel B, after a YTY, peak growth rate of 3.95% in 2006Q1. Before the onset of recession, there was one more burst of strong YTY growth that culminated in a 3.13% growth rate in 2007Q3. From that point on, the YTY growth-rate rapidly decelerated, turning negative after the fourth quarter of 2008. The steepest YTY decline in real industry earnings was 4.09% in 2009Q3. From that point on, the YTY decline in earnings began to rapidly decelerate, turning positive after 2010Q1. The YTY growth rate accelerated until it peaked at 2.96% in 2011Q1. But, since then, the YTY growth-rate in Connecticut's real industry earnings has been rapidly decelerating over the last four quarters of available data. And, in 2012Q1, the YTY growth rate turned negative: earnings declined by 0.76%. As noted above, and as can be clearly observed in Panel B, of Graph 15, this is the identical pattern that the YTY growth rate in Connecticut's real industry earnings followed before the economy entered the last recession.

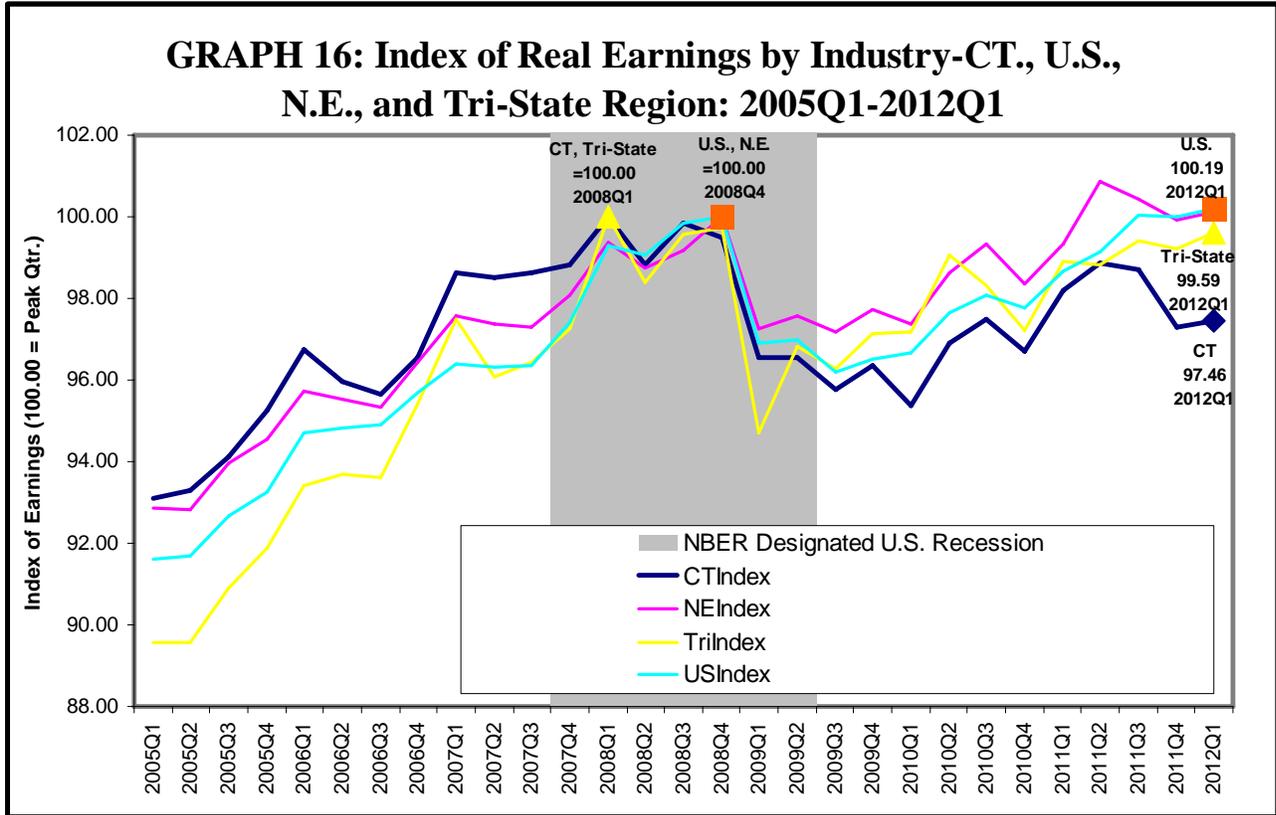
**HOW DOES THE CYCLICAL BEHAVIOR OF CONNECTICUT'S REAL
INDUSTRY EARNINGS COMPARE?**

Following the analysis of Connecticut's GDP performance in the previous subsection, and to get a sense of the relative impact the recent panic/recession, and current, struggling recovery has had on Connecticut's industry earnings, the State economy's performance is compared to that of the U.S. and the two regions compared above. Graph 16 presents an index of real industry earnings in order to compare earnings of different scales. The graph starts with the period 2005Q1, as the housing bubble was beginning to peak, and then pop, and then ends with the latest period of available data: 2012Q1. The index of Connecticut's real industry earnings is compared to indices for the U.S., New England



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

(N.E.) and the Tri-State Region (Tri-State). The peak in earnings, over the previous expansion, is where each index series is equal to 100.00.



SOURCE: U.S. BEA and author's calculations.

The peak in real industry earnings, over the previous expansion, for both Connecticut and the Tri-State Region, around New York City, was in 2008Q1. Both the U.S. and New England had their peaks in earnings three quarters later in 2008Q4, the quarter of the financial panic. What stands out in Graph 16 is the steep, upward slope to the index-series for the Tri-State Region over the 2005Q1-2008Q1 (its peak). In fact, real industry earnings for the Tri-State Region (Tri-State) grew by 11.66%, compared to 7.43% for Connecticut over this same period. Also, Connecticut's growth in earnings is clearly stronger than that for the U.S. and New England (N.E.). However, as is also apparent, the Tri-State region's decline in real industry earnings is steeper than that for Connecticut, the U.S., or N.E. And, it is clear that Connecticut's growth in real industry earnings, over the current recovery, has been the slowest, compared to Tri-State, the U.S., or N.E. Both



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

the U.S. and N.E. had index values slightly above 100.00 in 2012Q1, which implies that their level of real industry earnings has returned to their previous peak levels. Not so for Connecticut and the Tri-State Region. Though the Tri-State is close to its previous peak level, with an index value of 99.59, Connecticut's gap is significantly larger. In 2012Q1, Connecticut's index value was 97.46, implying that its real industry earnings level was still 2.54% below its previous peak level.

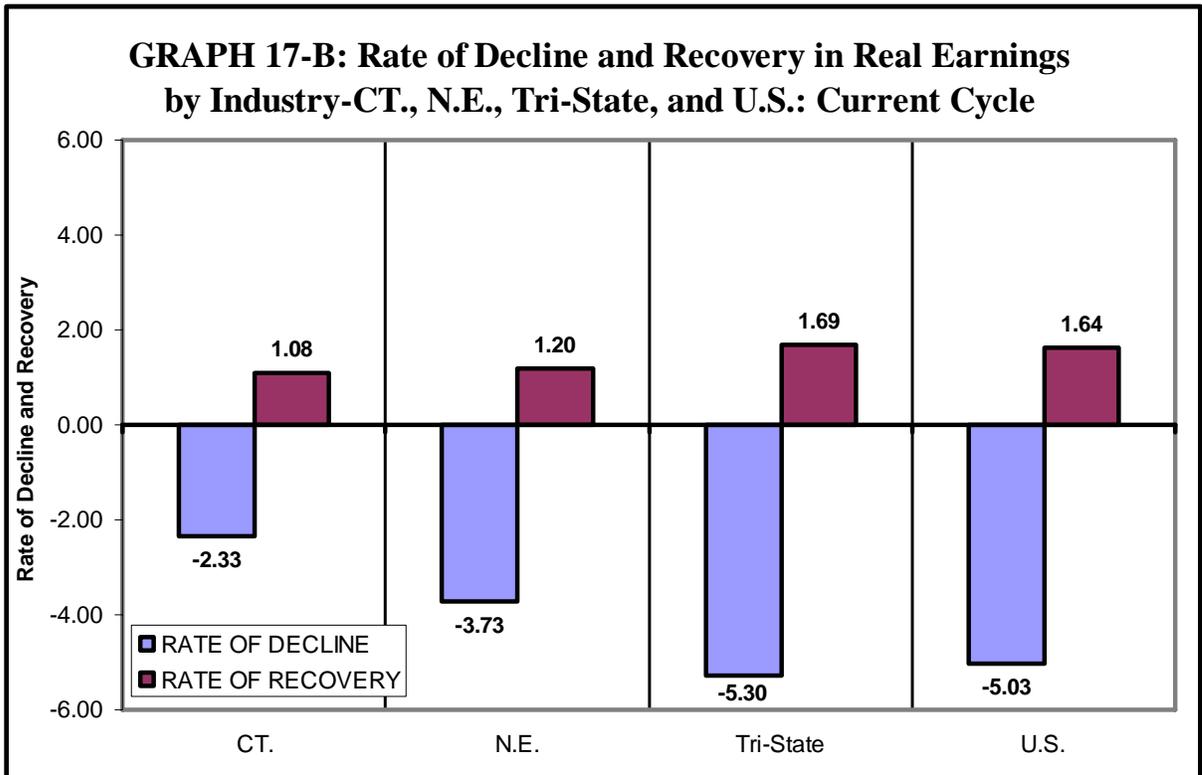
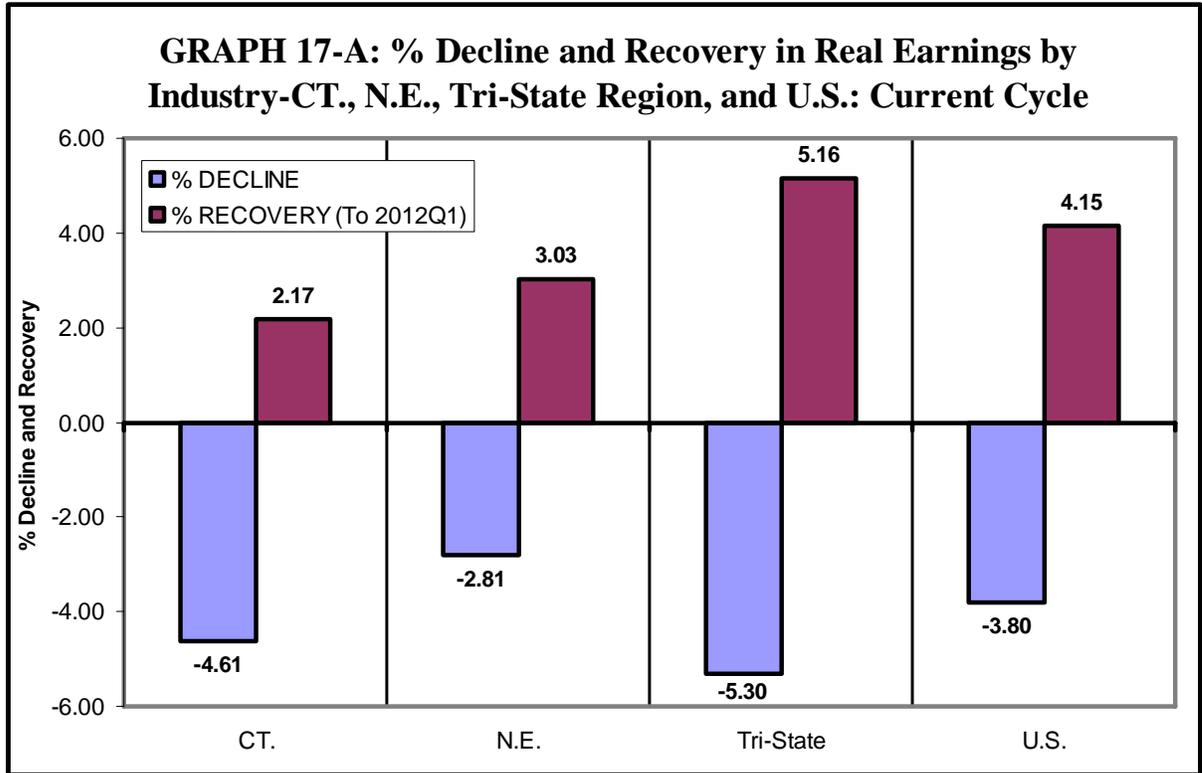
Graphs 17-A and 17-B provide some specifics on the results observed in Graph 16.

Graph 17-A presents the percent decline over the recent recession, and the percent growth over the current recovery, up to 2012Q1, of real industry earnings for Connecticut, New England, the Tri-State Region, and the U.S. As noted above, the Tri-State Region had the steepest decline in real industry earnings over the recent panic/recession, contracting by 5.30%. This was followed by Connecticut. Connecticut's real industry earnings declined by 4.61%. The U.S. had a 3.80% decline in earnings, while New England had the mildest decline, with real industry earnings falling by 2.81%. Reinforcing the results in Graph 16, from Graph 17-A, Connecticut has had the weakest growth in real industry earnings over the recovery period, up to 2012Q1. Earnings have only grown by 2.17%, the slowest of the areas compared in Graph 17-A. This is less than half the growth rate of the Tri-State Region (5.16%) and the U.S. (4.15%). Though New England's earnings growth has also been slow, at 3.03%, it still outpaced Connecticut.

However, as will be shown in Graph 18, not all areas had the same number of periods in which real industry earnings declined. So to get a standardized measure of the severity of the declines, as well as, the strength of the recoveries, across declines and recoveries of different lengths, Graph 17-B presents the compounded, annualized growth rates for each area compared. It turns out, from Graph 17-B, that Connecticut's real industry earnings contracted at a much slower rate than the other areas compared. Connecticut's earnings only contracted at one-half the rate of both the Tri-State Region, which declined at a compounded, annualized rate of 5.30%, and the U.S., which contracted at a 5.03% compounded rate. And, New England too had a more severe decline, with its earnings contracting at a 3.73% annualized rate.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

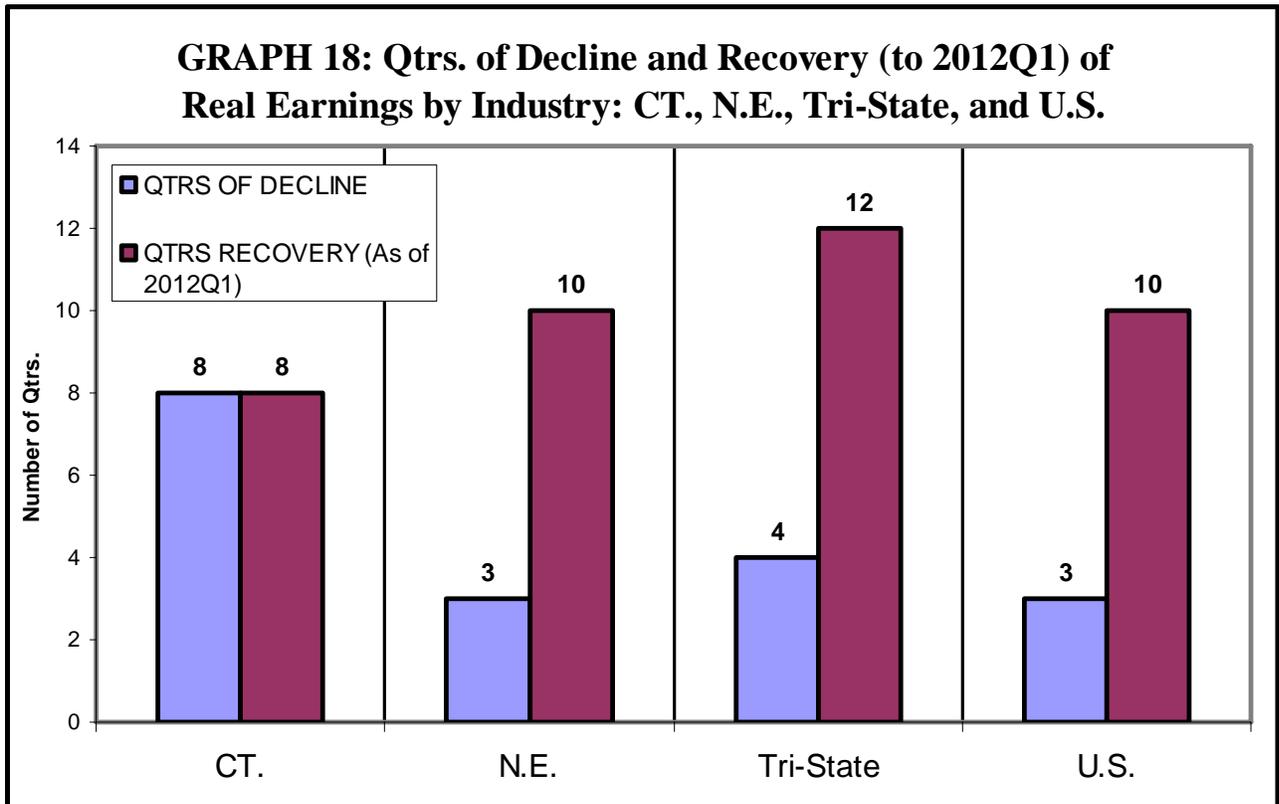


SOURCE: U.S. BEA and author's calculations.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

However, Connecticut's recovery in real industry earnings has been weaker, only growing at a 1.08% compounded, annualized rate, compared to 1.69% for the tri-state region, 1.64% for the U.S., and, though slower than the U.S. and Tri-State, New England still outpaced Connecticut at 1.20%.



SOURCE: U.S. BEA and author's calculations.

Finally, as shown in Graph 18, the duration of Connecticut's decline in earnings was longer, and its recovery in real industry earnings has been shorter. Connecticut's real industry earnings peaked in 2008Q1 and then declined for eight straight quarters, bottoming in 2010Q1. This was twice as long as the four quarters of decline for the Tri-State Region, and more than twice the duration of decline for New England (3 quarters) and the U.S. (3 quarters). And, after a longer decline, Connecticut's recovery in real industry earnings has been shorter than that for other compared areas. While Connecticut's earnings have been growing, albeit slowly, for eight straight quarters, the

**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Tri-State region's real industry earnings have been in recovery for 12 quarters, and both New England and the U.S. have been in recovery for 10 quarters.

iii. CT Manufacturing Production Index (CMPI)

As noted in the introduction to Part A, above, GDP measures the goods and services produced over a given period, to meet *final demand*, but leaves out production to meet *intermediate demand* (i.e., industry goods and services produced for other industries, including themselves, who use this purchased output as inputs into the production of goods and services for final demand). As noted in Volume 1, industrial production is calculated on a Gross Output basis. That is, *Gross Output* (GO) includes, not only final demand, or GDP, but also the intermediate inputs used, in conjunction with the primary factors of production [land (natural resources), labor, and capital] to produce the goods and services to meet final demand. Thus, while the discussion of output, whether measured as GDP or industry earnings, was focused on the behavior of produced output to meet final demand in the broad economy. This section turns to focusing on a specific sector, but still an important sector, of the economy, and further, it focuses, not just on final demand, but on Gross Output (GO), that is total output, or the level of the sector's production of intermediate inputs *and* final demand.

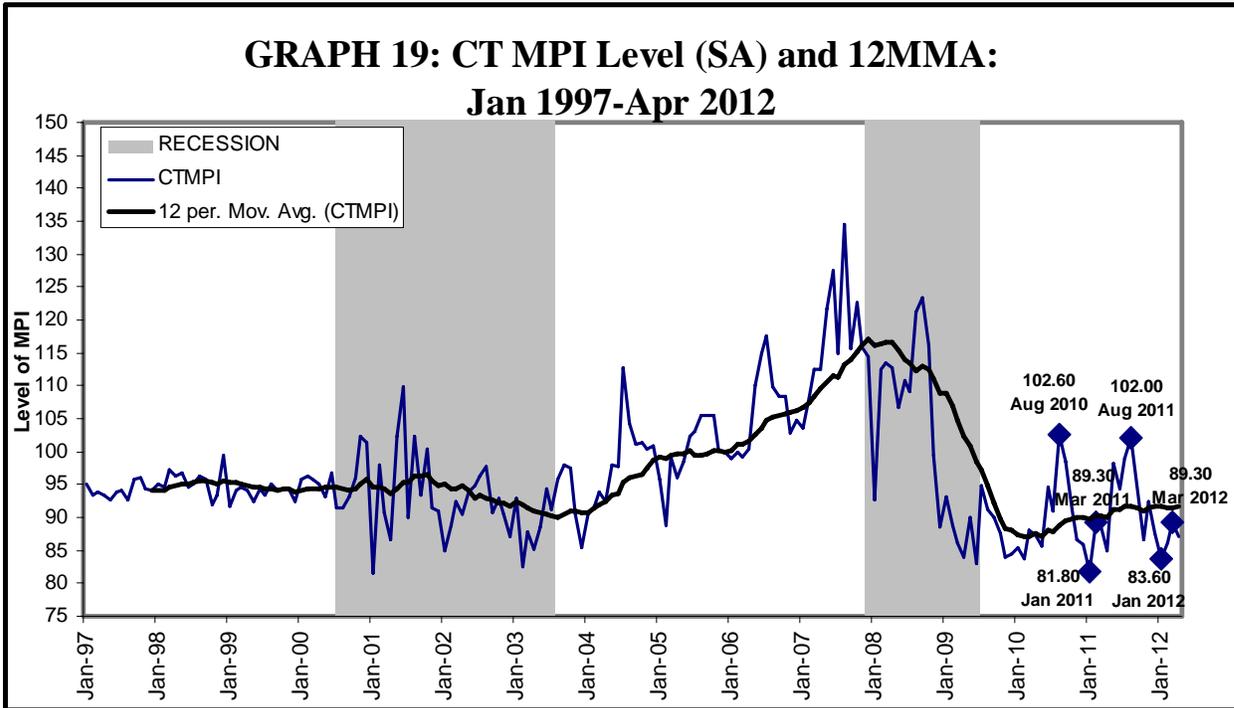
As also noted in the introduction to Part A, in the analysis in Volume 1, the Manufacturing Industrial Production Index (IPI) was used rather than the Total IPI, in order to control for weather, and other factors that might distort the signals the economy is sending about the underlying level of manufacturing output. The Connecticut counterpart to the U.S. Manufacturing IPI, produced by the Federal Reserve Board, is the Connecticut Manufacturing Production Index (CMPI) produced by the Office of Research of the Connecticut Department of Labor. .

