

Current Conditions and Outlook for the U.S. and Connecticut Economies: 2007-2009



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

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

DIRECTOR
Roger Therrien

COMMISSIONER
Patricia H. Mayfield

**January
2008**

**Updated
May 2008**

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



**Current Conditions and Outlook for the U.S. and Connecticut Economies:
2007-2009**

January 2008

(May 2008 Update)

**Prepared by: Daniel W. Kennedy, Ph.D., Senior Economist
Office of Research
Connecticut Labor Department**

Director: Roger Therrien

Contributors:

The author wishes to thank Nicholas Jolly, Economist, Connecticut Department of Labor, whose valuable comments and suggestions that have been incorporated into this outlook.

FORWARD

What follows is the outlook for the U.S. and Connecticut economies for 2008 and 2009, which is prepared by the Office of Research, Connecticut Labor Department. After review by a panel of economists from academia, business, non-profits, and government, the U.S. and Connecticut outlooks are revised, updated, and then used as the basis for setting the assumptions for the next round of Short-Term Connecticut, Industry-Employment Forecasts.

The current national and state outlooks are particularly focused on the U.S. housing recession, the consequent destabilization of financial markets, rising energy and food prices, trade imbalances, and the dual role of the falling dollar (boosting exports, on the one hand, but contributing to rising imported oil prices, and the deteriorating terms of trade on the other). There is a particular emphasis on the impact on labor markets, given that setting the assumptions for the Connecticut Short-Term Employment Forecasts is the motivation for both, the U.S. and Connecticut economic outlooks. In addition, the current cycle's performance is compared to that of the Post-1975 business cycles. The comparisons, in most instances, focus on the Post-1975 Era because of the significant shifts in the World Economy since then. In August 1971, Richard Nixon announced that the U.S. would no longer honor dollars for gold. This effectively ended the Bretton Woods System. For the next two years attempts were made to patch it up. The attempt was given up in 1973, and that year, the gold-based world exchange regime officially ended. After the Yom Kippur War in 1973, OPEC imposed an oil embargo on the World, which ushered in the new energy realities. Thus, by the initial trough of the cycle beginning in 1975, the World Economy had undergone a significant structural shift. These factors have motivated the use, in most instances, of Post-1975 cycles as the reference for measuring the performance of the current recovery/expansion in this outlook.

**Current Conditions and Outlook for the U.S. and Connecticut Economies:
2007-2009**

January 2008
(May 2008 Update)

TABLE OF CONTENTS:

Volume I: U.S. Economy

I.	INTRODUCTION: The Current Economic Situation-Recession in 2008?	1
II.	DRAG FORCES ON THE U.S. ECONOMY: The Housing Bust/Recession and Rising Energy Prices	1
III.	THREE JUMP-STARTS TO THE U.S. ECONOMY: The Growth in Exports, Demographics and Lifestyles, and Professional and Business Services	15
IV.	THE WILD CARDS: Financial Instability and Trade Imbalances	18
V.	THE U.S. ECONOMIC OUTLOOK FOR 2008 AND 2009	20
VI.	THE 2008 RECESSION? Reading the Tea Leaves	26
	APPENDIX	31

Volume II: Connecticut's Economy

I.	INTRODUCTION: The Current Economic Situation-Recession in 2008?	33
II.	DRAG FORCES ON CONNECTICUT'S ECONOMY: The Housing Bust/Recession and Rising Energy Prices	34
III.	FOUR JUMP-STARTS TO CONNECTICUT'S ECONOMY: The Growth in Exports, Finance, Demographics and Lifestyles, and Professional and Business Services	44
IV.	CONNECTICUT'S WILD CARDS: Sub-Prime Resets and Instability in the Financial Markets ...	49
V.	CONNECTICUT'S LABOR MARKETS: Current Conditions	55
VI.	CONNECTICUT'S ECONOMIC OUTLOOK FOR 2008 AND 2009	62
	APPENDIX	65

**Current Conditions and Economic
Outlook for 2007-2009:**

The U.S. Economy

January 2008

**Updated
May 2008**

I. INTRODUCTION: The Current Economic Situation-Recession in 2008?

By December 2007, the U.S. and World economies reached a critical juncture in the current recovery/expansion. There is a nexus of economic, financial, and geopolitical factors whose confluence is raising the specter of recession, particularly in the U.S., or even something more severe. The sudden meltdown in the sub-prime lending market in the U.S., its direct consequences on the secondary mortgage market, not only in the U.S., but, internationally as well, trade imbalances, and a sustained, steep, upward trend in oil prices, as well as in food prices, have been battering the economy. Two developments have, so far, acted as counter-weights to the drags on the economy and preventing it from slipping into recession: the strong trend-dominated growth in demographic- and lifestyle-driven sectors and in business and professional services, and the strong growth in exports.

The critical issues facing the economic outlook going into 2008 can be framed within a context of *Momentum, Jump-Starts, Drag Forces, and Wild Cards*. *Momentum*, in this context, refers to how resistant the economy is to *drag forces* that introduce or intensify frictions that impede the economy's forward progress, or shocks, or *wild cards*, which, whether economic or non-economic, are events that cause unanticipated sudden declines in critical economic activities or sectors, or both. There have been two economic drag forces that have been impeding the momentum of the current recovery/expansion: the housing recession and the sustained trend-rise in oil prices. In addition, food prices have also been rising. Further, even without these drag forces, cycle-stage analysis suggests that the current expansion's peak would be sometime in beginning of 2008¹. Since the last half of 2006, the falling dollar and strong World economic growth have boosted exports providing a *jump-start* to an otherwise faltering U.S. Economy.

Unlike drag forces that slowly build up enough friction to bring an expansion to a halt, "wild cards" usually abruptly cut it short. The Housing Bust has both, *drag force*, and *wild card* aspects to it. The drag-force part of the housing-market recession is, not only the direct effects, but also the dampening of reverse-multiplier effects associated with robust housing-market activity. However, the housing foreclosures, and consequent instability in secondary mortgage markets, in conjunction with high consumer debt-loads have all the potential for producing a wild-card effect. Especially due to the connection between housing-price appreciation and consumer-spending growth over this recovery/expansion, since it was largely credit-financed, principally, by tapping into increases in housing wealth. With a cooling housing market and significant household debt-loads (especially those below the median), the economy would take a significant hit from a major retrenchment in consumer spending.

II. DRAG FORCES ON THE U.S. ECONOMY: The Housing Bust/Recession and Rising Energy Prices

The Housing Bust/Recession: A Post Mortem—Until reality reared its ugly head along about the end of 2005, the eternal optimists, who invariably misinterpret a bubble as a "new, unprecedented, golden-age of growth" (remember Dow 36000?), in which the "rules have changed" and further, they tell us that any misgivings should be dismissed as they are clearly a quaint relic of days gone by. In a 2006 article, *Fortune* editor-at-large, Shawn Tully recounted some of the myths that helped blind many to the latest bubble²: And, Reinhart and Rogoff, in their research, presented before the 2008 American Economic Association meetings, noted:

¹ Kennedy, Daniel W., CURRENT CONDITIONS AND OUTLOOK FOR THE U.S. ECONOMY: 2006-2008-DRAFT (March 2006) Office of Research, CT Labor Department: Wethersfield, CT

² Tully, Shawn, *Getting real about the real estate bubble: Fortune's Shawn Tully dispels four myths about the future of home prices.* (August 25, 2006, 5:42 AM, EDT) MONEY.CNN.COM http://money.cnn.com/2006/08/24/real_estate/pluggedin_tully.fortune/index.htm

Nevertheless, even in the smaller sample considered in this paper, the refrain that “this time is different” syndrome has been repeated many times. First come rationalizations. This time, many analysts argued, the huge run-up in U.S. housing prices was not at all a bubble, but rather justified by financial innovation (including to sub-prime mortgages), as well as by the steady inflow of capital from Asia and petroleum exporters. The huge run-up in equity prices was similarly argued to be sustainable thanks to a surge in U.S. productivity growth a fall in risk that accompanied the “Great Moderation” in macroeconomic volatility³.

Nationally, the stage was set for the current housing boom, bust, and recession, as well as the consequent, current financial crisis, around 1995. That is the year that Collateralized Debt Obligations (CDO), or specifically, Structured Finance CDO's were first introduced to the U.S Secondary Mortgage Market. With the introduction of these new financial innovations and their supposed spreading of risk such that any given portfolio would be subject to small exposure, and with the expansion of credit, lenders began to aggressively (sometimes unscrupulously) offer mortgage credit to borrowers who previously did not qualify for a standard mortgage. As noted by the Congressional Research Service in their December 2006 report:

Although such products were used in the past by sophisticated borrowers as cash management tools, the recent housing boom saw alternative mortgages offered as affordability products to less sophisticated borrowers. Alternative mortgages were used by less wealthy borrowers in areas of high expected appreciation⁴.

With the expansion of credit, in general, due in part, to the trade deficit, but also as the Federal Reserve responded to the 2001 Recession and the 911 Attacks, the consequent easier credit conditions stimulated borrowing. The feedback from these processes began an acceleration in housing prices after 2001. Once a psychology of “never-ending” home-price appreciation became entrenched, many borrowers took out alternative mortgages with the belief that when it came time for them to re-set, the appreciation of their home would allow them to re-finance into a standard, conventional mortgage⁵. For instance, if a borrower took out a zero-down loan, to buy a home, with a *loan-to-value ratio* (LVR) of 100%, but, the house appreciated in value by 20% over, say the next two years, then the LVR would decline to 80%. This would then make the borrower eligible for a 30-year conventional mortgage (assuming all other requirements are met). The catch, of course, is that housing prices had to keep increasing. Once prices stopped increasing, many borrowers were left with loans whose monthly payments were scheduled to re-set at levels that were beyond their ability to pay. The broker system for originating mortgages also contributed significantly to the problem. Banks would pay commissions to brokers based on the number of loans originated and the level of the interest rate paid by the borrower. Thus, many borrowers, who qualified for conventional mortgages, at lower rates, were put into more expensive, non-conventional loans, with looming re-sets they could not afford to meet⁶.

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

³ Reinhart, Carman M. and Kenneth S. Rogoff, *Is the 2007 U.S. Sub-Prime Financial Crisis So Different? an International Historical Comparison* (January 14, 2008) DRAFT, p. 2.

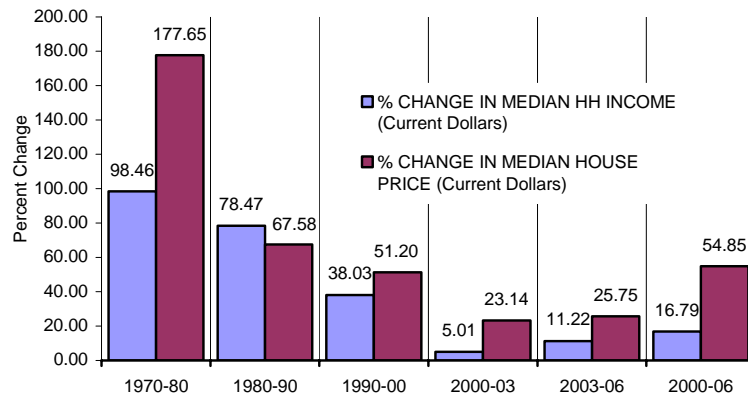
⁴ Murphy, Edward Vincent, ALTERNATIVE MORTGAGES (December 27, 2006) U.S. Congressional Research Service: Washington, p. 6.

⁵ CRS and CBO

⁶ ----, *Is Your Mortgage Toxic?* (September 2006) BUSINESS WEEK, McGraw-Hill: New York

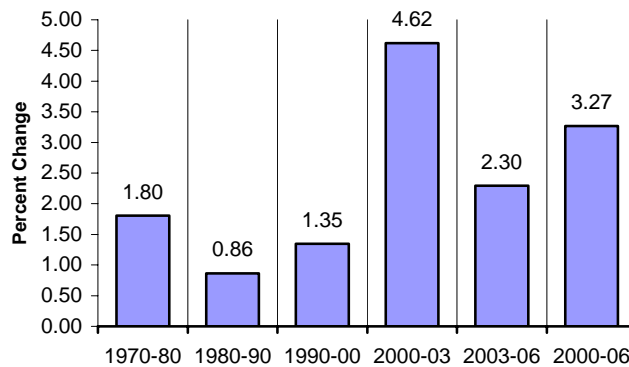
the growth in the median price of a home relative to the growth in median household income—especially over the most recent boom/bubble. This is depicted in Graphs 1 and 2.

GRAPH 1: Percent Change in U.S. Median House Price and Median HH Income: Selected Periods-1970-2006



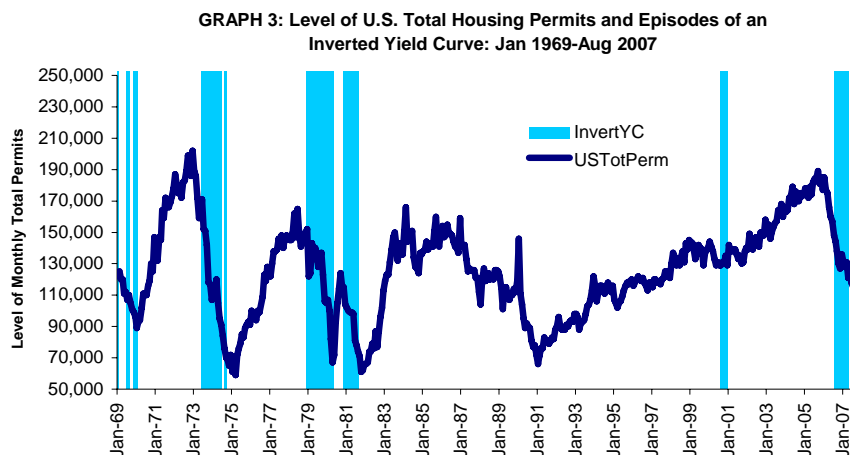
SOURCE: U.S. Decennial Census and American Community Survey
 CALCULATIONS: Office of Research, CT Labor Department

GRAPH 2: Ratio of the Growth in U.S. Median House Price-to-Growth in Median HH Income: Selected Periods-1970-2006



There was a 178% increase in the median price of a house during the stagflation of the 1970's. Compare this to the 55% increase between 2000 and 2006. However, median household income grew by 99%, in the 1970's, whereas, between 2000 and 2006, it grew by 17%. So, while the median home price grew 1.8 times faster than household median income in the 1970's, between 2000 and 2006, the median house price grew 3.3 times faster than household median income. And, over the first segment, 2000 to 2003, the median house price grew 4.6 times faster than median household income! This clearly shows the underlying financial stress that was waiting to come to the fore. Another indicator of the coming stress is the behavior of the yield curve.

Based on U.S. Total Housing Permits from January 1969 to August 2007, it appears that the level of total housing permits falls after the Yield Curve begins to flatten. That is, as it begins to decline from its steepest slope, though it has not yet turned negative. An exception to this behavior appears to be the 1990's. Though the level of permits did move in the same direction as in other cycles, the amplitude was significantly muted. Though the Yield Curve did not invert in the early 1990's; it did flatten. And, long-term rates did decline faster than short-term rates, though the difference between them did not fall below zero. Nevertheless, the 1990-91 Recession was the only one over the 1969-2007 Period in which the Yield Curve did not actually invert before the economy went into recession. However, the level of U.S. Total Permits did fall after the curve flattened. This is presented in Graph 3.



Examining the data reveals that the level of permits turns down *before* the Yield Curve actually inverts, because inversion is preceded, by the flattening of the curve, which signals an impending period of disintermediation. Since banks earn returns on loaning long-term, and pay their depositors for loanable-funds on short-term deposits, when the slope of the Yield Curve flattens, the interest margin closes up and credit tightens. Because it is no longer profitable for banks to loan money, this chokes off funds for construction loans and mortgage loans in the housing market. Thus, significant downturns in housing activity usually presage a recession. Some studies have found similar evidence when studying the behavior of housing starts⁷. And, in fact, housing activity declined significantly in the 1920's before the on-set of the Great Depression. Ripple effects are transmitted through the economy as multiplier effects of homeownership (e.g., from purchasing furniture, hiring landscapers, home improvement, etc.) begin to work in reverse as housing market activity declines, resulting in reductions in employment, income, and output via direct, indirect, and induced effects from declining housing-related purchases by homeowners, or former homeowners. In addition, studies have found that the wealth-induced consumer spending tends to be stronger for increases in housing wealth than for non-housing wealth⁸. And, this seems to be true across OECD⁹ countries. In addition, increases in housing wealth may also play a role in the decline in the savings rate¹⁰. Thus, there could be significant implications for consumer spending over the next year. Especially, since more than any Post World War II cycle, this recovery/expansion has depended heavily on consumer spending.

The September 2005, turning point in U.S. Housing Permits was one of the important indicators signaling the beginning of the current housing bust, and subsequent sectoral recession, and its consequent financial contagion (see Graph 4).

The Financial Fallout from the Sub-Prime Mess—The Financial Fallout can be divided into two parts: primary (foreclosures) and secondary (the liquidity crisis).

Foreclosures—There are three types of non-adjustable-rate, non-standard mortgages (see Table A-1a, Appendix). What is significant about them, in regard to the current sub-prime meltdown, is that they do not depend on rising mortgage rates to spark a foreclosure crisis. Thus, a continuation of low long-term

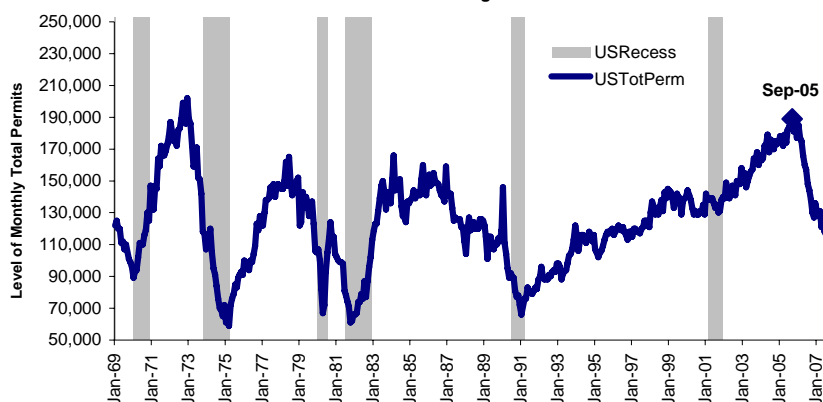
⁷ See Leamer, Edward E., HOUSING, HOUSING FINANCE, AND MONETARY POLICY (August 30 - September 1, 2007) Symposium-Federal Reserve Bank of Kansas City: Jackson Hole, WY and Kindleberger, Charles, THE WORLD IN DEPRESSION 1929-1939 (1986).

⁸ Congressional Budget Office, HOUSING WEALTH AND CONSUMER SPENDING (January 2007), U.S. CBO: Washington

⁹ OECD stands for the Organization for Economic Cooperation and Development. It is composed of the developed countries of Europe, North America, and Asia.

¹⁰ OECD

GRAPH 4: Level of U.S. Total Housing Permits and Recessions:
 Jan 1969-Aug 2007



rates provided many with a false sense of security in that regard. *Extremely Low, or Zero Down Payment* not only allowed borrowers to put nothing down, so that the loan would cover 100% financing, and if it included closing and other costs too, it would be greater than 100% financing. Further, in some cases another loan was used to cover the down payment, called a *Piggy-Back*, or *Silent Second*, in order to get more favorable terms on the primary mortgage. In many instances, investors in mortgage-backed securities in the secondary mortgage market were not aware of the piggy-back loans. All other things constant, there is a higher likelihood of default on a mortgage for borrowers with little or no equity in their homes. This is why Price-Level Adjusted Mortgages (PLAM) have never been used in the U.S., instead, Adjustable-Rate Mortgages are used in many cases to finance the buying of a new or existing home in the U.S.¹¹ Other alternative mortgages appearing also do not depend on higher interest rates for them to re-set to higher payments, which can push borrowers beyond their means of making the monthly payments. As for the Adjustable-Rate mortgages (ARM) *see Table A-1b in the Appendix*, not all ARM's re-set to the long-term interest rate historically associated with the mortgage rate. In many cases, ARM's re-set based on a short-term rate, such as the one-month London Inter-Bank Offering Rate (LIBOR).

The liquidity crisis—The “Liquidity Crisis” can be read as a debt crisis. Liquidity becomes important if you have a leveraged position and must make a margin call, or in some other way, meet a requirement to increase the amount of, or obtain, collateral to cover a loan. However, if there are those demanding liquidity to cover margin calls, there must be corresponding participants in the market who are willing to supply liquidity. This one-to-one correspondence broke down in August 2007. Liquidity, especially in the short-term credit markets, dried up. Nobody was buying any of the commercial paper issued by corporations over that period. No one was willing to supply liquidity in a climate in which there was no information on the risk premium¹². What happened? It is best summarized by the introduction to the September 2007 Congressional Research Service (CRS) report on the August liquidity crisis:

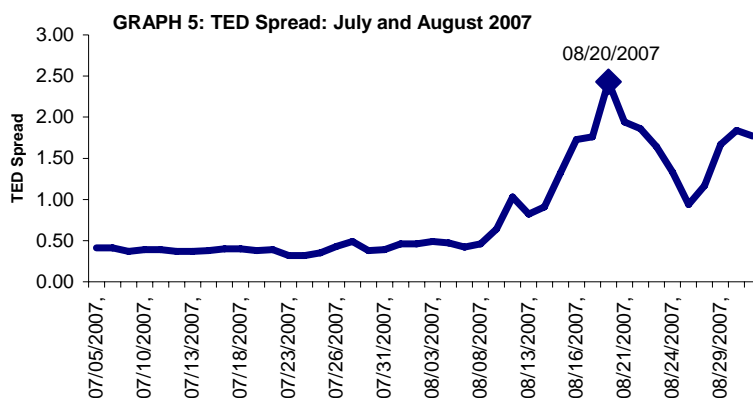
Financial markets suffered significant disruption in August 2007. Certain financial instruments, especially mortgage-backed collateralized debt obligations (CDOs), became illiquid, that is, they became difficult to sell at any price. Liquidity problems then spread across other credit markets as investors feared that losses linked to housing securities might affect a broad range of market participants. There was a “flight to quality” as investors shifted funds into the least risky securities, such as U.S. Treasury securities. As a result, many types of corporate and financial borrowers—even some with few or no links to mortgage markets—had trouble obtaining credit, whether to fund new

¹¹ DiPasquali and Wheaton, *URBAN ECONOMICS AND REAL ESTATE MARKETS* (1999), P. 193

¹² This asymmetric information problem, which led to the collapse in the Asset-Backed Commercial Paper (ABCP) market in August 2007, was identified as the “Lemon Problem” by George Akerlof in his landmark article *The Market for Lemons: Quality, Uncertainty, and the Market Mechanism*, *QUARTERLY JOURNAL OF ECONOMICS* (1970) 80: 488-500.

projects or transactions, or to refinance existing debt. The stock market experienced unusual volatility, although the Dow Jones Industrial Average actually gained 156 points during August¹³.

It will help to begin with what is called the *TED Spread*. The name originates from “T” of the T-Bill and “ED”, the ticker symbol for the Eurodollar futures contract is the difference between the rate for three month Treasury Bills and three month Eurodollar Bills¹⁴. Since U.S. T-Bills are considered to be risk free, while the Eurodollar rate reflects the risk of corporate borrowers, the difference between the two rates is considered an indicator of credit risk. An increasing TED spread indicates increasing risk. Because of the inability to price funds containing sub-prime mortgages in their portfolios, due to rapidly rising default rates, many investors believed that the risk-adjusted *Net Asset Values* (NAV) were based on overly optimistic default rates for their sub-prime components, and were therefore over-priced, in terms of the risk premium. Based on daily data, the TED Spread peaked on August 20, 2007 the day of the “meltdown”. And though the risk premium declined from its peak since then, it has not returned to pre-peak levels. On a monthly basis, the TED spread increased to 1.64 percentage points (or 164 basis points) in September; then backed off slightly. That is the highest it has been since the 1.94 percentage-point spread in October 1987, the month of the Stock Market Crash. This is illustrated in Graph 5.