Graph 19 tracks the Connecticut Manufacturing Production Index (CMPI), and the 12-month moving average (12-MMA) from Jan 1997 to the last period of available data, at



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

the time of writing, April 2012. After strong growth over the 2004-08 expansion years, the CMPI plunged 33.66% over 28 months. As is apparent from Graph 19, this was a steeper and longer decline than the one that occurred with the onset of Connecticut’s 2000-03 recession, in which the CMPI contracted by 22.59% over 22 months.



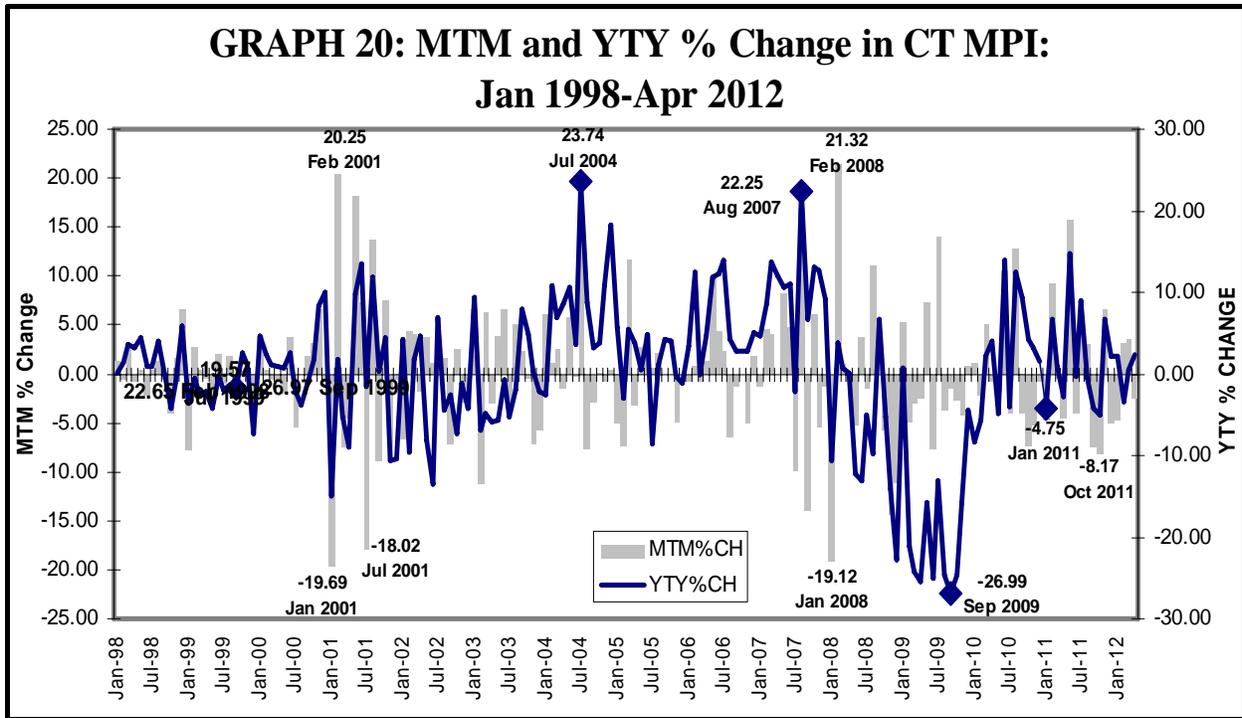
SOURCE: CTDOL-Research.

When putting both declines on a compounded, annualized rate so as not to compare the “apples and oranges” of different length contractions, and to assess the severity of the rates of decline over the two recessions, it actually appears that the rate of decline, though shorter, was steeper over the 2000-03 recession. It turns out that the CMPI contracted at a 35.42% compounded, annualized rate between June 2001 and January 2002, while it contracted at one-half that rate over the 2008-10 Connecticut panic/recession. Between September 2008 the month of the collapse of Lehman Brothers, and January 2011, the CMPI contracted at a compounded, annualized rate of 16.13%. However, the length of the decline was four times longer (28 months) over the 2008-10 recession, compared to the 2000-03 recession (7 months). In addition, the steepest Year-to-Year (YTY) decline was over the 2008-10 recession. This is illustrated in Graph 20, which shows the month-



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

to-month (MTM), left vertical scale, and YTY percent change, right vertical scale, in the CMPI from January 1997 to April 2012.



SOURCE: CT DOL-Research and calculations by author.

From Graph 20, the steepest MTM decline was the 19.69% plunge in the CMPI in January 2001, but then the CMPI surged by 20.25% in February. Then it dropped another 18.02% in July. However, with the plunge-one-month, surge-the-next-month, pattern, each extreme basically cancelled out the other. The net result was that the YTY percent-declines never reached the depths they did over the 2008-10 panic/recession. The two strongest YTY growth rates were over the expansion/bubble period when the CMPI jumped 23.74% in July 2004, 22.25% in August 2007.

The MYM growth rate in the CMPI behaved exactly as it did upon entering the 2000-03 recession, as the Connecticut economy went into recession in the first few months of 2008. The 19.12% MTM plunge in January 2008 was followed by a 21.32% MTM surge in the CMPI in February. However, the final three months of 2008 (i.e., the fourth



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

quarter) had three consecutive MTM declines in the CMPI, including -14.30% in November and -11.06% in December. Further, in eight of the 12 months of 2009, the CMPI had MTM declines. The result: as the MTM declines began to accumulate, the CMPI had its steepest YTY decline over the entire range of data in Graph 20 in September 2009, when it contracted by 26.99%, on a YTY basis. In fact, in eight of the 28 months of contracting output over the 2008-10 recession, the YTY decline in the CMPI exceeded 20%. Over the 2000-01 recession, the YTY decline in the CMPI exceeded 10% in three of the seven months of declining output, but never reached 15%.

The current state of manufacturing output in Connecticut, as of April 2012, could best be characterized as flat, or in a holding pattern over the last 17 months of data. From December 2010 to April 2012, the last period of available data at the time of writing, the level of the CMPI seems to have been in a very tight holding pattern. The index level has ranged from a low of 89.73 in January 2011 to a high of 91.78 one year later in January 2012. This is a range of 2.04 index points. The more volatile, unfiltered data, also suggests a flat trajectory for Connecticut's manufacturing output over the 17-month period. As presented in Graph 19, the seasonal bump in the CMPI in August is virtually the same for 2010 and 2011, with an index value of around 102 for both years. It is a similar pattern for the seasonal decline in January. Although the index value in January 2012, at 83.60, was slightly higher than the 81.80 value for January 2011, indicating that manufacturing output was 2.2% higher than it was one year earlier. But, the seasonal boost in the CMPI for the month of March was identical at 89.30 in both 2011 and 2012, indicating no change in manufacturing output. In summary, the data seem to be suggesting that the current state of manufacturing output for Connecticut, in the spring of 2012, is flat. That is, manufacturing output is neither growing nor contracting. It seems to be in a holding pattern.



B. INDICATORS OF AGGEGATE DEMAND AND AGGREGATE SUPPLY

This section turns to the signals sent by the economy through the aggregate demand and aggregate supply framework. The economy operates below its potential if the demand for the goods and services produced by the economy falls below the full-capacity level of its ability to produce. This results in what is called a positive *output gap*, that is full-employment GDP minus Actual GDP is greater than zero (i.e., $GDP_{FE} - GDP_{Act} > 0$). If actual GDP, the output of goods and services in the economy, is equal to GDP_{FE} then the output gap is zero, and the economy is operating at full capacity utilization (i.e., full employment). Finally, if the demand for goods and services exceeds the economy's ability to produce, then there is an *inflationary gap*, that is, the output gap is negative, as the excess demand merely drives up prices as the economy's capacity to fill the demand is constrained by insufficient supply. Thus, assessing the state of aggregate demand and aggregate supply, at the time of writing, can reveal important strengths and weaknesses in aggregate economy activity, which, in turn, can relay important information that, in turn, has important implications for the current state of the economy, and its likely trajectory over the forecast horizon.

Table 6 is a modified version of Table 1 in Volume 1-U.S. ECONOMIC OUTLOOK, which summarizes the indicators that are analyzed in assessing the current conditions in the U.S. economy. Since a number of the indicators available to assess the national economy are not available at the state level, Table 6 adds two columns that do not appear in Table 1. The last sub-columns, from the right, under the two major headings, "Aggregate Demand", and "Aggregate Supply" are titled "State Level?" and note whether of not the corresponding indicator is available at the state level. Those available are analyzed in the next two subsections to gauge the current state of Connecticut's economy. Part i looks at the indicators of aggregate demand and Part ii looks at the indicators of aggregate supply.



CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013

TABLE 6: Indicators of Aggregate Demand and Aggregate Supply Conditions Available at the State Level

AGGREGATE DEMAND			AGGREGATE SUPPLY		
COMPONENT/FACTOR	SECTOR/MARKET	STATE LEVEL?	COMPONENT/FACTOR	SECTOR/MARKET	STATE LEVEL?
Consumer Spending	Household Sector	Partially	Capacity/Utilization	Physical Capital Stock	No
Business Activity	Business Sector	Limited	Labor	Human Resources	Yes
Government Spending	Public Sector	Yes	Imports	Foreign Sector	Partially
Export Demand	Foreign Sector	Yes, but Limited	Productivity	Factor Utilization	Limited



i. AGGREGATE DEMAND

This section focuses on the left side of Table 6, the components of Aggregate Demand (AD). Under the “Component/Factor” column (first column from the left), under the “Aggregate Demand” heading, left side of Table 6, the first component of AD listed is “Consumer Spending”. The next column lists the sector driving that component as the “Household Sector”. Finally, the third column from the left, headed “State Level?” indicates whether or not this particular indicator is available at the state level. As noted in the entry for the availability of state-level indicators of consumer spending, this information is partially available. Personal Income, produced and published by the U.S. Bureau of Economic Analysis (BEA), and available at the quarterly frequency, is available at the state level. However, there is no state level counterpart to Personal Consumption Expenditures (PCE), also produced by the U.S. BEA, which is available on a quarterly basis, but only at the national level. To try to “back into” consumer spending, at the state level, Retail Sales-Tax Revenue will be used in lieu of the PCE series. The first indicators of current economic conditions of Connecticut that are assessed are those that gauge the ability of the State’s Households to spend. It is because consumer spending is the largest component of aggregate demand, that it is discussed first. Next, in the U.S. OUTLOOK came an assessment of the most volatile component of aggregate demand, investment demand. However, note that in Table 6, this sector is labeled “Business Activity” rather than “Investment Demand” (as it is in Table 1). This is because there is no state counterpart to the U.S. BEA’s investment demand component of the National Income and Product Accounts (NIPA) at the state level, and therefore, is no regularly produced and published data on business investment demand at the state level. Nevertheless, there is some data available for assessing the current conditions of Connecticut’s business sector. The Business Sector Economic Scorecard, as well as selected component-series is available at the Connecticut Labor Department’s webpage for Labor Market Information (LMI) and provides some data on the State’s business sector, which is discussed in the business activities component of AD below. The third component of aggregate demand, in Table 6, is public sector spending by the government sector. As indicated in Table 6, data on government spending is available at the state

**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

level government revenues and expenditures for state and local governments are available from the U.S. Census Bureau. And, specifically for Connecticut, government fiscal data are available from the Department of Revenue Services, the Office of Policy and Management, and other agencies of the Executive Branch, the Office of Fiscal Analysis in the Legislature, the New England Economic Indicators (NEEI) website of the Boston Federal Reserve Bank, and non-profit sources such as the Connecticut Council of Municipalities. The fourth and final component, of AD is foreign demand, which is the export sector, that is, foreign demand for domestically-produced goods and services. There is limited data on Connecticut exports available at the Boston Fed's NEEI Website.

1. INCOME AND SPENDING (Household Sector)

Households' consumer demand is based on their ability and willingness to buy. As noted in Volume 1-U.S. OUTLOOK, surveys attempt to capture consumers' willingness to buy through consumer-confidence surveys. There are various opinions as to how well these surveys actually capture consumer confidence, or how much of a relationship actually exists between consumer confidence and their actually going out and spending. Two of the most well-known consumer confidence surveys are those put out by the University of Michigan and the Conference Board. However, these surveys do not capture this information at the state level on a regular basis. Like for the U.S. Outlook, this section focuses on consumers' ability to buy. However, this section, unlike its counterpart in Volume 1, will focus exclusively on various measures of household income and spending patterns from the flow-concept approach, since data on households' balance sheets, from the stock perspective, are not available at the state level. The Federal Reserve's Flow-of-Funds produces data on sectoral balance sheets at the national level only.

The most widely available income data available at the state, regional, and local levels is the State and Local Personal Income series produced and published by the U.S. BEA. This section looks at the Quarterly Personal Income series (QPI) produced by BEA for the U.S., the states, and regions.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

The first support for consumer spending investigated is income, specifically residence-based income, and Personal Income (pi) minus Transfer Payments (PI-Transfers). Then Disposable Personal Income (DPI) is considered.

QPI/Component	2008-10 Panic and Recession						Current Recovery to 2012Q1 (10 Qtrs)		
	PEAK	TROUGH	QTRS	CHANGE	% CHANGE	CompAnnRate	CH to 2012Q1	% CHANGE	CompAnnRate
CT. QPI	2008Q1	2009Q3	6	-15,748	-6.65	-4.48	17,623	9.40	3.66
PI-Trans	2008Q1	2009Q3	6	-18,593	-10.31	-7.00	15,898	9.95	3.87
NetResEarn	2008Q1	2009Q3	6	-9,062	-6.68	-4.50	11,041	8.86	3.46
DIR	2008Q3	2009Q3	4	-9,824	-21.88	-21.88	4,855	13.81	5.31
Transfers	-----	-----	6	5,106	22.55	14.52	1,725	6.22	2.44

SOURCE: U.S. BEA and author's calculations.

Table 7 presents Connecticut's Quarterly Personal Income (QPI) from the residence-based perspective. The data in Table 7 are all current-dollar values. That is, there is no adjustment for changes in prices. There are two major headings: "2008-10 Panic and Recession" and "Current Recovery to 2012Q1 (10 Qtrs.)". Under "2008-10 Panic and Recession", the quarter of each component's peak over the previous expansion is in the first column (from the left), the quarter of the recession trough is in the next column (moving left-to-right), the number of quarters of decline is in the third column. The fourth column, from the left, gives the change, in \$billions, the fifth column provides the percent-change, and the last column under the subheading gives the compounded, annualized rate of change to adjust for differences in the number of quarters of decline. Under the heading "Current Recovery to 2012Q1", the first column, from the left, gives the change in QPI and its component from the trough to 2012Q1. The second column (left-to-right) gives the percent-change over the current recovery, and the last column gives the compounded, annualized rate.

The first thing to note from Table 7 is that the declines in CT QPI, and its residence-based components, especially when adjusted for differences in duration, were much steeper than the rate of recovery. CT QPI declined at an annualized rate of 4.48%, between 2008Q1 and 2009Q3, but has recovered at a slower pace of 3.66%, up to 2012Q1. This result is even more pronounced if Transfer Payments are subtracted from QPI to yield PI-Transfers. This indicates how steep the decline in income would have

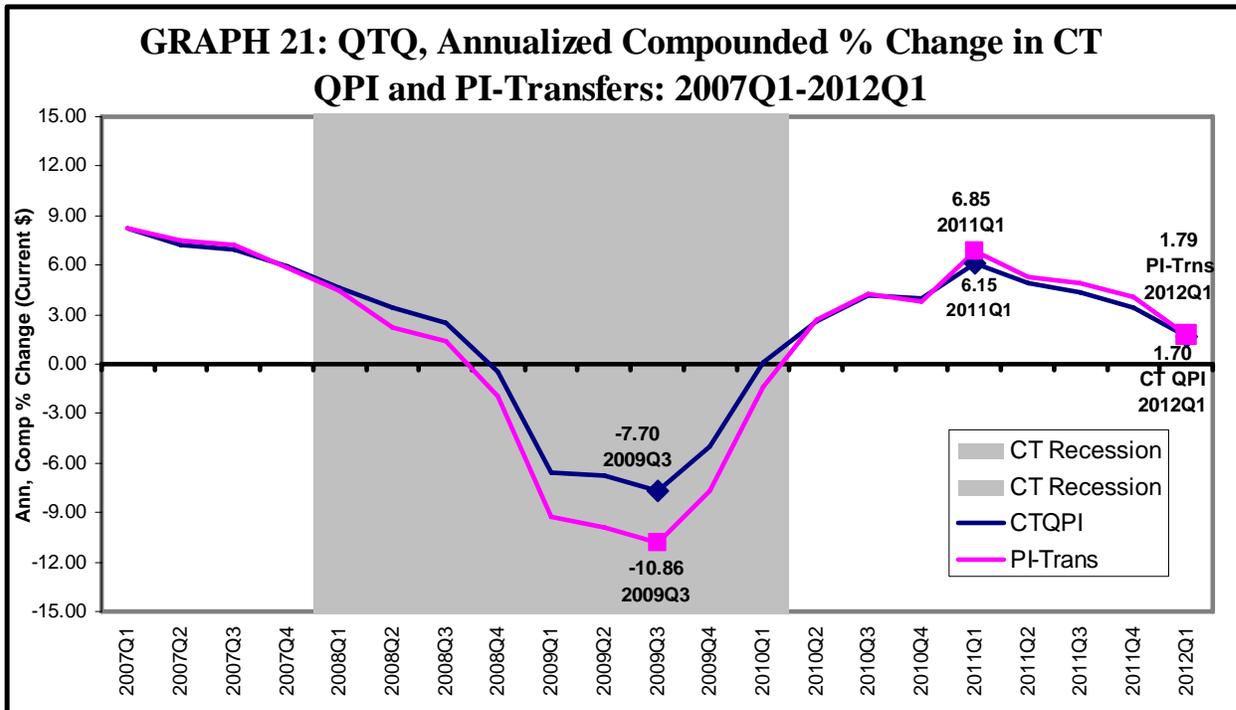


**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

been over the panic/recession period without the safety net supports of Transfer Payments, which also serve as automatic stabilizers to cushion the decline in income, and therefore, spending in the economy, which serves to lessen the severity of an economic downturn. PI-Transfers declined by \$18.6 billion, or 10.31%, over the six quarters between 2008Q1 and 2009Q3. However, over the 10 quarters of recovery between 2009Q3 and 2012Q1, Connecticut's economy, so far, has only regained \$15.9 billion, or 9.95% of the income lost over the recession. Thus, as of 2012Q1, Connecticut's current-dollar, PI-Transfers is still 2.74% below its peak level of the previous expansion in 2008Q1. This pattern of strong decline, followed by weaker growth for CT PI-Transfers is even more apparent when looking at the annualized, compounded growth rate. PI-Transfers declined at an annualized rate of 7.00% between 2008Q1 and 2009Q3. However, between 2009Q3 and 2012Q1, it has only recovered at a rate of 3.87%.

Also apparent from Table 7 is the floor that Transfer Payments put under the fall in QPI. Over the 2008Q1-2009Q3, six-quarter period in which CT QPI declined, Transfer Payments increased by \$5.1 billion, or 22.55%, which translates into a compounded, annualized growth rate of 14.52%. This growth had slowed considerably as the recovery has slowly proceeded. From 2009Q3 to 2012Q1, Transfer Payments have grown one-third as much, by \$1.7 billion, or 6.22%. This translates into an annualized growth rate of 2.44%, one-seventh the rate over the 2008Q1-2009Q3 recessionary period. The importance of the transfer-payment cushion is illustrated in Graph 21. The largest gap between the quarter-to-quarter (QTQ), compounded, annualized growth-rate in CT QPI and PI-Transfers occurred in 2009Q3, the trough in the contraction in Connecticut's residence-based income over the recent recession. CT QPI contracted at a rate of 7.70%, but PI-Transfers contracted at a rate of 10.86%. Without Transfer Payments, income, and therefore spending, would have dropped even more than they did over the panic/recession period had it not been for the cushion of transfer payments. As the recovery has proceeded, slow as it has been, the gap between the growth rates of CT QPI and PI-Transfers has closed up. In 2012Q1, PI-Transfers actually grew slightly more strongly than CT QPI. PI-Transfers grew by 1.79%, while CT QPI grew by 1.70%, on a compounded, annualized basis.