Developed in the 1960's, modern asset-backed securities were first issued in 1970¹⁵. However, until the introduction of Structured Finance Collateralized Debt Obligations (SF CDO)¹⁶, the pooling of mortgages for securitization in the secondary market, was based on selling bonds to investors on a *pro rata* basis. CDO's however, are structured. That is, the underlying collateral-base is split up into a hierarchical structure such that the lowest risk, and first-claim investors have the highest rated (i.e., AAA) securities. Below this are lower, subordinated tiers of investors, subject to higher risk and subordinated claims, but higher returns. The bottom, or equity tier, is referred to as the “toxic waste”. Holders of this tranche would be investors with the highest appetite for risk. With the introduction of CDO's to the secondary mortgage market in 1995, these mortgage-backed securities could be split up into these structured pieces (i.e., *tranches*) and sold off to investors based on their risk appetite, or preference. This would serve to spread or “dilute” the risk for any given group of investors, or allow them to use a particular tranche to hedge a position.

The growth of structured securitization allowed more loans to be originated by non-banks. Many of which are not subject to examination by Federal bank examiners and are not subject to the underwriting

¹³ Darryl E. Getter, Mark Jickling, Marc Labonte, and Edward V. Murphy, FINANCIAL CRISIS? The Liquidity Crisis of August 2007 (September 21, 2007) Congressional Research Service: Washington, p. CRS-1.

¹⁴ Initially, the TED spread was the difference between the interest rate for the three-month U.S. Treasuries contract and three month Eurodollars contract as represented by the London Inter Bank Offered Rate (LIBOR). However, since the Chicago Mercantile exchange dropped the T-bill futures, the TED spread is now calculated as the difference between the T-bill interest rate and LIBOR. The difference between the three-month U.S. Treasury and the three-month Eurodollar contract is used here. See Wikipedia entry at: http://en.wikipedia.org/wiki/TED_spread

¹⁵ Levinson, Marc, GUIDE TO FINANCIAL MARKETS (2006) The ECONOMIST Newspaper, Ltd.: London, p. 100.

¹⁶ CDO's were first introduced in 1987.

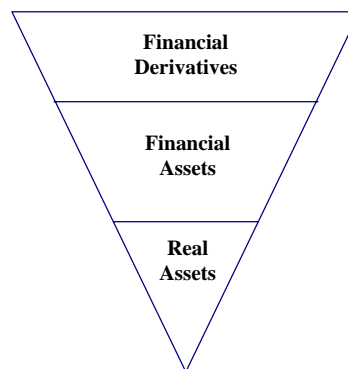
guidance issued by Federal financial regulators. Studies of loans securitized in 2005 outside Federal lending oversight suggest that the average sub-prime, backend, debt-to-income ratio rose to 40%, well above the 28% level required for underwriting by Fannie Mae or Freddie Mac. Forecasts of the coming resets suggest that the problem is likely to worsen in the second half of 2007 and the first half of 2008. The fall of 2008, however, is forecast to have far fewer reset problems because underwriting guidelines tightened significantly starting in August 2005¹⁷. Nevertheless, re-sets will continue into 2009. Lax standards and conflicts of interest among the credit-rating agencies also contributed to the current financial instability.

With the acceleration of “financial innovation”, coupled with relaxed oversight and conflicts of interest, financial markets have become ever more “tightly coupled”. A *tightly coupled* system is composed of paths of transmission that are interconnected such that a failure-event occurring down one path is easily, and thus, quickly, transmitted to other paths, resulting in contagion. Thus, if failure occurs, it is quickly propagated throughout the system¹⁸. With the creation of Structured Finance CDO’s in the private secondary mortgage market in 1995, the framework was constructed to allow for the creation of successive generations of derivatives based on the original structured-finance vehicle, which, in turn, was created by securitizing a pool of mortgages. This process resulted in erecting numerous inverted pyramids in which the only financial vehicle, whose collateral is a physical asset, is the original mortgage, for which, the house built, or existing home purchased, is used for collateral. Save the original mortgage, successive generations of derived financial assets, use the previous generation of financial assets as collateral. Once defaults and foreclosures spread, raising the default risk beyond the levels priced into mortgage-backed CDO’s, the collateral behind these assets evaporated and the inverted pyramid destabilized.

The situation can be summarized as follows. The World financial system, as it exists today, can be thought of within the inverted pyramid framework presented in Figure 1. At the apex, turned on its head, are physical assets. The next level up is composed of financial assets, which are claims on physical assets. At the “top” the base turned on its head, are financial derivatives. And, financial derivatives are claims on financial assets! This illustrates how “The scale of the turmoil has been surprising, given the small size of the U.S. subprime market in relation to global financial markets”, as observed by the Congressional Research Service (CRS). Thus, we go up the pyramid going from:

1. **The Physical Asset** (e.g., House purchased)
2. **The Financial Asset** (e.g., the Mortgage loan, for which the house is collateral)
3. **The Derivative Asset** (e.g., Residential Mortgage-Backed Securities, for which a pool of mortgages are collateral)

FIGURE 1:
World Financial System:
An Inverted Pyramid



Why did the market not just re-price these assets? Because, since many of these more exotic derivatives rarely trade, and some do not trade at all, the risk-adjusted price was model-based. Once it was clear that

¹⁷ Getter, et. al., CRS (September 27, 2007) p. CRS-6.

¹⁸ For a discussion of the implications of tightly coupled financial markets, see Bookstaber, A DEMON OF OUR OWN DESIGN (2006)

the models' assumptions had significantly underestimated the default risk of the sub-prime mortgages, it was also clear, that the models had overestimated the risk-adjusted returns on these derivatives. With no regular market trading, there was no way to "mark-to-market" and therefore, no way of knowing the "true" price of these derivatives, Net Asset Values (NAV) of funds, whose portfolios were heavily weighted with RMBS's and their derivatives, could no longer be calculated—and, they were shut down, or looked for massive, and quick infusions of capital.

The Current State of the Housing Market—To assess the current state of the housing market, several indices are considered. The first are the Sales of Existing Homes and Sales Price of Existing Homes, both published by the National Association of Realtors (NAR). Based on the latest data available at the time of writing, according to NAR, U.S. sales of existing homes declined by 7.8% between October and November 2007. This represented a 17.8% decline, Year-to-Year (YTY). The total inventory of homes for sale in November was 4.3 million, down 3.6% from October, but up 12.2% from a year earlier. This represented 10.3 months supply of homes, down 3.7% from October, but up 41.1% from November 2006. Of course, there is substantial regional variation in these statistics. There is a difference in the behavior of the sales price of existing homes reported by NAR, compared to the behavior of sales. The Quarter-to-Quarter (QTQ) percent change in sales of existing homes and the sales price for the first three quarters of 2007 indicates that home sales declined slightly in the first quarter, and then rebounded modestly in the second quarter, the sales price declined over both quarters. But, with the significant 7.9% drop in sales in the third quarter, the sales price actually jumped by 5.1%, after declining by 3% in the second quarter.

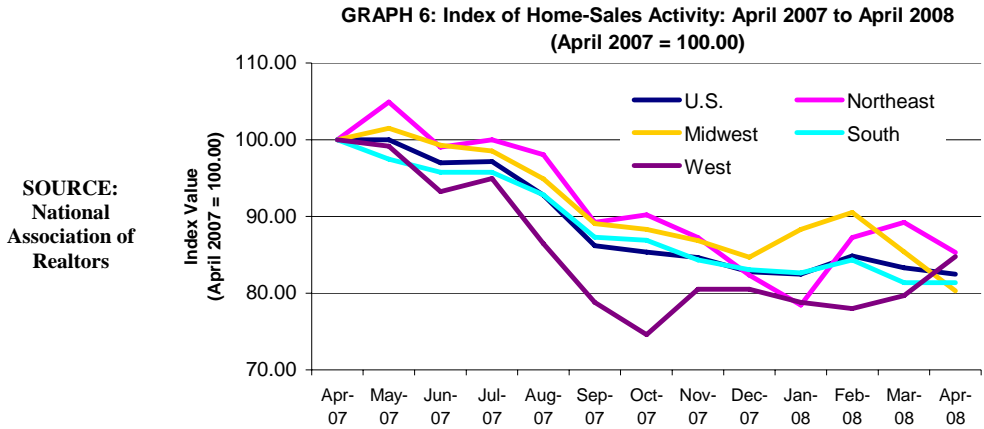
Part of the explanation of the paradox could lie in the characteristics of those who remained in the market after the housing bust, versus those who dropped out. Those at the low end tend to drop out first, when the market turns down. With sub-prime mortgage defaults heavily concentrated among lower-income borrowers, they would especially be among those dropping out of the market over the current housing bust/recession. The higher income borrowers remaining in the market, and, on average, purchasing more expensive houses, would result in the average sales price of an existing home rising as sales declined. Even this effect may have been muted since the advent of the current liquidity crisis, which effected higher income borrowers seeking jumbo mortgages. One solution to the paradox is a quality-adjusted calculation of the sales price of a home, which would account for the differences in the quality of homes sold at different stages of the housing cycle. That is, in fact, what the Case-Shiller Index does. On a QTQ basis, the growth-rate of the constant-quality sales price of an existing home began decelerating after the second quarter of 2005, and began to outright decline after the second quarter of 2006. QTQ, the sales price declined by 1.73% in 2007Q3, the largest QTQ percent-decline over the entire 2000-2007 Period. On a YTY basis, the growth-rate in the sales-price began decelerating between the second and third quarters of 2005. This is about the same time that housing permits began to decline. YTY declines in the sales-price, growth-rate began after the third quarter of 2006. On a YTY basis, the sales price of the constant-quality home declined by 4.52% in the third quarter of 2007, like the QTQ decline for 2007Q3, it was the largest over the 2000-2007 Period¹⁹.

May 2008 Update—The U.S. Case-Shiller Home-Price Index declined by 6.72% between the fourth quarter of 2007 and the first quarter of 2008²⁰. Further, delinquency rates on all loans approached 6% in the fourth quarter of 2007 (5.82%²¹). The foreclosure rate on *all* loans doubled from the first the fourth quarter of 2007 from 0.40% to 0.83%. Delinquency rates on sub-prime loans increased from 10.74% to 17.31%, and the sub-prime foreclosure rate tripled from 1.35% to 3.44%²². But, the problems are no longer confined to sub-prime loans. Between the first and fourth quarters of 2007, the number of foreclosures on *prime* loans more than doubled, from 0.18% to 0.41%²³. Thus, the foreclosure contagion seems to be spreading to those who had stronger credit histories when applying for a mortgage. Based on the latest data from the National Association of Realtors (NAR), existing home sales have declined by

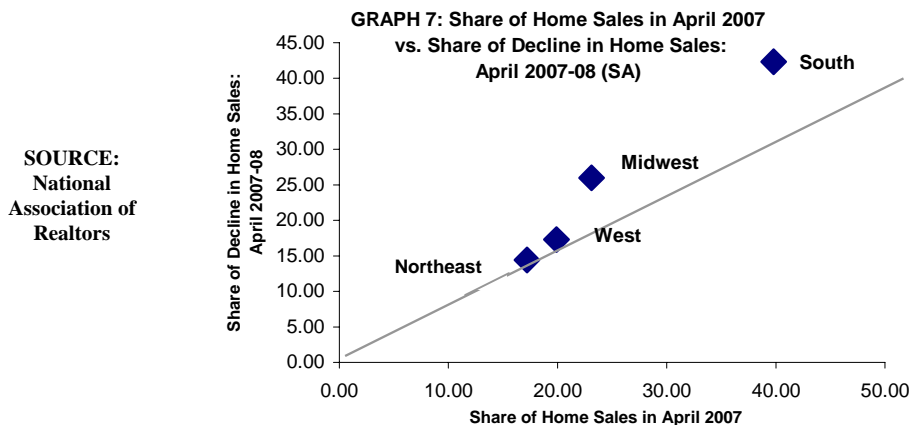
¹⁹ S&P/Case-Shiller® Home Price Indices

1.040 million, or 15.73%, nationally, between April 2007 and April 2008²⁴. There has been regional variation in the impact of the housing recession and sub-prime meltdown.

Graph 6 traces and index of home-sales activity, with the level of sales in April 2007 equal to the base, which has a value of 100.00. U. S. home sales declined by 17.54% between April 2007 and April 2008. But sales declines were much steeper in the Mid-West (-17.61%) and the South (-18.64%), than they were in the Northeast (-14.71%) or West (-15.25%). And, in fact, as depicted in Graph 7, between April 2007 and April 2008, as a share of the decline in the U.S., the decline in home sales (vertical axis) in the Mid-West and South (below the 45-degree line in Graph 7) exceeded their shares of total U.S. home sales in April 2007 (horizontal axis).



Graph 8 compares the percent-change in home sales (horizontal axis) to the percent-change in the median price (vertical axis) between April 2007 and April 2008, the West Region (below the 45-degree line) stands out. It is the only region where the decline in the price exceeds the decline in home sales. For the U.S. and the other regions, the decline in home sales exceeds the decline in price. This could be due to differences in the price-elasticities of the supply and demand curves in the West, versus the U.S. and the other regions, or it could be due to other structural differences in their residential, real estate markets. For instance, it may be the case that price serves as the adjustment mechanism in the West Region's market, while quantity serves as the adjustment mechanism for the U.S. and the other regional markets.



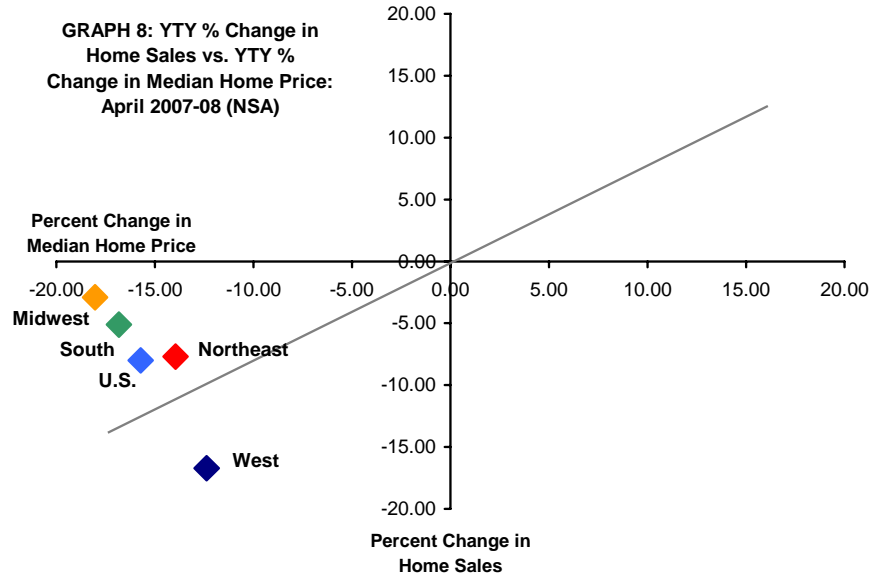
²⁰ Residential Real Estate Indicators, STANDARD & POORS, May 2008.

²¹ *ibid.*

²² *ibid.*

²³ *ibid.*

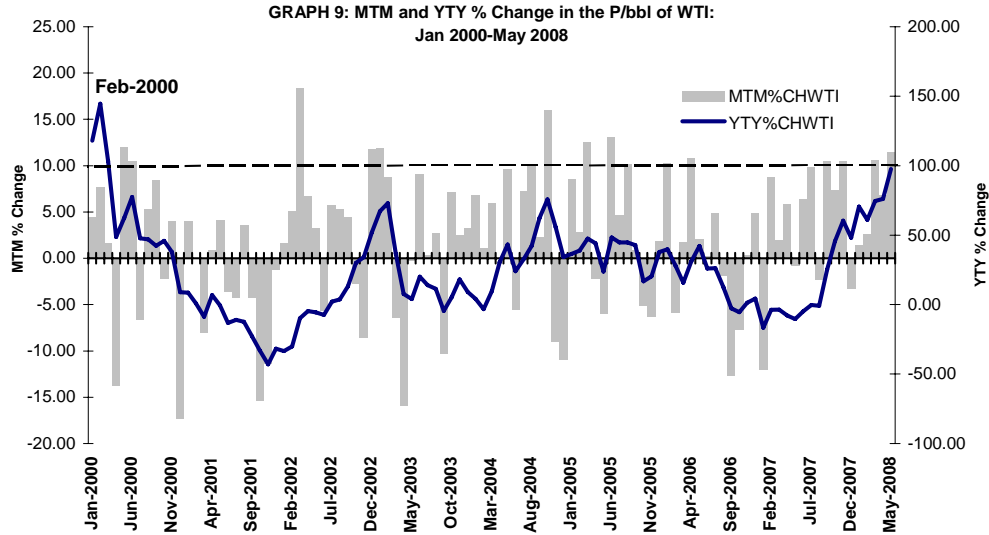
²⁴ ©2008 National Association of REALTORS®, Housing Statistics Webpage <http://www.realtor.org/research/research/ehspage> (6/3/08)



Rising Energy Prices—Another, persistent drag on the economy has been the trend-rise in oil prices since 2002. Tracking the price of West Texas Intermediate (WTI) from January 1971 to October 2007 reveals that there are rapid rises, or outright spikes, in oil prices before the on-set of all the recessions that occurred over the 1971-2007 Period. What is different over the current cycle is the continuous upward trend in prices since the beginning of 2002. Even after the 1973 Embargo, prices hit a plateau until the next jump in oil prices in 1979. Between July 2006 and January 2007, the price/bbl of WTI retreated, only to resume its rise throughout 2007, heading toward the \$100/bbl mark. This is the longest stretch of rising prices over the entire 36-year period of analyzed data. Though, in price-adjusted terms, the price of oil has not reached the levels of 1980, the continuous increases are taking a toll on the economy. In tracking the changes in the price/bbl of WTI from January 1973 to October 2007, there are three periods in which the MTM percent-change in the price/bbl of WTI exceeded 25%. In January 1974 the price/bbl, of WTI, spiked by 134.6%, one month after going into recession. The MTM increase of 30.4% in August 1986 was not associated with a recession. In August 1990, again, one month after going into recession, the price/bbl of WTI jumped by 48%, on a MTM basis. That was the last time that the MTM percent-change in oil exceeded 25%. Three times over the 1973-2007 Period, the YTY percent increase in the price/bbl of WTI exceeded 100%. The largest increase was the July 1974 spike in prices in which the price/bbl stood at 184% of its July 1973 price. The second highest jump, on a YTY basis, also during the 1973-75 Recession, was 159% in November 1974. The 145% increase February 2000, 11 months before the on-set of the 2001 Recession, was the last time a YTY increase of 100%, or more, was recorded. There were four incidents of YTY price-increases that exceeded 70%, but not 100%. The first: an 84.3% increase in July 1987, but it was not associated with a recession, although the stock market crashed in October. In October 1990, during the 1990-91 Recession, the YTY percent-increase in the price/bbl of WTI exceeded 79%. The remaining two incidents of YTY price-increases, exceeding 70%, but not 100%, occurred over the current cycle. In February 2003, the YTY price-increase exceeded 72%, and in October 2004, the YTY percent-increase in WTI exceeded 75%. What is different about the current run-up in oil prices is, unlike in past episodes, there has not been a significant backing off of recent price increases.

When tracking the MTM percent-changes in WTI over the last 10 years (1997-2007), and when, in order to eliminate some of the noise in the series, tracking the six-month, moving average of the MTM percent-change, it becomes clear that the recent history of price-increases have been steep, and persistent. The first: from January 1998 to March 1999, when the MTM price/bbl in WTI jumped by 22.2%, and then retreated. The next round of price-rises covered the period from October 2001, during the last recession to March 2002, when prices increased by 18.4%, on a MTM basis. The last, and current, persistent string of price-increases began in January 2007, reaching the \$100/bbl mark in December. It then backed off some.

May 2008 Update—The U.S. Energy Information Administration (EIA) reported that the May 30, 2008 price/bbl of West Texas Intermediate (WTI) was \$127.35, up from \$65.09 one year earlier (June 1, 2007). Oil and four critical distillates, gasoline, diesel, jet fuel, and home heating oil have all broken significant psychological barriers, not to mention their real effects over the last twelve months. Graph 9 tracks the MTM and YTY percent change in the average, monthly P/bbl of WTI from January 2000 to May 2008. The thick, broken horizontal line represents the critical 100% increase in the average, monthly P/bbl of WTI, on a YTY basis. From 1970 to the current period, when the YTY increase in the average, monthly P/bbl of WTI reached, or exceeded, 100%, the U.S. Economy went into recession²⁵. As indicated in Graph 9, for May 2008, the 97.64% increase in the average, monthly P/bbl of WTI came very close to the 100% threshold.



SOURCE: U.S. Energy Information Administration

Oil and gasoline prices continue to set new records through the first half of 2008. The question for the economic outlook is: Will the increases continue unabated? That depends on the explanations, or some combination of them, that best explains the current, relentless rise, which began around 2002. There are several factors that are offered as explanations for the price increases:

1. Industry Concentration
2. OPEC Cartel
3. “Peak-Oil” Hypothesis
4. Accelerating World Demand
5. Limited Capacity
6. Commodity Speculation
7. Geopolitical Tensions
8. The Fall in the Value of the Dollar

In his research on the recent increase in oil prices, James D. Hamilton concluded:

In this paper we have reviewed a number of theories as to what has produced the current high price of oil, including commodity price speculation, strong world demand, time delays or geological limitations on increasing production, OPEC monopoly pricing, and

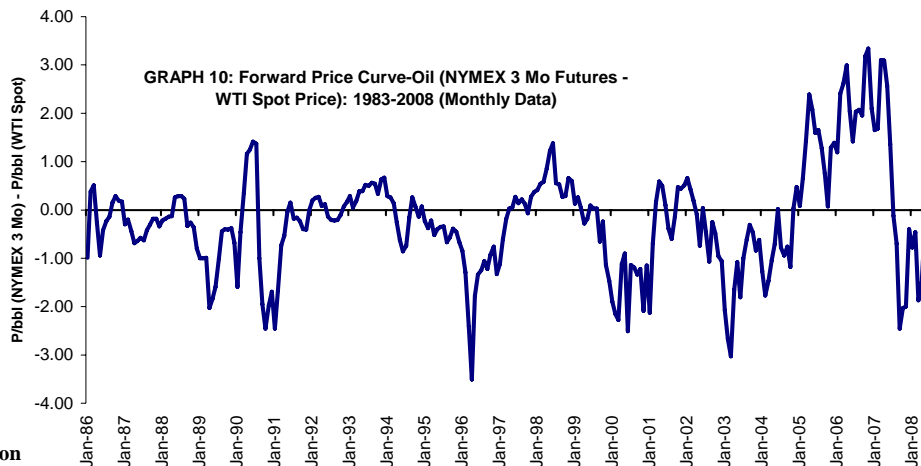
²⁵ The only recession not preceded by a 100% increase in the P/bbl of WTI was the 1990-91 Recession. Though the YTY percent change did not exceed 80%, the MTM jump between July and August 1990, at 48.02%, was the highest percent increase, in the average, monthly P/bbl over the entire 1970-2008 Period.

an increasingly important contribution of the scarcity rent. Rather than think of these as competing hypotheses, one possibility is that there is an element of truth to all of them²⁶.

Hamilton's findings offer some support for points 2, 3, 4, 5, and 6. In addition, the U.S. Senate's Permanent Sub-Committee on Investigations (of the Homeland Security and Governmental Affairs Committee) found that:

The large purchases of crude oil futures contracts by speculators have, in effect, created an additional demand for oil, driving up the price of oil to be delivered in the future in the same manner that additional demand for the immediate delivery of a physical barrel of oil drives up the price on the spot market. As far as the market is concerned, the demand for a barrel of oil that results from the purchase of a futures contract by a speculator is just as real as the demand for a barrel that results from the purchase of a futures contract by a refiner or other user of petroleum. Although it is difficult to quantify the effect of speculation on prices, there is substantial²⁷.

An interesting trend that spotlights the speculation hypothesis is presented in Graph 10. Analogous to the yield curve, which graphically illustrates the term structure of interest rates, is the *forward price curve* in commodities markets. An upward-sloping forward price curve is said to be in *contango*; an inverted forward price curve is said to be in *backwardation*. Research indicates that the forward price curve for WTI and Brent crude oil is usually in backwardation (i.e., inverted)²⁸. That is, the spot price is usually higher than the futures price. The forward price curve for WTI is tracked monthly from January 1986 to May 2008, in Graph 10. It is the average monthly price of the NYMEX, three-month futures contract, minus the average, monthly spot price for WTI. In early 2003, just after the current price-rise trend began in 2002, the inverted (backwardation) forward price curve began flatten rapidly, and then went in contango, until April 2007, when the three-month premium peaked at \$3.09. It then dropped rapidly and became a discount of 12 cents by July 2007, and \$2.46 by September. In March 2008, the average, monthly three-month futures contract for WTI was discounted by \$1.87 from the average, monthly spot price. In May, the discount was 32 cents, as the slope of the forward curve began to flatten out again. Since January 2003, the volatility of the forward price curve increased.



SOURCE:
 U.S. Energy Information
 Administration

²⁶ Hamilton, James D., *Understanding Crude Oil Prices*, Department of Economics, University of California, San Diego (May 22, 2008: Revised: June 4, 2008), p.31.

²⁷ Staff Report, THE ROLE OF MARKET SPECULATION IN RISING OIL AND GAS PRICES: A NEED TO PUT THE COP BACK ON THE BEAT (June 27, 2006) Permanent Committee of Investigations and Governmental Affairs, U.S. Senate: Washington, Executive Summary

²⁸ Fattouh, Bassam, *The Drivers of Oil Prices: The Usefulness and Limitations of Non-Structural model, the Demand-Supply Framework and Informal Approaches* (March 2007) Oxford Institute for Energy Studies, p.35.

The Commodity Futures Trading Commission (CFTC) is the chief Federal regulator charged with overseeing the role of speculation and non-commercial investors. Critics have charged that the CFTC is permitting certain speculators to have unlimited access to the commodities market²⁹. The Senate Committee on Energy & Natural Resources, headed by Jeff Bingaman urged the CFTC to dig more deeply into what's really going on in energy markets. The commission said it was taking several steps to gather additional information from the energy futures markets. These include³⁰:

1. Improve Transparency for Energy Markets Index Trading Activity
2. Review Trader Reporting and Classification
3. Examine Trading Practices for Index Traders

NYMEX Holdings, the parent company of the New York Mercantile Exchange, commended the CFTC to increase the transparency of energy futures markets. Until the passage of the *Commodity Futures Modernization Act of 2000*, U.S. energy futures were traded exclusively on regulated exchanges within the United States, like the NYMEX, which are subject to extensive oversight by the CFTC. This included ongoing monitoring to detect and prevent price manipulation or fraud. In recent years, however, there has been a tremendous growth in the trading of futures *look-a-likes*, which are contracts that look and are structured just like futures contracts, but which are traded on unregulated *over-the-counter* (OTC) electronic markets. The only practical difference between futures look-alike contracts and futures contracts is that the look-a-likes are traded in unregulated markets whereas futures are traded on regulated exchanges. This loophole in the 2000 Act was inserted at the behest of Enron and other energy trading companies in the waning hours of the 106th Congress³¹. In contrast to trades conducted on the NYMEX, traders on unregulated OTC electronic exchanges are not required to keep records or file Large Trader Reports with the CFTC, and these trades are exempt from routine CFTC oversight³². In January 2006, the CFTC's ability to monitor the U.S. energy commodity markets was further eroded. The CFTC permitted the *Intercontinental Exchange* (ICE), the leading operator of electronic energy exchanges, to use its trading terminals in the United States for the trading of U.S. crude oil futures on the ICE futures exchange in London – called “ICE Futures.” Previously, the ICE Futures exchange in London had traded only in European energy commodities – Brent crude oil and United Kingdom (UK) natural gas. As a UK futures market, the ICE Futures exchange is regulated solely by the United Kingdom Financial Services Authority. In 1999, the London exchange obtained the CFTC's permission to install computer terminals in the United States to permit traders here to trade European energy commodities through that exchange³³. Further, and amazingly:

Despite the use by U.S. traders of trading terminals within the United States to trade U.S. oil, gasoline, and heating oil futures contracts, the CFTC has not asserted any jurisdiction over the trading of these contracts. Persons within the United States seeking to trade key U.S. energy commodities – U.S. crude oil, gasoline, and heating oil futures – now can avoid all U.S. market oversight or reporting requirements by routing their trades through the ICE Futures exchange in London instead of the NYMEX in New York³⁴.

In regard to Point 1, Industry Concentration, the U.S. Government Accountability Office (GAO) found that industry concentration has, contributed to the rise in the price of gasoline. Specifically:

The 1990s saw a wave of merger activity in which over 2,600 mergers occurred in all segments of the U.S. petroleum industry. Almost 85 percent of the mergers occurred in the upstream segment (exploration and production), while the downstream segment (refining and marketing of petroleum) accounted for 13 percent, and the midstream

²⁹Kosich, Dorothy, *CFTC confirms it is investigating U.S. oil trading speculation*, INTERNATIONAL BUSINESS TIMES, Posted 30 May 2008

³⁰ *ibid.*

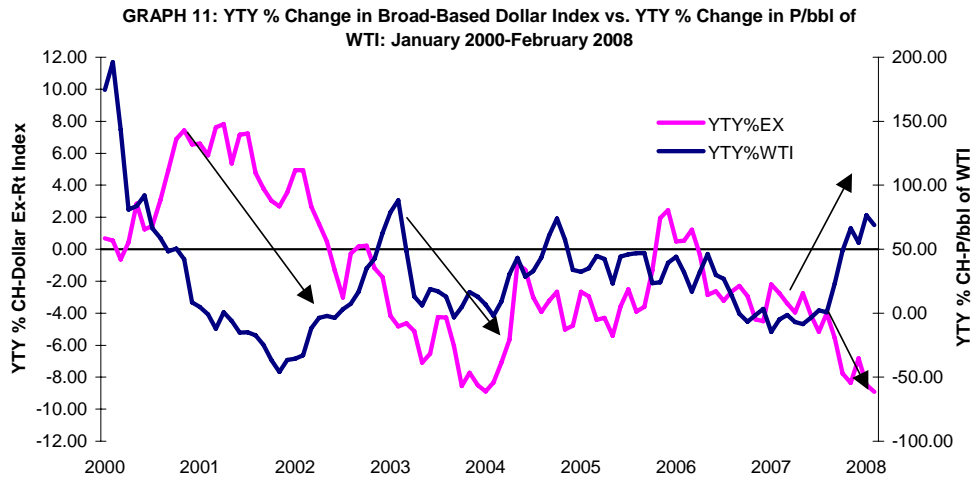
³¹ Permanent Sub-Committee on Investigations (June 27, 2006), p.4.

³² *ibid.*, p.4.

³³ *ibid.*, p.5.

³⁴ *ibid.* p.5.

(transportation) accounted for about 2 percent. This wave of mergers contributed to increases in market concentration in the refining and marketing segments of the U.S. petroleum industry. Anecdotal evidence suggests that mergers may also have affected other factors that impact competition, such as vertical integration and barriers to entry. Econometric modeling we performed of eight mergers involving major integrated oil companies that occurred in the 1990s showed that, after controlling for other factors including crude oil prices, the majority resulted in wholesale gasoline price increases—generally between about 1 and 7 cents per gallon. While these price increases seem small, they are not trivial because according to FTC’s standards for merger review in the petroleum industry, a 1-cent increase is considered to be significant. Additional mergers since 2000 are expected to increase the level of industry concentration. However, because we have not performed modeling on these mergers, we cannot comment on any potential effect on gasoline prices at this time³⁵.



SOURCE: Federal Reserve Board and U.S. Energy Information Administration

The last point, Point 8, The Fall in the Value of the Dollar is illustrated in Graph 11, which tracks the YTY percent-change in the Broad-Based Dollar Index (left vertical scale) and the YTY percent-change in the P/bbl of WTI (right vertical scale) from January 2000 to February 2008. Note that up until July 2007, both series pretty much behaved in concert. From November 2000 to November 2001, the YTY percent increase in the broad-based dollar index was decelerating. At the same time, the YTY percent change in the P/bbl of WTI was declining at an accelerating rate. Thus, the slopes of the two lines were parallel (i.e., though their first derivatives were different—one positive; the other negative—their second derivatives were equal). The two series moved in concert until July 2007. From that point on, they moved in the opposite direction. This can be seen more clearly from Table 1.

TABLE 1: Correlations for Selected Years

	2000-08	2005	2006	2007
R(YTY%EX, YTY%WTI)	-0.1639	-0.3041	0.4936	-0.9506

While the correlation between the YTY percent change in the broad-based dollar index and the P/bbl of WTI is weak, and negative over the entire 2000-08 Period, it behaves quite differently over the last three years of complete data. In 2005, the correlation is negative, and not particularly strong. But, then the correlation turns positive in 2006, only to revert to a negative, and very strong correlation (-0.95) in 2007. Particularly, from July 2007 (see Graph 11), the YTY percent change in the P/bbl of WTI abruptly

³⁵ Government Accountability Office, ENERGY MARKETS: Factors That Influence Gasoline Prices (May 27, 2007) p.p. 3-4.

increases at an accelerating rate, which has continued throughout the first half of 2008. Meanwhile, the broad-based dollar index continued its accelerated decline, which began in December 2005³⁶. It could be that recent price run-ups are due to both, speculation in the commodities futures markets *and*, in the currency-exchange markets.

III. THREE JUMP-STARTS TO THE U.S. ECONOMY: The Growth in Exports, Demographics and Lifestyles, and Professional and Business Services

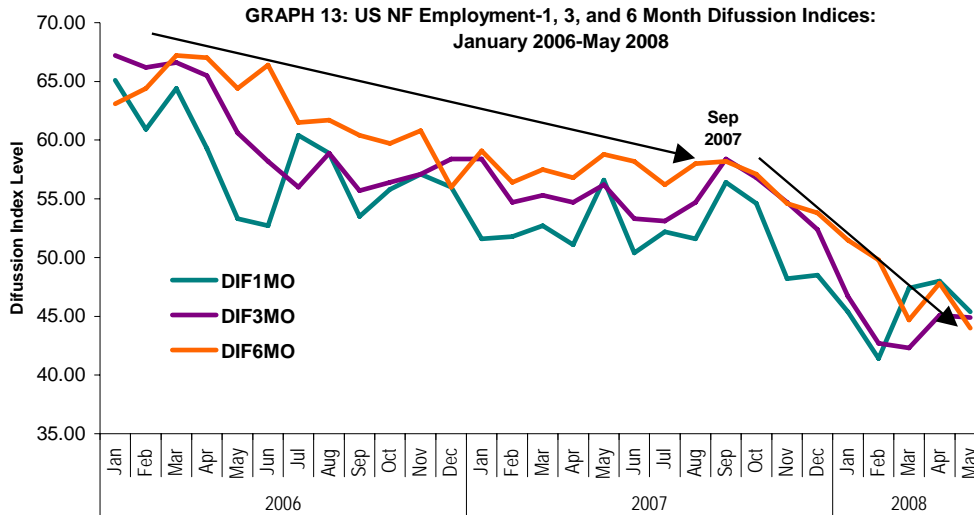
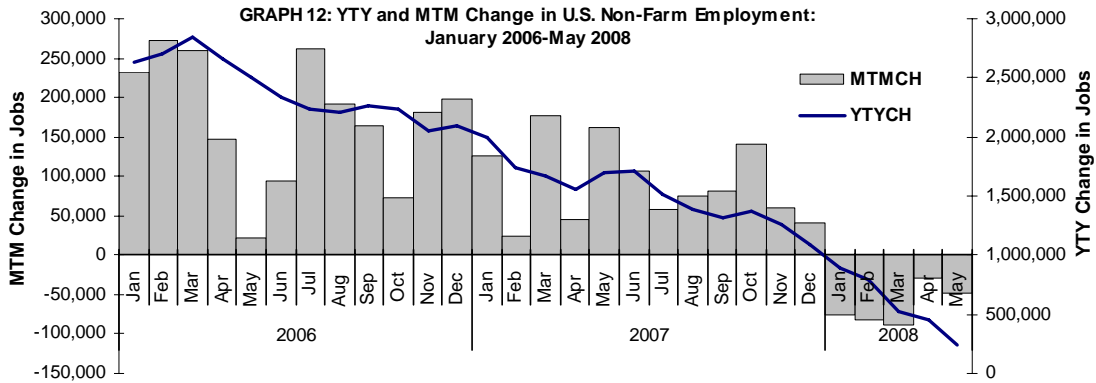
U.S. Export Growth--Since the current decline in the U.S. Dollar began in 2002, and stronger World growth since 2005, U.S. Exports have been strong—especially in 2006 and 2007. The price-adjusted exchange-rate index of the U.S. Dollar is based on three different weighting systems: a broad-based index, a major-currencies index, and a major trading-partners weighted index. All three pretty much follow the same trend. However, the major-trading partners index has not fallen as much as the other two indices over the 2000-2008 Period. Which might explain some of the reason why more inflationary pressures from the fall in the dollar have not been seen up to this point. Nevertheless, the falling dollar has boosted the demand for U.S. Exports providing a jump-start to the U.S. Economy, which has served to, at least for the time being, forestall the on-set of recession. The Asia and Pacific and European regions were the two most important destinations for our exports in the third quarter of 2007. In addition, Latin America was also an important destination. Canada is, by far, the most important individual country destination. Exports to Canada are nearly equal to U.S. Exports to all of Latin America. Mexico, the second largest country destination, absorbed 12.1% of U.S. Exports. The two NAFTA countries (Canada and Mexico) accounted for one-third of U.S. Exports in the third quarter of 2007. China and Japan each absorbed more than 5% of our exports. Capital Goods (excluding autos) accounted for 38% of all U.S. Exports in the third quarter of 2007. And, Machinery (excluding consumer type) accounted for 79% of all Capital Goods exports. At 27% of the total, Industrial Supplies and Materials accounted for the second largest dollar-amount of U.S. Goods-Exports in the third quarter.

Demographics and Lifestyles—These two phenomena have been a boon for growth in the health care and accommodation, food, and recreation industries. The result has been a trend-dominated growth in jobs over the current cycle in these sectors. Of the NAICS sectors that have made positive contributions to U.S. net-job growth over the 71 months of the current recovery/expansion (2001M11-2007M10), the two largest contributors have been driven by demographics and lifestyles. Health Care and Social Assistance was the only sector to create more than 2 million net, new jobs, which accounts for 22.4% of the 9.9 million net, new jobs over the current cycle. The sector creating the second largest number of net, new employment, Accommodation and Food Services, has been driven by lifestyle changes. This sector accounted for 15.6% of the net, new jobs created between November 2001 and October 2007. Public Administration, which includes employment at the tribal nations' casinos, also has a lifestyle component to it. This sector was third in the contribution of new jobs, and was one of only three sectors creating more than one million net, new jobs.

Professional and Business Services—Sectors oriented toward professional and business services added another 1.8 million net, new jobs to the U.S. Economy over the 71 months of the current recovery/expansion. Professional, Scientific, and Technical Services added, just under, one million net, new jobs to the economy, and accounted for 9.7% of the job-growth. In addition, another 860,000 jobs were added to the U.S. economy by the Administration and Support Sector. Excluding Public Administration, the four private sectors that make up the demographics- and lifestyle-driven sectors and, professional and business services, accounted for 5.6 million, or 56.3%, of all the net, new employment-growth in the U.S. Economy over the current cycle.

³⁶ The increase in the dollar index began to rapidly decelerate in December 2005, and then turned negative in April 2006, based on monthly data.

May 2008 Update—As illustrated in Graph 12, the U.S. Economy has shed jobs throughout the first five months of 2008. If the overall economy is not in recession, the jobs market seems to have certainly joined the housing market in recession. Non-Farm Employment has declined from January through May. Further, as depicted in Graph 13, the one-month, three-month, and six-month diffusion indices, though declining from January 2006 through September 2007, their declines accelerated significantly from September through the first five months of 2008.



BOX 1: THE DUAL ROLE OF THE FALLING DOLLAR

The falling dollar has been a mixed blessing. Clearly the growth in exports, which has been contributing to staving off recession up to this point, has provided a much-needed jump-start to the economy. However, the falling dollar has also contributed to the recent price-increases in oil. To be sure, other factors have also contributed to the rise in oil prices, and their effects on gasoline prices, which, along with increases in the price of home heating oil, are the two most important consequences of oil-price increases. The Government Accounting Office (GAO), in their May 27, 2007 report concluded:

The price of crude oil is a major determinant of gasoline prices. A number of other factors also affect gasoline prices including (1) increasing demand for gasoline; (2) refinery capacity in the United States that has not expanded at the same pace as demand for gasoline in recent years, which coupled with high refinery capacity utilization rates, reduces refiners' ability to sufficiently respond to supply disruptions; (3) gasoline inventories maintained by refiners or marketers of gasoline that have seen a general downward trend in recent years; and (4) regulatory factors, such as national air quality standards, that have induced some states to switch to special gasoline blends that have been linked to higher gasoline prices. Finally, consolidation in the petroleum industry plays a role in determining gasoline prices. For example, mergers raise concerns about potential anti-competitive effects because mergers could result in greater market power for the merged companies, potentially allowing them to increase and sustain prices above competitive levels; on the other hand, these mergers could lead to efficiency effects enabling the merged companies to lower prices¹.

So, what is driving up crude oil prices? There is the "peaking" hypothesis², OPEC's increasingly larger share of known reserves¹, increasing World demand (especially by China and India), political instability in oil-producing nations such as Nigeria, and geopolitical risks in the Middle East and Central Asia, speculation¹, and, since oil is dollar-denominated, the falling dollar should result in a rising price of oil².

If, in fact, the one-way relationship: the fall in the value of the dollar, then, since it is dollar-denominated, a rise in the price/bbl of oil (the *post-hoc* fallacy notwithstanding), holds, then in addition to acting as a *jump-start* to the economy by raising export-demand, it would also act as a *drag-force* on the economy by contributing to the rise in energy prices. Rising energy prices are a drag because since there are no close, available substitutes to, especially gasoline, there is little response to a price-rise in the immediate-run, short-run, and even the intermediate term. Thus, it acts as a tax on consumers, but unlike an actual tax, there is no corresponding government expenditure-injection back into the economy. Further, since lower-income households spend more on energy than higher-income households, it acts as a *regressive* tax. So, while exports represent injections into the economy, energy-price increases act as leakages from the economy. Hence, the dual roles played by the falling dollar.

¹ A single trader is blamed for the price/bbl of oil hitting \$100 in December 2007.

² Although, there are those who take the position that the higher relative prices of oil should weaken the exchange-rate because it worsens the terms of trade. This implies a two-way causality between the falling dollar and rising oil prices.

IV. THE WILD CARDS: Financial Instability and Trade Imbalances

The two looming wild cards not only have the potential to wreck havoc on the U.S. Economy, but also, the World Economy—and, they are interconnected. The two culprits are: the financial instability from the sub-prime meltdown, and trade imbalances. The International Monetary Fund (IMF), in their October 2007 *World Economic Outlook* have substantially raised the downside risk, relative to their April and July outlooks, to World growth from the sub-prime induced financial instability.³⁷ Their next largest increases in the downside risk to growth were domestic demand in the U.S., and in Europe and Japan. Within the current context, these downside risks are considered drags on growth. However, the financial instability, and the downside risk from trade imbalances (which the IMF held constant since their July outlook) are more characteristic of *wild cards*. This is because these two downside risks have the most potential to experience sudden, and steep, declines, whereas, declines in aggregate demand tend to unfold—though at times, it can be at a fairly rapid rate. Nevertheless, it is usually not abrupt. Wild cards can have abrupt changes in their conditions (e.g., the liquidity crisis in August 2007), and equally as rapidly, the contagion can spread from the financial system to the economy.

In the case of the sub-prime meltdown, its problems have spread beyond the mortgage markets to the leveraged buyout and other markets, and worldwide—especially to Europe. As the IMF noted in their October 2007, *Global Financial Stability Report* (GFSR):

Since the April 2007 GFSR, policy rates have risen further across a number of countries, while the ongoing repricing in credit markets has tightened financing conditions for some segments—specifically, for less creditworthy U.S. households seeking mortgage credit and for highly leveraged corporate borrowers. Reflecting these developments and their likely continuation, we have shifted our assessment of monetary and financial conditions to signify slightly tighter conditions³⁸.

And, as mentioned above, this financial instability can be transmitted to the economy. Again from the IMF's October GFSR:

Tighter monetary and credit conditions could reduce economic activity through a few channels. First, a tightening of the supply of credit to weaker household borrowers could exacerbate the downturn in the U.S. housing market. Second, falling equity prices could reduce spending through the wealth effect and a weakening of consumer sentiment. Third, capital spending could be curtailed owing to a higher cost of capital for the corporate sector. Last, and perhaps most importantly, the dislocations in credit and funding markets during the period of market turbulence could restrict the overall provision and channeling of credit³⁹.

Further, the IMF notes that the possibility of more severe credit tightening cannot be dismissed. However, they also note that the economic impact of any reduction in borrowing on U.S. capital investment spending may be minimal, given that recent borrowing has been concentrated in increasing leverage in the capital structure (through share buybacks and LBOs) than on business investment. In Europe, where there is greater reliance on bank lending, debt issuance has been less affected than in the United States. The LBO boom was less advanced in continental Europe than in the United States, so any slowing of buyout activity will have a more modest impact. However, European banks appear to have greater contingent exposures to asset-backed commercial paper (ABCP), suggesting one channel whereby European banks may have to tighten credit conditions more.

³⁷ International Monetary Fund, WORLD ECONOMIC OUTLOOK (October 2007) IMF Publication Services: Washington, Figure 1.10, p. 11.

³⁸ International Monetary Fund, GLOBAL FINANCIAL STABILITY REPORT (October 2007) IMF Publishing Services: Washington, p. 5.

³⁹ *ibid.*, p. 5.

Trade imbalances present the World Economy with a potential for crisis if the adjustment were to be rapid and disorderly. In the October 2007, IMF Outlook, the U.S. current account deficit is projected to decline slightly to 5½ % of GDP this year and next, as it benefits from recent real effective depreciation of the U.S. dollar and a more balanced pattern for global demand growth⁴⁰. Nevertheless, assuming no changes in the real, effective exchange rate, and given current policies, it would remain around 5% of U.S. GDP into 2012, which is equivalent to 1.5% of Global GDP⁴¹. As the IMF points out, trade imbalances and the current financial instability are related. Since the breakdown of Bretton Woods, the U.S. Dollar has been the dominant currency, but not subject to the same discipline as those countries whose currencies are not the key-currency. If a nation is consuming more than it is producing, it can re-balance its current account by a decline in its exchange rate, resulting in an increase in its exports as its goods and services become more competitive on the international market, and a decrease in domestic consumption, including imports, as the terms-of-trade turn against it and domestic prices rise⁴². Another route to addressing the trade deficit is for the country that is consuming more than it is producing to sell off its assets to pay down the deficit. Over the 1980's, late 1990's, and over the current cycle, the U.S. has run persistent current-account deficits⁴³. Conversely, nations like Japan, and lately China, have run counter-part current-account surpluses. Since these countries sell more to the U.S., than the U.S. purchases from them, and in order for them to keep their currencies from rising against the dollar, they, especially China and Japan, have accumulated dollar reserves. These dollar reserves have been used to purchase U.S. assets. The U.S. Net International Investment Position turned negative in 1986, and its deterioration has accelerated since 1999. Many have argued that this is not a concern because the U.S. persistently earns more on its foreign investments, than foreign investors do on their U.S. holdings. But, in the April 2007 report on their research, the Federal Reserve Board found no such advantage for U.S. investors:

Thus, in the context of equity and bond portfolios we find no evidence that the U.S. can count on earning more on its claims than it pays on its liabilities⁴⁴.

There has been some research on financial contagion, sudden stops⁴⁵, and debt liquidation⁴⁶, especially as it pertains to developing economies involved in the Mexican Peso Crisis of 1995, the 1997 Asian Crisis, and 1998 Russian Default⁴⁷. However, the contagion also spilled over into developed economies, and in particular, in the U.S., when the demise of Long-Term Capital Management nearly brought down the World's financial system. Gray (2004)⁴⁸ and Duncan (2005)⁴⁹ contend that something akin to what would be tantamount to a sudden stop for the U.S. Economy is a likely scenario if the dollar suddenly takes a rapid plunge due to an abrupt outflow of foreign capital. They are not optimistic about an orderly decline in the dollar to redress the U.S. trade imbalance. On the other hand, Mann (1999)⁵⁰ is more confident that an orderly adjustment will be the case. And, there are the proponents of "Dark Matter" Theory⁵¹.