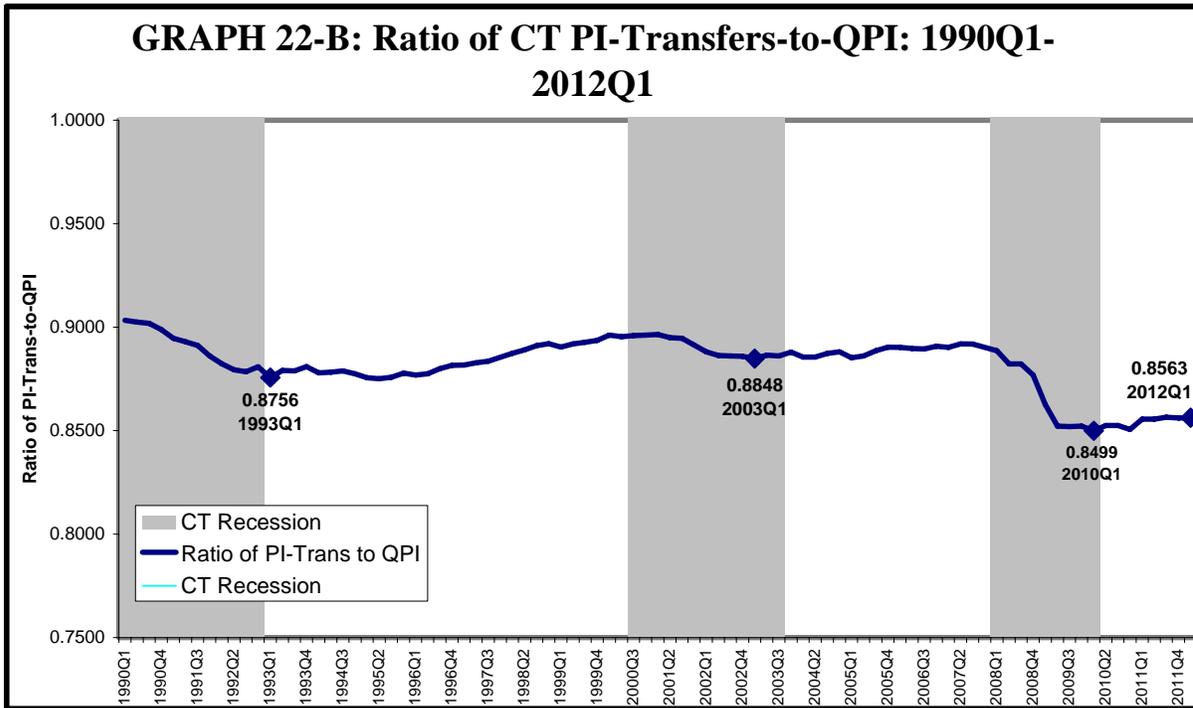
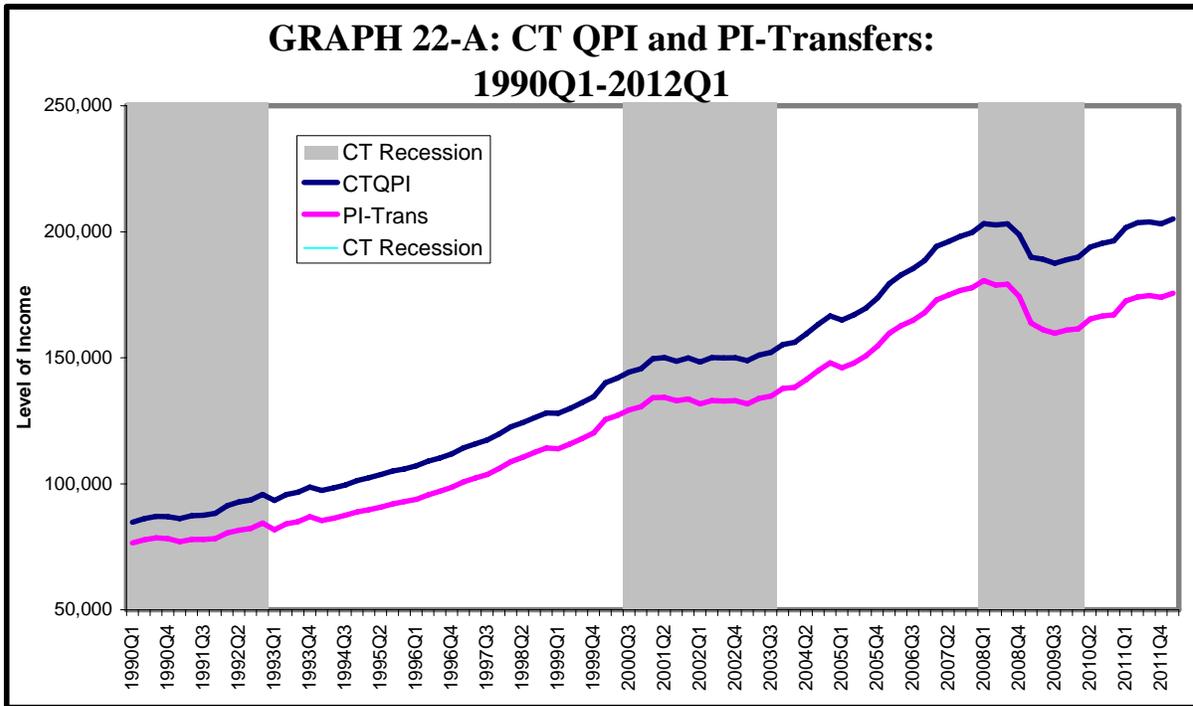


SOURCE: U.S. BEA and author's calculations.

Because of the severity of the recent panic and recession, the support from Transfer Payments, has been much greater compared to past post-Cold War recessions. This is illustrated in Graph 22-A and Graph 22-B. Graph 22-A tracks the levels of CT QPI and CT PI-Transfers from 2009Q1 to 2012Q1. As can be seen, the gap between the two becomes much larger with the onset of the recent financial panic and recession, implying much greater support from Transfer Payments over the business cycle compared to the two previous recessions in the post-Cold War era. However, this could be an optical illusion created by the different scales of the data at the opposite ends of the horizontal scale. That is, current-dollar CT QPI in 2012Q1 was 2.5 times its scale in 1990Q1. To account for this, Graph 22-B plots the ratio of PI-Transfers to CT QPI. And, in fact, the ratio of PI-Transfers to CT QPI has dropped significantly over the current cycle. It declined to 0.8499 in 2012Q1, the lowest value over the entire range of the data. Further, by 2012Q1, it was still only 0.8563, lower than even the recession period values of the 1989-92 or 2000-03 recessions. Thus, transfers were critical to keeping the bottom from falling out of household spending over this cycle.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



SOURCE: U.S. BEA and author's calculations.

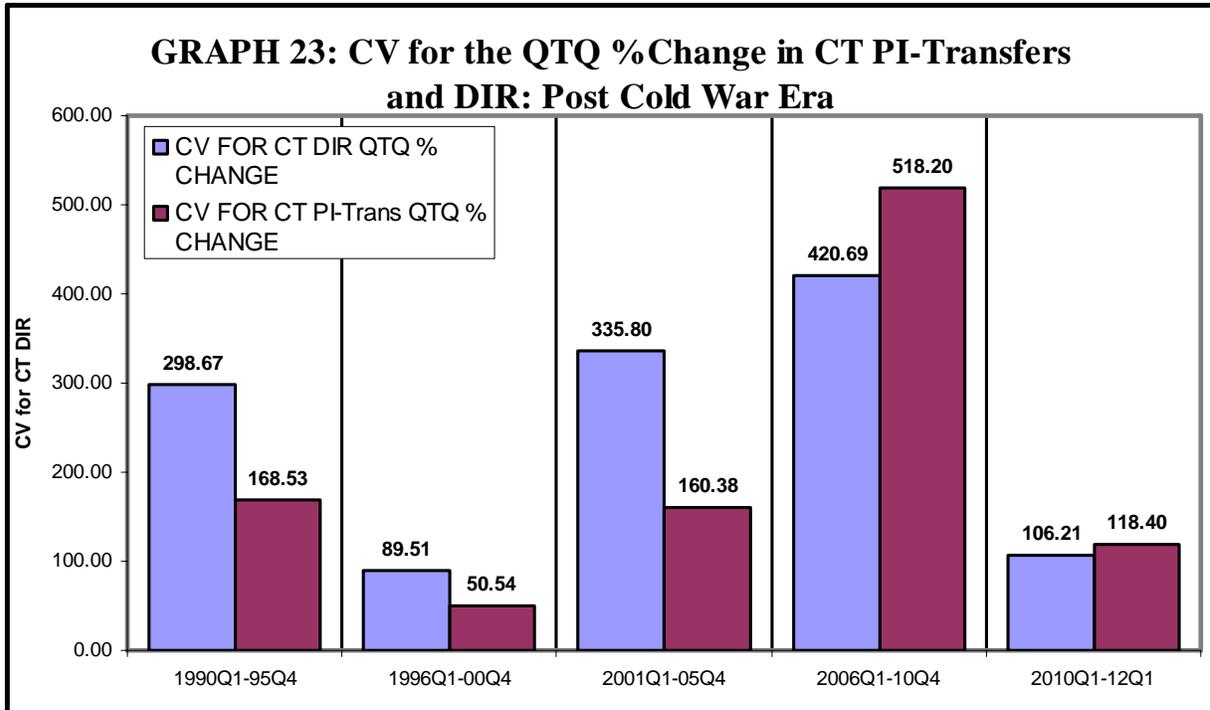


**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Slightly less than one-half of the decline in PI-Transfers over the 2008Q1-2009Q3 recession period was Net Earnings by Residence (Residence Earnings), which declined by \$9.1 billion, or 6.68%, which translates into an annualized rate of 4.50%. Thus, residence earnings did not decline as steeply as PI-Transfers. However, it has recovered more slowly than PI-Transfers. Because of its sheer size, residence earnings has accounted for \$11.0 billion of the \$15.9 billion in the growth of PI-Transfers from 2009Q3 to 2012Q1. Nevertheless, it has grown by 8.86%, compared to 9.95% for PI-Transfers. This translates into a 3.46% compounded, annualized growth rate for residence earnings, compared to 3.87% for PI-Transfers.

Dividends, Interest, and Rent (DIR) has made outsized contributions to both, the decline over the recession, and the gains, over the recovery, to the growth in PI-Transfers. Up until the current cycle, DIR has been the most volatile component of residence-based income. As illustrated in Graph 23, that changed over the current cycle. Even though the 1990-95 and 2000-05 periods contained recessions, and the 2006-10 period included the expansion, and then Tech Bubble of the late 90's, the volatility of the QTQ percent change, as measured by the Coefficient of Variation [$CV = (SD/Mean) \times 100$], exceeded that of PI-Transfers until the two post-2005 periods, 2006Q1-2010Q4 and 2010Q1-2012Q1. With the popping of the Housing Bubble, the decline in the stock market, in conjunction with historically-low interest rates with the onset of the financial crisis, the CV for PI-Transfers has exceeded the CV for DIR for the first time in the post-Cold War era. Nevertheless, the CV for DIR, over the 2006Q1-2010Q4 period was higher than for any other period on Graph 23. Though the volatility for both PI-Transfers and DIR has declined significantly over the 2010Q1-2012Q1 recovery period, the volatility of both is now quite similar. This volatility is reflected in the data in Table 7. CT DIR declined by \$9.8 billion, or 21.88% over the four quarters between 2008Q3 and 2009Q3. Being exactly one year, the compounded, annualized rate is the same. Though DIR started to decline two quarters after the rest of CT residence-based income, and declined for four quarters, compared to six, for the rest of the components of residence-based income, its decline was much steeper. However, the recovery in DIR has been the strongest of the residence-based components of Connecticut income.





SOURCE: U.S. BEA and author's calculations.

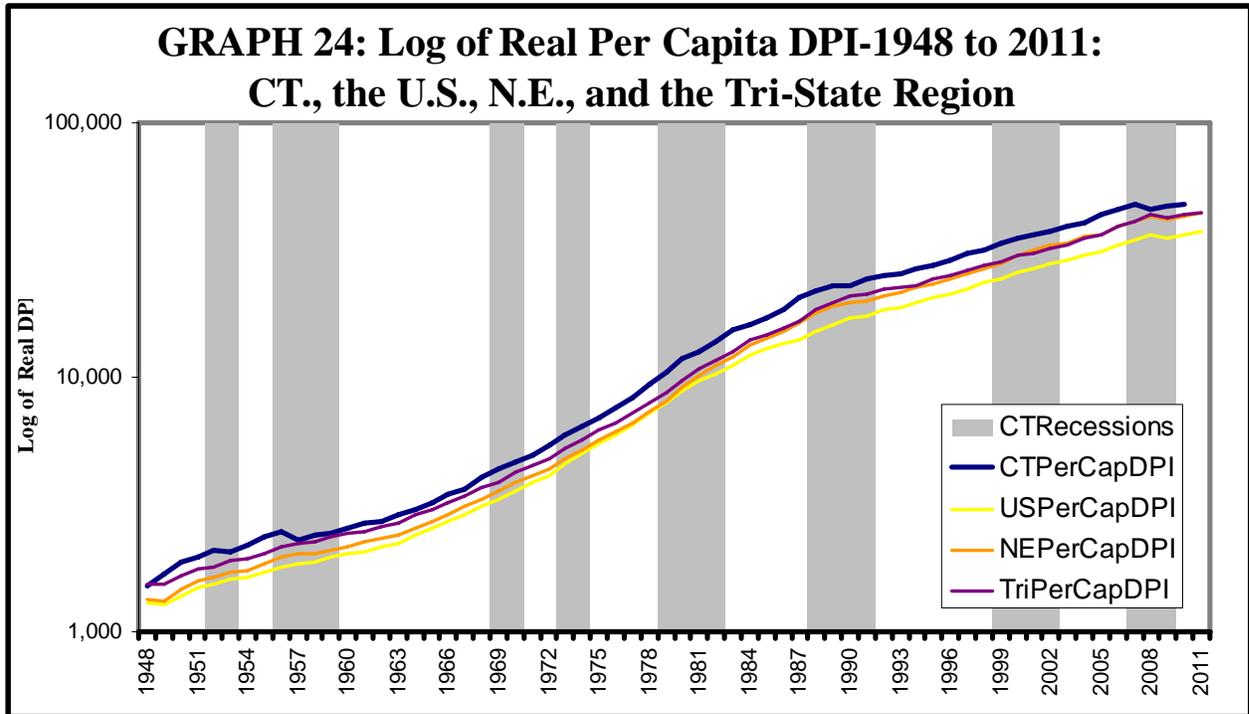
CT DIR has grown by \$4.6 billion, or by 13.81%, over the current recovery. This translates into a 5.31% compounded, annualized growth rate, stronger than the growth rate of any other residence-based component. As of 2012Q1, CT DIR was at \$40.006 billion, or about 88.6% of its peak value in 2008Q3, one quarter before the financial crisis, which means it was still 11.4% below that level.

In the final analysis, the critical factor for consumer spending is *Disposable Personal Income*. Disposable Personal Income (DPI) is defined as:

$$\text{DPI} = \text{Income} - \text{Taxes} + \text{Transfer Payments}$$

In particular, real DPI (adjusted for prices) is the key to consumers' spending power. Graph 24 tracks real per capita DPI for Connecticut (CT), the U.S., New England (N.E.), and the Tri-State region (Tri-State) from 1948 to 2011, with a two-cycle log scale on the vertical axis. DPI at the state and regional level is only available at the annual frequency. At the time of writing, the last release from the U.S. BEA, in June 2012,



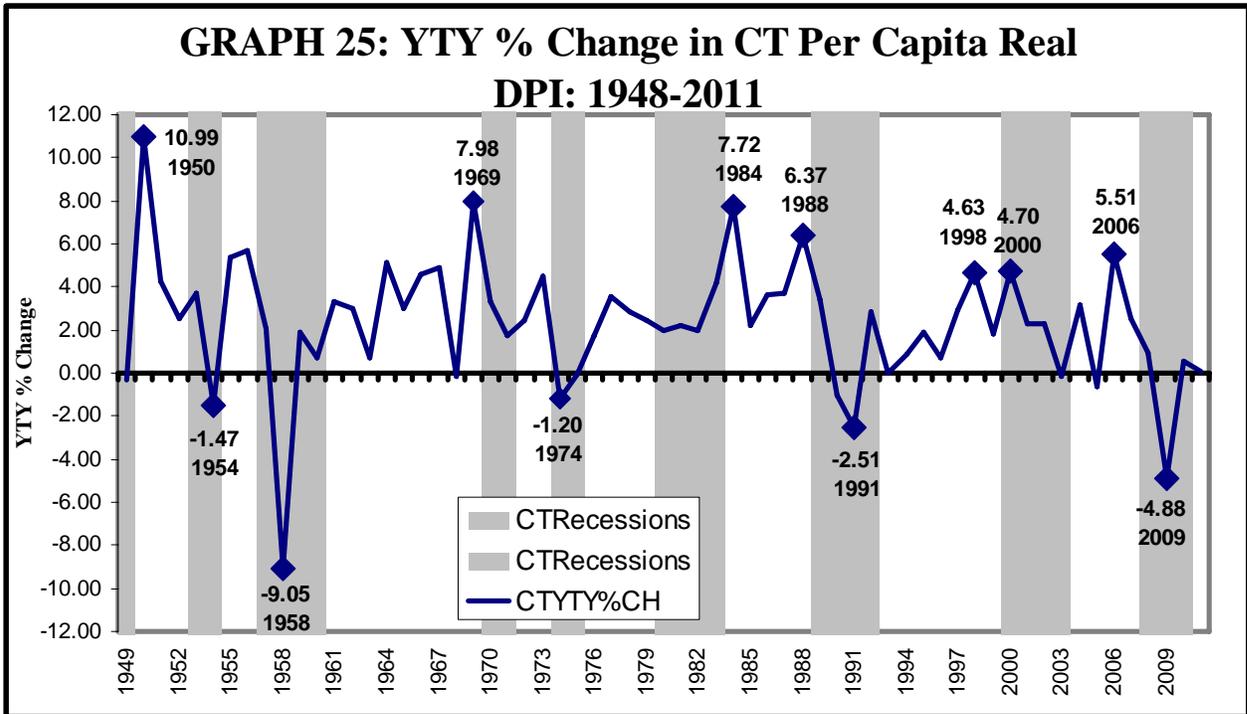


SOURCE: U.S. BEA and author’s calculations.

Connecticut’s real per capita DPI¹⁵⁹ exceeded that of the U.S., N.E. and Tri-State after World War II, given Connecticut’s large defense sector in manufacturing, the Korean War boosted its real DPI. However, the State’s economy took a hit after the cutbacks in defense spending after the Korean War, and from the effects of the 1957-58 recession. As a result, Connecticut’s real DPI fell below that of the Tri-State until the Vietnam War, when again, defense boosted the State’s economy and real DPI and it once again passed above the real DPI of Tri-State. However, through this whole period, Connecticut’s real per capita DPI never fell below that of N.E. or the U.S. Graph 25 presents some more insight into Connecticut’s real per capita DPI over the post-World War II era. The YTY, percent over the period covered in Graph 24 is presented for Connecticut. Some of the points suggested in Graph 24 are accentuated in Graph 25.

¹⁵⁹ Real Per Capita DPI was obtained by dividing Current-Dollar Per Capita DPI by the U.S. PCE Price Index.





SOURCE: U.S. BEA and author's calculations.

Reflecting the boost from Korean War spending, noted above, Connecticut's real per capita DPI had its strongest annual growth rate over the entire post-World War II era: CT real per capita DPI jumped 10.99% in 1950.

With the end of the Korean War and the onset of the 1953-54 recession, Connecticut's real per capita DPI contracted by 1.47% in 1954. But, the steepest contraction in CT real per capita DPI came during the 1957-58 recession when it contracted by 9.05%, the steepest decline over the entire post-World War II period, including the recent panic/recession. At this point, CT's real per capita DPI fell below that of the Tri-State region, but remained above that of the U.S. and N.E. The Vietnam War reenergized the State's defense-based economy with per capita DPI surging 7.98% in 1969, the second largest YTY growth rate in the post-World War II period. At that point, CT's real per capita DPI once again, passed above that of the Tri-State region. And, as noted, it had always remained above that of the U.S. and N.E.



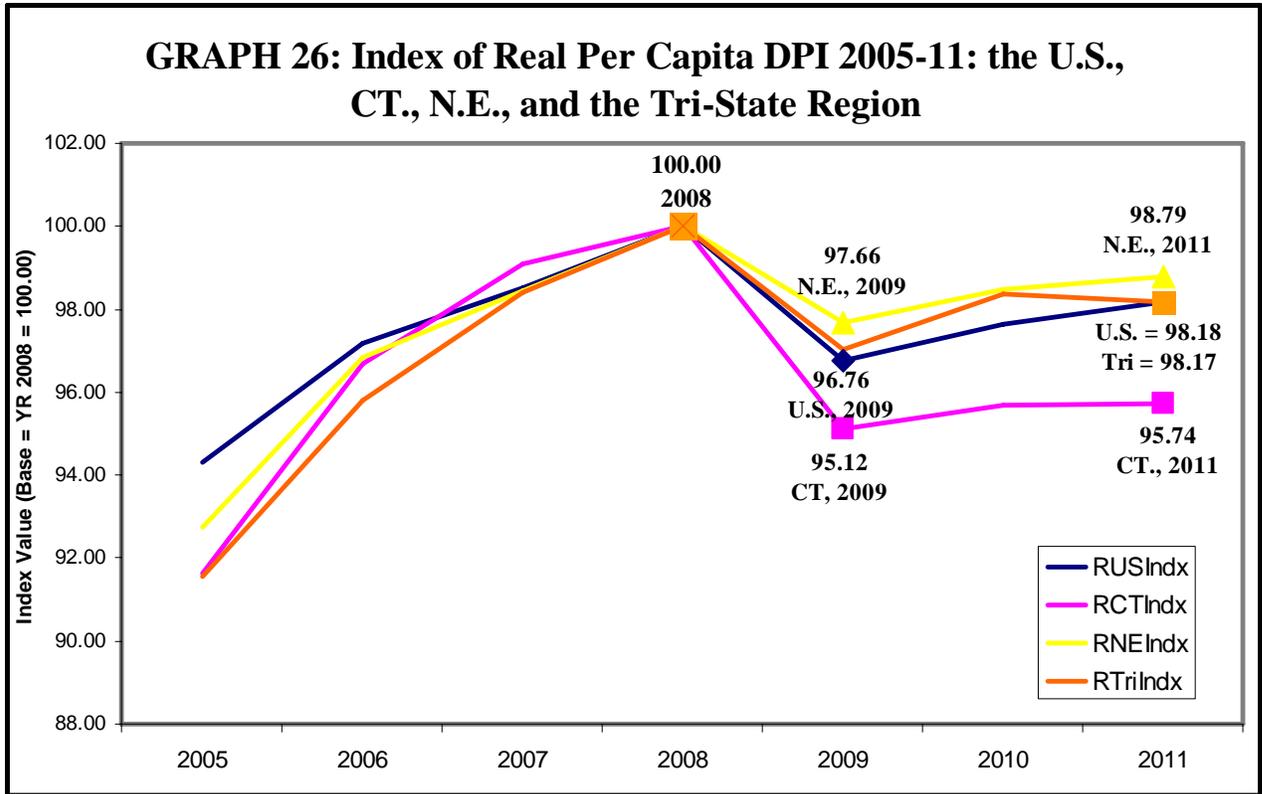
**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

The last decline until the 1989-92 recession was the 1.20% decline in 1974 following the oil embargo and recession after the Yom Kippur War in October 1973. The 1980's had two surges in CT real per capita DPI, 1984 (+7.72%), driven by the Reagan defense build up, which had a huge impact on Connecticut's growth in the 1980's (again, due to the State economy's large defense sector), and another spurt in 1988 (+6.37%) in the final phase of the 1980's real estate bubble. With the end of the Cold War and cutbacks in defense, the collapse of the real estate bubble, and subsequent restructuring of Hartford's insurance industry, Connecticut's economy went into free-fall. In 1991, real per capita DPI fell 2.51%, the second-largest YTY percent-decline until the recent crisis/recession.

As the financial sector grew in size, both absolutely and relative to the size of the U.S. economy, the financial sector's growth in size and share was even greater for Connecticut. By the late 1990's, with hedge funds growing in numbers and size in Fairfield County, the financial sector (especially the growth in reinsurance in Stamford, and the growth in hedge funds in Greenwich), contributed significantly to the 4.63% growth in real per capita DPI in 1998. With the collapse of especially Long-Term Capital Management (LTCM), which was located in Greenwich, growth decelerated until the surge of 4.70% in 2000 as the Tech Bubble was collapsing. After its peak growth of 5.51% over the early 2000's expansion, in 2006, again, driven by the financial-services sector, followed by the collapse of the Housing Bubble and the financial crisis following the collapse of Lehman Brothers, Connecticut's growth rate in real per capita DPI began to decelerate rapidly, and then plunged by 4.88% in 2009, which now stands as the second-largest decline behind the 9.05% decline in 1958, over the post-World War II Era. Further, the recovery from the recent crisis/recession has been weaker than the recoveries in past cycles. Even the 1958 plunge was followed by a fairly robust rebound.