⁴⁰ *ibid*, p. 21.

⁴¹ *ibid*, p. 22.

⁴² The speed and level of adjustment will depend on several factors, including the exchange-rate elasticity of supply of the exported goods and services, and the price-elasticities of demand of the consumer goods imported, versus the goods exported.

⁴³ If the U.S. were to use the capital-inflow for investment in plant and equipment, or upgrading and expanding infrastructure, as it did at the end of the 19th Century, with the expansion of the railroads, then future foreign investors could be repaid, with interest, and future U.S. per capita Income and output would increase. But, U.S. domestic, non-residential fixed investment spending has been flat this cycle. Thus, the inflow of funds appears to be funding credit-financed, current consumption.

⁴⁴ Curcuro, Stephanie, Tomas Dvorak, and Francis E. Warnock, ABSTRACT, *The Stability of Large External Imbalances: The Role of Returns Differentials* (April 2007) International Finance Discussion Papers Number 894, Board of Governors of the Federal Reserve: Washington.

⁴⁵ Three stylized facts characterize *Sudden Stops*: (1) large reversals in the current account, (2) deep recessions, and (3) collapses in real asset prices and the price of non-tradable goods relative to tradables.

⁴⁶ See Fisher, Irving, A Theory of Debt Deflation, *ECONOMETRICA* (1933)

⁴⁷ See Mendoza, Enrique G., (2006) ENDOGENOUS SUDDEN STOPS IN A BUSINESS CYCLE MODEL CONSTRAINTS: A FISHERIAN DEFLATION OF TOBIN'S Q (October 2006) NBER Working Paper Series

⁴⁸ Gray, H. Peter, *THE EXHAUSTION OF THE DOLLAR* (2004) Palgrave MacMillen: New York

⁴⁹ Duncan, Richard, *THE DOLLAR CRISIS* (2005) John Wiley & Sons Ltd.: Singapore

⁵⁰ Mann, Catherine L., *IS THE U.S. TRADE DEFICIT SUSTAINABLE?* (1999) Institute for International Economics: Washington

⁵¹ For an explanation and favorable view of Dark Matter Theory, see Hausmann, Ricardo and Federico Sturzenegger, *U.S. AND GLOBAL IMBALANCES: CAN DARK MATTER PREVENT A BIG BANG?* (November 13, 2005). For a skeptical view see Higgins, Matthew, Thomas Klitgaard and Cédric Tille *Borrowing without Debt? Understanding the U.S. International Investment Position: Staff Report* (December 2006) New York Federal Reserve Bank: New York

Whatever the likely scenario, Dornbusch, Park, and Claessens, in their study of contagion conclude:

Economists still do not know precisely what factors make countries vulnerable to contagion or the exact mechanisms through which it is transmitted at any given time. Although empirical evidence suggests that commercial banks and mutual funds can play a role, separating rational from irrational investor behavior is difficult in theory and in practice, as is determining whether irrational investor behavior is the sole source of contagion. Individually rational but collectively irrational behavior and (perceived) changes in the international financial system are likely to continue to have an influence. Further research—whether theoretical or empirical—on the role of international financial agents and the international financial system may shed light on these aspects. Such research could help identify characteristics that make countries vulnerable to contagion and could contribute to the development of specific policy prescriptions to reduce the risks of contagion, manage its impact, and help economies recover as efficiently as possible. In the meantime, it will be difficult to determine whether any measures—beyond strengthening the international financial architecture—can reduce the risks of contagion specifically⁵².

“Individually rational but collectively irrational behavior and (perceived) changes in the international financial system are likely to continue to have an influence” could be the critical paradox driving any worst-case scenario that may unfold over the 2008-09 Period. Especially in light of the need for the Federal Reserve to possibly further lower interest rates in an effort to stave off recession. This is clearly a “rock-and-a-hard-place” situation for the central bank—stabilize the financial markets, but, at the same time, lower the returns on dollar-denominated assets.

V. THE U.S. ECONOMIC OUTLOOK FOR 2008 AND 2009

May 2008 Updated Outlook

The big question at this point is: Has the economy just entered a “growth recession”, that is, a speed bump, or temporary pause in growth similar to that in the first half of 1995, or has the economy entered what will unfold as a full-fledged, maybe even severe, recession? The International Monetary Fund (IMF), in their April 2008 Outlook, projected World growth to slow to 3.7% in 2008, ½ percentage point lower than their previous forecast⁵³. The United Nations (UN) is even more pessimistic. In the mid-year update to their forecast, the UN stated that the world economy is “teetering on the brink” of a severe downturn and is expected to grow only 1.8% in 2008. That's down from a global growth rate of 3.8% in 2007⁵⁴. The assumptions used in the Connecticut employment forecast for the “super-control” or “top-line” number forecast included the outlooks for the U.S. Economy for 2008 and 2009 from Ray C. Fair’s April 2008 Forecast, The University of Michigan’s March 2008 Forecast, the consensus Blue Chip Economic Indicators forecast for April 2008, and the IMF’S U.S. Forecast, as part of their April 2008, *World Economic Outlook*.

⁵² Dornbusch, Rudigar, Yung Chul Park, Stijn Claessens, *CONTAGION: Understanding How it Spreads*, (August 2000) The World Bank Research Observer, vol. 15, no. 2

⁵³ International Monetary Fund, *WORLD ECONOMIC OUTLOOK: Housing and the Business Cycle* (April 2008): Washington, D.C., p. xv

⁵⁴ Lederer, Edith M, *UN: World economy to grow by 1.8 percent in 2008*, YAHOO FINANCE (Friday, May 16) at http://biz.yahoo.com/ap/080516/un_world_economy.html (May 16, 2008)

TABLE 2: U.S. Macroeconomic Forecasts for U.S. Real GDP Growth 2008 and 2009

FORECAST	2008*	2009*	OUTLOOK
Ray C. Fair	2.69	2.81	No Recession
U. of Michigan	0.90	2.90	Recession in 2008
Blue Chip	1.38	2.15	Recession in 2008
IMF	0.52	0.62	Recession in 2008
Average	1.37	2.12	N.A.

* Percent change in annual Real GDP
 N.A. = Not Applicable

From Table 2, three out of the four forecasts incorporated into the top-line forecasting model called for a recession in 2008, with recovery in 2009, only Ray C. Fair called for no recession. And, the Fair forecast was the only one of the four predicting that the growth-rate in U.S. RGDP would exceed 2% in 2008. The most pessimistic, the IMF, predicted that U.S. growth would not even top 1% in 2008 or 2009. The average for the forecasts shows a 1.4% growth-rate in U.S. RGDP in 2008, and 2.1% in 2009.

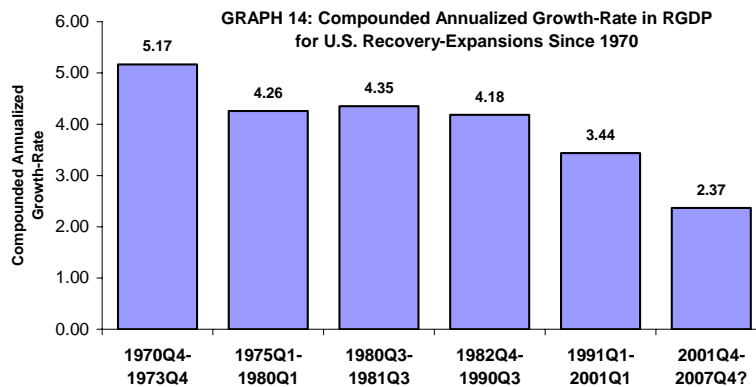
Incorporating the four forecasts into the model for the top-line forecast, as well as, incorporating the control-total forecasts for the major NAICS sectors and job announcements, and then performing top-down and bottom-up reconciliation of the forecasts at the various levels of detail, the resultant, final forecast assumes a “V-Type” recession. That is, Connecticut Employment will continue declining throughout 2008, but will recover in 2009. Hence, the small, but positive gain predicted over the eight-quarter forecast horizon. However, the risks to the forecast are considerable. And, they are heavily skewed toward the downside. The following, concluding section elaborates on the risks to the forecast and the factors pushing those risks to the downside direction.

Risks Tilt Toward the Downside

The risks to the forecast are substantial. The recession could be an elongated, “U-Type”, or the national and state economies could stagnate for an extended period of time producing an “L-Type” configuration. There are still a substantial number of additional mortgage-resets expected in 2008, and into 2009 “*It aint over until it’s over*”. The shakiness of the financial system is not only due to the jump in sub-prime defaults, which revealed the significant mis-pricing of the risk premium by mortgage-based collateralized debt obligations (CDO’s), known as Residential Mortgage-Backed Securities (RMBS), held by investors, but another, potentially even bigger, time bomb that could go off is the credit-default swaps⁵⁵, now estimated at \$45 trillion in the Global Economy. These wild cards, in conjunction with rising energy and food prices, could have the potential to turn the projected “V-Type” recession into an elongated “U”, that is, a protracted affair lasting well into 2009, and even into 2010. Even without these wild cards, the State, National, and even World economies could be entering an “L-Type” period of extended stagnation. With consumers, although especially in the U.S., but in some other developed economies as well, tapped into appreciating housing wealth during the bubble to finance their spending over the recovery-expansion, that began with the end of the 2001 Recession in the U.S. and was facilitated by trade imbalances and credit injections by the Fed following the bursting of the stock market-high-tech bubble in 2000 and subsequent 2001 Recession, and the September 11th Attacks. With stagnating, and even falling housing prices, the “ATM” that financed consumer spending during the latest housing bubble is closed. In addition, consumers have accumulated high levels of credit-card debt. In fact, CDO’s backed by credit-card debt could be the next “sub-prime” crisis. This probably reduces the likelihood that consumer spending would be the driver of a future recovery. As for domestic investment spending, at least over the recent

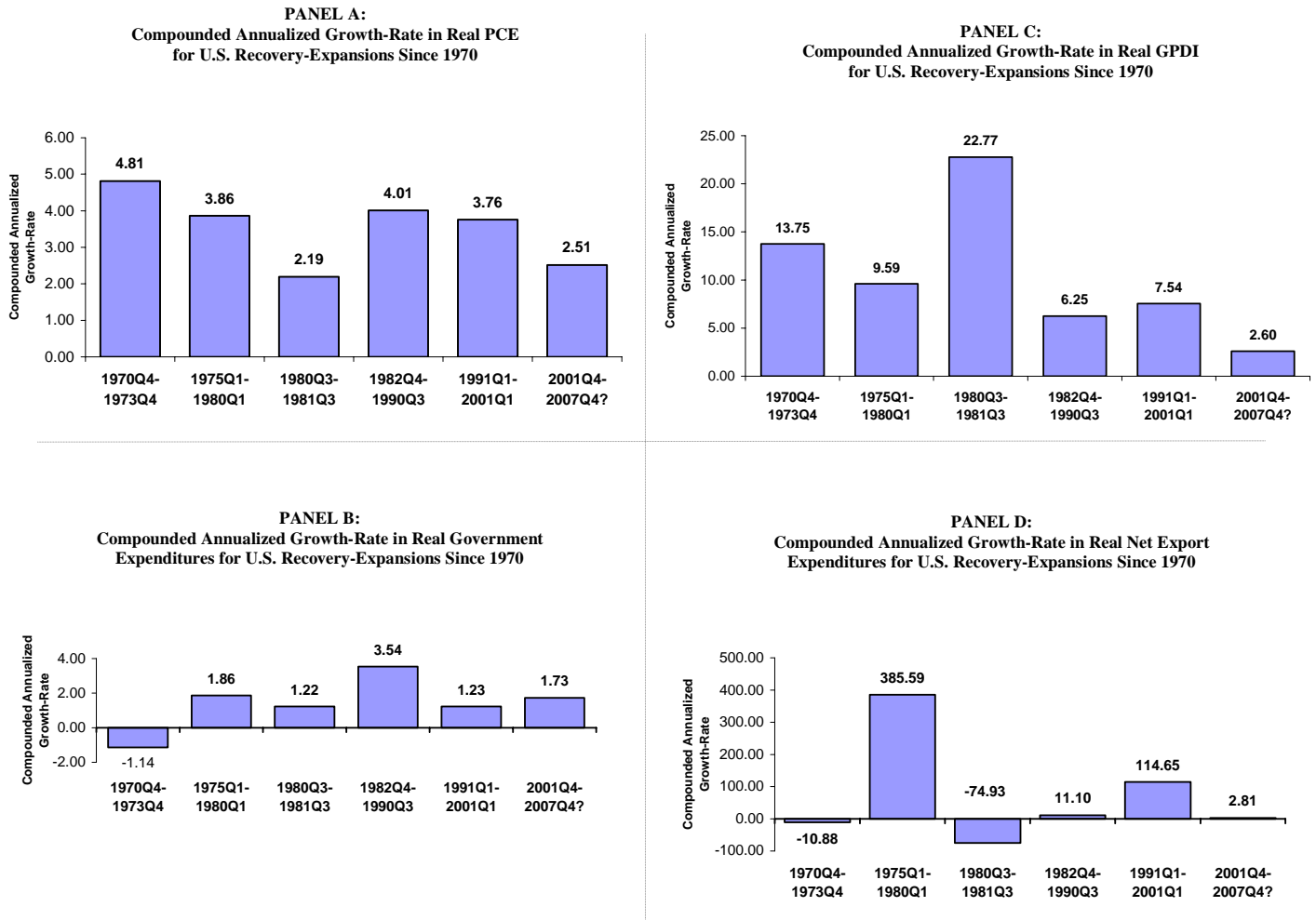
⁵⁵ A credit-default swap is basically an insurance policy taken out by a financial institution to protect it against a default on a loan. But, unlike the life or property insurance industry, this “insurance industry” is not regulated. The holder of the “policy” can sell it off in the secondary market. And, there is no guarantee that the purchaser will have the resources to pay a claim. Often hedge funds use these as a way of raising quick cash.

expansion, most investment spending on plant and equipment by U.S. multinationals has been on expanding, or building new, overseas operations. Without strong consumer spending and domestic investment drivers, a robust recovery would seem unlikely. And, significant domestic, fiscal stimulus to compensate for a lack of household and business sector domestic spending seems unlikely. In fact, even with massive injections of credit, this recovery-expansion has been anemic, when compared to past U.S. recovery-expansions since 1970. Since the six recovery-expansions since 1970 have been of different durations, Graph 14 puts them all on the same footing by presenting the compounded, annualized growth-rate of Real Gross Domestic Product (RGDP). As is apparent, the performance of the 2001-07 Recovery-Expansion (assuming it ended in December 2007) has been the weakest, with RGDP growing at an annual, compounded rate of 2.4% per year. In fact, even though both cycles, to one degree or another, were financed by asset bubbles, both Post Cold War recovery-expansions have been weaker than their Cold-War Era counterparts, even when compared to the oil, embargo and disruption periods of the last half of the 1970's.



Graph 15 shows the compounded, annualized growth-rates for the six recovery-expansions since 1970. Panel A is Real Personal Consumption Expenditures (RPCE), Panel B is Real Government Expenditures, Panel C is Real Gross Private Domestic Investment (RGRDI), and Panel D is Net Exports. In spite of the massive credit injections and households' tapping into appreciating housing values to finance their spending, the compounded, annualized growth-rate in over the 2001-07 Recovery-Expansion has only grown at a 2.5% rate. The only recovery-expansion to under-perform was the aborted 1980 Recovery (Panel A). Domestic Investment has also been weak. At 2.6%, it has been the slowest growth of any of the six Post-1970 recovery-expansions (Panel C). What stands out in Panel B is the Reagan defense build-up of the 1980's in which Government spending, driven by Federal defense spending, grew at a 3.5% annualized rate. It also drove the 1980's Connecticut economic boom, which also ended in the collapse of a real estate bubble (as well as the end of the Cold War). Save the 1.9% growth during the Carter years, the next largest growth-rate of 1.7% is the current cycle, driven by Federal expenditures on the wars in Iraq and Afghanistan (Panel B). The oil embargo period between 1975 and 1980 had by far the largest growth in the trade deficit. Next was the 1990's cycle, when it grew at more than 100% per year, at a compounded rate. It has not grown as much over this cycle, due to the fall in the dollar at the end of 2006 and into 2007. Nevertheless, the U.S. Trade Imbalance remains at dangerously high levels, which is discussed in more detail below.

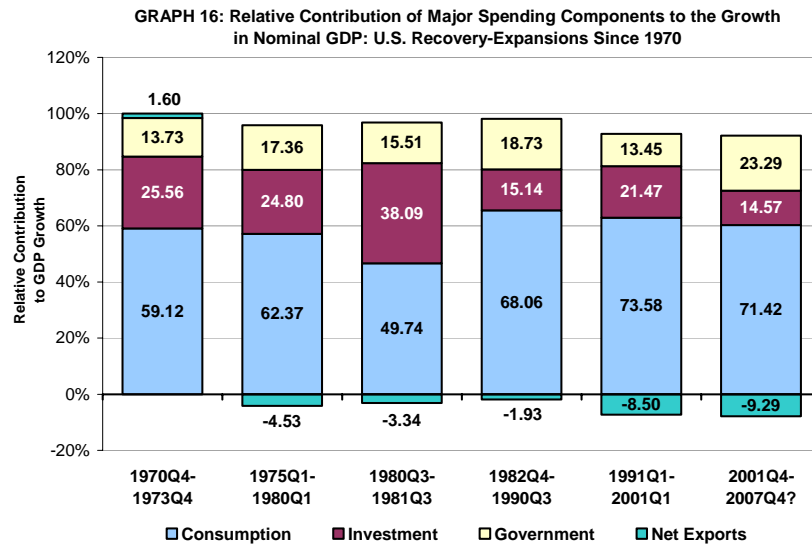
Graph 15:
Compounded, Annualized Growth-Rate of Spending Components of RGDP-Six Recovery-Expansions Since 1970



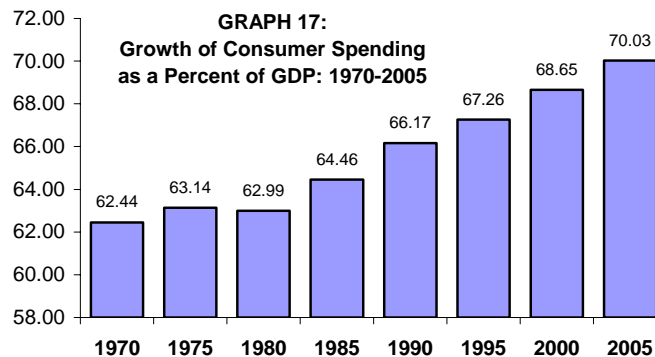
Graph 16 shows the relative contribution that the major spending components have made to the growth in Nominal GDP over the six Post-1970 cycles⁵⁶. Again, a difference in the Pre- and Post-Cold War eras is observed, consumer spending accounts for a much larger share of total spending growth over the two Post Cold-War cycles—exceeding 70% in both recovery-expansions. For the 1990’s Cycle, this was due to weak contributions by government spending compared to other cycles. Over the current recovery-expansion, it is the weakness in domestic investment. In fact, investment made the smallest relative contribution over the entire Post-1970 Period⁵⁷. Also, the trade deficit made bigger subtractions from GDP.

⁵⁶ Problems with adding up the chained-dollar components of RGDP preclude using RGDP for the contributions. Thus, Nominal, or current-dollar, GDP is used.

⁵⁷ Interestingly, the second weakest contribution of private investment was during the 1980’s Recovery-Expansion.



In addition, as depicted in Graph 17, consumer spending as a percent, or share of GDP, has been increasing since 1985. And, consumer spending surpassed 70% of GDP in 2005 and stood at 70.33% for 2007. All of this reinforces the argument made at the outset: that there does not seem to be a potential, significant driver of a recovery on the horizon. Especially given the growing reliance of the U.S. Economy on consumer spending to drive growth in conjunction with the unsustainable basis for that spending-growth over the current cycle. Eventually, with the falling dollar and a recovery in World growth, exports may drive a recovery, as the U.S. economy makes the transition from consumption-driven to export-driven growth. Further, growth in export-demand could fuel a round of new domestic investment. But, for the short- to intermediate-term horizon (i.e., into 2009 or even 2010), there is no likely driver of recovery. Hence, the larger weight assigned to the risk that a recession (given that we are in one) will be an elongated “U”, or even an “L-Shaped” period of stagnation.



The Credit Crisis Outlook

Since the credit crisis erupted in the Summer of 2007, and after the collapse of Bear-Stearns, in March 2008, the Federal Reserve has made some aggressive moves to address the unfolding financial instability. Nevertheless, the turbulence has not subsided. And, as the Congressional Research Service (CRS) notes:

While sub-prime problems were widely anticipated, the subsequent spread of turmoil into many seemingly unrelated parts of the global financial system was not. Many losses occurring in diverse firms and markets — often quite severe — have features in common: the use of complex, hard-to-value financial instruments; large speculative positions

underwritten by borrowed funds, or leverage; and the use of off-the-books entities to remove risky trading activities from the balance sheets of major financial institutions⁵⁸.

Once again, the common themes to financial crisis emerge: lack of transparency and overleveraged positions—both, of which result in asymmetric information (lack of transparency) and principal-agent problems (overleveraging, which translates into inadequate collateral). The Fed itself has taken both “normal” steps to stem the crisis, but also some extraordinary steps, that seem to highlight the potential serious crisis that could be over the horizon. Again, from the CRS report on the August 2007 credit crunch:

The Federal Reserve has used its traditional tools to avert such an outcome: it has lowered short-term interest rates dramatically and injected billions of dollars into the banking system to support market liquidity and keep credit flowing. In addition, the Fed has expanded its sphere by making funds available to securities firms, which it does not regulate, and has provided funding to underwrite the rescue-through-acquisition of Bear Stearns, a leading investment bank. The duration of the current instability is in marked contrast to financial shocks of recent decades — stock market crashes, bond market disruptions, the 9/11 attacks — when the central bank was able to contain market problems quickly with little or no interruption of U.S. economic growth⁵⁹.

Basel II, scheduled to go into effect in January 2009, has now sparked some controversy in the U.S. The Basel Committee on Banking Supervision, under the auspices of the Bank of International Settlements (BIS) first met in Basel, and in 1988 the committee issued a set of international banking regulations on Bank Supervision, which set out the minimum capital requirements of financial institutions with the goal of minimizing credit risk. Banks that operate internationally are required to maintain a minimum amount (8%) of capital based on a percent of risk-weighted assets. It focused mainly on credit risk by creating a bank-asset classification system. In the aftermath of the Asian Crisis and the Russian bond-default, a second round of international banking regulations issued by the committee, known as Basel II, were first adopted by Hong Kong and Japan in 2007. Basel II was implemented by the European Union (EU) in January 2008, and the U.S. is scheduled to adopt Basel II in January 2009⁶⁰. It will only affect the 10-12 largest U.S. banks that have the most international exposure. However, smaller U.S. banks will use a system more like Basel I. Critics contend that the timing of implementing Basel II in the U.S. comes at the worst time. The critics contend that core capital requirements under Basel II will force mergers and consolidations, or worse, exacerbate the unfolding credit crisis⁶¹. Nevertheless, something must be done to rein in the activities related to the vast expansion of off-balance sheet entities that are at the heart of the current financial crisis, and addressed by Basel II⁶².

⁵⁸ Jickling, Mark, *Averting Financial Crisis* (Updated March 21, 2008) Congressional Research Service: Washington, “Summary”

⁵⁹ *ibid*, “Summary”.

⁶⁰ International Monetary Fund, *GLOBAL FINANCIAL STABILITY REPORT* (April 2008) Washington, p.p. 74-80.

⁶¹ Coy, Peter, *How New Global Banking Rules Could Deepen the U.S. Crisis*, *BUSINESS WEEK* (April 28, 2008) McGraw-Hill: New York, p.p. 83-86.

⁶² IMF (April 2008), p. 69.

VI: The 2008 Recession? Reading the Tea Leaves

Table 3 lists some common features that either preceded or coincided with the U.S. Economy's going into recession. Recessions from 1970 to the current century are examined. Column (1.) lists the recessions since 1970, and columns (2.) through (6.) list features that were common in their occurrence before, or as, the economy went into recession. The last row of Column (1.) has the tentative "2008 Recession" and the features that have occurred as of January 2008. As indicated in Column (2.), every recession since 1970, including the current economic cycle-phase, has had sustained (meaning three months, or more) Year-to-Year (YTY) increases in the effective Federal Funds Rate before going into recession. This will be expanded on in Table 4. Moving to Column (3.), the 1973, 1980 (and probably the 1981-82, as well), and 2001 recessions were preceded by YTY increases of 100%, or more, of the price/bbl of West Texas Intermediate (WTI). From Column (4.), it is apparent that those recessions, save 1990, that were preceded by 100% increases in the price/bbl of oil, also experienced one, or more, months of 20% increases, on a MTM basis. Again, the 1980 increases probably apply to the 1981-82 Recession as well. Though there are "NO" entries in columns (3.) and (4.) for 2008, they are in blue font, with a note. This will also be followed up on below. Before every recession since 1970, the Yield Curve inverted before the economy turned (Column (5.)), but it turned back up again as the economy went into recession. The one exception is the 1990-91 Recession. Before that recession, the Yield Curve did flatten, and long-term rates fell faster than short-term rates, but it did not actually invert. Notably, as the U.S. Economy enters 2008 it has been preceded by an inverted Yield Curve. Finally, as indicated in Column (6.), save the 2001 Recession (in which, especially New England and California, may have still been dealing with the residual effects of the 1980's Housing Recession), every recession since 1970 has been preceded by a housing recession (although all housing recessions have not necessarily preceded a widespread economic recession—but, they usually do). Again, the current economic situation, as 2008 begins, finds the U.S. in a severe housing recession.

TABLE 3: Significant Events in Critical Economic Indicators Associated with Post-1970 U.S. Recessions

(1.) U.S. Recession	(2.) Preceded by sustained YTY increases in Fed fund? (3 or more consecutive months)	(3.) Preceded or coincided with YTY oil-price increase >= 100%?	(4.) Preceded or coincided with MTM oil-price increase >= 20%?	(5.) Yield curve inverted before entering recession?	(6.) Followed or coincided with a housing recession?
Jan-Nov 1970	YES	NO	NO	YES	YES
Nov 1973-Mar 1975	YES	YES	YES	YES	YES
Jan-Jul 1980	YES	YES	YES	YES	YES
Jul 1981-Nov 1982	YES	NO	NO	YES	YES
Jul 1990-Mar 1991	YES	NO	YES	NO	YES
Mar-Nov 2001	YES	YES	YES	YES	NO
2008?	YES	NO*	NO*	YES	YES

DATA/INFORMATION SOURCES: National Bureau of Economic Research, Federal Reserve Board, U.S. Census Bureau, and U.S. Energy Information Administration.

*Even though oil prices have not had a 100% or greater, on a YTY basis, or 20%, or greater on a MYM basis, increase for any month of the current recovery/expansion, since 2002, there has been a five-year sustained increase in the price/bbl of WTI, which is unprecedented over the 1971-2007 Period of analysis.

Returning to Column (2.), Table 4 presents the 11 instances, since 1968, in which there were YTY increases in the effective Federal Funds Rate for three, or more, consecutive months. In eight of those instances, a recession followed. The average, sustained YTY increase, lasted for 20.3 months. Between July 2004 and July 2007, the Federal Funds Rate increased, on a YTY basis, for 37 consecutive months –

far longer than the average episode, and in fact, the longest stretch over the 1968-2007 Period. Further, the rate increased by 400 basis points over this period. This represented an 11 basis-points/month rate of increase. In regard to the footnoted and blue italicized entries for columns (3.) and (4.) for 2008, as indicated, there have been no YTY, or MTM, increases of 100%, or more, or 20%, or more, over the current recovery/expansion.

TABLE 4: YTY Increases in the Federal Funds Rate and the On-Set of Recession

Sustained YTY PCT-PT Increase (3 or more consecutive months of increases)	Total Consecutive Months of Increases	BASIS-POINT CHANGE (Rate)	FOLLOWED BY RECESSION?
Mar 1968-Apr 1970	26	305 (12 BP/Mo.)	YES (23 Months after first increase)
Nov 1972-Oct 1974	24	500 (21 BP/Mo.)	YES (14 Months after first increase)
July 1977-May 1980	35	542 (15 BP/Mo.)	YES (32 Months after first increase)
Nov 1980-Feb 1981 ^a	4	8 (2 BP/Mo.)	YES (10 Months after first increase)
May 1981-Oct 1981 ^{a,b}	6	-344 (-57 BP/Mo.)	YES (4 Months after first increase)
Nov 1983-Nov 1984	13	9 (1 BP/Mo.)	NO
Jan 1988-Nov 1989	23	172 (7 BP/Mo.)	YES (32 Months after first increase)
Dec 1993-Jan 1996	26	260 (10 BP/Mo.)	NO
Mar 1997-Mar 1998	13	10 (1 BP/Mo.)	NO
Oct 1999-Jan 2001	16	78 (5 BP/Mo.)	YES (19 Months after first increase)
Jul 2004-Jul 2007	37	400 (11 BP/Mo.)	?

DATA SOURCE: Board of Governors, Federal Reserve

- a. Both episodes were connected to the on-set of the same recession: 1981-82
- b. **This episode of YTY increases took place within a high-inflation environment, thus, even though the YTY increases in the Effective Fed Funds Rate were higher, the rate actually decreased over the six-month period, but, at the same time, the rate remained higher than it was the year before for the same month.**

Not If—But, How Bad?

In light of the cumulative effects of sustained oil-price increases, the housing-sector bubble, bust, and recession and continuing foreclosures and heavy consumer debt-loads, the related de-stabilization of the financial system from the sub-prime contagion, and the impending re-balancing of the Current Account, clearly, the correction of some or all of these imbalances is inevitable. If all corrections occur simultaneously, a recession could be severe and protracted. In the presentation of their results, before the American Economic Association meetings in January 2008, of their study of financial crises from an international perspective, Reinhart and Rogoff note:

Our examination of the longer historical record, which is part of a larger effort on currency and debt crises, finds stunning qualitative and quantitative parallels across a number of standard financial crisis indicators. To name a few, the run-up in U.S. equity and housing prices that Graciela L. Kaminsky and Carmen M. Reinhart (1999)⁶³ find to be the best leading indicators of crisis in countries experiencing large capital inflows closely tracks the average of the previous eighteen post World War II banking crises in industrial countries. So, too, does the inverted v-shape of real growth in the years prior to the crisis. Despite widespread concern about the effects on national debt of the early 2000s tax cuts, the run-up in U.S. public debt is actually somewhat below the average of

⁶³ Kaminsky, Graciela L. and Carmen M. Reinhart, *The Twin Crises: The Causes of Banking and Balance of Payments Problems* (1999) AMERICAN ECONOMIC REVIEW Vol. 89: 473-500.

other crisis episodes. In contrast, the pattern of United States current account deficits is markedly worse⁶⁴.

Further, they note that their research suggests some severe dislocations:

At this juncture, the book is still open on the how the current dislocations in the United States will play out. The precedent found in the aftermath of other episodes suggests that the strains can be quite severe, depending especially on the initial degree of trauma to the financial system (and to some extent, the policy response). The average drop in (real per capita) output growth is over 2 percent, and it typically takes two years to return to trend. For the five most catastrophic cases (which include episodes in Finland, Japan, Norway, Spain and Sweden), the drop in annual output growth from peak to trough is over 5 percent, and growth remained well below pre-crisis trend even after three years. These more catastrophic cases, of course, mark the boundary that policymakers particularly want to avoid.⁶⁵

The Congressional Budget Office, in their testimony before Congress stated that some economists believe that a recession could be steep:

Discretionary fiscal policy stimulus (that is, legislative action aimed at providing stimulus) may not be necessary to avoid an outright recession, if most current forecasts are correct. Nonetheless, policymakers may choose to proceed with a stimulus package to bolster a weak economy and as insurance against the elevated risk of a recession. Some economists advocating a stimulus also believe that a recession, if it occurs, could prove to be unexpectedly deep; a fiscal stimulus would help reduce the severity of a recession, should one occur.⁶⁶

Table 5 summarizes the principal drags and wild cards that are currently impeding the momentum of the economy, or may serve to abruptly derail the recovery/expansion, and thus, presenting the economy with a high risk of, either going into, or already of already being in, a recession. Policy options for, either preventing the economy from going into a recession, or for quickly pulling it out of one must weight these factors, and address their potential effects on economic activity. Among its findings for optimal responses to the current economic uncertainty, the following, selected CBO findings are noted:

- The Federal Reserve has powerful tools to keep the economy growing, but there is no guarantee that it will be able to keep the economy from entering a recession.
- The system of automatic stabilizers built into the federal budget will act to stimulate the economy in a period of economic sluggishness, helping to mitigate any economic downturn.
- The most effective types of fiscal stimulus (delivered either through tax cuts or increased spending on transfer payments) are those that direct money to people who are most likely to quickly spend the bulk of any additional funds provided to them.
- A variety of options are available for helping people who have been adversely affected by turmoil in the mortgage market. In evaluating the options, it is important to strike a balance between helping financially distressed families meet their basic needs, being fair to other families, and not rewarding imprudent behavior that might create additional costs in the future. In addition, further declines in housing prices are probably necessary to correct imbalances in the economy, and policies that attempt to prevent market prices from correcting could make the situation worse⁶⁷.

⁶⁴ Reinhart, Carmen M. and Kenneth S. Rogoff, *Is the 2007 U.S. Sub-Prime Financial Crisis So Different?* (January 14, 2008) DRAFT, p. 1.

⁶⁵ *ibid.*, pp. 1-2.

⁶⁶ Congressional Budget Office, *Options for Responding to Short-Term Economic Weakness* (January 2008) CBO PAPER: Washington, p. 1.

⁶⁷ Congressional Budget Office, *Options for Responding to Short-Term Economic Weakness* (January 2008) CBO PAPER: Washington, pp. 1-2.

TABLE 5: Drags and Wild Cards Impeding the Economy’s Momentum

Sector/Market	Problem/Imbalance
<p>Housing Recession (Drag on the Economy)</p>	<p>Household Financial Stress/Foreclosures results in:</p> <ul style="list-style-type: none"> o Asset Deflation o Consumer Spending decline: <ul style="list-style-type: none"> ▪ DIRECT-- Reverse spending-multiplier effects as homeowners, and former homeowners, no longer buy furniture, higher landscapers, do home improvements, etc ▪ GENERAL—Overall Consumer Spending declines as the decline in home values causes the Wealth-Effect on consumer spending to work in reverse. ▪ Declines in income and employment in the Real Estate, Financial and Construction sectors.
<p>Sub-Prime Financial Crisis (Wild Card)</p>	<p>Liquidity Crisis/Credit Crunch:</p> <ul style="list-style-type: none"> o Under-estimation of the default risk on sub-prime mortgages resulted in the loss in value of collateral used to back mortgage-backed securities, resulting in over-priced risk-adjusted Net Asset Values. o Lenders’ losses on mortgage-related assets and, a now, lower tolerance for risk have constrained the supply of credit, particularly for the riskiest borrowers. o This has dried up liquidity causing a crisis for those with substantially leveraged positions (such as Hedge Funds). o The net result has been a reduction in consumers’ and businesses’ confidence about future economic conditions, which could affect their willingness to spend and invest.
<p>Rise in Oil Prices (Drag on the Economy)</p>	<p>Acts as a Regressive Tax on the Economy:</p> <ul style="list-style-type: none"> o Especially Gasoline, for most, has no close available substitute, and with limited access to mass transit, for the most part, there are no substitutes for driving to work, school, or shopping. Therefore, the price-elasticity of demand for these energy products is inelastic; when the price goes up, demand does not fall correspondingly. In this sense, a price-increase acts as a tax increase. Except, unlike an actual tax increase, there is no corresponding government spending-injection into the economy. o Since the poor spend proportionally more on energy goods (gasoline, heating oil, etc.) than upper income consumers, they bear a heavier burden if oil prices rise, thus, such a price-rise acts as a regressive tax. o This “tax-increase” dampens consumer spending because it reduces Disposable Income.
<p>Trade Imbalance (Deficit - Wild Card)</p>	<p>The question surrounds the issue as to whether of not a <i>Sudden Stop</i> can occur to the country with the <i>Key Currency</i> (i.e., the <i>Hegemon</i>)</p>

It could very well be that a 75% chance of recession in 2008 is at the lower bound of the range. The critical question is: Will the policy response be adequate, and in time, to minimize the severity and length of a recession? Of course, there is always the decade-change effect Most recessions seem to occur at the change of a decade (e.g., 1961, 1970, 1980, 1990, 2001). On the other hand (as economists are wanting to say), the very severe 1973-75 Recession occurred in the middle of the decade.

BOX 2: PRONOUNCEMENTS FROM THE SOAPBOX-Policy Options for the Current Crisis

Particularly, policy responses should address the following:

- Problems of transparency, predatory lending, and over-leveraging in the financial markets. In other words the same problems that seem to accompany all financial crises have reared their ugly heads: Conflicts of Interest, Asymmetric Information, and Principal-Agent Problems.
- Relief for those who are about to meet resets on their monthly mortgage payments, *and* are owner-occupants of the house.
- Any fiscal stimulus should put money into the hands of those who will spend the largest share of it (i.e., those with the highest MPC out of income), and whose spending-response will be immediate. In addition, now would be the time to address the massive infrastructure needs of the nation. It is critical for future economic competitiveness and growth.
- Finally, the Fed should continue its current policy of quick and flexible responses as rough spots appear.

VI. SUMMARY AND CONCLUDING REMARKS ON THE U.S. OUTLOOK

The indicators and latest available data suggest that the U.S. Economy may have gone into recession after December 2007. However, even if the recovery/expansion died in December, the “coroner”, National Bureau of Economic Research (NBER) does not call the death of an expansion until many months after the fact. Though there are those who point to positive, albeit anemic, growth in U.S. GDP in the fourth quarter of 2007 and first quarter of 2008, as evidence of no recession, so far, they are basing their conclusion on a misconception. To dispel the widely held myth: two consecutive quarters of contracting Real GDP *do not* define a recession⁶⁸. GDP is quarterly data, and the NBER calls the month of the turning point in a cycle—which cannot be done with quarterly data. Further, GDP data are subject to several subsequent revisions including, annual benchmarking to the National Income and Product Accounts (NIPA) every July and, a super-bench mark every five years to the National Input/Output table, based on the economic censuses done every five years in the years ending in “2” and “7”. For those reasons, GDP is not the basis for determining the beginning or end of a recession.

The baseline outlook is for a “V-Type” recession, that is, declining economic activity throughout 2008, but with a weak recovery in 2009. However, the risks to the outlook are substantial. The recession could be an elongated, “U-Type”, or the national and state economies could stagnate for an extended period of time producing an “L-Type” configuration. There are still a substantial number of additional mortgage-resets expected in 2008, and into 2009 (“It aint over until it’s over”). The shakiness of the financial system is not only due to the jump in sub-prime defaults, which revealed the significant underestimate of the risk premium, and consequently the over-pricing of mortgage-based collateralized debt obligations (CDO’s) securities held by investors, but another, potentially even bigger, time bomb that could go off is the credit-default swaps, now estimated at \$45 trillion in the Global Economy. These wild cards, in conjunction with rising energy and food prices, could have the potential to turn the projected “V-Type” recession into an elongated “U”, that is, a protracted affair lasting well into 2009, and even into 2010. Even without these wild cards, the National, and even World economies could be entering an “L-Type” period of extended stagnation. With consumers, although especially in the U.S., but in some other developed economies as well, tapped into appreciating housing wealth during the bubble to finance their spending over the recovery-expansion, that began with the end of the 2001 Recession in the U.S. and was facilitated by trade imbalances and credit injections by the Fed following the bursting of the stock market-high-tech bubble in 2000 and subsequent 2001 Recession, and the September 11th Attacks. With housing prices falling nationally, for the first time since the Great Depression, the “ATM” that financed consumer spending during the latest asset bubble is closed. In addition, consumers have accumulated high levels of debt, and home equity is falling at an accelerating rate. This probably reduces the likelihood that consumer spending would be the driver of recovery. As for domestic investment spending, at least over the recent expansion, most investment spending on plant and equipment by U.S. multinationals has been on expanding, or building new, overseas operations. Without strong consumer spending and domestic investment drivers, a robust recovery would seem unlikely. And, significant domestic, fiscal stimulus to compensate for a lack of household and business sector domestic spending seems unlikely.

The big question at this point is: Has the economy just entered a “growth recession”, that is, a speed bump, or temporary pause in growth similar to that in the first half of 1995, or has the economy entered what will unfold as a full-fledged, maybe even severe, recession?

⁶⁸ To see what the criteria for a recession are, go to the NBER Website at <http://www.nber.org/cycles/recessions.html#faq>

APPENDIX

Table A-1a: Non-ARM Alternative Mortgages

Mortgage Type	Features
Extremely Low, or Zero-Down Payment	<ul style="list-style-type: none"> This type of loan allowed borrowers to put nothing down. The loan would cover 100% financing, and if it included closing and other costs too, it would be greater than 100% financing. In some cases, another loan was used to cover the down payment, called a <i>Piggy-Back</i>, or <i>Silent-Second</i>, in order to get more favorable terms on the primary mortgage.
Interest-Only	<ul style="list-style-type: none"> Allows the borrower to carry the loan balance for a period of time without having to pay back any principal. The current mortgage payments cover only the monthly interest due on the existing balance. Eventually, the monthly payments must cover the principal. If the mortgage is not extended, then the payments will have to amortize the remaining balance over a shorter period of time. Therefore, a borrower choosing to pay only the interest for a few months increases the monthly payments for later months.
Negative Amortization	<ul style="list-style-type: none"> Unlike Interest-Only mortgages, which leave the loan-balance unchanged, a Negative Amortization mortgage allows the borrower to increase the loan's principal by paying less than the current interest due. The remaining interest is added to the loan balance. Future payments are re-calculated based on the increased principal. The borrower gets lower current payments, but at a cost of higher debt and future monthly payments.

Table A-1b: Adjustable-Rate Mortgages (ARMs)

Features
<ul style="list-style-type: none"> First used in the U.S. (California, 1978). There are many varieties of ARMs. One of the simplest forms offers an initial low rate, called a <i>Teaser</i>, at the beginning of the loan, and re-sets after an introductory period. The teaser rate may apply for one-month, or as much as one-year. The mortgage contract may specify a re-set interest rate, or may tie the interest rate to another interest rate formula. Teaser rates should be distinguished from fully Adjustable-Rate Mortgages. In principle, a 30-year Adjustable-Rate Mortgage could have a one-month <i>teaser</i> rate without materially affecting the costs and benefits of the mortgage product. Excluding teaser rates, a variable-rate mortgage ties the loan to the economy. <ul style="list-style-type: none"> The future mortgage rate on these loans typically depends on another future interest rate observed in the financial markets. The rate may set each month, each year, or only after several years. The borrower's mortgage rate would drop if the interest rate dropped, but would rise if interest rates rise. Many ARMs provide for a cap on the amount the rate can rise in any period over the life of the loan. ARMs can be tied to a variety of market interest rates. <ul style="list-style-type: none"> One common rate is the 1-Month <i>London Inter-Bank Offering Rate</i> (LIBOR). LIBOR rates are determined in the London market of unsecured loans. It is the rate banks charge each other for short-term loans (less than 12 months). Typical ARMs will specify a re-set date, at which time the rate will adjust to the LIBOR or similar rate, plus a pre-determined mark-up.

Source: Murphy, Edward Vincent, ALTERNATIVE MORTGAGES, Congressional Research Service: Washington; Douglas, J. Lucas, Laurie S. Goodman, and Frank J. Fabozzi, COLLATERALIZED DEBT OBLIGATIONS 2nd Edition (2006) Wiley & Sons: New York, Ch. 5; and DiPasquali and Wheaton, URBAN ECONOMICS AND REAL ESTATE MARKETS

Table A-2: Current Conditions (2007): U.S. Dec 2007

Indicator Group	Change: (24 Qtrs of Recovery)	Performance: (Avg. since 1975)	Current vs. Avg.: (Pct-Point Diff)
Growth and Output			
Real GDP	+17.7%	+22.7%	-5.09
GPDI	+24.8%	+47.3%	-22.43
Mfg. Output	+19.9% (71 Months of Recovery)	+31.6% (71 Months of Recovery)	-11.69
Resource Utilization: Physical (Capital)			
Mfg. Capacity Utilization Rate (CUR)	76.6 (Avg. CUR over 71 Months of Recovery)	79.0 (Avg. CUR over 71 Months of Recovery)	-2.43
Mfg. Capacity	+6.6% (71 Months of Recovery)	+16.9% (71 Months of Recovery)	-10.23
Resource Utilization: Human (Labor & Labor Markets)			
Non-Farm Employment	+5.76% (71 Months of Recovery)	+14.06% (71 Months of Recovery)	-8.30
Household (HH) Employment	+7.2% (71 Months of Recovery)	+12.6% (71 Months of Recovery)	-5.46
Labor Force	+6.3% (71 Months of Recovery)	+12.7% (71 Months of Recovery)	-6.41
UR	-0.80 Pct Pts (71 Months of Recovery)	-2.25 Pct Pts (71 Months of Recovery)	-1.45
Unemployed	-9.4% (71 Months of Recovery)	-17.5% (71 Months of Recovery)	-7.99
Business Sector Conditions			
Productivity (Output/Hour for Non-Financial Businesses)	+2.61% (Annualized Avg. QTQ % Change)	+2.20% (Annualized Avg. QTQ % Change)	+0.41%
New Orders for Non-Defense Capital Goods	+30.6% (Month 11 to 71 of Recovery)	+41.3% (Month 11 to 71 of Recovery)	-10.7% (based on 1991 recovery)
Profits	+25.41% Relative Contribution to National Income (NI) Growth (Avg. Share: 11.6%)	+16.54% Relative Contribution to National Income (NI) Growth (Avg. Share: 10.0%)	+8.87 (+1.64)
Household Sector Conditions (Consumers)			
Real Disposable PI	+18.4%	+20.5%	-2.04
Savings Rate as a % of RDPI	+1.35%	+6.23%	-4.88
Wages & Salaries	+45.76% Relative Contribution to National Income (NI) Growth (Avg. Share: 52.7%)	+50.27% Relative Contribution to National Income (NI) Growth (Avg. Share: 54.0%)	-4.51 (-1.35)

NOTE: The 24 Qtrs. of recovery/expansion cover the period from 2001-Q4 to 2007-Q3, and the 71 months includes the period from November 2001 to October 2007.

**Current Conditions and Economic
Outlook for 2007-2009:**

The CT Economy

January 2008

**Updated
May 2008**

I. INTRODUCTION: The Current Economic Situation-Recession in 2008?

By December 2007, the U.S. and World economies reached a critical juncture in the current recovery/expansion. There is a nexus of economic, financial, and geopolitical factors whose confluence is raising the specter of recession, particularly in the U.S., or even something more severe. The sudden meltdown in the sub-prime lending market in the U.S., its direct consequences on the secondary mortgage market, not only in the U.S., but, internationally as well, trade imbalances, and a sustained, steep, upward trend in oil prices, as well as in food prices, have been battering the economy. Two developments have, so far, acted as counter-weights to the drags on the economy and preventing it from slipping into recession: the strong trend-dominated growth in demographic- and lifestyle-driven sectors and in business and professional services, and the strong growth in exports.

Since the end of the Cold War, Connecticut's Economy has been more dependent on the fortunes of the U.S. Economy. And, over the current recovery/expansion, that has cut both ways. On the "glass-half-full" side, the State's Economy has benefited from the growth in US. Exports, in 2006 and 2007. Further, it has been able to benefit from coattail effects by tapping into additional *momentum forces* (explained below) such as trend-dominated growth in those areas driven by demographics and lifestyles and business services: health care, accommodation and food services, professional and technical services, administration and support, and the rise in gaming, with expansions by both Foxwoods and Mohegan Sun. Connecticut, particularly Fairfield County, with its proximity to Wall Street, has benefited from the proliferation of financial innovation over the current recovery/expansion, which has driven the growth in income and employment in the Securities and Commodities Brokers Industry, which includes Hedge Funds. Another bright spot is in the film industry, which seems to have responded to tax incentives passed by the Legislature in 2006.