Graphs 26 and 27 focus on the behavior of Connecticut's real per capita DPI over the current cycle, particularly compared to the U.S., New England (N.E.), and the Tri-State Region (Tri-State).

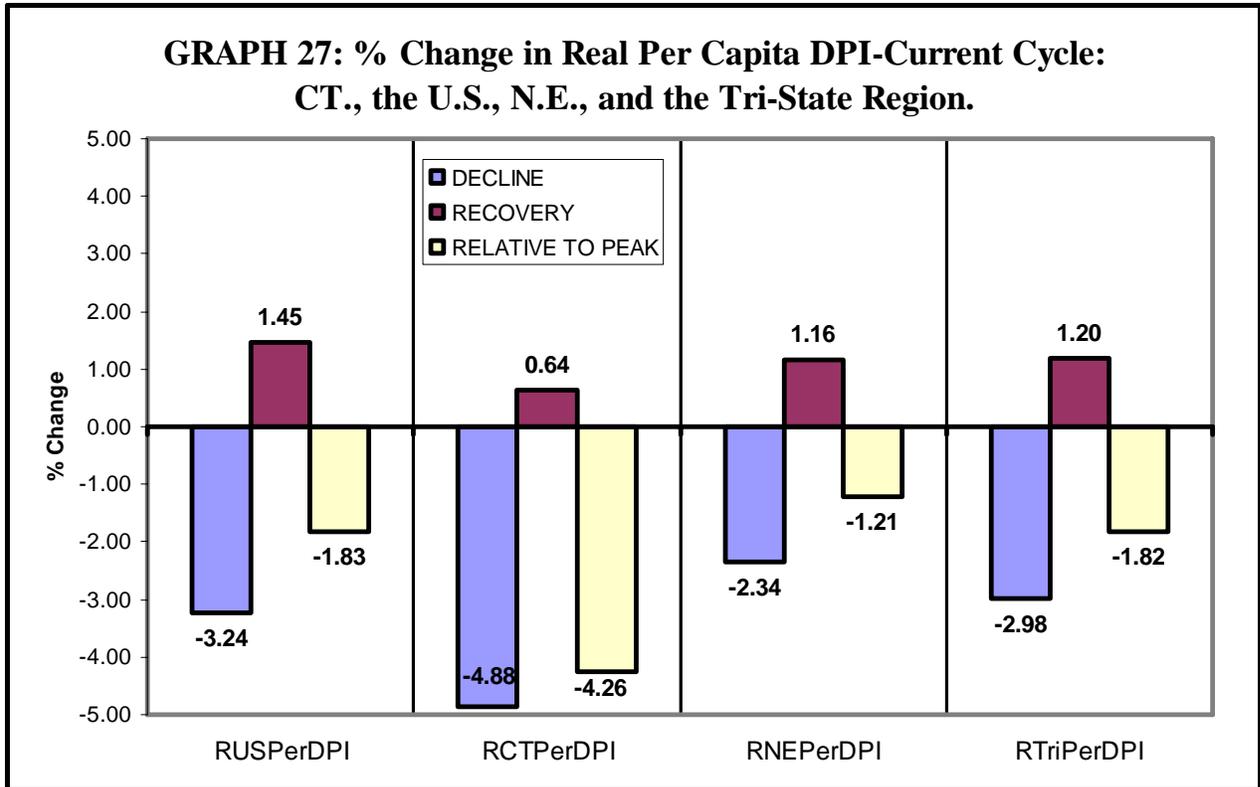




SOURCE: U.S. BEA and author’s calculations.

Graph 26 plots an index of real per capita DPI for a given period to its value in the base year, which in this case is 2008, the year of the Financial Panic. The index value for CT, the U.S., N.E., and Tri-State are tracked from 2005, the year the Housing Bubble began to pop, to 2011, the latest period of available data, at the time of writing. For all index series, 2008, the base year, is equal to 100.00. As is clear on Graph 26, CT real per capita DPI had the steepest decline over this cycle compared to the U.S., N.E., and Tri-State. From 100.00 in 2008, CT’s index value fell to 95.12 in 2009, compared to 97.66 for N.E., 97.02 for Tri-State, and 96.76 for the U.S. Further, by 2011, two years after the low point in the index values, CT’s index for real per capita DPI had only recovered to 95.74, compared to 98.79 for N.E., 98.18 for the U.S., and 98.17 for Tri-State. The resultant percent changes over the stages of the cycle are depicted in Graph 27.



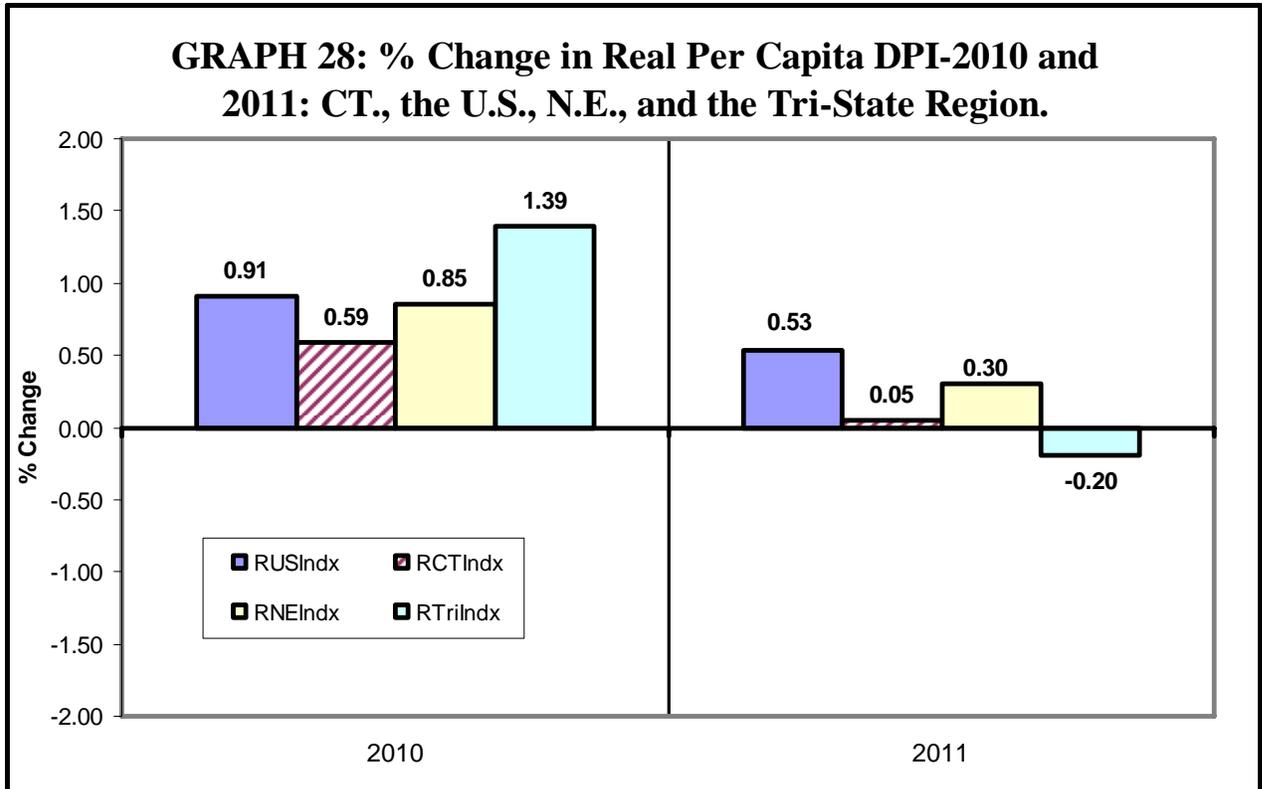


SOURCE: U.S. BEA and author's calculations.

As illustrated in Graph 27, between 2008 and 2009, CT real per capita DPI declined by 4.88%, a much steeper decline than that for the U.S. (-3.24%), N.E. (-2.34%), or Tri-State (-2.98%). Further, not only was the decline in CT's real per capita DPI steeper, but its recovery in real per capita DPI growth has been much weaker. Between 2009 and 2011, CT's real per capita DPI only recovered by 0.64%. Whereas, over the same period, U.S. real per capita DPI grew by 1.45%, Tri-State grew by 1.20%, and N.E. grew by 1.16%. As a consequence, by 2011, CT's real per capita DPI was still 4.26% below its level in 2008, while N.E. was down by only 1.21%, tri-state was down by 1.82%, and the U.S. was down by 1.83%.

As noted above, critical to supporting consumer spending is Disposable Personal Income, that is income, after taxes have been subtracted out, and any transfer receipts added back in. And, Connecticut's per capita DPI declined steeply, and has recovered weakly over the current cycle.



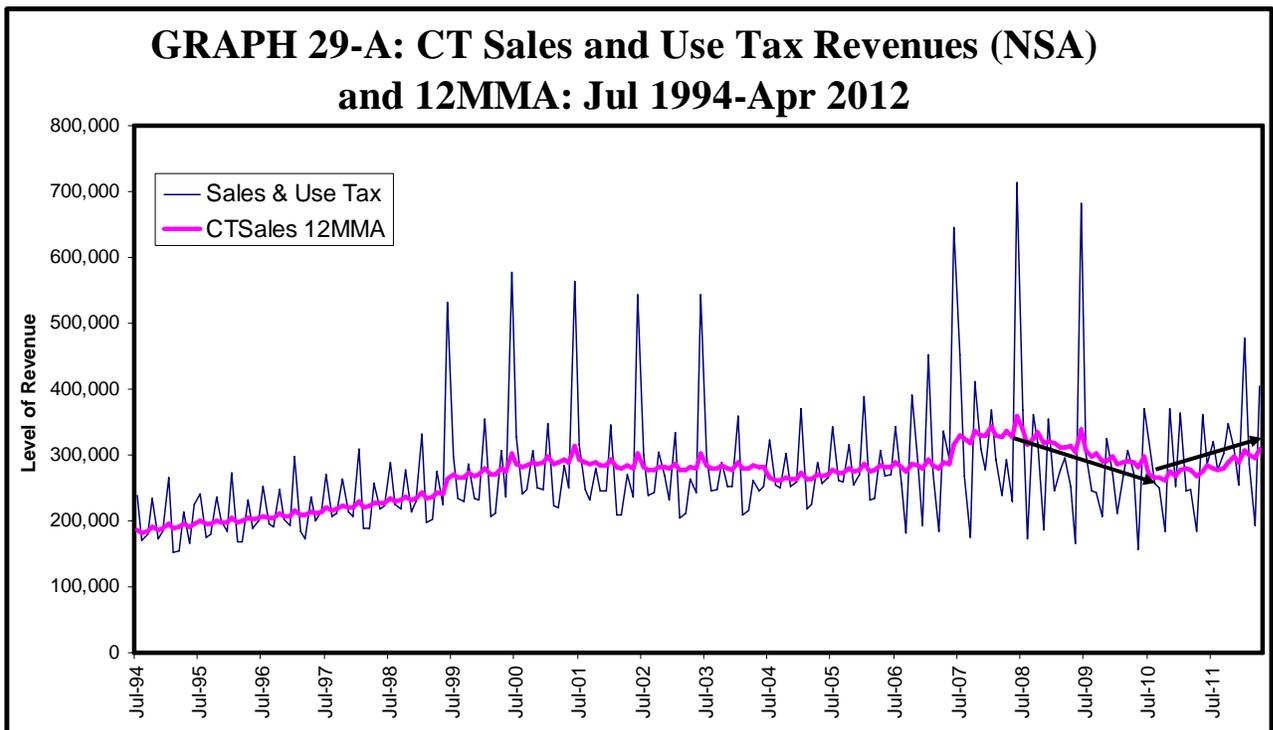


SOURCE: U.S. BEA and author's calculations.

Though the growth in per capita DPI has certainly been weak overall over this recovery so far, the growth in Connecticut's per capita DPI has been particularly weak. Graph 28 shows the YTY percent change in per capita DPI over the two full recovery years of this cycle: 2010 and 2011. The biggest reversal in fortunes in Graph 28 is clearly the Tri-State Region. After coming out of the crisis/recession with the strongest growth (+1.39%) in 2010, per capita DPI then contracted by 0.20% in 2011. Growth also slowed for the U.S. in 2011 compared to 2010 (+0.91% versus +0.53%). New England's per capita DPI growth also slowed in 2011, with growth of 0.85% in 2010 compared to 0.30% in 2011. Nevertheless, Connecticut's performance in per capita DPI-growth is the second worst behind the Tri-State region, after growing by 0.59% in 2010, growth slowed even further, to a flat 0.05% in 2011. It is, of course, no coincidence that job growth has followed a similar pattern over the 2010 and 2011 recovery years.

**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

Since the BEA's estimates of state-level DPI for 2012 will not be out until June 2013, we will not know until then how DPI performed over the first one-half of 2012 (the time of writing), at least at the state and regional levels. Two possible reference points for trying to infer how consumer spending has performed in Connecticut over the first one-half of 2012, and where it might be going the last half of the year is data on Connecticut sales and use tax revenue, and the recent trends in U.S. Personal Income and Its Disposition, and retail sales.



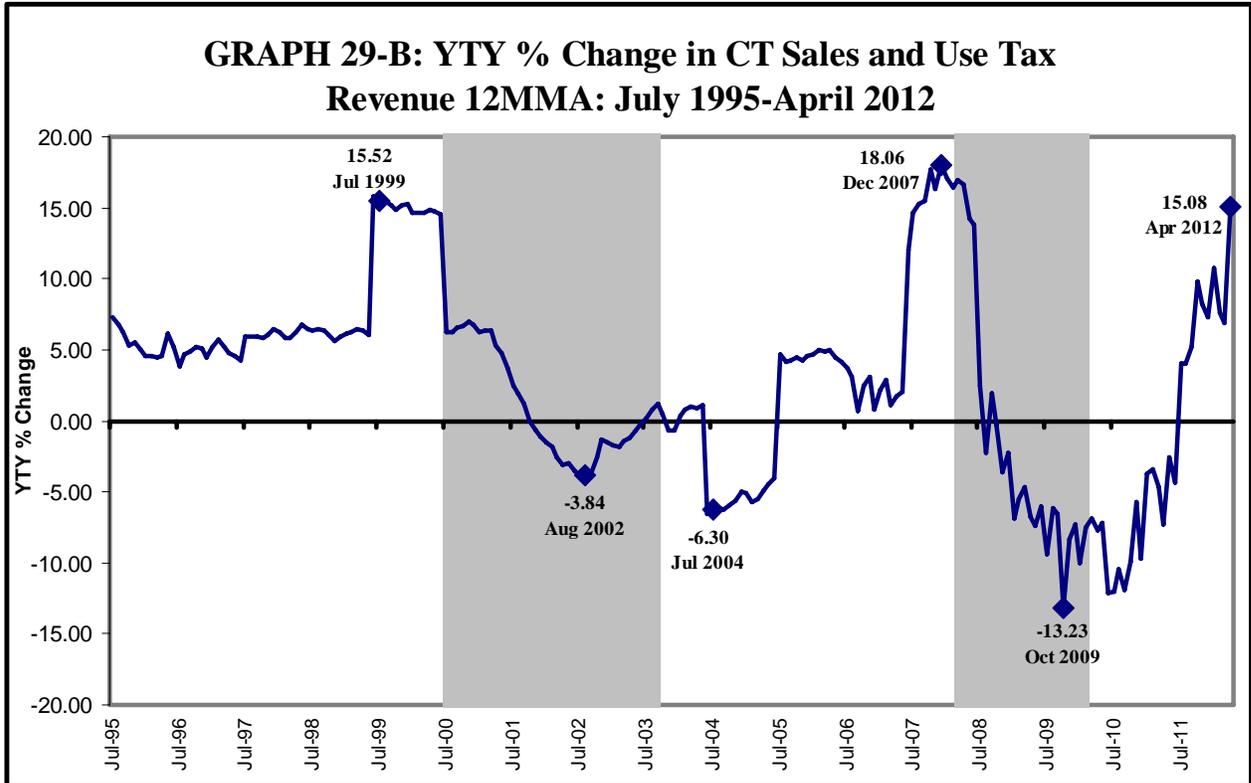
SOURCE: Boston Federal Reserve Bank-New England Economic Indicators (NEEI) and author's calculations.

From Graph 29-A, it is clear that the sales and use tax revenue data for Connecticut has a lot of noise in it. In fact, Demetra, the seasonal adjustment software available from the European Statistical Agency, which has the X-12 method as one of its options, rejected the data-series for deseasonalization because of the presence of so many outliers. To filter out some of the noise, in addition to the original series, the 12-month moving average (12MMA) is also included in Graph 29-A covering the period January 1994 to April 2012, the most recent period available, at the time of writing. After declining from June



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

2008 to October 2010, the 12MMA of Connecticut sales and use tax revenue turned up and has been increasing through April 2012. To focus on the most recent growth trends, Graph 29-B presents the year-to-year (YTY) growth rate in the 12MMA of sales tax revenue (again, given the volatility of the data, the “true” month-to-month percent change would be masked by noise, even in the 12MMA).



SOURCE: Boston Fed-NEEI and author’s calculations.

The largest increase in the 12MMA of Connecticut sales and use tax revenue, on a YTY basis, was the 18.06% jump in December 2007. This was followed by a precipitous drop, which bottomed out with the 13.23% YTY decline in the 12MMA in October 2009. Both the jump in December 2007 and the decline in October 2009 represent the two largest extremes, in absolute value, over the entire range of data. The YTY growth rate in the 12MMA of Connecticut sales tax revenue of 15.08% represented the third-largest YTY jump. Ominously, the two preceding large YTY increases in the 12MMA of revenue were followed by steep declines. Nevertheless, the YTY growth rate in the 12MMA of



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

sales tax revenue has been strong in 2012, the YTY growth rate in January and April each exceeding 10%. But, as mentioned above, the economy's "Arab Spring" may be coming to an end. There is direct data on U.S. Retail Sales, and they indicate a slowing economy. The U.S. Census Bureau released the sales data for June 2012 at the time of writing¹⁶⁰. Though Retail Sales for June 2012 were up 3.5%, YTY, they were down 0.50% from May. And, in fact, on a MTM basis, Retail Sales were down in April and May as well. Three straight months of MTM declines in Retail Sales does not bode well for where they economy is heading. This definitely reinforces other indicators, such as the jobs data, that seem to be pointing in the direction of a slowing economy. That may have implications for the indirect numbers for Connecticut's sales tax revenue, a proxy for the State's retail sales, for May and June. Also, and particularly for Connecticut, how much of it represents the decline in gasoline prices.

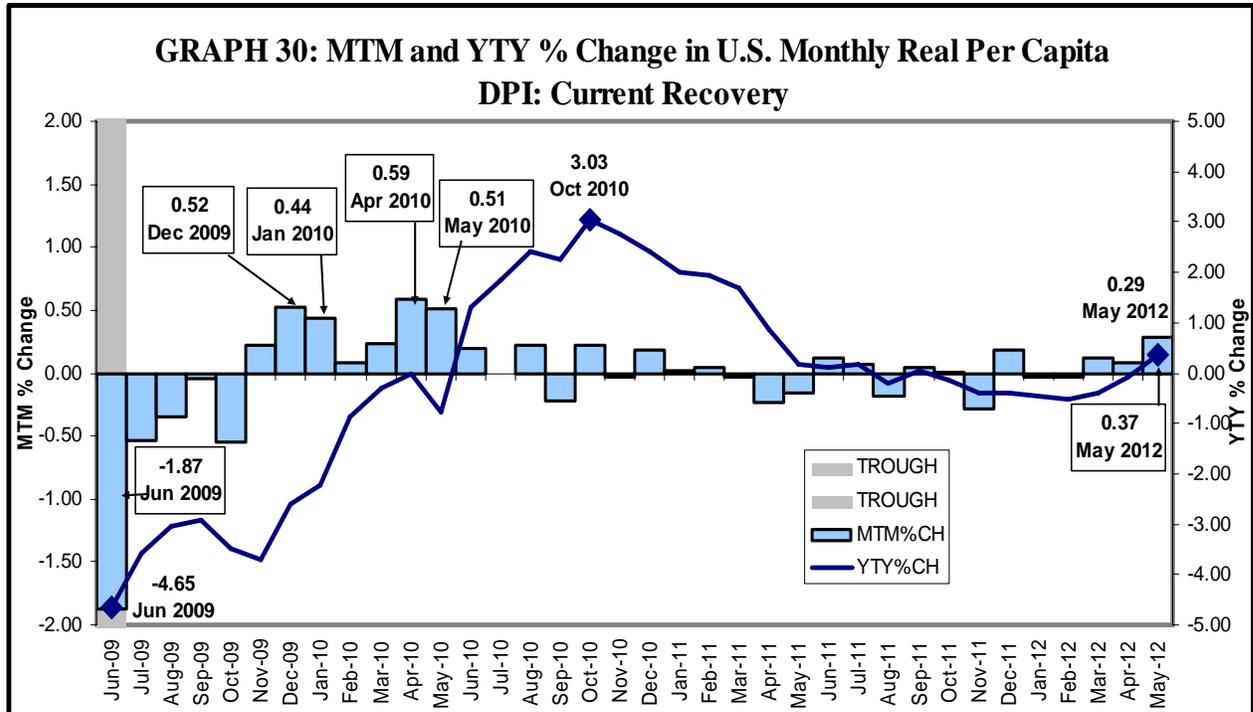
Looking at the higher-frequency monthly data, and looking at data for 2012, which was not available at the annual-level data on per capita DPI discussed above, U.S. real per capita DPI data depicted in Graph 30 indicates the long deceleration, and then contraction in the YTY growth rate had been reversed in February 2012 (line in Graph 30, and measured on the right, vertical scale), though the MTM growth rate in real per capita DPI had been fairly flat until the jump in May (bars in Graph 30 and measured on the left vertical scale). Graph 30 tracks the MTM and YTY percent change in U.S. monthly, real per capita DPI from the trough of the last recession (June 2009) up to the latest period of available data, May 2012.