On the "glass-half-empty" side, the falling dollar has contributed to rising oil prices, which particularly hurts Connecticut, since it is a high-cost energy state, and a heavy user of home heating oil, in addition to problems in the way in which the State's energy markets were deregulated⁶⁹. And, Connecticut has not escaped the housing bubble-bust-recession that is currently in danger of bringing down the wider economy. Though Connecticut clearly did not experience the asset bubble in housing markets such as those in Miami, San Francisco, and Las Vegas. However, regions of the State have been significantly effected, particularly Fairfield County. And, low-income homeowners have been heavily hit by sub-prime mortgage resets. Further, Connecticut is particularly vulnerable to the unfolding instability in the financial markets. A significant share of the growth in the State's income, as well as its employment, has been in the financial sector.

As for the U.S. Economic Outlook, the critical issues facing Connecticut's economic outlook going into 2008 can be framed within a context of *Momentum, Jump-Starts, Drag Forces, and Wild Cards*. *Momentum*, in this context, refers to how resistant the economy is to *drag forces* that introduce or intensify frictions that impede the economy's forward progress, or shocks, or *wild cards*, which, whether economic or non-economic, are events that cause unanticipated, sudden declines in critical economic activities, sectors, or both. There have been two economic drag forces that have been impeding the momentum of the current recovery/expansion: the housing recession and the sustained trend-rise in oil prices. Further, even without these drag forces, cycle-stage analysis suggests that the current U.S. expansion's peak would be sometime in beginning of 2008⁷⁰. Since the last half of 2006, the falling dollar and strong World economic growth have boosted exports providing a *jump-start* to an otherwise faltering U.S. Economy (which, as discussed above, has also benefited the Connecticut Economy).

⁶⁹ See Box 1: THE DUAL ROLE OF THE FALLING DOLLAR, p. 15, Kennedy, Daniel W., CURRENT CONDITIONS AND OUTLOOK for 2007-2009: VOLUME I-The U.S. Economy (January 2008) Office of Research, Connecticut Labor Department: Wethersfield, CT

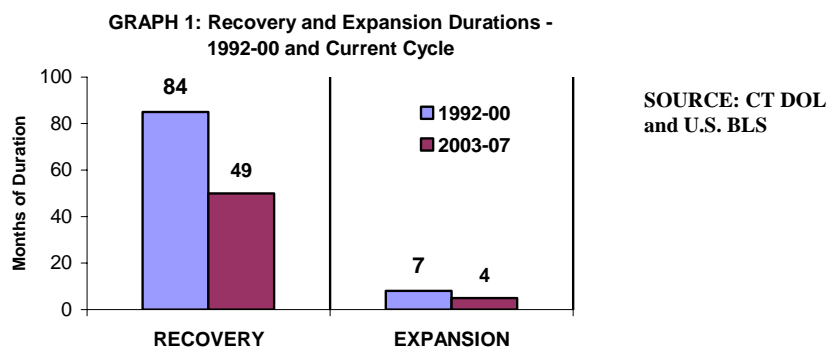
⁷⁰ Kennedy, Daniel W., CURRENT CONDITIONS AND OUTLOOK FOR THE U.S. ECONOMY: 2006-2008-DRAFT (March 2006) Office of Research, Connecticut Labor Department: Wethersfield, CT

Unlike drag forces that slowly build up enough friction to bring an expansion to a halt, “wild cards” usually abruptly cut it short. The Housing Bust has both, *drag force*, and *wild card* aspects to it. The drag-force part of the housing-market recession is, not only the direct effects, but also the dampening of reverse-multiplier effects associated with robust housing-market activity. However, the housing foreclosures, and consequent instability in secondary mortgage markets, in conjunction with high consumer debt-loads have all the potential for producing a wild-card effect. Especially due to the connection between housing-price appreciation and consumer-spending growth over this recovery/expansion, since it was largely credit-financed, principally, by tapping into increases in housing wealth. With a cooling housing market and significant household debt-loads (especially those below the median), both, the U.S. and Connecticut economies would take a significant hit from a major retrenchment in consumer spending.

May 2008 Update

“The rumors of my death have been greatly exaggerated”. Despite Mark Twain’s protests to the contrary, it appears that the recovery-expansion, which began for Connecticut in July 2003, may have flat-lined in December 2007—even if it did, the coroner (i.e., National Bureau of Economic Research, or NBER) does not call the death of an expansion until many months after the fact. And, to repeat what was pointed out in Volume I, the U.S. outlook, two consecutive quarters of contracting Real GDP *do not* define a recession⁷¹. As this goes to press, between December and April, the U.S. has had four consecutive months of contracting employment and Connecticut’s jobs have declined for three consecutive months between December and March. And, state and regional cycles are usually defined in terms of the Nonfarm employment series.

Again, not to be presumptuous, but assuming the expansion is over, after 49 months of recovery (July 2003-August 2007) and 4 months of expansion (August to December 2007), Connecticut’s job market turned down after December 2007, with three consecutive monthly declines in Nonfarm Employment. Graph 1 compares the recovery and expansion phases of the current cycle to the previous cycle. The recovery-expansion phase of the current cycle lasted 53 months, or 17.7 quarters. The 1990’s recovery-expansion phase lasted 91 months or 30.3 quarters. The two Post-Cold War recovery-expansions averaged 72 months (24 quarters), with an average recovery period of 66.5 months (22.2 quarters), and an average expansion period of 5.5 months (1.8 quarters).

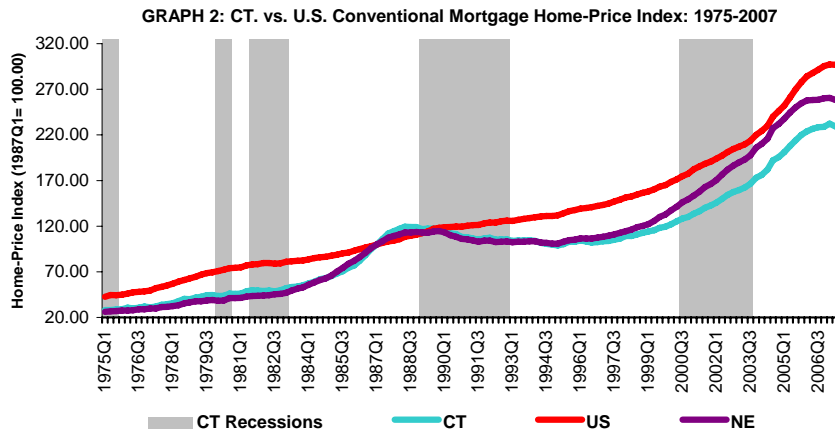


II. DRAG FORCES ON CONNECTICUT’S ECONOMY: The Housing Bust/Recession and Rising Energy Prices

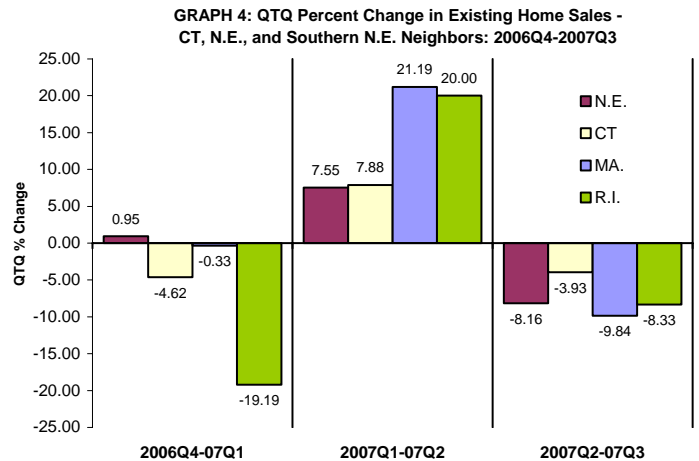
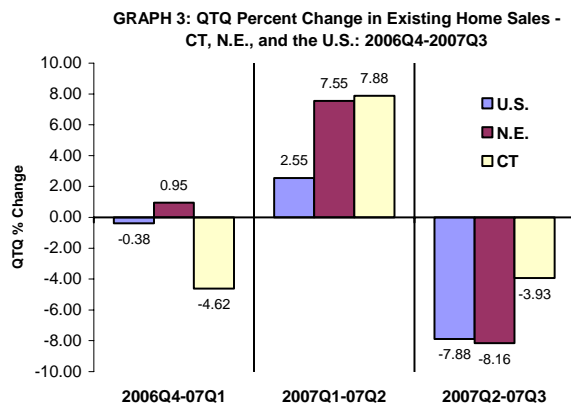
The Housing Bust/Recession—Implications for Connecticut’s Economy: The Housing Bubble in Connecticut-- Connecticut, as a whole, has not been as susceptible to the asset bubble that has engulfed

⁷¹ To see what the criteria for a recession are, go to the NBER Website at <http://www.nber.org/cycles/recessions.html#faq>

many of the nation's state and regional residential, real-estate markets. Graph 2 plots Freddie Mac's Conventional Mortgage Price-Index for the U.S., New England, and Connecticut from the first quarter of 1975 (1975Q1) to the third quarter of 2007 (2007Q3). The level of home prices for New England and Connecticut exceeded that for the U.S. during the 1980's Real-Estate Bubble, but New England's level never exceeded that for the U.S. over the current housing cycle, and Connecticut's level remained below that of New England's. Nevertheless, though muted, compared to Boston, Las Vegas, and San Francisco, and other areas, Connecticut has not completely escaped the effects of the housing boom-bubble-bust cycle, and some Connecticut regions and metro areas have been affected more than others. Using data from the National Association of Realtors (NAR), Graph 3 compares the Connecticut Quarter-to-Quarter (QTQ) change in existing home sales to the U.S. and New England from the third quarter of 2006 to the third quarter of 2007. Graph 4 compares Connecticut to its Southern New England neighbors and the New England Region. Though Connecticut had a larger decline in existing home sales than New England or the U.S., and when compared to Massachusetts in 2007Q1, and lagged behind compared areas in the 2007Q2-increase in sales, it did not experience the steep decline in 2007Q3 experienced by New England, neighboring states, and the U.S.



SOURCE: Boston Federal Reserve and Freddie Mac

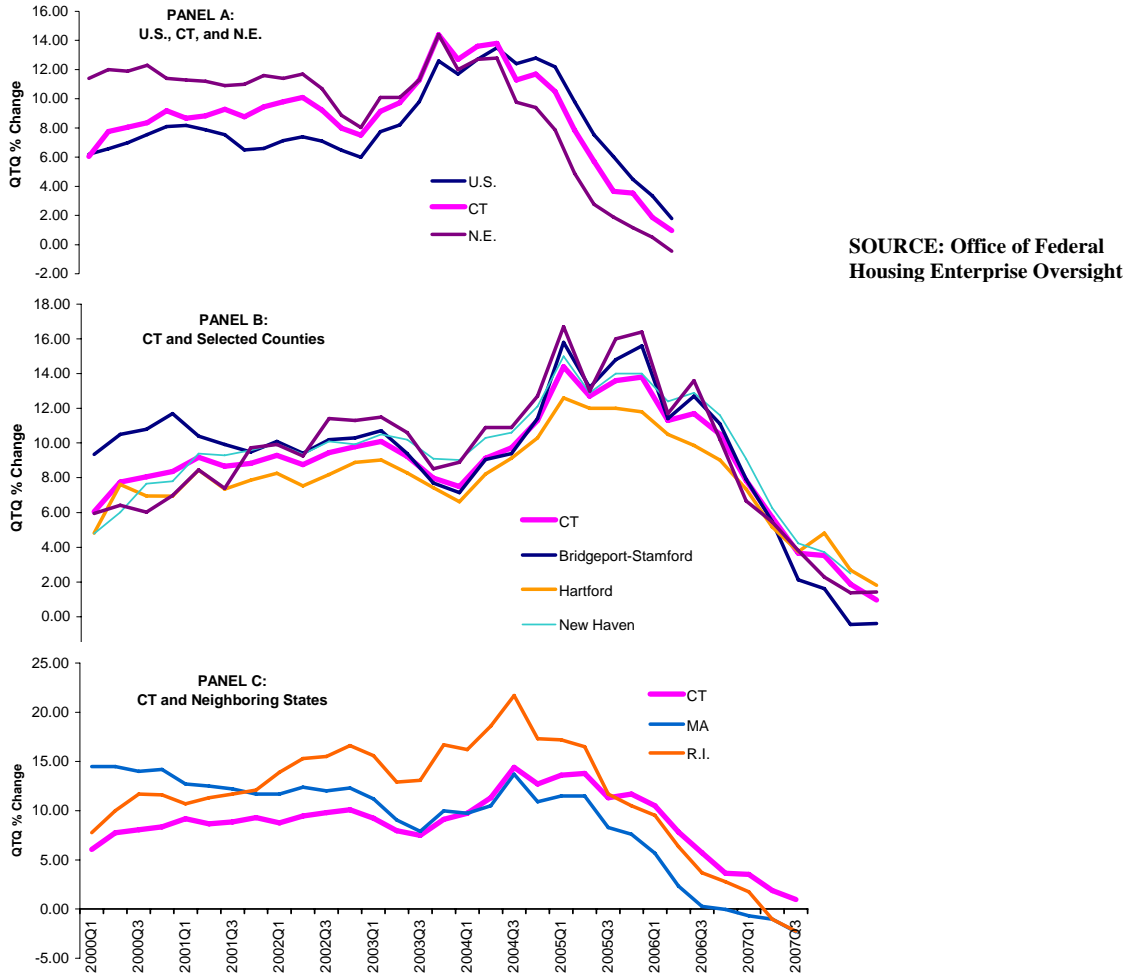


SOURCE: National Association of Realtors

To track home price behavior, it is best to use a constant-quality housing price index. Otherwise, the data can reflect a paradoxical picture of housing-market trends. This could result from a couple of features of the residential real-estate market. Though the market adjusts through price, there is an even bigger

adjustment through quantity. This is due to the nature of the housing market. It can take nine months to complete a single-family home. And up the two years for multiple-unit structures⁷². This significant time lag in market-adjustment tips the adjustment process more heavily toward quantity rather than price. Also, when the market turns down, those potential buyers on the lower end of the market tend to drop out first. This produces the paradoxical result of observing an increasing average sales price as home sales are falling. To address this problem, the Office of Federal Housing Enterprise Oversight (OFHEO) uses a Case-Shiller type, constant-quality methodology to construct their *House Price Index* (HPI)⁷³. This index is tracked from 2000Q1 to 2007Q3 for Connecticut and selected areas in Graph 5.

GRAPH 5: QTQ % Change in OFHEO HPI: 2000Q1-2007Q3



SOURCE: Office of Federal Housing Enterprise Oversight

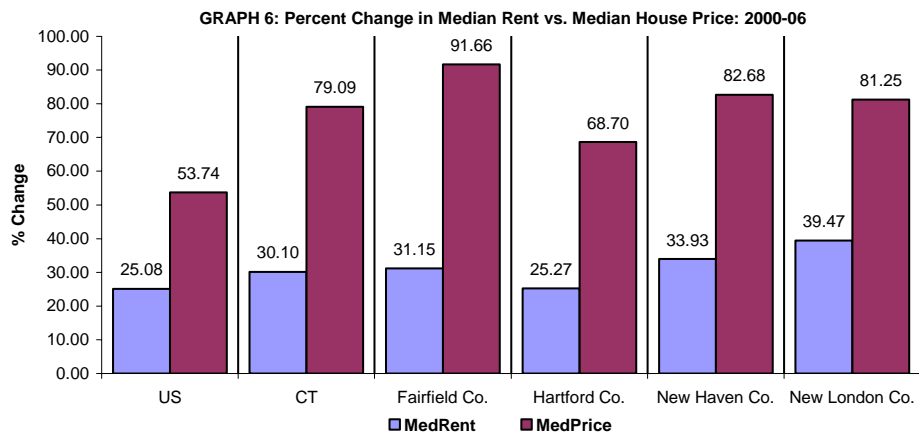
Graph 5 tracks the QTQ percent-change in the OFHEO-HPI (or HPI) from 2000Q1 to 2007Q3. Panel A in Graph 3 tracks the HPI for Connecticut, the U.S., and New England--Connecticut is represented by the thick blue line in all three panels. Up until they converged at the end of 2004, Connecticut's QTQ growth-rate in the HPI exceeded that for the U.S., but was lower than the growth-rate for New England. In the second quarter of 2005, the HPI, QTQ growth-rate began decelerating rapidly for Connecticut, New England, and the U.S. as the housing bubble began bursting. The U.S. QTQ growth-rate slowed to 1.79% in 2007Q3, and slowed even faster for Connecticut, with a flat 0.97% growth in the third quarter. For the

⁷² Dipasquale and Wheaton, URBAN ECONOMICS AND REAL ESTATE MARKETS (1999), Ch. 10

⁷³ Calhoun, Charles A., *OFHEO House Price Indexes: HPI Technical Description* (March 1996) Office of Federal Housing Enterprise Oversight: Washington

New England Region, the HPI actually declined by 0.46%. This was clearly driven by the steep declines in Massachusetts (-2.31%) and Rhode Island (-2.24%) (See Panel C, Graph 5). Panel B in Graph 5 compares Connecticut to its four largest metropolitan areas. As is apparent, there is a wide difference in the behavior of the QTQ growth-rate in the HPI at the sub-state regional level. Bridgeport-Stamford (Lower Fairfield County) is the only one of Connecticut's four metro areas, depicted in Panel B, to have a decline in the HPI, and it was nearly as steep as that for New England (-0.40%). Yet, it was the New London-Norwich metro area that had the biggest QTQ growth-rates in the HPI over the period of the most rapid price appreciation (approximately 2004Q3 to 2005Q2). And, in 2007Q3, New London-Norwich grew faster than the State, with a QTQ growth-rate of 1.43%. Hartford's 1.81%, QTQ growth-rate in the third quarter of 2007, outpaced that of Connecticut, New England, and the U.S. One reason may be that Hartford's QTQ growth-rate never approached the lofty heights that other areas of the State did. At the peak of the price acceleration in 2004Q3, Bridgeport-Stamford, New Haven, and New London-Norwich all grew by more than 15%, on a QTQ basis. The State's HPI index grew more than 14% in the third quarter of 2004, while Hartford grew by less than 13%. The bubble in residential, real estate assets did not seem to take root in the Hartford metro area to the extent that it did in other areas of the State, not to mention other areas of the New England Region, such as Boston and Rhode Island.

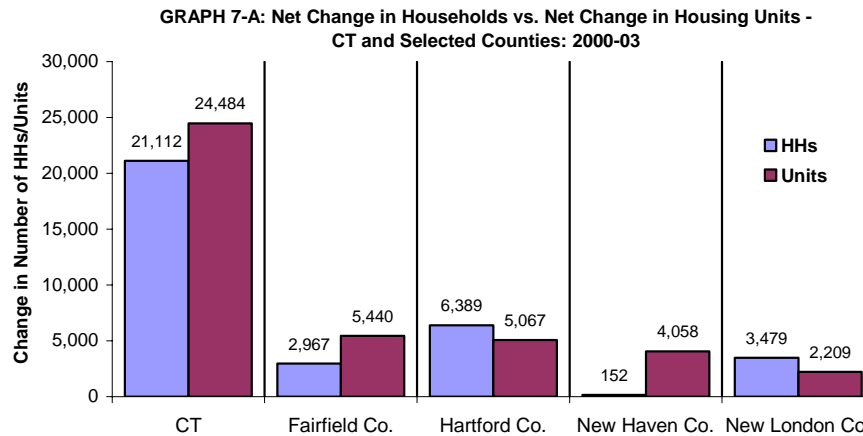
But, Connecticut still participated in the bubble. One of the justifications for the run-up in house prices and the excessive supply now on the market was the need to meet the demand from new household formation. But, pressure on living space in the residential property markets should have shown up in both, home price appreciation, *and*, increases in rents, as the demand for living space would have outstripped supply—whether for rental units or owner-occupied. But, the behavior of rents was not consistent with what would be expected if house-price appreciation was, in whole, or in part, driven by demographic pressures on the State's residential property markets. This situation is depicted in Graph 6. As can be seen, the growth-rate of the median home price far outstripped the growth-rate in rents between 2000 and 2006—not only in the U.S., but also in Connecticut. While for the U.S., the median house price grew twice as fast as rent over the 2000-06 Period it grew 2.63 times faster in Connecticut. In Fairfield County, the growth-rate in the median house price outstripped the growth-rate in rents by 2.94 times. It was 2.72 times in Hartford County and 2.44 times in New Haven County.



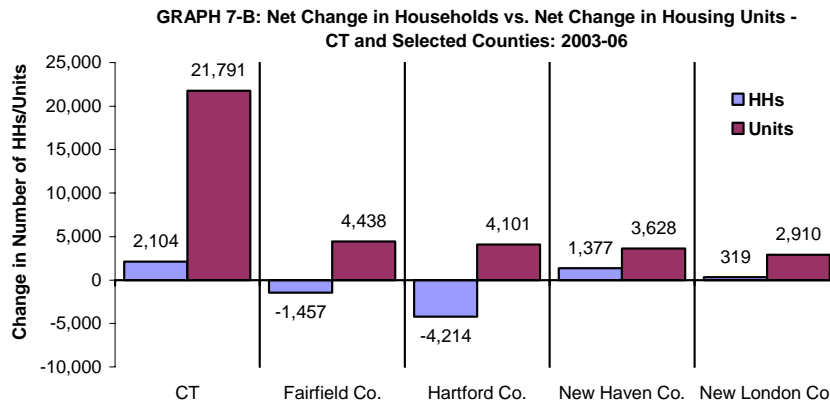
SOURCE: American Community Survey, U.S. Census Bureau

Over the long run, not only should the growth-rate in rents and the median house-price not be too far out of line, but neither should the growth in households and housing units. When looking at the net-change in the number of households, relative to the net-change in the number of housing units, the imbalances in the State's housing markets becomes even more apparent, particularly for some of the State's regional markets.

Though there were 23,216 net, new households added to Connecticut between 2000 and 2006, 46,275 net, new housing units were added to the State's housing stock. The number of housing units grew twice as much as the number of households. For the U.S., over the same period, the ratio was 1.5. Graphs 7-A and 7-B show the net-change in the number of households and the number of housing units over two segments of the 2000-06 Period: 2000-03 and 2003-06. Referring to Graph 7-A, Over the 2000-03 Segment the net-change in housing units and households does not appear to be seriously out of balance. And, in fact, the net-change in housing units did not keep up with net, new household formation in Hartford and New London counties⁷⁴. Only New Haven County was seriously out of balance, with the number of net- new housing units, far outstripping new household formation. But, things took a different turn over the 2003-06 Segment (see Graph 7-B).



SOURCE: American Community Survey, U.S. Census Bureau



Between 2003 and 2006, Connecticut's net, new household formation rapidly declined, from 23,216 between 2000 and 2003, to 2,104 between 2003 and 2006. Thus the rate of net, new household formation over the 2003-06 Segment slowed to one-tenth the rate over the 2000-03 Segment (7,037 net, new households/year versus 701 net, new households/year). Yet, the rate at which Connecticut added net, new units to the housing stock only slowed from 8,161/year (2000 to 2003) to 7,264/year (2003 to 2006). The ratio of net, new units-to-net, new households shot up to 10:1 over the 2003-06 Segment. That is, for every net, new household formed, 10 net, new units were added to the housing stock! That cannot be

⁷⁴ See Appendix for a discussion of the statistical reliability of the American Community Survey data.

sustained. From Graph 7-B, the net change in the number of households was negative in both Fairfield and Hartford counties. But, while the number of households declined in these two counties, they both continued to add significant numbers of net, new housing units. In each case, more than 4,000 net, new units were added between 2003 and 2006. In fact the decline in the number of households in Hartford County was equal to the increase in the number of housing units.