After the steep MTM contraction of 1.87% (20.27% on a compounded, annualized basis), in June 2009, the month that the National Bureau of Economic Research (NBER) declared the official trough of the 2007-09 Recession, The declines in the MTM growth-rate in real per capita DPI then began to decelerate and turned to positive growth in November 2009. After growth slowed going into 2010, it picked up over the middle part of the year, peaking at 0.59% (7.31% on an annualized basis), in April 2010.

¹⁶⁰ U.S. Census Bureau News, ADVANCE MONTHLY SALES FOR RETAIL AND FOOD SERVICES JUNE 2012 (July 16, 2012) U.S. Census Bureau: Washington.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**



SOURCE: U.S. BEA and author's calculations.

Since then, the MTM growth-rate in real U.S. per capita DPI has been weak and in an up-and-down fashion. The MTM growth rate in May 2012, at 0.29% (3.54% on a compounded, annualized basis), was the strongest MTM growth rate since May 2010, when the MTM growth rate was a stronger 0.51% (6.29% on an annualized basis). On a YTY basis, there is a clear and pronounced trend. After a 4.65% decline in June 2009, the YTY declines in U.S. real per capita DPI began to rapidly decelerate and the growth-rate turned positive in June 2010. The YTY growth-rate peaked at 3.08% in October 2010. From November 2010 the YTY growth rate decelerated, turning to declines in August 2011. After February 2012, the declines in real per capita DPI began to subside, and the 0.37% YTY growth rate in May was the first month of YTY positive growth since August 2011.

ii. AGGREGATE SUPPLY

Referring again to Table 6 above, which is a modified version of Table 1 in Volume 1- U.S. ECONOMIC OUTLOOK, it summarizes the indicators that are analyzed in



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

assessing the current conditions in the U.S. economy. Since a number of the indicators available to assess the national economy are not available at the state level, Table 6 adds two columns that do not appear in Table 1. The last sub-columns from the right, under the two major headings, “Aggregate Demand” and “Aggregate Supply” are titled “State Level?” and note whether or not the corresponding indicator is available at the state level. Those available are analyzed in the next two subsections to gauge the current state of Connecticut’s economy. Part i looked at the indicators of Aggregate Demand and this section, part ii, turns to assessing the indicators of Aggregate Supply.

As indicated in Table 6, there is no state-level counterpart to the Federal Reserve Board’s statistical releases on Industrial Capacity and Capacity Utilization. Therefore, Capacity (Capital Stock) and the Capacity Utilization Rate (CUR) will not be included in the discussion of Aggregate Supply at the state level. In addition, there is either, cursory, or limited data available on foreign supply (Imports) and, productivity was touched upon above in Part a-*INDICATORS OF GROWTH AND OUPUTT* and in particular, in the discussion of Table 5 (p 31 above) The one set of indicators available in great detail, and on a timely and high-frequency basis, at the state, regional, and local levels, are indicators of labor market conditions. Therefore, the assessment of indicators of Aggregate Supply at the state level will focus on the state and local labor market, discussed under the heading of “Human Resource Utilization”. With that, the following discussion now turns to the current conditions and the outlook over the forecast horizon for Connecticut’s labor markets.

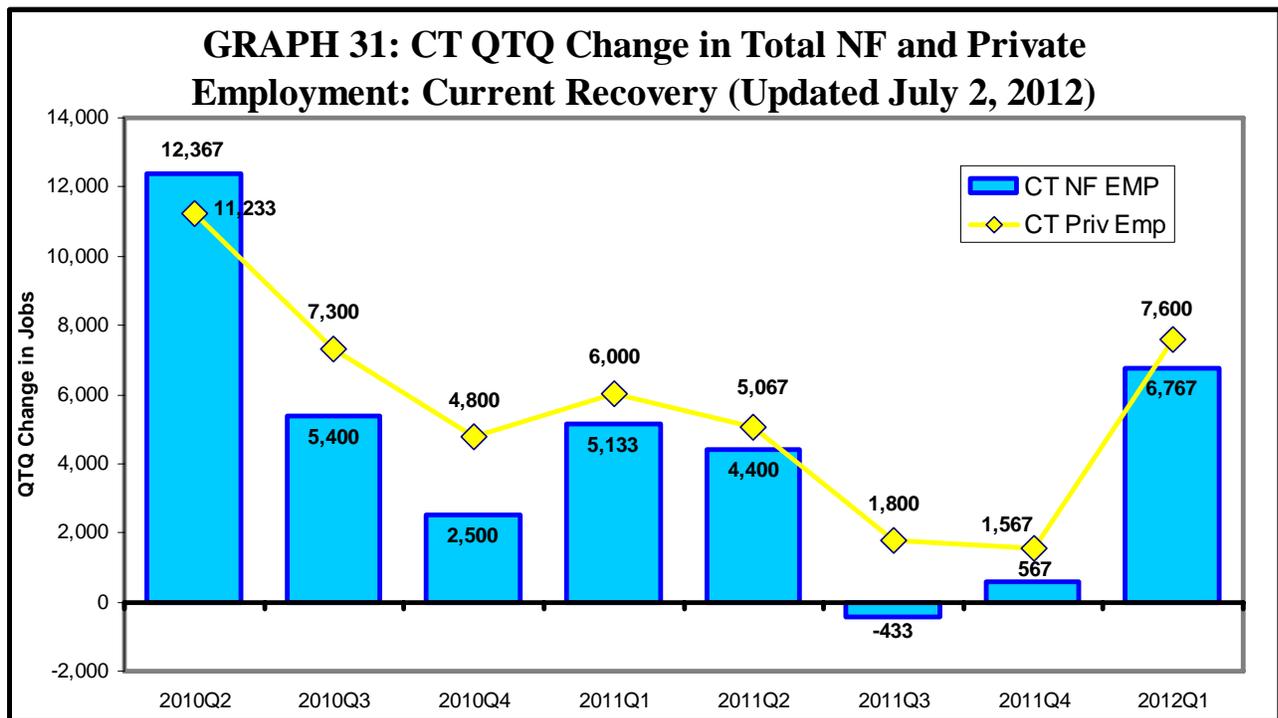
**1. CONNECTICUT’S LABOR MARKET
(Human Resource Utilization)**

As noted in Chapter 1-INTRODUCTION, whether due to the record warm winter, which wreaked havoc with the seasonal factors for the nonfarm employment numbers, or more fundamental factors, like the burst of growth in Net Worth in 2012Q1 (its strongest QTQ



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

growth rate since 2004Q4¹⁶¹), the U.S. and Connecticut economies had what could be dubbed their “Arab Spring” over the final months of 2011 and into the beginning of 2012. And, as was illustrated on Graph 1, on a less volatile quarterly basis, there was strong growth in Connecticut’s nonfarm jobs in the first quarter of 2012 Connecticut added 7,000 net, new nonfarm jobs, the most since the 12,367 in 2010Q2. Graph 31 reproduces Graph 1 and superimposes Connecticut’s Private Sector QTQ job changes to the QTQ changes in nonfarm employment.



SOURCE: U.S. BLS, CTDOL-Research, and author’s calculations.

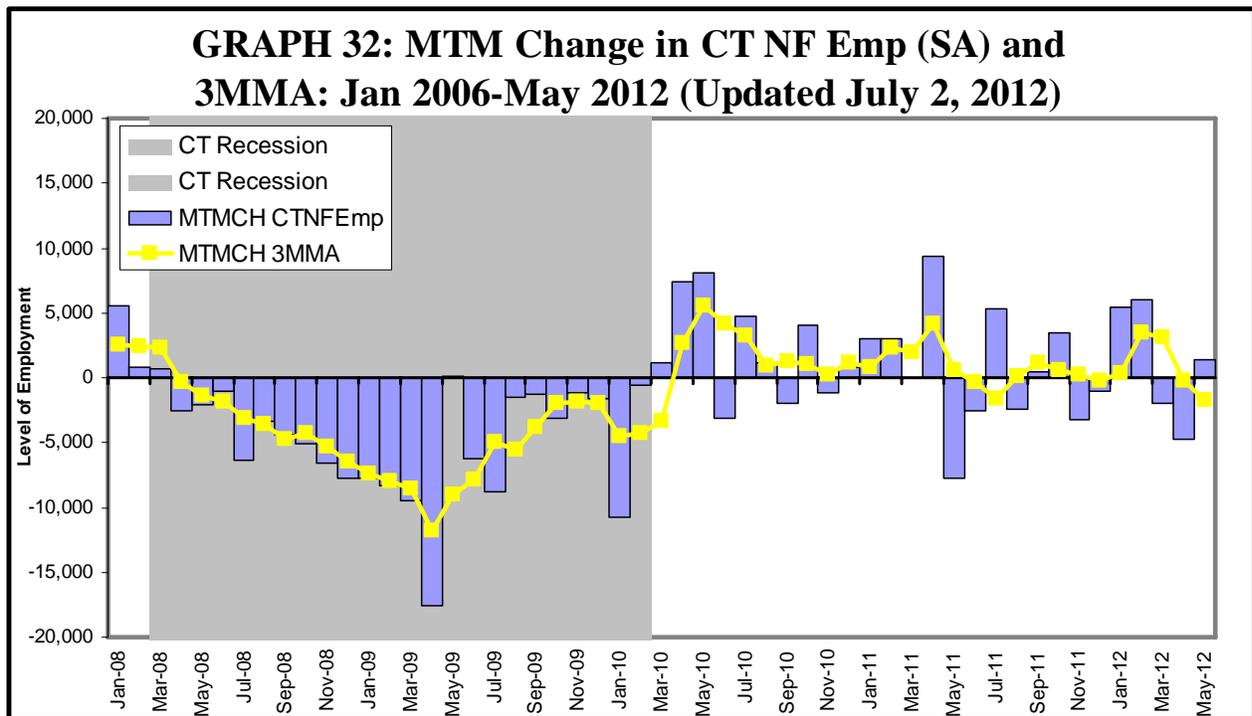
As noted above and in the introduction to this outlook, Connecticut nonfarm employment grew by 6,767 jobs in 2012Q1, which is the strongest QTQ growth over the current recovery since the 12,367 new jobs added in 2010Q2. Even stronger, both nationally, and at the state level, has been the growth in Private-Sector jobs. Save the burst in job growth in 2010Q2, Private Sector job-growth has outperformed total nonfarm employment over the entire recovery. And, though private job growth slowed over the last one-half of

¹⁶¹ See the discussion on Household Balance Sheets in Part I, Section C, Chapter II-CURRENT CONDITIONS, in Volume 1 of this outlook.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

2011, it did not turn negative as nonfarm employment did in 2011Q3. Further, the Private Sector actually added 7,600 jobs in 2012Q1, compared to the 6,767 overall. The critical factor here, as discussed in the introduction to this volume of the outlook, and as will be discussed in more detail below, is the behavior of Government Sector employment over this recovery. Unique to this recovery, instead of leading, or at least reinforcing, the growth in Private-Sector jobs, the Government Sector has significantly subtracted from job growth. This point will be illustrated in graphs 33 and 34. But, before getting to the sectoral performance over this cycle, Graph 32 extends the growth in Connecticut's nonfarm employment up to the most recent month of available data at the time of writing (the bars in Graph 32), by switching to the monthly frequency of data. And, to take into account the highly volatile monthly data (the reason for the quarterly frequency of data presented in Graph 31), since the full second-quarter data is not yet available, Graph 32 presents both, the MTM change in jobs (bars), and represented by the line in Graph 32, and the 3-month moving average (3MMA) of Connecticut's nonfarm employment.



SOURCE: U.S. BLS, CTDOL-Research, and author's calculations.



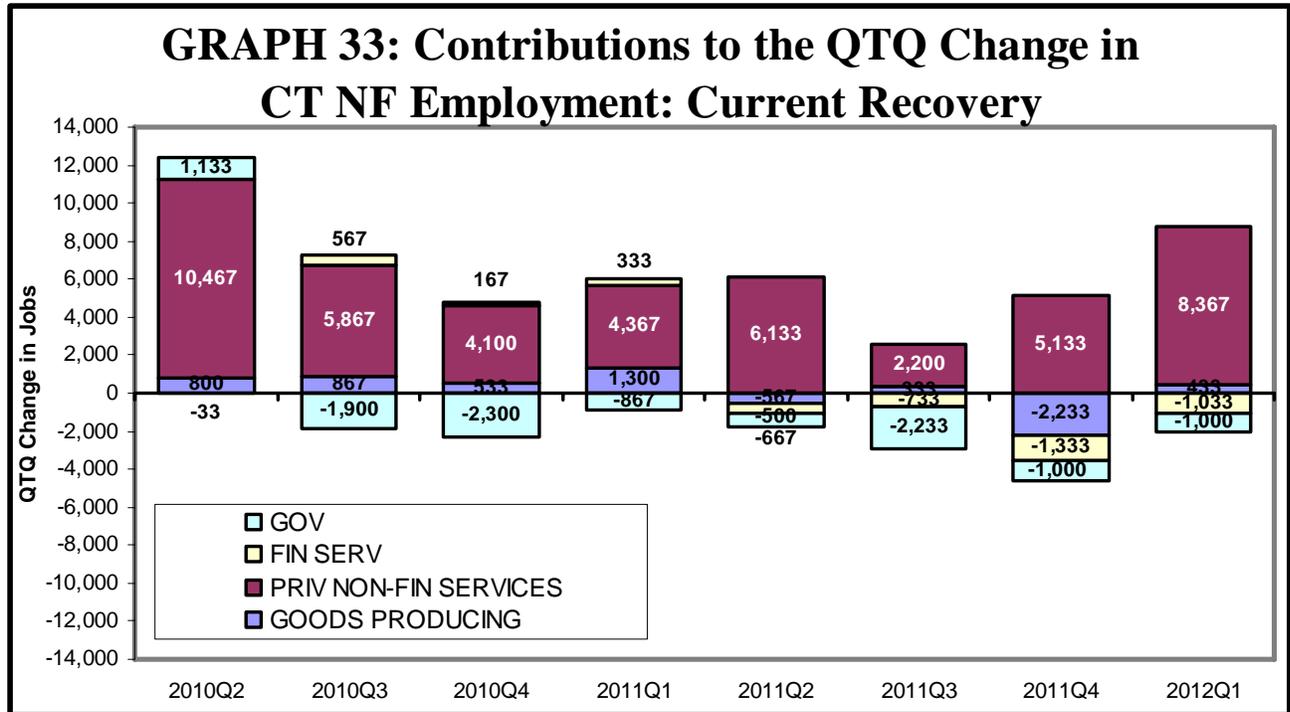
**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

From Graph 32, note the surge in MTM job growth in January (+5,400) and February (+6,000) of 2012, which was followed by two declines in March (-2,000) and April (-4,700), with a rebound in May (+1,400). The 3MMA reduces this month-to-month volatility, by filtering out some of the noise in the series, to permit a clearer signal about the trajectory of job growth to come through. Based on the 3MMA, Connecticut's nonfarm job growth decelerated over the last half of 2011, with a slight decline in December (-233). With the surge in job growth coming into 2012, the 3MMA shows accelerating job growth from January through March. Based on the 3MMA, more than 3,000 jobs were added to Connecticut's economy in both February and March. However, following the trend in job growth, at the national level, the 3MMA in Connecticut nonfarm employment contracted by 233 in April, and then by 1,767 in May. This, along with the behavior of Connecticut's real industry earnings, real per capita DPI (discussed above), and other indicators, appear to be sending signals that the State, as well as, the national economy, is slowing after a burst of activity at the beginning of the year (at least, in terms of jobs).

Turning now to what drove the burst in job-growth activity at the beginning of 2012, Graph 33 presents the major sectors and their contribution to quarterly (again, returning to the less volatile quarterly frequency), change in Connecticut's nonfarm jobs. As is clear, the major contributor to job growth over the recovery has been the Non-Financial, Private-Services Sector, the largest sector. The ups-and-downs of QTQ job growth are clearly tied to this sector's fortunes. Of the 12,367 jobs added to Connecticut's economy in 2010Q2, Non-Financial Private Services accounted for 10,467 of those jobs. And, it was this sector that accounted for 8,367 jobs being added to Connecticut's economy in the first quarter of 2012, while Financial Services and Government Sector each subtracted 1,000 jobs from the State's economy.

The largest contributor to the growth of private service jobs was Health Care and Social Assistance (HCSA), adding 3,300 jobs. The growth in HCSA, along with Education, which added 1,533 jobs, has been trend dominated. That is, the cyclical downturn slowed their growth, but never resulted in job losses. With recovery, stronger growth returned.



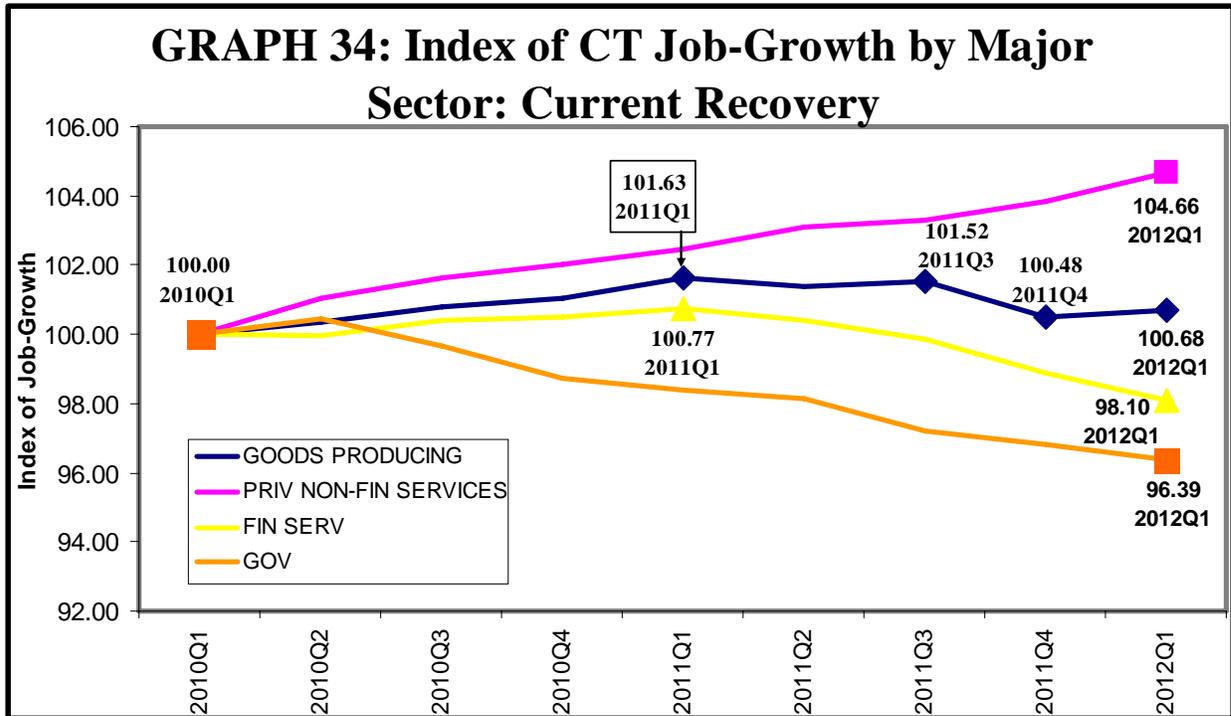


SOURCE: U.S. BLS, CTDOL-Research, and author's calculations.

The Retail Trade Sector also significantly contributed to the strong growth in jobs over 2012Q1. This sector added 2,433 jobs. As discussed in Chapter I-INTRODUCTION, of this volume of the outlook, and followed up on below, consumer durables, and particularly, motor vehicle sales seem to be driving the strong job growth in Retail. HCSA, Education, and Retail Trade accounted for 7,266 jobs, or 87%, of the 8,367 jobs created by Connecticut's Non-Financial, Services sector in the first quarter of 2012.

Graph 34 tracks the major sectors over the entire recovery period. An index was constructed for each sector, such that each quarter's value is the ratio of that value to the level of employment for that sector in 2010Q1, the quarter of the turnaround in nonfarm jobs for Connecticut, and the beginning of the current recovery. Thus, for all sectors, the base period is 2010Q1, where the index is equal to 100.00. By far, Connecticut's Non-Financial Private Services Sector has outperformed all other sectors over the current recovery, with an index value of 104.66 in 2012Q1. This implies that the sector's employment has grown by 4.66% since the trough of the State's recession in 2010Q1. The other sectors have not fared as well.





SOURCE: U.S. BLS, CTDOL-Research, and author's calculations.

Connecticut's Goods Producing Sector led by manufacturing's renaissance, unlike past recoveries, actually added jobs over the first four quarters of recovery. By 2011Q1, Connecticut's Goods Producing employment was 1.63% higher than in 2010Q1, the trough of the State's recession. But, by 2011Q3, growth had flattened to 1.52%. The next quarter, Goods Producing job-growth slipped, and by 2011Q4, the employment level was only 0.48% above its 2010Q1-level. Over the next four quarters, there was a very slight increase in jobs resulting in employment 0.68% above its 2010Q1 level. Financial Services and Government jobs have declined over the recovery period (as of 2012Q1).

Financial Services employment actually increased slightly over the first four quarters of the current recovery, and was 0.77% above its 2010Q1 level by 2011Q1. However, the trajectory has been downward since then. By 2012Q1, the Financial Services employment index was at 98.10, indicating that Financial Services employment was nearly 2% below its 2010Q1 level.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

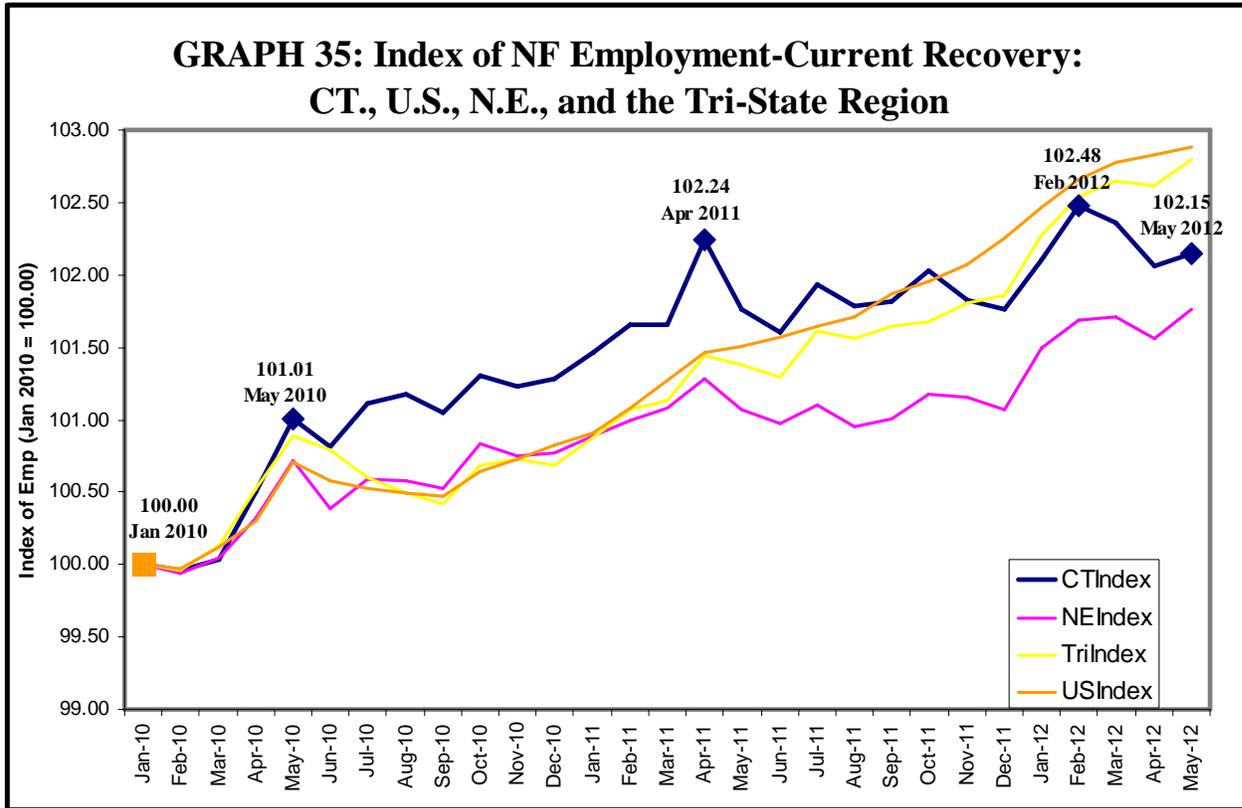
As noted above (and below), the Government Sector has fared the worst over this recovery, both nationally, and at the state, and especially the local levels, compared to previous recoveries. Reflecting the temporary boost from the hiring of Census workers, Connecticut's government employment was up by 0.46% in 2010Q2, compared to 2010Q1. However, from that point on, the trajectory has been downward. By 2012Q1, Connecticut's Government Sector employment index was 96.39, meaning that government employment was down 3.61% from its level in 2010Q1.

CONNECTICUT'S COMPARATIVE JOB PERFORMANCE: Current Recovery

Graph 35 tracks the trajectory of Connecticut's nonfarm employment from January 2010 (Connecticut's recovery began in February 2010), to May 2012, the latest period of available data for state-level nonfarm employment data. An index similar to the one constructed and presented in Graph 34 for Connecticut's nonfarm employment and employment for its major sectors is used in Graph 35 to compare the growth in Connecticut's nonfarm employment, over the current recovery, to the U.S., New England (N.E.), and the Tri-State Region (Tri-State). However, the data in Graph 35 are at the monthly frequency, and the base period, where the index equals 100.00, is January 2010.

From Graph 35, Connecticut's job growth was stronger than that of the U.S., N.E., or Tri-State over the first one and one-half years of the current recovery. In April 2011, Connecticut's index value was 102.24, which meant that the State's employment level was 2.24% higher than it was in January 2010. By comparison, U.S. employment was only 1.47% higher in April 2011 than it was in January 2010; it was 1.42% higher in the Tri-State area and only 1.28% higher for N.E. Then, Connecticut traded places with the U.S. and the Tri-State Region. After July 2011, U.S. job growth passed up Connecticut, and, in November, so did the job growth of the Tri-State Region. By May 2012, the last period of state-level data at the time of writing, the level of U.S. nonfarm employment





SOURCE: U.S. BLS and author's calculations.

was 2.89% above its January 2010-level, the Tri-State Region's employment level was 2.79% above where it had been in January 2010, but, Connecticut's nonfarm employment was 2.15% above its January 2010 level. New England's job growth began to flatten after May 2010, and then it declined after April 2011. By August 2011, New England had nearly given back all the jobs it had gained back in the recovery, up to that point. Since April 2011, New England's job growth performance has fallen below that of Connecticut, the U.S., and the Tri-State Region. New England had a spurt of job growth from December 2011 to March 2012, along with other regions' and U.S. job growth surge in the beginning of 2012. After a decline in April, like Connecticut, the New England, along with the Tri-State Region added jobs in May 2012. However, by May 2012, New England's level of employment was 1.77% higher than it was in January 2010, a far lower relative recovery of lost jobs over the previous recession than for Connecticut, the U.S., and the Tri-State Region. And, as noted above, Connecticut's relative recovery of lost jobs was lower than that for the U.S. or the Tri-State Region.



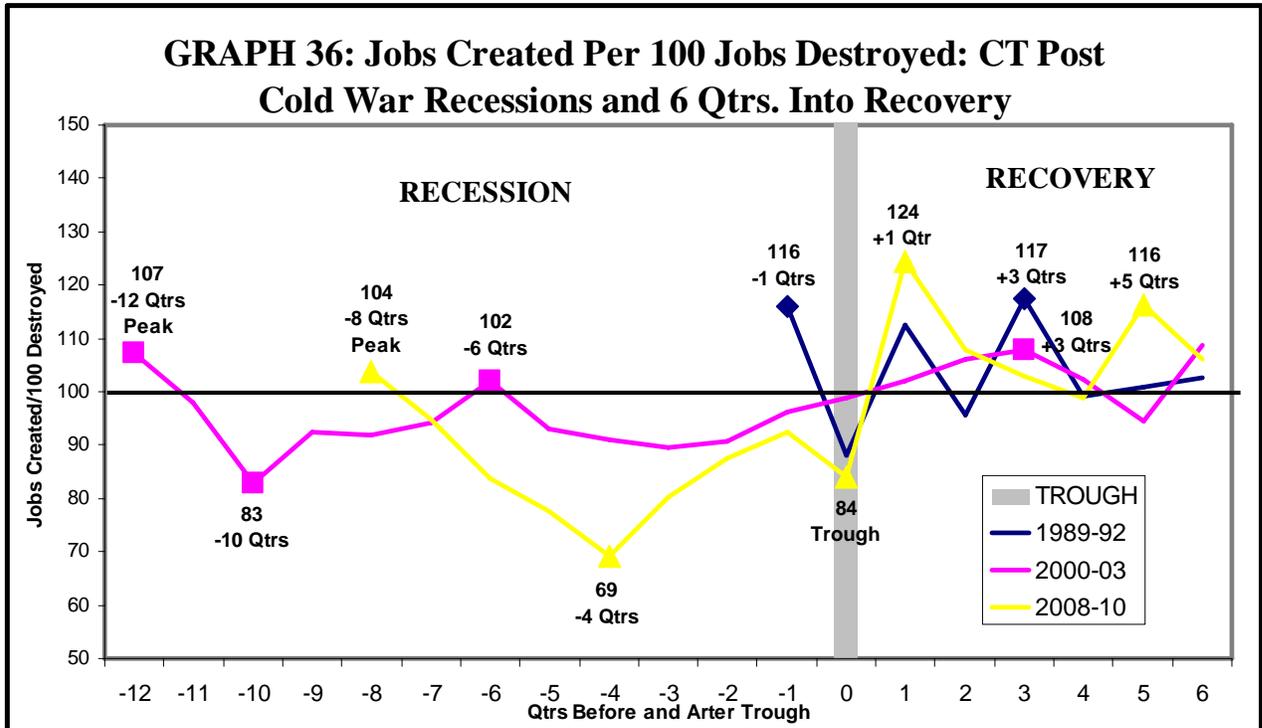
THE DYNAMICS OF JOB GROWTH

The net change in jobs reported each month from the Establishment Survey, which is reported as the increase or decrease in nonfarm jobs each month, is actually a snapshot of a dynamic process that is continually unfolding. This dynamic process is captured by the Business Employment Dynamics (BED) Program of the U.S. Bureau of Labor Statistics (BLS). Under this program, the BLS measures the gross number of jobs created, and the gross number of jobs destroyed, by establishments (worksites) over each quarter, drawn from the Unemployment Insurance (UI) Tax database known as the Quarterly Census of Employment and Wages (QCEW). The difference between the number of jobs created, and the number of jobs destroyed, is the net change in jobs. It is this net change that is reported each month when the nonfarm employment report is released. For example, a given increase in jobs, over a given month, could be due to job creation increasing, while job destruction remained constant, or due to the reduction in job destruction, while job creation remained unchanged. Other combinations that produce the same result could also drive a given net change observed over a given month. Thus, the underlying dynamics that produce a given result are critical for understanding where job growth may be heading in the near future, and what produced the current, observed results. To that end, Graph 36 looks at the number of jobs created per 100 jobs destroyed over Connecticut's three post-Cold War recessions and six quarters into their recoveries. Unfortunately, there is a two-quarter lag in the release of the data, so there is data available only up to 2011Q3. The fourth quarter of 2011 will not be released until August 2012. With that in mind, Graph 36 turns to the dynamics of job-growth behavior over the Post-Cold War cycles.

The horizontal reference line in Graph 36 represents the level at which, for every 100 jobs destroyed, 100 jobs are created. It can be thought of as the "break even" point of Job Creation (JC) and Job Destruction (JD). Above the line, more than 100 jobs are being created for every 100 destroyed, below the line, fewer than 100 jobs are being created for every 100 jobs destroyed. The horizontal axis designates the number of quarters before

**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

the trough of a recession with a minus sign, the number after the trough with a plus sign, and the trough of the recession is designated as “0”.



SOURCE: U.S. BLS and author’s calculations.

First, it should be noted that there is no BED data available for most of Connecticut’s 1989-92 recession. Data is only available from 1992Q2 on, the trough of that recession was in 1992Q4. Given that, the steepest decline in the rate of jobs created per 100 destroyed was the 69 in 2009Q1, four quarters before the trough in the last recession. The steepest decline over the 2000-03 recession was the 83 ten quarters before the trough of the recession. And, as is evident in Graph 26, and as noted above, there is no data available for most of the 1989-92 recession. Interestingly, the strongest surge in the job creation rate was the 124 in 2010Q2 in the early stages of the current recovery, and it coincides with the 12,367 jump in the QTQ growth in Connecticut’s nonfarm jobs over that quarter. The second largest job creation rate was the 117 three quarters into the recovery from the 1989-92 recession. The next two were the 116 one quarter before the trough of the 1989-92 recession, and the 116 over the first quarter of 2012, the

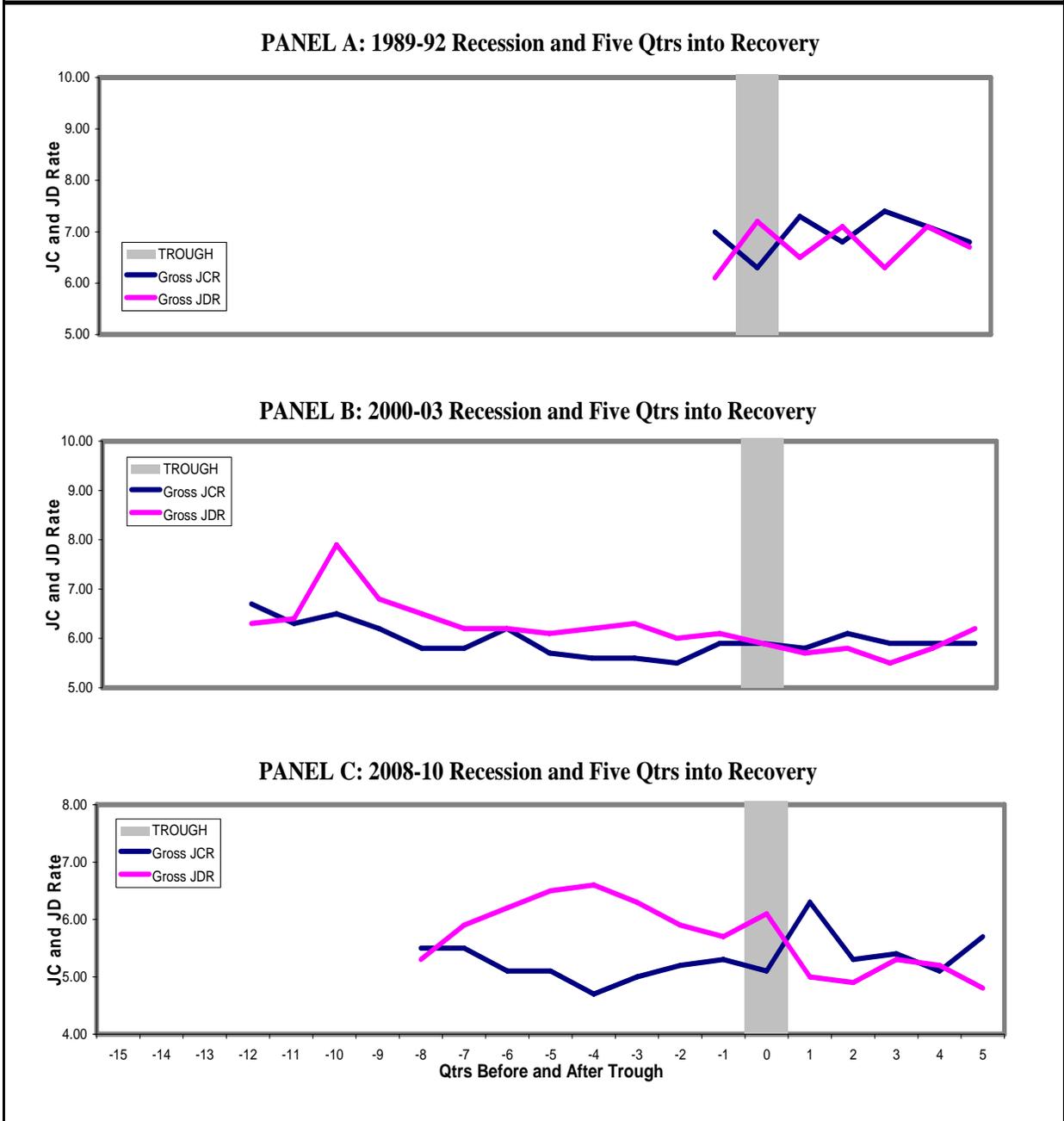


**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

economy’s recent “Arab Spring”. Job creation rate over the 2000-03 cycle never achieved the levels they did over the 1989-92 and current cycle.

GRAPH 37: JCR and JDR for CT. Post Cold War Recessions and Five Qtrs into Recovery

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



SOURCE: U.S. BLS and author’s calculations.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

To dig deeper in order to get a better idea of what the drivers of the dynamics observed in Graph 36 are, Graph 37 breaks out job creation and job destruction into two separate rates. In Graph 36, a given number of jobs created per 100 jobs destroyed could be due to an increase in job creation, a decrease in job destruction, or some other combination of those two dynamic processes. Graph 37 presents both, the Job Creation Rate (JCR) and the Job Destruction Rate (JDR) over the three recession/recoveries depicted in Graph 36. Panel A follows the JCR and JDR over the 1989-92 recession/recovery, Panel B, the 2000-03 recession/recovery, and Panel C, the current recession/recovery cycle. All three panels follow the recoveries five quarters out from the trough of the previous recession.

Given the limited data for the 1989-92 recession and recovery in Panel A, Graph 37, both the JCR and JDR follow a saw-toothed pattern over the last two quarters of recession, and five quarters into recovery. They oscillated in opposite directions, that is, when the JCR increased, the JDR declined, and vice versa. The two then converged and trended downward the fourth and fifth quarters into recovery. From Panel B, there emerges a different pattern in the JCR and KDR over the 2000-03 recession and recovery. After a surge in the JDR as the Connecticut economy went into recession, the JCR and JDR paralleled each other, with JDR above the JCR, save the spike in the JCR five quarters before the trough in the recession. The two rates converged as the economy entered the trough of the recession, with the JCR passing above the JDR as the economy recovered, however, the JDR jumped up, and the JCR was flat by the fifth quarter of recovery.

With the behavior of the JCR and JDR over the current cycle, presented in Panel C, Graph 37, it is apparent that the behavior of the JCR and JDR over each post-Cold War cycle followed a pattern unique to that cycle. As Connecticut's economy went into recession in 2008Q1, over the current cycle (Panel C), the JDR accelerated as the JCR declined. At the trough of the recent recession, 2010Q1, the JDR fell below the JCR as it passed above the JDR, with the surge in the JCR producing the jump in nonfarm employment noted above. The two rates then converged, with the JCR jumping, as the JDR fell, five quarters into recovery and coinciding with the economy's "Arab Spring".



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

The process revealed in Graph 37 shows that the gap between the JCR and the JDR, and its persistence, was the largest, and lasted longer, over the recent recession than over Connecticut's previous two Post-Cold War recessions. Also, it is clear from the analyses in both, Graph 36 and Graph 37, that the three Post-Cold War recessions, though followed by jobless recoveries in all three instances, were being driven by different dynamics, each one unique to a particular recession and recovery. This implies that Connecticut's economy was undergoing different processes over the three different recessions and recoveries. It is only by going beyond the snapshot of the monthly jobs numbers that the underlying dynamic can be uncovered. And, as shown in the discussion of the JCR and JDR processes in Graph 37, important information about the dynamics of the economy are masked by just focusing on the "snap shot" numbers view.

UNEMPLOYMENT, RESIDENCE EMPLOYMENT, AND THE LABOR FORCE

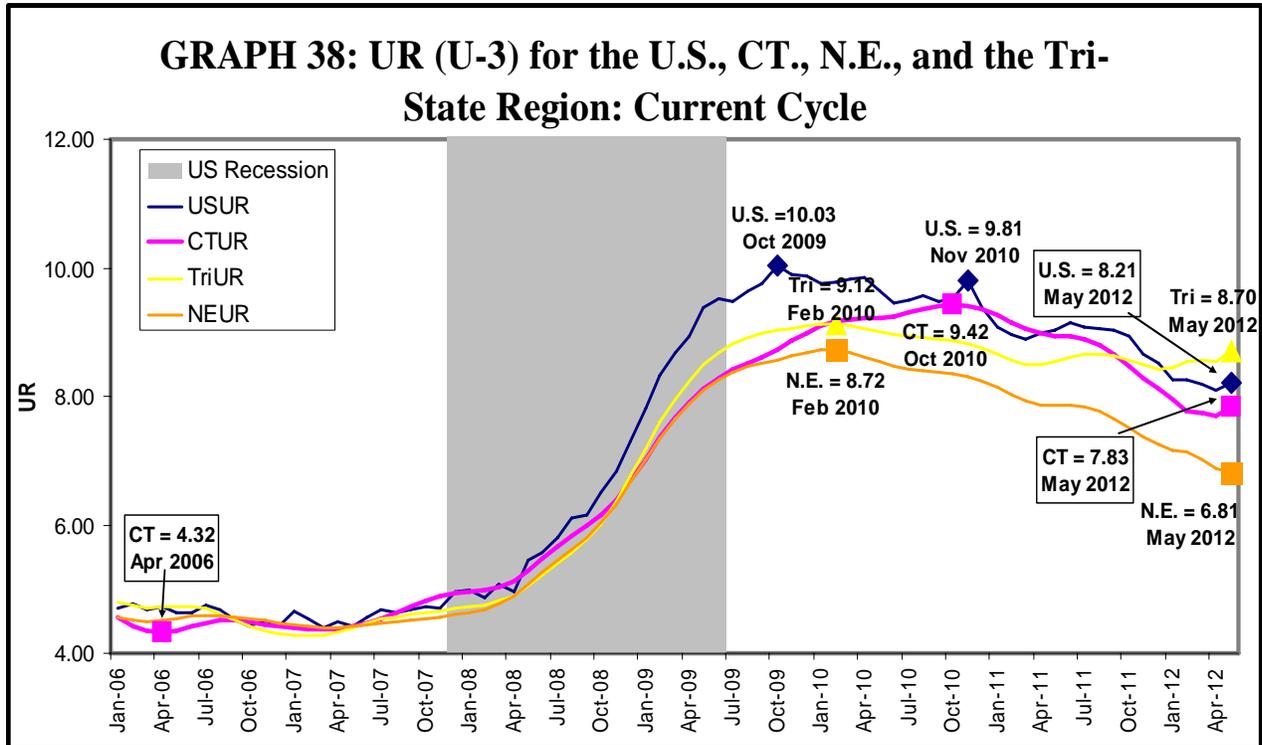
Graph 38 shows the Connecticut unemployment rate (UR) over the current cycle, beginning in January 2006 up to May 2012, the last period of available data at the time of writing. Connecticut's UR is compared to the U.S., New England (N.E.), and the Tri-State Region (Tri-State). Connecticut's lowest UR, over the range of data in Graph 38, was 4.32% in April 2006. This compares to 4.27% for the Tri-State Region and 4.41% for New England, both in February 2007. The lowest for the U.S. was 4.42% in October 2006. Being a lagging indicator, as depicted in Graph 38, all areas compared had peaks in their UR's after the U.S. recession was over and the recovery was underway. And, in Connecticut's case, the UR peaked eight months after the trough in the State's recession.

Of the areas compared in Graph 38, the U.S. UR peaked first (October 2009), and reached the highest level, 10.03%. It then reached a second high of 9.81% in November 2010. Connecticut's UR, though peaking after New England and the Tri-State Region, in October 2010, it was higher at 9.42%. The two region's UR's peaked in February 2010: New England's UR peaked at 8.72%, and the Tri-State Region peaked at 9.12%. By May 2012, the last period of available data, Connecticut's UR, 7.83%, had fallen below that of



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

both the tri-state region (8.70%) and the U.S. (8.21%). By May 2012, New England's UR, at 6.81%, was below Connecticut's, and that for the U.S. and Tri-State Region.