Foreclosures in Connecticut—Though the damage from the sub-prime debacle has not been nearly as severe and as extensive in Connecticut as it has been in other states, it has not escaped unscathed. In the first half of 2007, the number of foreclosures increased 547% in the New Haven-Milford area, 522% in the Bridgeport-Norwalk-Stamford metro area (Lower Fairfield County) and 446% in the Hartford area, compared with the same period in 2006⁷⁵. However, though up 8% in November 2007, compared to November 2006, according to RealtyTrac[®], Connecticut foreclosures were down 20% from October⁷⁶. Nationally, there was a 10% decline in foreclosures between October and November 2007. However, for the Nation, foreclosures were up 68% from November 2006. The State also had a lower rate of homes in the foreclosure pipeline. While the U.S. had one foreclosure for every 617 households in November 2007, Connecticut had one foreclosure for every 1,110 households. This put Connecticut 23rd among the 50 states in foreclosure rates—at the bottom of the top half.

The foreclosure data on Connecticut's counties cross-validates the county-level trends revealed by the American Community Survey data, which served as the basis for the discussion above on the rise of median house prices, relative to rents, and the mismatch between net additions to the housing stock and net household formation. That is, the same sub-state areas appear to be where pockets of trouble may exist in Connecticut. Unlike other states, Connecticut's sub-prime problems, a bubble in the growth in housing values, as well as any imbalances in additions to the housing stock, relative to net, new household formation are confined to specific parts of the State. The same three counties lead in foreclosures: New Haven, Fairfield, and Hartford. New Haven County led the State with 412 foreclosure filings for November 2007. Fairfield County reported the second highest state total, with 344 foreclosure filings, and Hartford County came in third highest, with 323 foreclosure filings. New Haven County had the highest foreclosure rate in Connecticut for November, one foreclosure filing for every 842 households — 1.3 times the State average. Fairfield County registered the second highest foreclosure rate, one foreclosure filing for every 1,009 households. And third, was Middlesex County: one foreclosure filing for every 1,076 households. In this category, Hartford County did not rank in the top three. However, Fairfield and New Haven counties consistently show up as two of the top three trouble spots in each indicator of stress in the residential real estate market.

In summary, Connecticut's worst period for the current rash of foreclosures may have been the first half of 2007. Since then, the rate of foreclosures has been declining, so far. However, nationally, a substantial number of new sub-prime, foreclosures are expected to occur by Fall 2008. How much exposure Connecticut will have to this expected "final round" of sub-prime foreclosures is yet to be seen. Further, the possible excess supply of units, relative to household formation, will have to be worked off by, either a resumption of pre-2003, net household formation, or an adjustment period long enough to absorb the excess number of housing units, or both. Finally, the fallout from the housing bubble-bust-recession seems to be particularly concentrated in the Southwest region of the State, with some possible problem spots in Hartford County. The rest of the State does not seem to be severely effected.

⁷⁵ The Associated Press, *Mortgage foreclosures hitting Connecticut cities hard* (October 28, 2007) Boston.com

http://www.boston.com/news/local/connecticut/articles/2007/10/28/mortgage_foreclosures_hitting_connecticut_cities_hard/

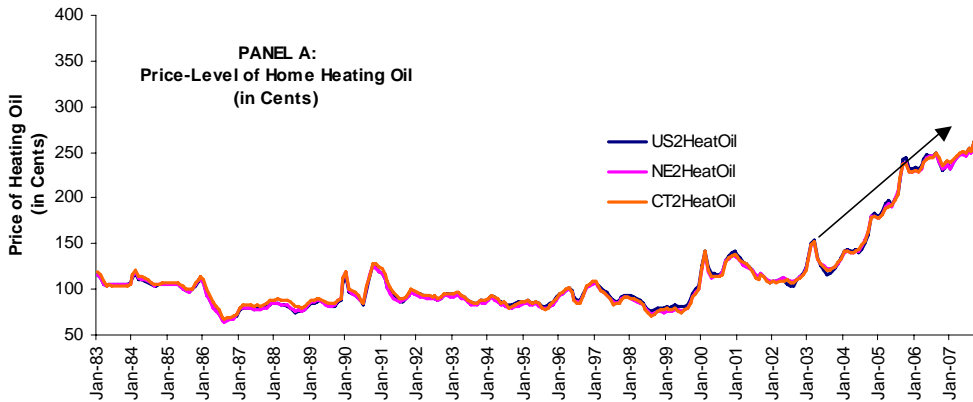
⁷⁶ RealtyTrac Staff, CONNECTICUT FORECLOSURE ACTIVITY DOWN 20 PERCENT IN NOVEMBER (December 19, 2007) RealtyTrac[®]: Irvine, CA. <http://www.realtytrac.com/ContentManagement/Library.aspx?ChannelID=13&ItemID=3814> (January 29, 2008)

Rising Energy Prices and Connecticut's Economy

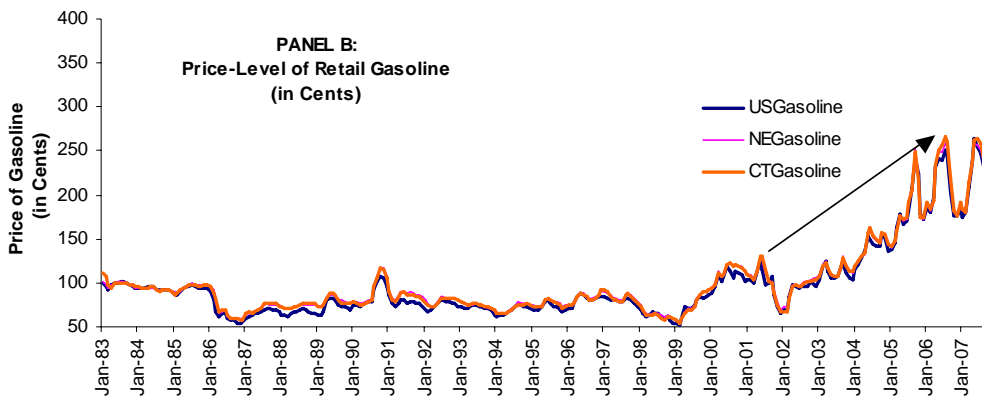
A High Energy-Cost State—As illustrated in Graph 9 of the U.S. Outlook⁷⁷, the current period, beginning in 2002, is the longest period of sustained oil-price increases over the entire 37-year period analyzed (1970 to 2007). Unlike past, sudden spikes in oil prices that hit the economy with a sudden shock, this episode of price-increases has been characterized by a steady, relentless increase in energy costs that has been building up cumulative effects. Households, especially those below the median, have seen a steady erosion of their purchasing power as oil-related produces, as well as food (discussed below), have taken a larger and larger share of disposable income. Connecticut, being a high energy-cost state, has been hit particularly hard by these increases. In addition, recent and planned increases in electric rates have also added to the cost of operating both households and businesses.

Gasoline and Heating Oil—Using data from the U.S. Energy Information Administration, Graph 8 tracks monthly, nominal (not adjusted for inflation) prices (in cents) of Number 2 heating oil and retail gasoline for the U.S, New England, and Connecticut from January 1983 to October 2007. Reflecting the sustained upward trend in the price of West Texas Intermediate (WTI) since 2002, the prices of home heating oil (Panel A) and retail gasoline (Panel B) have also continued to climb since 2002.

Graph 8: Prices (in Cents) for the U.S., N.E., and CT: 1983-2007



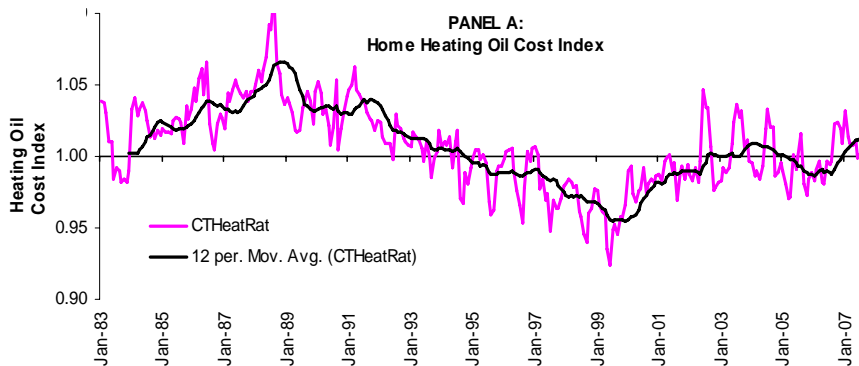
SOURCE: U.S. Energy Information Administration



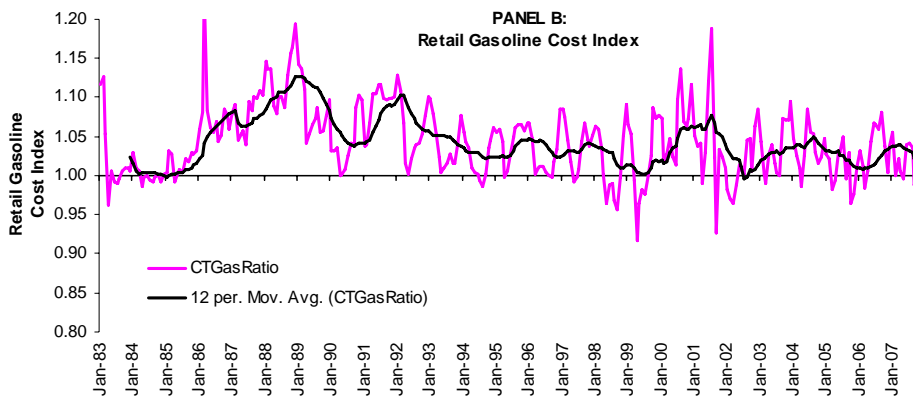
⁷⁷ See Kennedy, Daniel W., CURRENT CONDITIONS AND OUTLOOK for 2007-2009: VOLUME I-The U.S. Economy (January 2008) Office of Research, Connecticut Labor Department: Wethersfield, Graph 6, p. 44.

Graph 9 tracks an index⁷⁸ of Connecticut home heating oil (Panel A) and retail gasoline prices (Panel B) over the same period as that tracked in Graph 8. Index values above the horizontal axis indicate an index value greater than one, which, in turn implies, that the Connecticut price exceeds the U.S. price. Due to the noise in the data, the 12-Month Moving Average (MMA) is also provided. From Panel A, after rising in the 1980's, the relative price of Connecticut's home heating oil began a long decline, and in 1995, it fell below 1.00, indicating that it fell below the average price for the U.S. But, from 2000 to 2003, the relative price of heating oil began climbing, and then declined again until 2006. Since then, the relative price has been rising again, and as of September 2006, Connecticut's relative price for heating oil has been above 1.00. This is particularly important for Connecticut because 52% of its households heat with oil compared to only 9% for the U.S.⁷⁹ Panel B tracks the price index for Connecticut retail gasoline. Unlike heating oil, the index for retail gasoline has very rarely been below 1.00 over the January 1983-October 2007 Period tracked in Panel B. In fact, the 12-MMA has never been below 1.00. In addition, the gasoline index displays a more dominant cyclical pattern. Since the beginning of 2007, there has been a downward trend in the relative price of gasoline for Connecticut's drivers. There has, in fact, been a convergence of U.S., New England, and Connecticut gasoline prices since January 2007. U.S. prices had the steepest decline, falling 58 cents, while New England's gasoline price fell by 49 cents Connecticut's fell by 48 cents. Consequently, by October 2007 Connecticut retail gasoline (not including taxes) prices all converged at 232 cents, or \$2.32 in October. However, the November price for the U.S. (not yet available at the State level) was 258 cents, or \$2.58—up 26 cents from October.

Graph 9: Number 2 Home Heating Oil and Retail Gasoline Indices for CT: 1983-2007



SOURCE: U.S. Energy Information Administration



⁷⁸ The index is constructed by simply dividing the price of Connecticut heating oil and gasoline by their U.S. counterparts for the same period. Thus, a value of 1.52 for gasoline would imply that the price of Connecticut's gasoline, for that period, was 1.52 times higher than the average price of gasoline in the U.S.

⁷⁹ Energy Information Administration, *State Energy Profiles* (January 24, 2008) U.S. Department of Energy: Washington

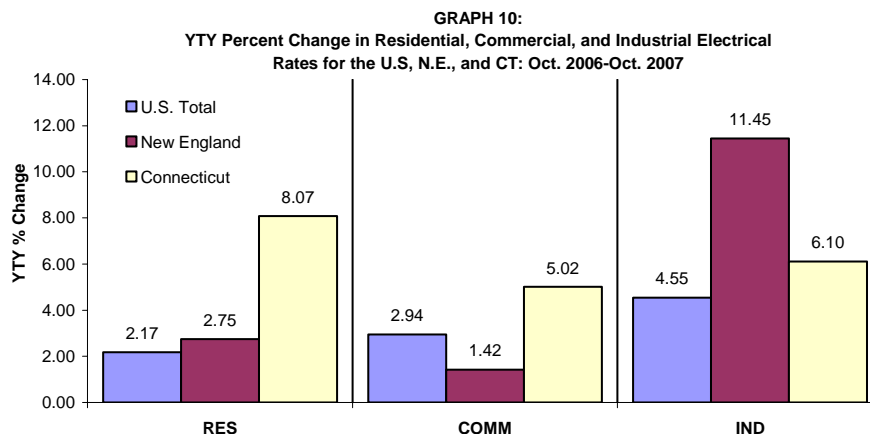
Electricity—In their March 2007 report on Connecticut’s electric rates, compared to other states, the Connecticut Legislature’s Office of Legislative Research (OLR) noted that:

As of November, 2006 (the latest date for available comprehensive data) Connecticut had the third highest electric rates in the country, behind Hawaii and Massachusetts. Connecticut has had relatively high rates for many years. In 1998, when the State adopted its electric restructuring law, it had the fourth highest rates in the country. High electric rates are a regional phenomenon. The ten states with the highest rates in 2006 included five New England states, New York, and New Jersey. The other New England state (Vermont) had the 11th highest rates. In contrast, the Southeast, the Pacific Northwest, and much of the Midwest have substantially lower rates than Connecticut⁸⁰.

They had no, single definitive reason as to why the region and state’s rates are so high:

We are aware of no definitive empirical analysis of why Connecticut's rates are so high. However, market participants and regulators point to a wide array of reasons, including (1) a tight market caused by growth in demand outstripping supply; (2) rapid increases in the price of natural gas, which is extensively used in generation and whose price affects the price charged by plants that use other fuels; (3) federally-imposed charges, particularly charges connected to congestion on the transmission system; (4) the age of the State's generating plants; and (5) the State's environmental standards, among other things. A number of these factors interact with each other. On the other hand, it is not clear what effect, if any, the restructuring law has had on rates.⁸¹

Connecticut’s electric-rate increases, between October 2006 and October 2007, far outstripped the rate-increases for the U.S. and New England for residential and commercial electric rates. Though the increase in Connecticut’s industrial rates were smaller than the increase for New England, they exceeded the increase in U.S. rates. This is illustrated in Graph 10. The 8% rise in residential rates is particularly significant, far outstripping the rise in residential rates for the U.S. and New England. The 5% rise in commercial rates also was far larger than the increases for the U.S. and New England. Only Connecticut’s industrial rate rose less than that for New England, but still by more than the rise in the U.S. rate. In fact, New England’s industrial rate rose by 11.5%, nearly double Connecticut’s increase.

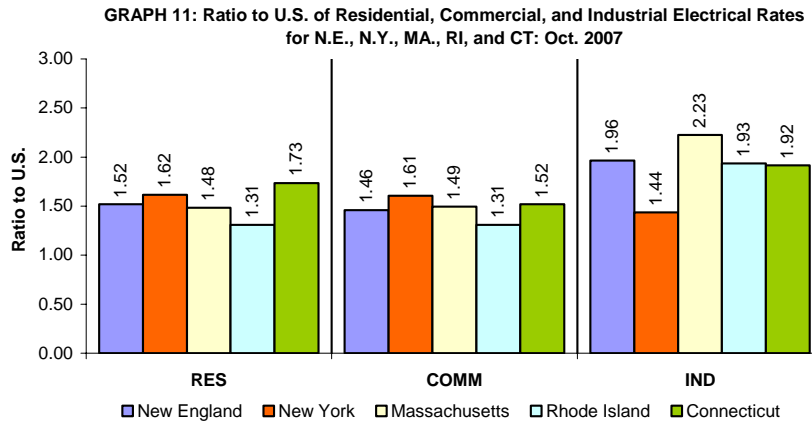


New England’s dramatic rise in industrial electric rates seems to have been driven by Maine (+25.8%) and Massachusetts (+12.2%). The results of these rises are presented in Graph 11. Graph 11 shows the ratio of electric rates for New England, Connecticut, and surrounding states, to the corresponding U.S. rates, for October 2006 and October 2007. Again, Connecticut’s disadvantage in residential electric rates

⁸⁰ McCarthy, Kevin E, CONNECTICUT'S ELECTRIC COSTS VS. OTHER STATES (March 7, 2007) CT OLR Research Report 2007-R-0247, Connecticut Legislature: Hartford

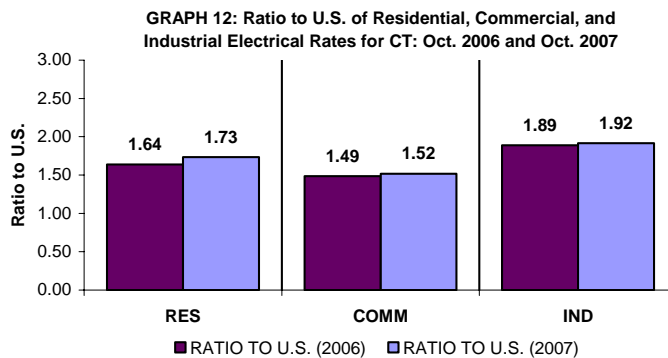
⁸¹ *ibid.*

is apparent. Save New York, Connecticut's relative rate for commercial electricity is also higher than that for the region and surrounding states. New York State is the most competitive, compared to New England, and all three Southern New England states, in terms of the relative rate for industrial electricity.



SOURCE: U.S. Energy Information Administration

The most uncompetitive is Massachusetts, where industrial electricity rates are 2.2 times those of the U.S. Graph 12 shows that Connecticut's relative electric rates for all three categories rose from October 2006 to October 2007. But, once again, the largest increase in Connecticut's relative rates was in residential, though the largest comparative disadvantage is in industrial electric rates.



SOURCE: U.S. Energy Information Administration

Against this backdrop, the Connecticut Public Utilities Commission (DPUC) issued a draft decision on the rate-hike request by Connecticut Light and Power (CL&P) on January 18, 2008. In their decision, the DPUC stated:

The Department will allow CL&P to increase distribution revenue requirements by \$70,281,000 in 2008 and by an additional \$22,540,000 in 2009. This represents an overall increase to customer bills of 1.7% in 2008 and approximately .5% in 2009. This translates into an increase to distribution rates of 10.1% in 2008 and 2.9% in 2009⁸².

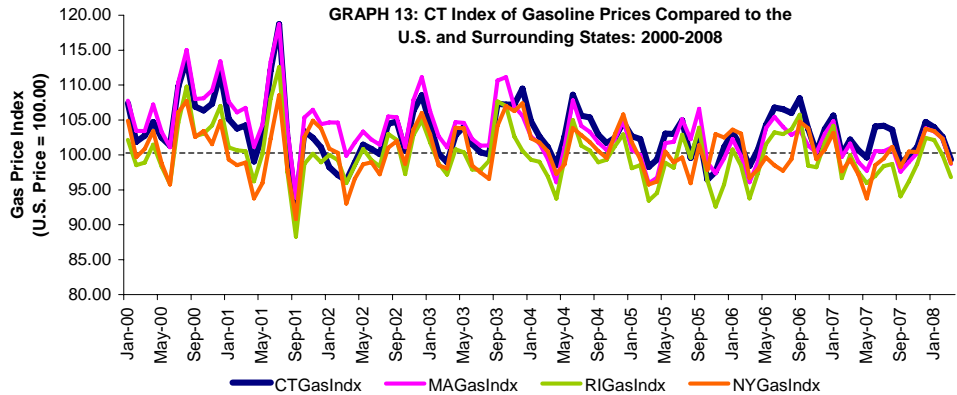
It remains to be seen how this further increase will affect Connecticut's Economy, in the face of slowing household formation, and as the U.S. Economy teeters on the verge of recession.

May 2008 Update

Connecticut gasoline prices, as of June 2008, AAA reported that the State's average retail price for regular unleaded was \$4.27 per gallon, 28 cents above the national average, and the highest in the

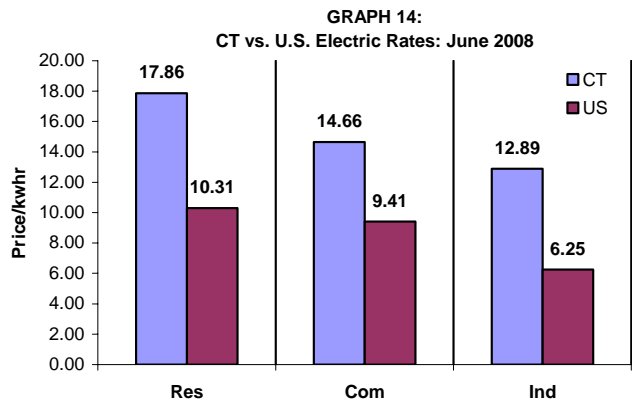
⁸² State of Connecticut, Department of Public Utility Control, *Draft Decision-APPLICATION OF THE CONNECTICUT LIGHT AND POWER TO AMEND RATE SCHEDULES*, DOCKET NO. 07-07-01 (January 18, 2008): New Britain, CT

country⁸³. As can be seen in Graph 13, Connecticut's retail gasoline prices, as a ratio to U.S. prices (where U.S. prices = 100.00 in each period), not including Federal and State taxes, has, for the most part, been higher than that for the surrounding states, save New York, and lately, Connecticut's gasoline prices have been higher than those in New York⁸⁴.



SOURCE: U.S. Energy Information Administration

Furthermore, Connecticut's electric rates are far above those in the U.S. As depicted in Graph 14, the State's residential electric rates are 73% above U.S. rates, commercial rates are 56% above national rates, and industrial rates in Connecticut are 106% above the U.S. average⁸⁵. Fifty-two percent of Connecticut households heat with oil, compared to 9% for the U.S. Thus, there are severe pressures on Connecticut's middle class and working class households, and especially its poor households.



SOURCE: U.S. Energy Information Administration

III. FOUR JUMP-STARTS TO CONNECTICUT'S ECONOMY: The Growth in Exports, Finance, Demographics and Lifestyles, and Professional and Business Services

The Growth in Exports

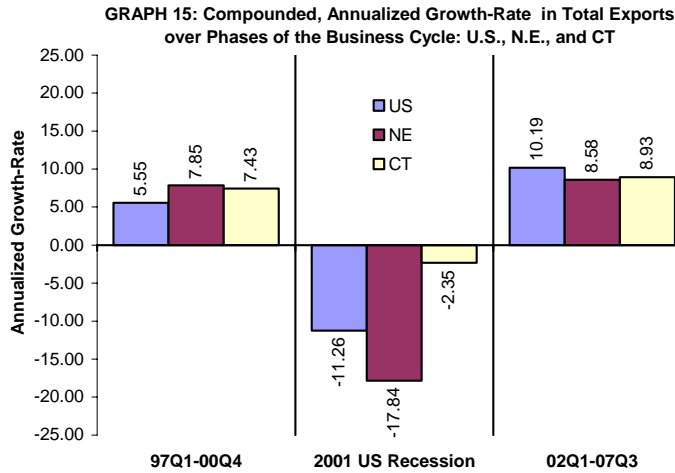
As illustrated in Graph 15, the annualized, compounded growth-rate in exports has been stronger over the current recovery, compared to the last three years of the 1990's Expansion. The compounded, annualized growth-rate has almost doubled from 5.6%/year in the late 1990's, to 10.2%/year over the current cycle. Consequently, U.S. Exports have grown by 74.7% over the 23 quarters between 2002Q1 and 2007Q3.