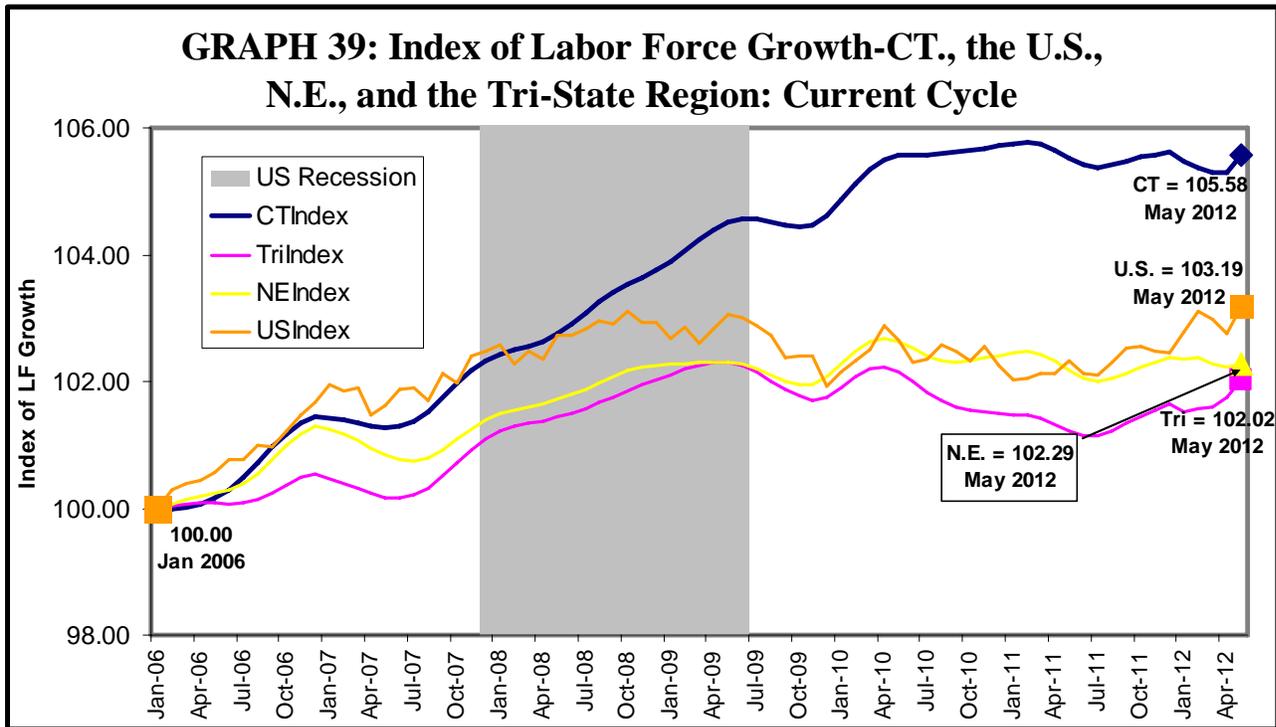
SOURCE: U.S. BLS and author's calculations.

And yet, as illustrated in Graph 39, with the rise in Connecticut's UR, its labor force growth surged. From January 2006, the period in which the index equals 100.00, Connecticut's index value was 105.58 in May 2012, which means that after the recession and recovery, Connecticut's labor force was 5.58% larger than it was in January 2006. Throughout the entire, NBER-defined recession period, Connecticut's labor force continued to grow, increasing by 2.19%, it continued to grow over the beginning of the recovery, and then level off as the recovery proceeded. The U.S. labor force grew by 0.67% over the recession, and that was after a decline, followed by growth. New England's labor force, like the U.S., grew by less than one percent over the recession (+0.887%), while the Tri-State Region's labor force grew by 1.23% over the recession.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

From the end of the U.S. Recession in June 2009, to the end of the year, the labor force declined for Connecticut, but only by 0.13%, compared to the U.S., which declined by 1.10%, while the Tri-State Region declined by 0.54%, and New England by 0.30%.



SOURCE: U.S. BLS and author's calculations.

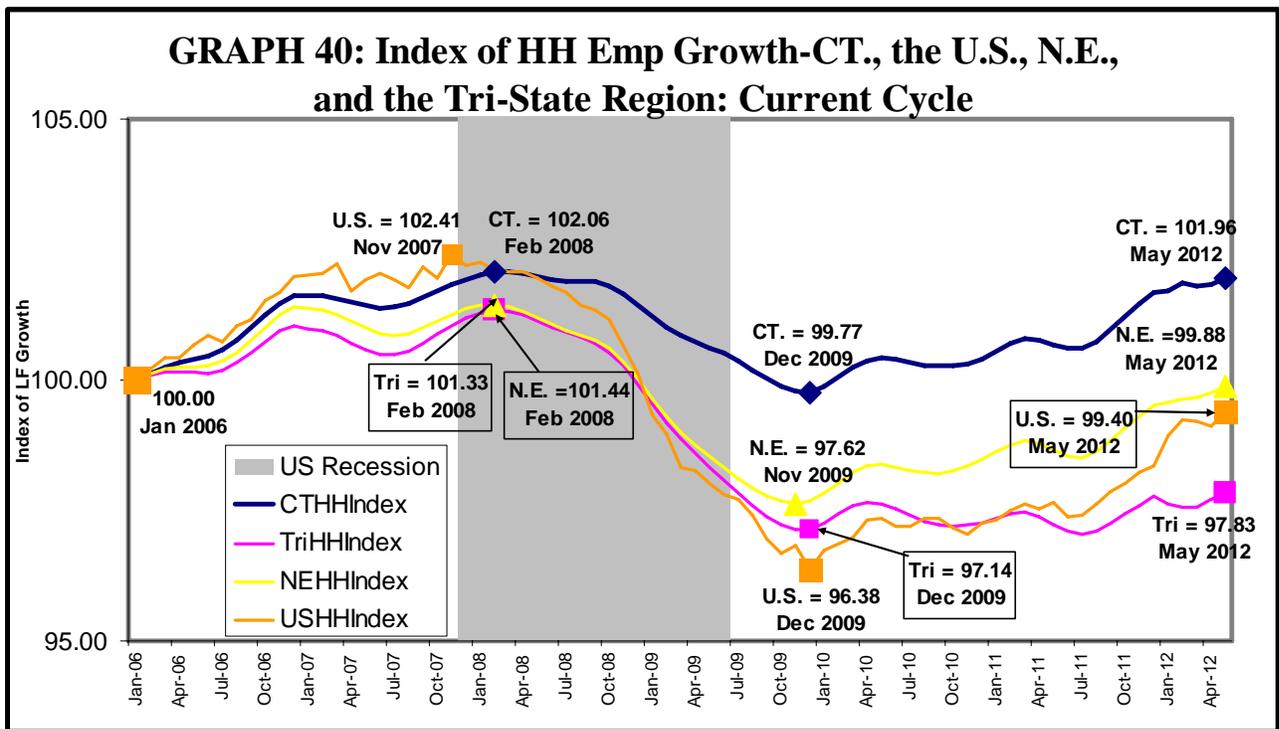
After a brief period of growth in 2010, the Tri-State Region's labor force then declined through the first half of 2011. It then grew again from May 2011 to May 2012, the last period of data. U.S. labor force growth followed an up-and-down trajectory through May 2011, and New England's labor force, after peak growth in April 2010, gradually declined through May 2012. Throughout the entire recovery period, save the brief stall in the last half of 2009, Connecticut's labor force continued relatively stronger growth over the entire recovery period surpassing the U.S., New England, and the Tri-State Region.

One clue to Connecticut's relatively strong labor force growth may be in the behavior of household employment from the Current Population Survey (CPS). The Household (HH) Employment, Labor Force, and UR come from a survey of the State's households and are



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

therefore residence-based measures. Nonfarm (NF) employment is drawn from a survey of the State's business establishments (worksites), and is therefore based on geographic location. For a small state like Connecticut, located close to major job centers, in New York City and Boston, there can be a significant difference in the HH versus the NF employment series. Graph 40 compares the behavior of Connecticut's residence-based HH employment series to the U.S., N.E., and Tri-State over the current cycle.



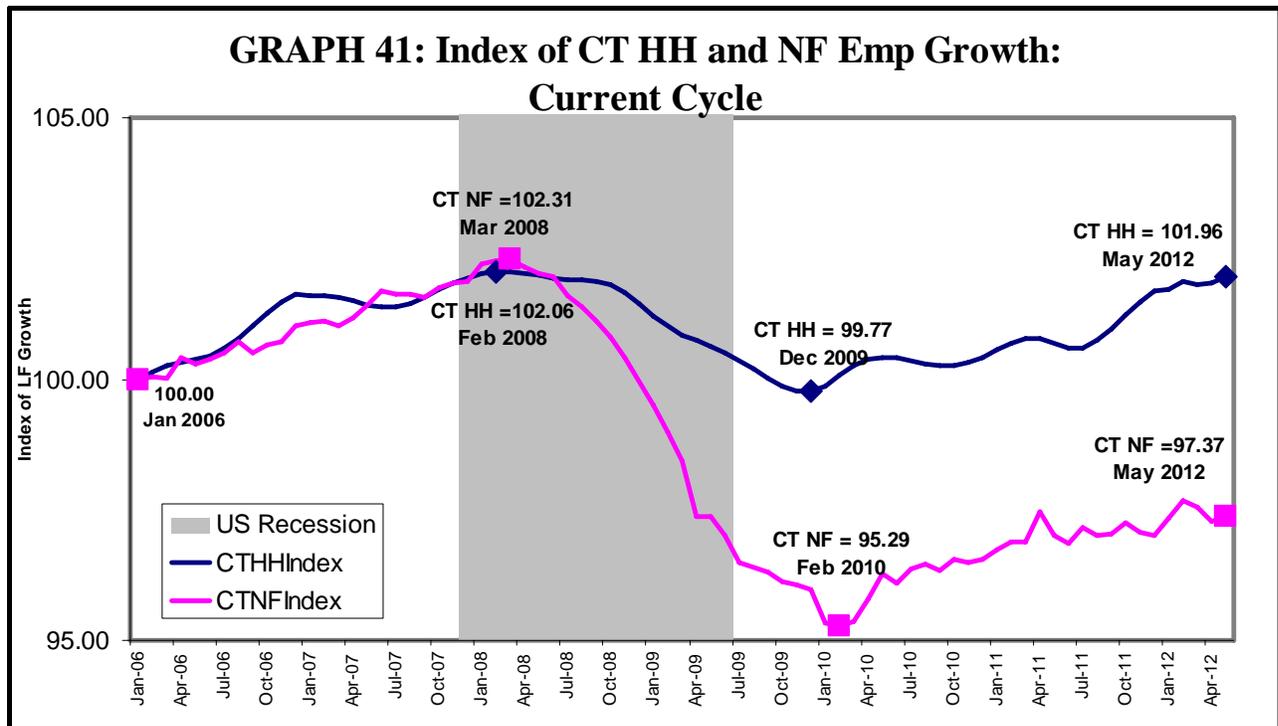
SOURCE: U.S. BLS and author's calculations.

Continuing with the same index methodology, Graph 40 compares the index of Connecticut HH employment growth to that of the U.S., N.E., and the Tri-State Region. Note that Connecticut's HH employment had the shallowest decline. Though Connecticut has only recovered 2.20% of the residence employment lost over the recession, as of May 2012, it also had relatively milder losses of 2.24% over the recent recession. While the U.S. recovered more strongly, gaining back 3.13% of its residence-based, or HH employment, its HH employment had declined more steeply by 5.90% over the recent panic/recession. N.E. has gained back 2.32% of its HH employment over the current



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

recovery, but after losing 3.77% of its residence-based employment. The weakest performance was in the Tri-State Region. While only recovering 0.71% of residence employment lost over the recent recession, over the current recovery (as of May 2012), the region's HH employment contracted by 4.14% over the recent panic/recession. As is illustrated in Graph 41, Connecticut's HH employment has also performed much better than its NF employment over this cycle. Though the two series have been close in their relative job growth over the current recovery, from their respective troughs to May 2012, Connecticut's NF employment grew by 2.18%, while the State's HH employment grew by 2.20%, the two growth rates come off of significantly different relative declines.



SOURCE: U.S. BLS and author's calculations.

Even though Connecticut's HH employment declined one month before NF employment, (February versus March 2008), it recovered two months earlier (December 2009) than did NF employment (February 2010). In addition, Connecticut's NF employment declined by 6.86% over the recession, compared to 2.24% for HH employment. Consequently, Connecticut's HH employment had virtually completely recovery by May 2012, only



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

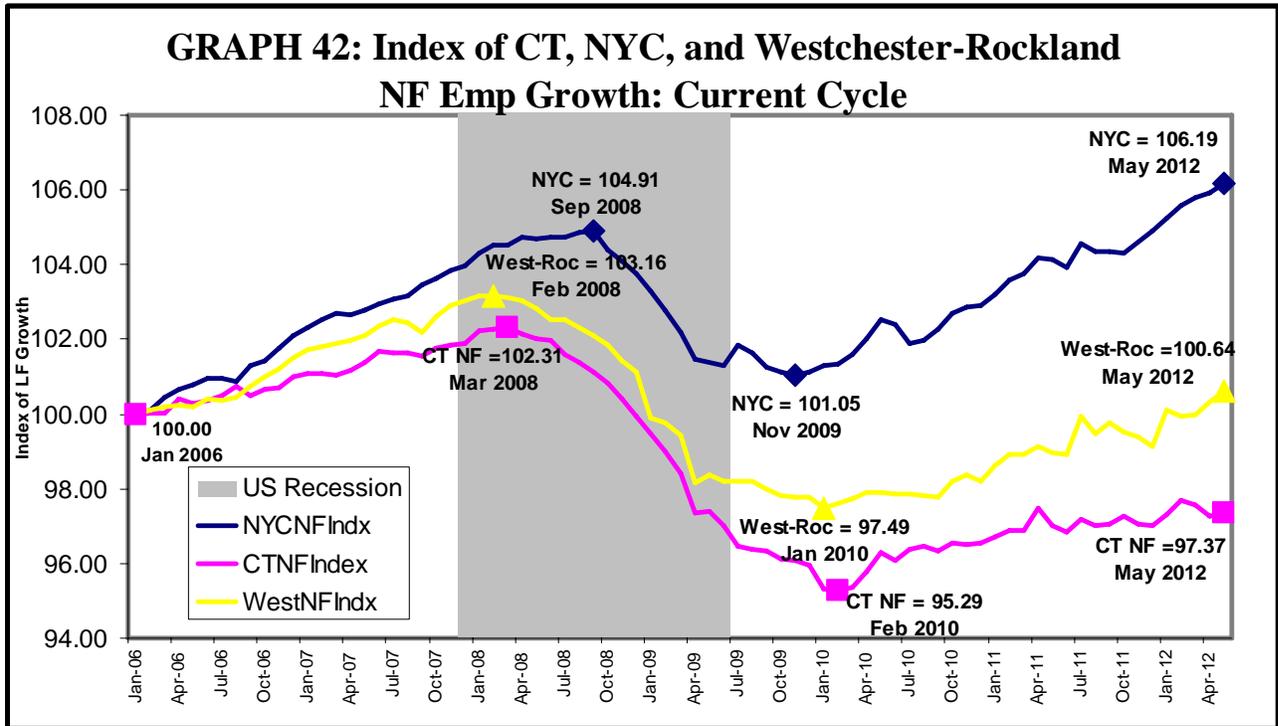
0.10% below its level at the peak of the last expansion. Conversely, Connecticut's NF employment was only at 95% of its pre-recession, peak level. In other words, it was still 4.83% below its level at the peak of the previous expansion, as of May 2012. What accounts for the behavior of the two employment series over the cycle? Since residence employment includes those who reside in Connecticut, but commute to a job out of state, the answer may lie in relatively stronger job growth in these destinations. It is not likely that commuters from Connecticut into Rhode Island account for this growth, due to the small numbers of commuters, and the Rhode Island economy has declined more steeply than Connecticut's economy. And, growth had not been particularly strong in either the Springfield, or Boston areas, certainly not enough to account for the strong performance of Connecticut's HH employment. The two job centers that attract the largest number of Connecticut commuters are New York County (the Borough of Manhattan) and Westchester County. To explore the possibility of these two job centers accounting for, at least some of the strong growth in Connecticut's residence-based employment indicators, particularly, the labor force and HH employment, Graph 42 depicts the performance of the NF employment series for New York City (NYC) and the Westchester-Rockland-Putnam Area (Westchester-Rockland). If they were generating relatively stronger job growth in their economies then this would attract workers from Connecticut boosting the State's labor force and HH employment growth, even as its, geographic-based, NF employment grew more slowly.

The index methodology of the previous graphs is continued in Graph 42. Graph 42 presents indices for Connecticut's, NYC's, and Westchester-Rockland's NF employment series over the current cycle, including the peak of the last expansion, the recent panic/recession, and the current recovery up to May 2012. Graph 42 covers the period January 2006 to May 2012. What stands out in Graph 42 is the strong performance of NYC's NF employment over this cycle. NYC NF employment did not turn down until the month of the collapse of Lehman Brothers in September 2008, six months after Connecticut's NF employment turned down and seven months after the peak in Westchester-Rockland's NF jobs. Further, while Connecticut's NF jobs contracted by



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

6.86%, and Westchester-Rockland's contracted by 5.51%, NYC's NF jobs declined by 3.13%, a less severe contraction in NF jobs than for either Connecticut or Westchester.



SOURCE: U.S. BLS and author's calculations.

Further, NYC's NF employment came back relatively much stronger than Connecticut or Westchester-Rockland, after turning around in November 2009 (two months before Westchester-Rockland, and three months before Connecticut's turnaround in NF employment). Since it troughed, NYC's NF jobs have increased by 5.09% by May 2012. Although not as strong as NYC's, Westchester-Rockland's NF employment still grew by 3.22%, over the current recovery. Both grew more strongly than Connecticut's NF employment over the recovery, and did not decline as steeply over the recession.

The stronger growth in NYC and Westchester-Rockland NF employment over the current recovery, as of May 2012, given that these two job centers are the destinations for the greatest number of Connecticut's out-of-state commuters, may offer a major explanation of the stronger growth in Connecticut's HH employment, as well as its relative



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

performance in its labor force growth, compared to its NF employment growth over the current recovery.



V. WHERE DO WE GO FROM HERE? The Outlook for 2011-2013 and Beyond

THE OUTLOOK FOR 2011-2013: Annual Forecasts

Graph 43 presents the history and forecast of annual average Connecticut nonfarm employment. The historical period covers 2007 to 2011, and the forecast period covers the years 2012 and 2013. Panel A presents the annual average of Connecticut nonfarm employment in levels, and Panel B shows the change in the annual, average level of employment. Over the two, recent recession years, Connecticut's job growth was flat in 2009, followed by a steep contraction of 72,400 jobs in 2009. Even though the State's employment recovered in February 2010, on an annual basis, Connecticut's economy shed another 18,600 jobs in 2010. Then, in 2011, the State added 15,500 jobs, on an annual basis, for the first time since 2008, and the strongest showing since 2007. The forecast expects continued growth over the forecast period, but that growth in the annual average level of jobs is projected to decelerate over 2011-2013 forecast horizon from 10,000 to 11,000 jobs added in 2012 with just over 3,000 added in 2013. That would result in 14,000 net, net jobs, on an annual basis, over the 2011-2013, two-year forecast horizon.

THE OUTLOOK FOR 2011Q4-2013Q4: 4th Qtr-to-4th Qtr Forecasts

Table A-1, in the Appendix, contains the details, by NAICS sector, for the fourth quarter-to-fourth quarter (4th Qtr-to-4th Qtr) forecasts for the 19 major, two-digit non-agricultural sectors, and the three- and four-digit detail.

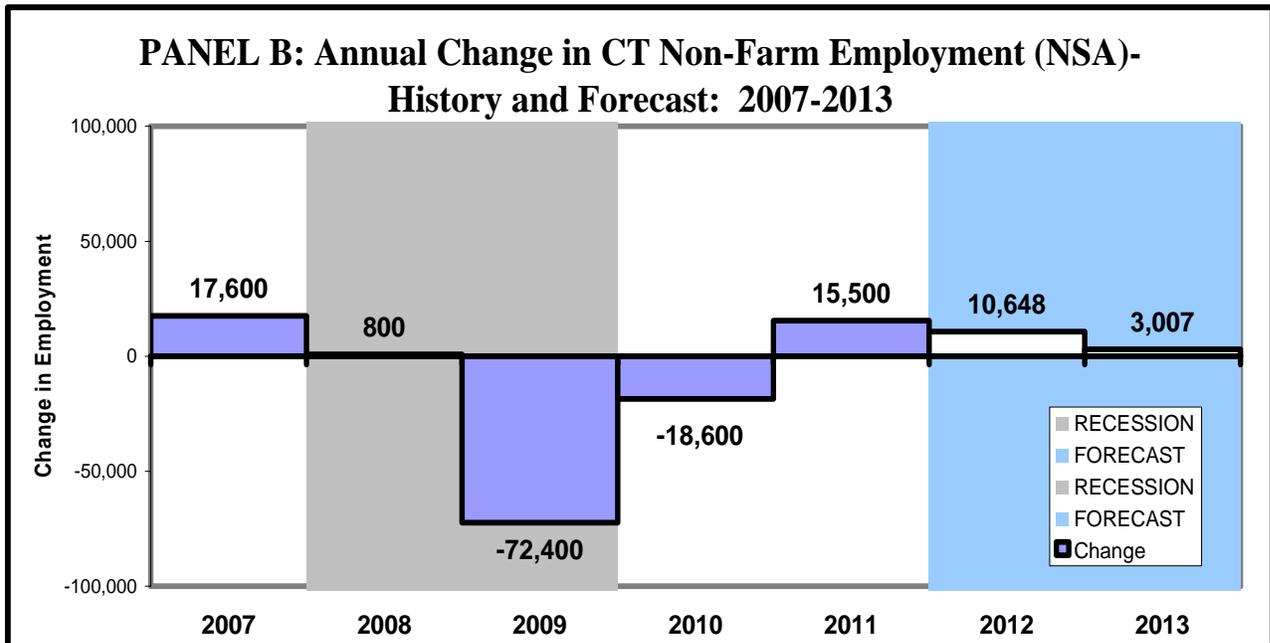
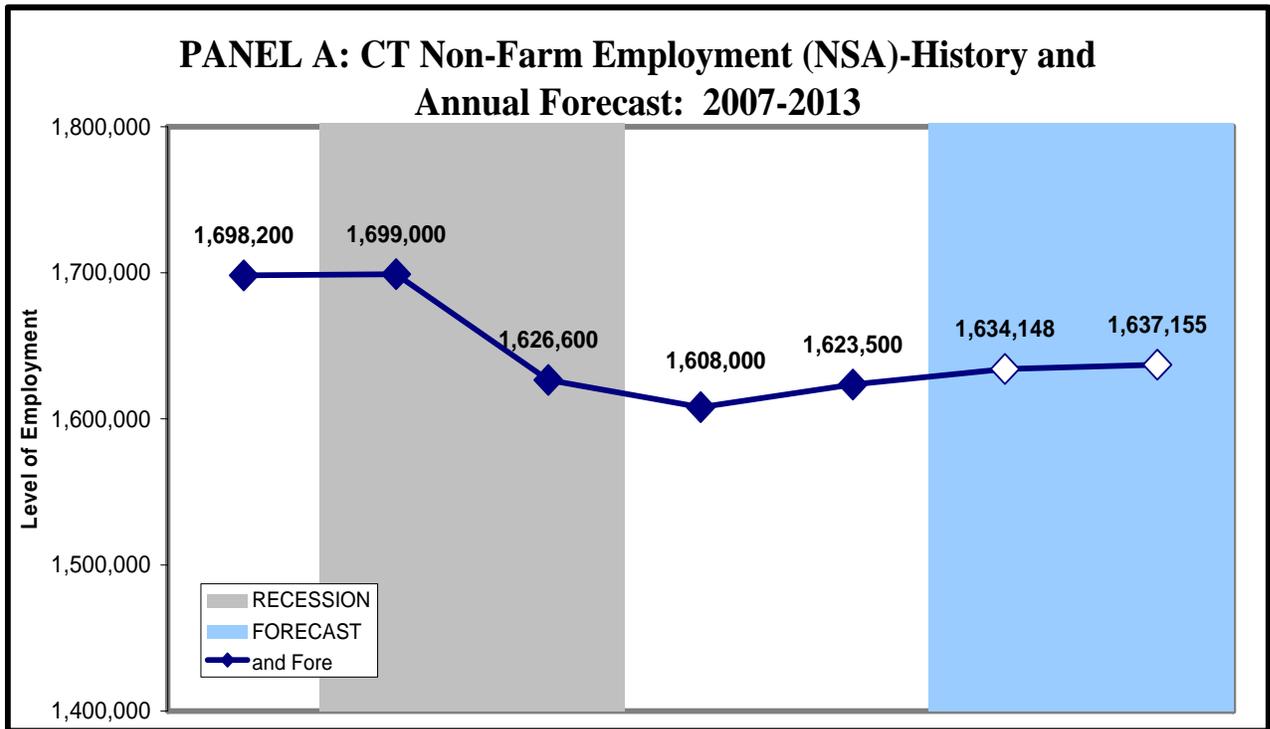
Graph 44 turns to the 4th Qtr-to-4th Qtr forecast covering the two-year forecast period 2011Q4 to 2013Q4. For reference, two, two-year 4th Qtr-to-4th Qtr historical periods are also included in Graph 44. The last period before the recent crisis and recession was the 2005Q4-2007Q4 period. Over that eight-quarter period, Connecticut added nearly 40,000



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

net, new jobs. With the onset of financial crisis and the subsequent severe recession, the State's economy shed nearly 96,000 jobs between 2007Q4 and 2009Q4.

GRAPH 43: CT Non-Farm Employment-History and Forecast of Annual Average Employment (NSA)

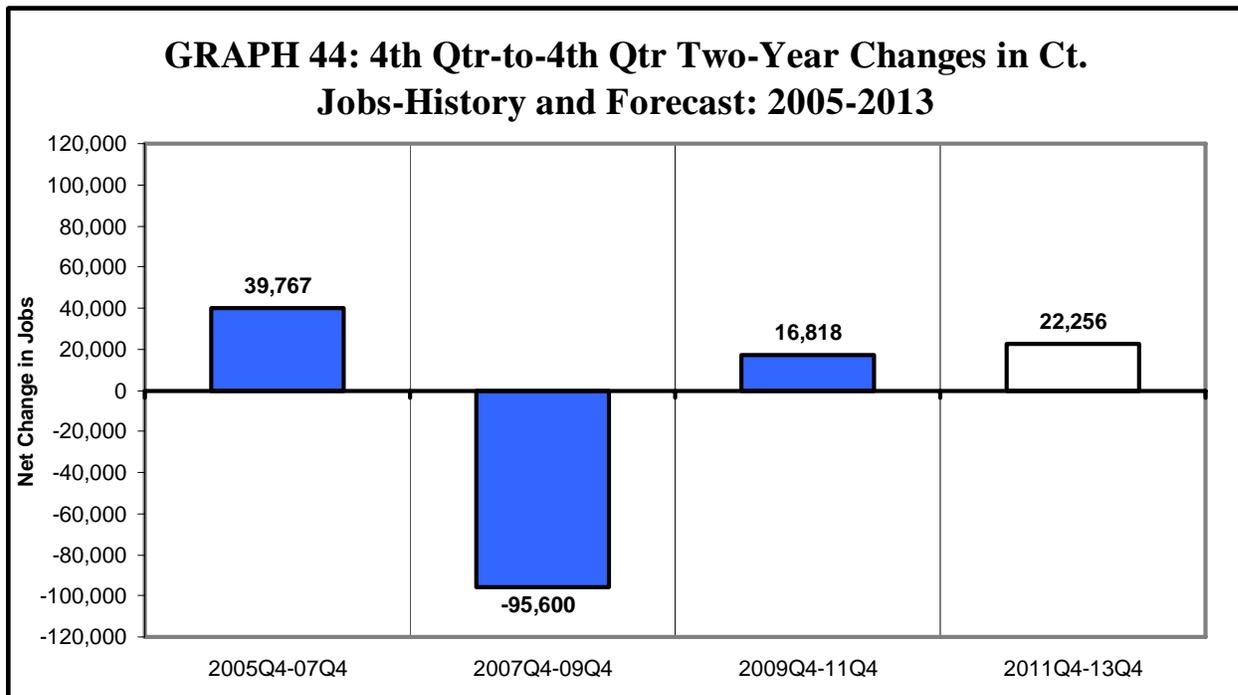


SOURCE: U.S. BLS, CTDOL-Research, and author's calculations.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

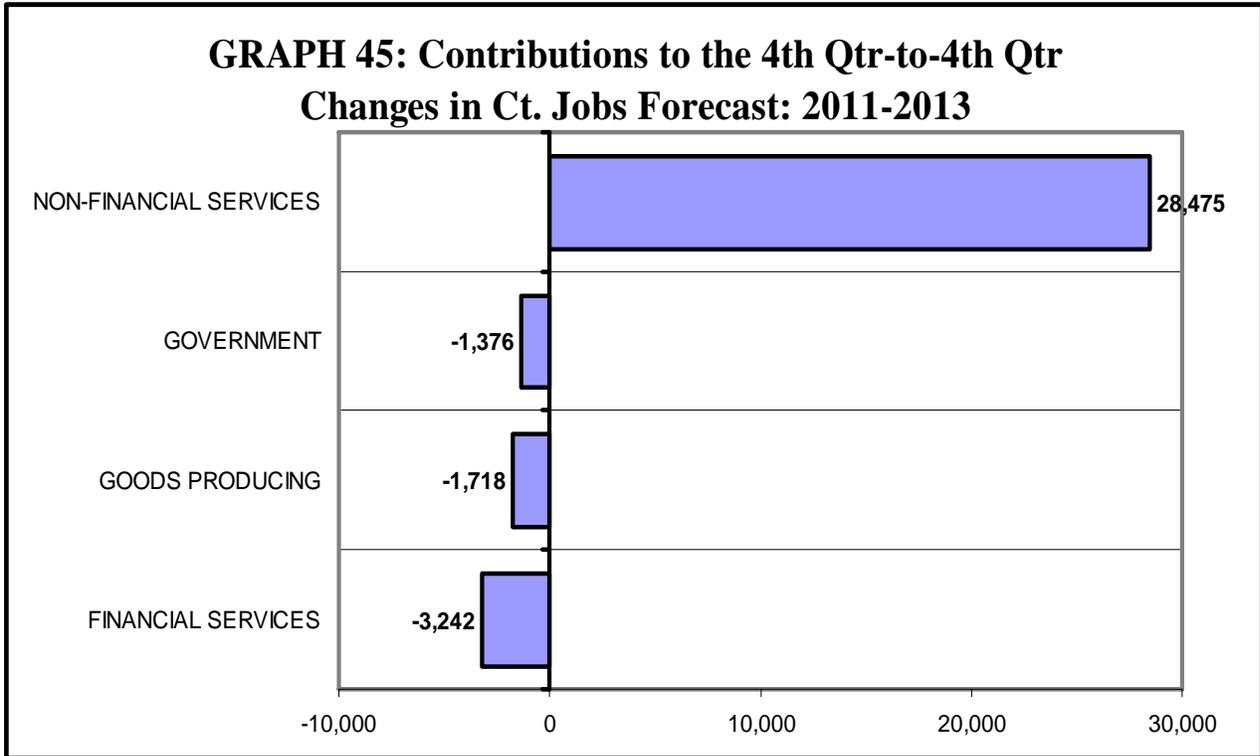
With the State's recovery underway after February 2010, Connecticut added nearly 17,000 jobs between 2009 and 2011, 4th Qtr-to-4th Qtr. The forecast calls for the State's economy to add another 22,000 jobs over the eight-quarter forecast period. The 2011Q4-2012Q4 segment of the 2011Q4-2013Q4 forecast period should account for a larger share of the job growth as the forecast expects job growth to slow over the 2012Q4-2013Q4 segment of the forecast period.



SOURCE: CTDOL-Research and author's calculations.

Graph 45 breaks out the major sectors' contributions to the forecast over the 2011Q4-2013Q4 period, and ranks the major sectors by their contribution to total growth over the forecast period. It is expected that the Private, Non-Financial Services Sector will be the only major sector that will add jobs over the forecast period. Non-Financial Services is expected to add 28,500 net, new jobs over the 2011Q4-2013Q4 forecast horizon. The Government (-1,376), Goods Producing (-1,718), and Financial Services (-3,242) sectors are all expected to subtract jobs from the economy between 2011Q4 and 2013Q4.

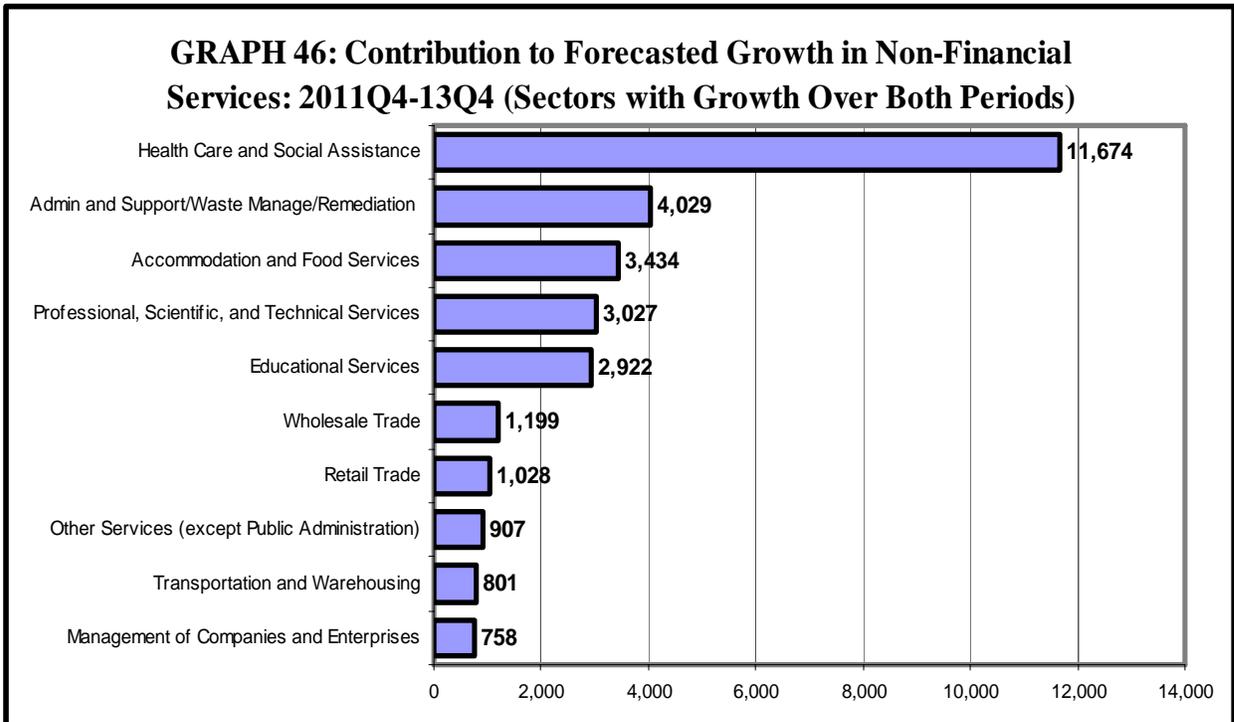




SOURCE: CTDOL-Research and author’s calculations.

Within Non-Financial Services, no sector that added jobs over the 2009Q4-2011Q4 base period is expected to shed jobs over the forecast period. On the other hand, two sectors that lost jobs over the base period are expected to add jobs over the forecast period: Construction (+1,633) and Arts and Entertainment (+370). Seven sectors that had job losses over the base period (2009Q4-2011Q4) are also expected to subtract jobs from the State’s economy over the forecast period. Mining is projected to shed another 34 jobs, the Manufacturing Sector, though experiencing a renaissance over the current recovery—especially in durable goods—is expected to shed jobs again, especially over the last half of the forecast period: 2012Q4 to 2013Q4. Utilities (-457), Information (-1,215), and the entire Financial Services Sector, as noted in Graph 45, are expected to eliminate jobs, and the Government Sector is expected to continue losing jobs over the forecast period, especially local government, eliminating another 1,376 jobs between 2011Q4 and 2013Q4.





SOURCE: CTDOL-Research and author’s calculations.

As detailed in Graph 46, there are 10 sectors that added jobs over the base period that are also expected to add jobs over the forecast period. Seven of those 10 sectors are expected to add 1,000 or more jobs each between 20011Q4 and 2013Q4. Leading the way is the Health Care and Social Assistance (HCSA) Sector.

HCSA has been driven by trend-dominated growth propelled by demographics as the large Baby Boom generation has been aging. After adding 6,763 jobs over the base period (2009Q4-2011Q4), HCSA is expected to add 11,674 more new jobs, between 2011Q4 and 2013Q4, as a growing number of Baby Boomers celebrate their 65th birthday, and beyond. This is especially true for Connecticut whose median age at 40.0 years old is 2.9 years higher than that for the U.S., and with 14.2% of its population over 65, compared to 13.0% for the U.S.¹⁶² The next most significant contribution to the forecast is the 4,029 jobs that Administration and Support and Waste Management (Admin-Support) is projected to add over the forecast horizon. This sector’s growth is

¹⁶² Howden, Lindsay M and Julie A. Meyer, *Age and Sex Composition: 2010: 2010 Census Briefs* (May 2011) C2010BR-03, U.S. Census: Washington, Table 3, p. 7.



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

driven by temporary workers (Employment Services, NAICS 56130), which accounts for from one-quarter to one-third of the level of Admin-Support employment, but can account for most, or even all, of the sector's job growth, as the economy has moved more toward the use of contingent workers. This works in reverse when the economy contracts. And, this series may be evolving as a critical leading indicator. The Year-to-Year (YTY) growth in Temporary Help had decelerated in the last quarter of 2011, but then accelerated in the first quarter of 2012. Accommodation and Food Services is expected to add another 3,434 jobs over the 2011Q4-2013Q4 forecast period after adding 5,359 jobs over the 2009Q4-2011Q4 base period. This growth has been, and is expected to be, dominated by NAICS 722, Food Services, particularly Eating and Drinking Places. This seems to be driven by lifestyle factors. Professional, Scientific, Technical Services (Prof-Tech) is projected to add another 3,027 jobs over the forecast period to the 3,189 jobs added over the base period. Job growth, as well as decline, over the phases of the cycle in Prof-Tech have been driven by the cyclical behavior of Computer Systems and Design employment (NAICS 5415), as well as Legal (NAICS 5411) and Management Consulting (NAICS 5416). Education mostly private sector, is expected to add 2,922 jobs between 2011Q4 and 2013Q4. Wholesale Trade (+1,199) and Retail Trade (+1,028) are also projected to add more than 1,000 jobs each over the forecast period. Retail Trade has been particularly driven by the resurgence of Consumer Durables sales over the current recovery, particularly in the last half of 2011 and the first quarter of 2012. Consumer Durables, in turn, have been driven by jobs increases in NAICS 4411, New Car Dealers. In early 2010, NAICS 4451, Grocery, had been strong, but employment growth turned negative going into 2011 as Shaw's pulled out of the State in 2010¹⁶³.

RISKS TO THE FORECAST

There are significant downside risks to the forecast. That is, risks that could render the forecast overly optimistic. Foreclosures, distressed sales, and underwater mortgage

¹⁶³ By Gosselin, Kenneth G. and Janice Podsata, *Shaw's Selling All 18 Connecticut Stores: Stop & Shop To Acquire Five* (February 12, 2010) THE HARTFORD COURANT http://articles.courant.com/2010-02-12/business/hc-shaws00213.artfeb13115814_1_shaw-s-stores-shoprite-stores-shaw-s-supermarkets (Accessed on July 31, 2012)



**CURRENT CONDITIONS AND OUTLOOK FOR THE
U.S. AND CONNECTICUT ECONOMIES: 2011-2013**

holders, as well as high unemployment, all are keeping the housing sector from recovering from the popping of the bubble. Consumer debt is still high, and student loan debt may be the next financial crisis. Depressed asset values and high debt loads mean that, as noted in the introduction to this outlook, as households and non-incorporated businesses continue to rebuild their net worth, it will act as a continued drag on the economy making it vulnerable to slipping back into recession. With talk of fiscal austerity winning the day, and no new fiscal stimulus on the horizon, growth will proceed in fits-and-starts, but overall, it will remain weak. The Eurozone Crisis could, of course, finally plunge the World back into financial crisis as it has been threatening to do for months now. Now, there is talk of Greece leaving the EU and Spain is now also in the spotlight. Furthermore, U.S. banks are not insulated from a financial crisis in Europe. They increased their sales of Credit Default Swaps (CDS), essentially writing insurance against credit losses to holders of Greek, Portuguese, Irish, Spanish, and Italian debt in the first half of 2011, boosting their risk exposure.¹⁶⁴

The second half of the forecast period, 2012Q4-2013Q4, is the most uncertain part of the forecast. In addition to the uncertainty of the political landscape until after the November elections, unless Congress kicks the proverbial can down the road, *The Budget Control Act of 2011* could potentially push the economy over a cliff in 2013¹⁶⁵. The spending cuts scheduled to take effect because of the failure of the so-called “Super-Committee” last November will take us down the same road as the United Kingdom, which has been plunged back into recession as a consequence of Draconian budget austerity measures.

On the positive side, gasoline prices have been declining for about three weeks at the time of writing, which acts as a progressive cut, which can stimulate the economy. Private sector job creation has been slow, but steadily growing, even as government, especially local government, has been a drag on the economy. And, at the time of writing, the U.S. Auto Industry had been going through a resurgence.

¹⁶⁴ Onaran, Yalman, *Selling More CDS on Europe Debt Raises Risk for U.S. Banks* (November 1, 2011) BLOOMBERG.COM <http://www.bloomberg.com/news/2011-11-01/selling-more-insurance-on-shaky-european-debt-raises-risk-for-u-s-banks.html> Accessed on February 29, 2012.

¹⁶⁵ Congressional Budget Office, *Estimated Impact of Automatic Budget Enforcement Procedures Specified in the Budget Control Act* (September 12, 2011)



APPENDIX

TABLE A-1

PUBLICATION TABLE AS OF MAY 11, 2012

Connecticut Non-Agricultural Employment: History and Forecast

INDUSTRY	HISTORICAL			FORECAST	NUMERICAL CHANGES			PERCENT CHANGES		
	2007:Q4	2009:Q4	2011:Q4	2013:Q4	CH07-09	CH09-11	CH11-13	%CH07-09	%CH09-11	%CH11-13
TOTAL	1,723,099	1,627,571	1,644,318	1,666,575	-95,528	16,748	22,256	-5.54	1.03	1.35
GOODS PRODUCING.....	261,873	221,030	220,120	218,403	-40,843	-910	-1,718	-15.60	-0.41	-0.78
Mining.....	747	610	571	537	-137	-39	-34	-18.38	-6.34	-5.95
Construction.....	70,464	53,851	53,507	55,140	-16,612	-344	1,633	-23.58	-0.64	3.05
Manufacturing.....	190,663	166,569	166,042	162,726	-24,094	-527	-3,316	-12.64	-0.32	-2.00
SERVICE PROVIDING.....	1,445,786	1,391,692	1,410,186	1,434,043	-54,094	18,494	23,857	-3.74	1.33	1.69
Wholesale Trade.....	68,279	63,896	64,020	65,219	-4,382	124	1,199	-6.42	0.19	1.87
Retail Trade.....	197,254	183,101	185,633	186,661	-14,152	2,532	1,028	-7.17	1.38	0.55
Transportation and Warehousing.....	53,951	49,470	49,540	50,341	-4,481	70	801	-8.31	0.14	1.62
Utilities.....	6,685	6,590	6,038	5,581	-95	-552	-457	-1.42	-8.38	-7.56
Information.....	38,133	34,020	31,241	30,025	-4,113	-2,779	-1,215	-10.79	-8.17	-3.89
Finance and Insurance.....	122,866	116,718	113,751	111,511	-6,148	-2,968	-2,239	-5.00	-2.54	-1.97
Real Estate and Rental and Leasing.....	20,937	18,962	18,599	17,596	-1,975	-363	-1,003	-9.43	-1.91	-5.39
Professional, Scientific, and Technical Services....	93,019	85,457	88,646	91,673	-7,562	3,189	3,027	-8.13	3.73	3.41
Management of Companies and Enterprises.....	27,076	27,163	28,880	29,638	87	1,718	758	0.32	6.32	2.62
Admin and Support/Waste Manage/Remediation..	90,404	76,720	83,116	87,145	-13,684	6,396	4,029	-15.14	8.34	4.85
Educational Services.....	177,587	179,324	180,514	183,436	1,736	1,190	2,922	0.98	0.66	1.62
Health Care and Social Assistance.....	255,936	265,645	272,408	284,082	9,709	6,763	11,674	3.79	2.55	4.29
Arts, Entertainment, and Recreation.....	42,540	40,607	39,434	39,804	-1,934	-1,172	370	-4.55	-2.89	0.94
Accommodation and Food Services.....	113,137	110,083	115,442	118,876	-3,054	5,359	3,434	-2.70	4.87	2.97
Other Services.....	58,648	56,556	57,160	58,068	-2,092	604	907	-3.57	1.07	1.59
Government**.....	79,334	77,380	75,763	74,386	-1,954	-1,617	-1,376	-2.46	-2.09	-1.82

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

**State and local-government employment did not actually increase by 29,769 between 2007Q4 and 2009Q4. Reporting requirements changed, which caused a jump in jobs reported by the State and local governments.