⁸³ Phaneuf, Keith M., *Governor, legislators now say they will ax gas tax hike set for July 1*, JOURNAL ENQUIRER (Published: Friday, June 6, 2008)

⁸⁴ U.S. Energy Information Administration

⁸⁵ *ibid*

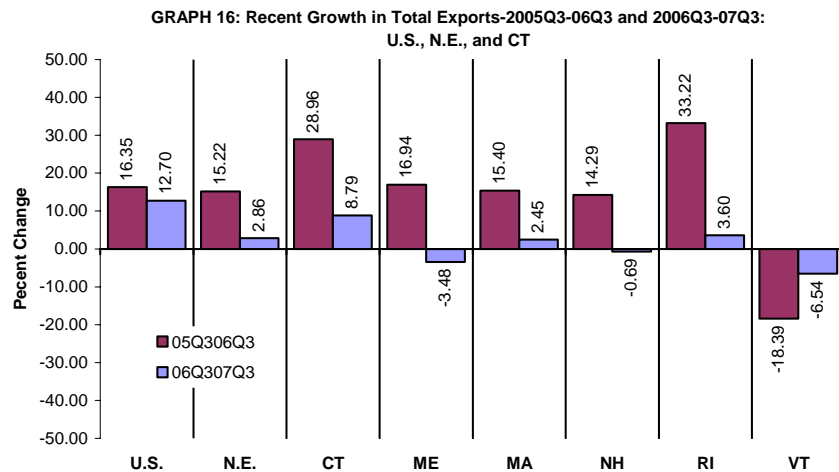
However, while New England and Connecticut's exports grew faster than U.S. Exports in the 1990's, and Connecticut's Exports did not decline as steeply as did U.S. and the New England Region's exports over



SOURCE: Boston Federal Reserve Bank

the 2001 Recession, Connecticut's export-growth of 63.5% over the current cycle has lagged slightly behind the growth in U.S. Exports, but stronger than that for the New England Region (+60.5%). However, the compounded, annualized growth-rates for both Connecticut and New England have outpaced their 1990's performance (see Graph 15). However, the big story in exports was the growth-sprint in 2006.

Graph 16 shows the quarter three-to-quarter three, export-growth for 2005-06 and 2006-07 for the U.S., Connecticut, and the other five New England States. For the U.S., export-growth decelerated from 16.4% to 12.7%. This seems to have had even more ominous implications for the New England states. The region's export-growth decelerated from 15.2% to 2.9%, a far steeper decline than that for the U.S. Connecticut's export-growth declined from 29% to 8.8%.



SOURCE: Boston Federal Reserve Bank

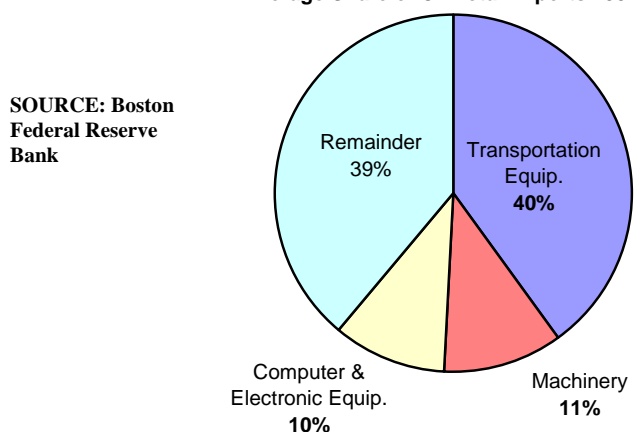
Export-growth in Maine and New Hampshire contracted. Vermont's exports contracted in both the 2005-06 and 2006-07 periods. However, the contraction in export-growth abated somewhat over the 2006-07 Period.

In summary, export-growth, a bright spot for Connecticut, the region, and the nation, may be waning as a counterweight to drag forces by providing a jump-start to the economy's momentum, which has helped

stave off recession over the last year. On average, over the last ten years, 20% of Connecticut's exports go to Canada, which depends heavily on exports to the U.S. And, although, as a percent of total exports, Canada has fallen to 12.3% of Connecticut's exports in 2007Q3, nevertheless, with the growth in U.S. Imports slowing, Connecticut's single-largest export-destination is affected.

By far, Transportation Equipment is Connecticut's most important export industry. In the third quarter of 2007, it accounted for \$1.4 billion, or 42%, of the State's total exports of \$3.4 billion. The next two important export industries are Machinery, and Computer and Electrical Equipment. Graph 17 presents a pie chart of the distribution of the average share of Connecticut's top export industries, of the State's total exports, over the last 10 years (1997-07).

**GRAPH 17: Top Three Industries:
Average Share of CT Total Exports 1997-07**



Drivers of Connecticut's Income and Employment Growth: Finance, Demographics and Lifestyles, and Professional and Business Services

Income Generated by the Connecticut Economy

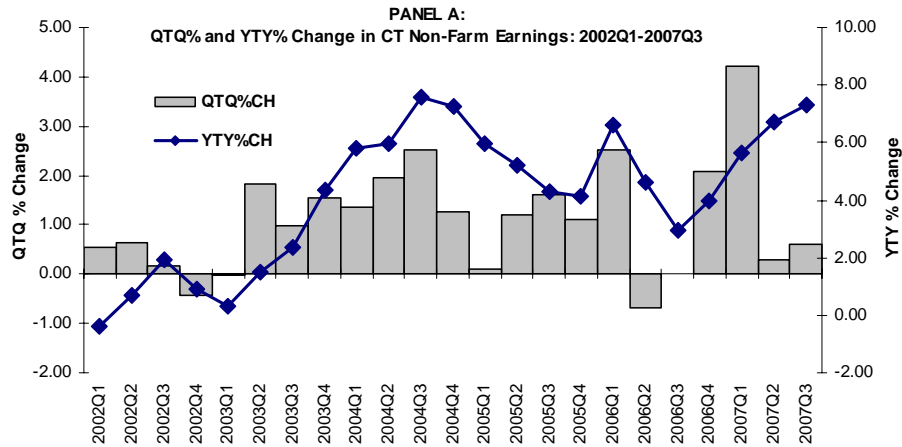
Since the U.S. BEA does not collect GDP data at the quarterly frequency at the state level, Non-Farm Earnings, a geographic-location based concept, provides a good up-to-date proxy for the state or regional economy's performance. Given the OUTPUT = INCOME relationship, one is another perspective on the other⁸⁶. The following discussion focuses on the recent performance of Connecticut's Non-Farm Earnings growth.

The Growth in Non-Farm Earnings--Graph 18 tracks the QTQ and YTY percent-change in CT Non-Farm Earnings from 2002Q1 to 2007Q3, (Panel A) and CT Quarterly Personal Income (QPI) (Panel B). The left and right vertical scales in both panels are identical, so that there is no distortion in their tracks. Both panels use the same horizontal scale. What catches the eye is the spike in the QTQ growth-rate of Non-Farm Earnings for 2007Q1, as well as, the significant deceleration in the QTQ growth-rate over the second and third quarters of 2007—though it accelerated slightly in the third quarter, compared to the second. The YTY growth-rate in Non-Farm Earnings accelerated strongly from the first quarter of 2003 (one quarter before the recovery in Connecticut Non-Farm Employment) to the third quarter of 2004. Save the spike in growth in the first quarter of 2006, the growth-rate decelerated from the third quarter of 2004 to the third quarter of 2006. Since, 2006Q3, the growth-rate in CT Non-Farm Earnings once-again, steadily accelerated, with a possible slight, slowing in the third quarter of 2007.

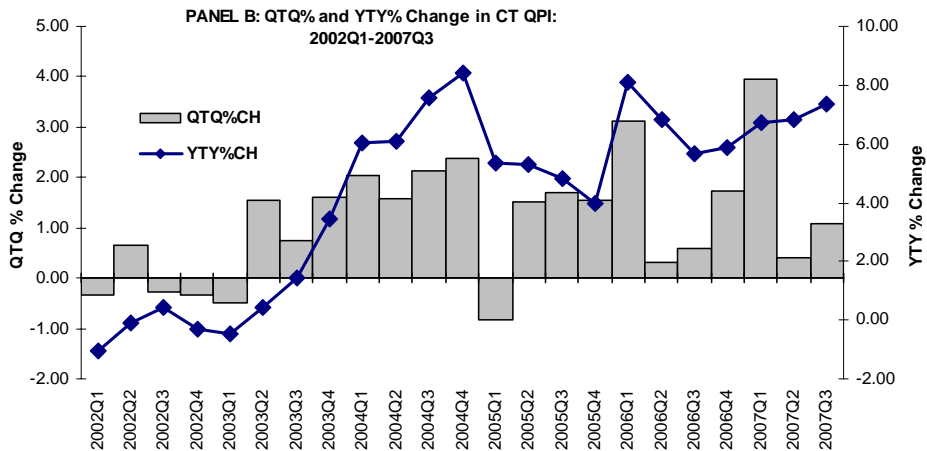
⁸⁶ In addition to the statistical discrepancy, Gross Domestic Product (GDP) will differ from Gross Domestic Income (GDI) because GDP uses accrual-based accounting, and GDI uses cash-based (disbursal) accounting.

Graph 18, Panel B, tracks the residence-based Connecticut (CT) Quarterly Personal Income (QPI) series over the same period as earnings are tracked in Panel A. The QTQ growth-rate follows a similar track to that of Non-Farm Earnings (see Panel A), though the 2007Q3 growth-rate for QTQ, QPI accelerated slightly faster than that for earnings growth. However, the 2007Q1 spike in growth is steeper for Non-Farm Earnings. Nevertheless, the more pronounced difference is in the behavior of the YTY growth-rate in the residence-based QPI since 2006Q3, compared to that of the geographic-location-based Non-Farm Earnings. The trend in YTY, QPI growth is much flatter, and thus, it has not accelerated as steeply as industry earnings over the same period. So, what has been driving the growth in non-farm earnings by industry? And, what does a possible slowing imply?

GRAPH 18: QTQ and YTY Growth-Rate in CT Non-Farm Earnings and QPI: 2002Q1-2007Q3

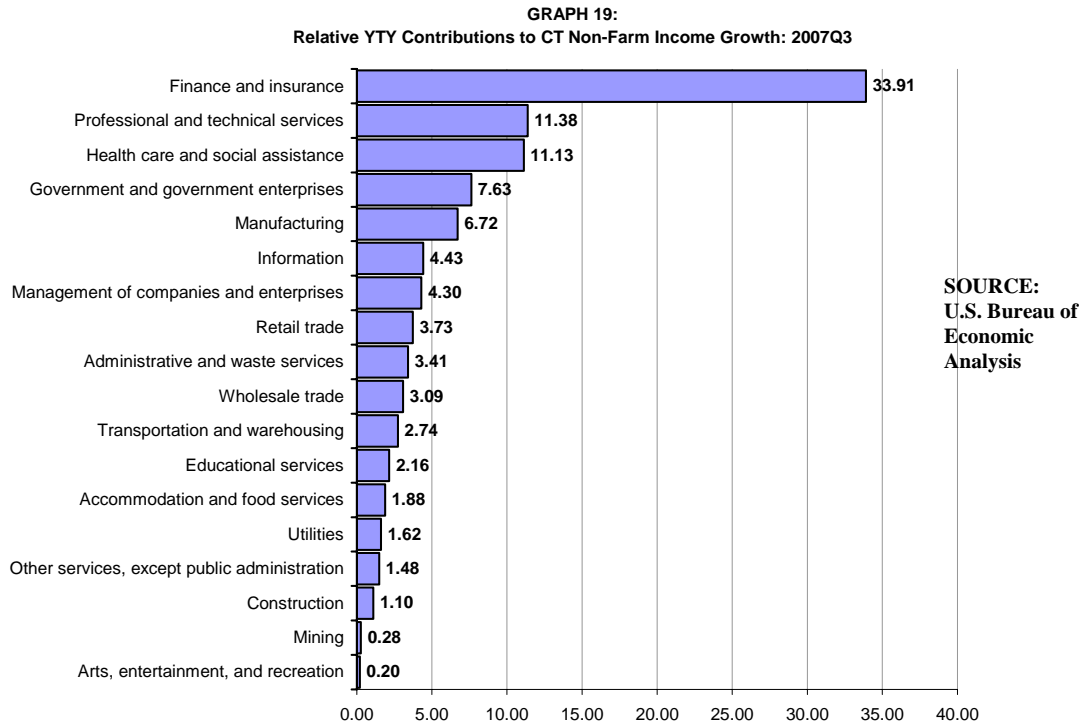


SOURCE: U.S. Bureau of Economic Analysis

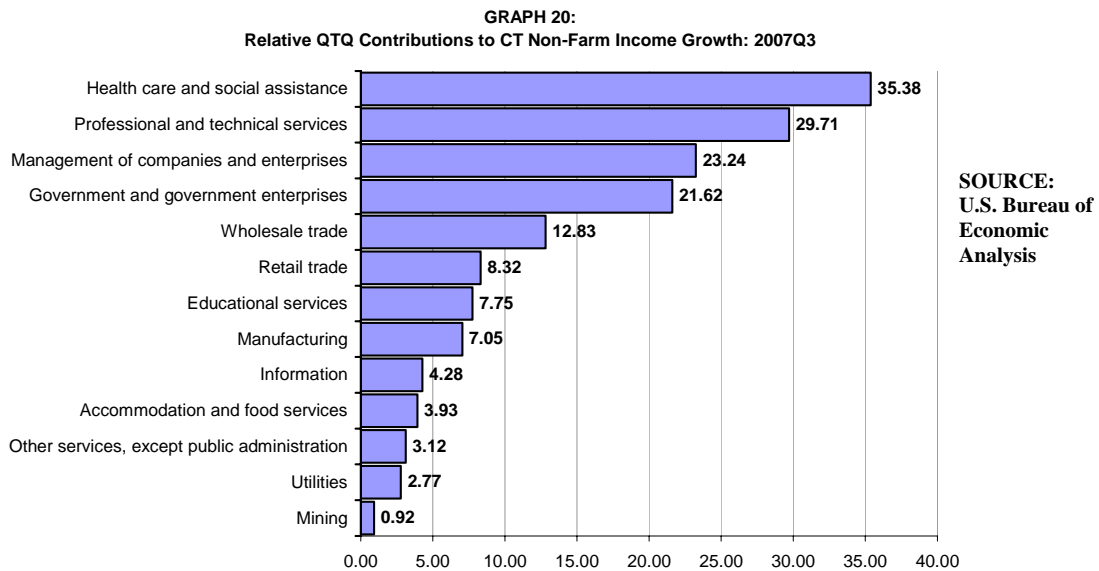


Graphs 19 and 20 shed some light on that question. From the YTY perspective, CT Non-Farm Earnings grew by \$9.8 billion. Though 18 of the 20 NAICS sectors had growth in earnings over the 2006Q3-2007Q3 Period, three sectors accounted for \$5.5 billion, or 56.4% of the all growth in earnings. The most important sector is Finance and Insurance. Between the third quarter of 2006 and the third quarter of 2007, earnings in the Finance and Insurance Sector grew by \$3.3 billion, and accounted for 33.9% of total Connecticut, Non-Farm Earnings growth. The only other sectors to contribute more than five percent to

earnings growth, on a YTY basis, was Government (which includes the tribal nations) and Manufacturing. The sectors contributing to earnings-growth are ranked by relative contribution in Graph 19.



On a QTQ basis, the sectoral contributions to earnings-growth reflect the housing/sub-prime crisis, and the consequent de-stabilization of financial markets. Further, it highlights Connecticut's vulnerability to the current financial contagion. CT Non-Farm Earnings grew by \$865 million in the third quarter of 2007, on a QTQ basis. Only 13 sectors, as opposed 18 sectors, on a YTY basis, made positive contributions to earnings growth. Health Care and Social Assistance (HCSA) accounted for \$306 million, or 35.4% of the QTQ growth in earnings. The HCSA Sector's contribution, along with the 12 other sectors making positive contributions to income-growth, is presented in Graph 20.

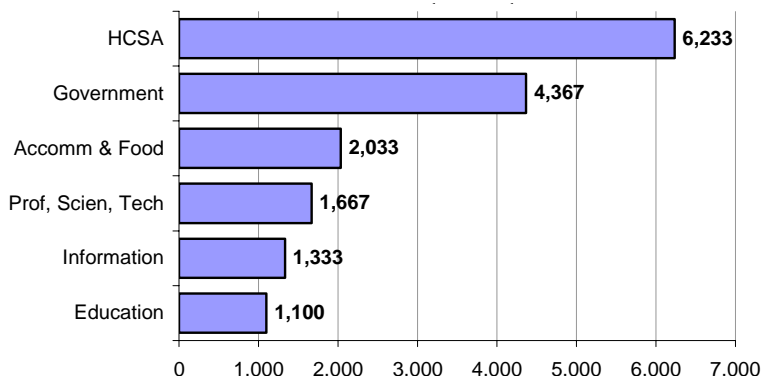


Professional and Business Services, a significant contributor to the YTY growth-rate in Connecticut industry earnings, accounted for the second largest QTQ contribution to Non-Farm Earnings. QTQ, Management of Companies and Enterprises and Government each accounted for more than 20% of the growth in earnings. Conspicuously absent from Graph 19 is the sector that was a dominant contributor to the YTY growth-rate in Connecticut’s Non-Farm Earnings: Finance and Insurance. And, in fact, this sector accounted for a subtraction from the QTQ growth in Non-Farm Earnings. This is quite a role-reversal from its YTY performance.

May 2008 Update

The trend-dominated sectors of the State’s Economy, driven by demographics and lifestyles, continued to create jobs even after overall employment declined after December 2007. From Graph 21, the latest Establishment Survey data shows that, on a Year-to-Year (YTY) basis, the *health care and social assistance* (HCSA) sector added 6,233 jobs in the first quarter of 2008, with *ambulatory care, hospitals, and nursing and residence care facilities* accounting for most of the gains. *Government* added 4,367 jobs in the first quarter, mostly at the state and local levels. *Accommodation and food services* added 2,033 jobs in the first quarter of 2008 (YTY), with *full-service restaurants* contributing the largest share of the sector’s job-growth. With *computer systems and design* making the major contributions, the *professional, technical, and scientific sector* reversed course and gained 1,667 over the first three months of 2008, on a YTY basis. This dramatically reverses the trend in job-losses for this sector over the last quarter of 2007. *Information* added 1,333 new positions in the first quarter. This continues the reversal of this sector’s job-losses, which began in the second quarter of 2007. *Education*, driven by *educational services* added 1,100 net, new jobs. At the three-digit industry level, *securities, commodities, and brokers* (which includes *investment banks and hedge funds*) continued to add jobs in 2008, adding 767 jobs over the first quarter, despite the credit-crunch and financial meltdown. However, there may be a delayed effect on staffing adjustments that will show up later on in the year (e.g., Swiss bank giant, UBS, which has a significant presence in downtown Stamford, announced on May 6, 2008 that it will reduce its workforce by 5,500⁸⁷ by mid-2009).

GRAPH 21: CT NAICS Sectors Adding 1,000 or more Jobs: 2007Q1-2008Q1



SOURCE: CT DOL
 – Office of Research

IV. CONNECTICUT’S WILD CARDS: Sub-Prime Resets and Instability in the Financial Markets

Sub-Prime Resets

For a wider discussion on these issues and the implications for the U.S. Economy, the reader is referred to Volume I, *The U.S. Current Conditions and Outlook*. This discussion will focus on the implications for

⁸⁷ See “UBS News” page on the UBS Website at <http://www.ubs.com/1/e/about/news.html?newsId=142216> (May 6, 2008)

Connecticut's Economy, and its exposure to the collapse of the housing bubble, and subsequent sub-prime meltdown.

In discussing the effects on Connecticut, two questions come to mind. How bad is Connecticut's exposure? And, does it have the resources to meet the challenges presented by the bursting of the housing bubble and subsequent financial crisis? The answer to the second question does not seem to be an optimistic one. According to Connecticut's Sub-Prime Mortgage Task Force, in a less than optimistic assessment, the task force noted that the State's housing counseling infrastructure currently does not have the capacity to meet the need for counseling services that will be required to assist distressed borrowers⁸⁸. The task force also echoed the findings presented in Volume I of this outlook, *U.S. Current Conditions and Outlook for 2008 and 2009*. They quoted from a speech by Ben Bernanke:

Sub-prime mortgages have been an element in the mortgage market for many years. However, this higher-risk lending increased in recent years as innovations in the technology of mortgage origination and securitization and the development of asset-backed securities markets allowed investors to better quantify and spread risk on a global basis.⁸⁹

Developments in the mortgage capital markets allowed mortgages to be aggregated into large pools of mortgages of different levels of risk. Shares of these pools are priced according to risk and sold to investors with different levels of risk tolerance and expectations of financial return with the highest risk shares receiving the highest return⁹⁰.

Of course, the not so rhetorical question is: Did the development of "innovations" in the technology of mortgage origination and securitization and the development of asset-backed securities markets allow investors to better quantify and spread risk on a global basis? Or, in light of the 2007 liquidity crisis that has spilled over into 2008, did it, instead, allow them to spread financial contagion on a global basis? With many investors demanding *recourse* clauses in their contracts with mortgage banks, which obligated the mortgage-lending institution to repurchase loans that default early in their re-payment history, many institutions suffered financial distress and bankruptcy either from the financial impact of the re-purchases of early defaults or restriction or loss of credit lines essential to maintaining business operations⁹¹.

The answer to the first question follows a more optimistic vein. According to Connecticut's Sub-Prime Mortgage Task Force, by the second quarter of 2007, there were about 71,000 active sub-prime mortgages in Connecticut, with outstanding loan balances totaling more than \$15 billion. Sub-prime loans represented about 13% of all active loans. Over 8% of Connecticut's sub-prime mortgages are now seriously delinquent⁹². About 21,000 adjustable rate sub-prime mortgages will reset to a higher interest rate between October of 2007 and 2009. The task force also found that there is a concentration of sub-prime mortgages in communities with a higher than average number of low and moderate-income households, minority households and affordable single-family housing. However, Connecticut's sub-prime portion of 13% of all active loans is lower than the 14% for the U.S., and that for neighboring states Maine (14%), Rhode Island (15%), and New York (15%). And, Connecticut's rate is certainly lower than those states that served as the epicenter of the most recent housing and housing-finance bubble, such as Nevada (20%) and Florida (17%). Nevertheless, Connecticut's portion of sub-prime loans is higher than that for the remainder of the New England states, including Massachusetts⁹³. Delinquency rates on

⁸⁸ Pitkin, Howard F. and Gary E. King, Sub-Prime Mortgage Task Force Final Report (November 9, 2007) Governor's Sub-Prime Mortgage Task Force: Hartford, p.9.

⁸⁹ Speech of Ben S. Bernanke, Chairman of the Board of Governors of the Federal Reserve System at the Federal Reserve Bank of Chicago's 43rd Annual Conference of Bank Structure and Competition, Chicago Illinois, May 17, 2007.

⁹⁰ Pitkin, Howard F. and Gary E. King, p. 13.

⁹¹ Ibid., p.13.

⁹² Pitkin, Howard F. and Gary E. King, *Sub-Prime Mortgage Task Force Final Report* (November 9, 2007) Governor's Sub-Prime Mortgage Task Force: Hartford, p.9.

⁹³ *ibid.*, Table on p. 17. Data from the Mortgage Bankers Association.

Connecticut's sub-prime loans are lower than the national rate, and lower than for all other New England states, except New Hampshire (8.4% versus 8.0%). And, though sub-prime loans represent 13% of all active loans in Connecticut, they account for 61% of all seriously delinquent loans.

As for the outlook, just over 21,000 adjustable-rate sub-prime loans in Connecticut will reach their initial reset date between October 2007 and December 2009. What motivated Connecticut borrowers to take out these loans? According to the task force, there were three major reasons why borrowers took out sub-prime loans:

1. "Cash-out" Refinancing: in this case, a current homeowner refinances a loan for a larger amount than their existing loan and uses the cash for another purpose, such as paying credit cards, making a large purchase or home-improvement.
2. Rate and Term Refinancing: this term refers to a current homeowner refinancing for the same amount as the homeowner's existing loan in order to reduce payment or change maturity.
3. Home Purchase Financing: this term refers to a homeowner borrowing to purchase either a new or existing home⁹⁴.

Table 1 breaks down the amount, percent distribution, and number of loans, and percent distribution, by each of the three major reasons that Connecticut borrowers took out sub-prime loans.

TABLE 1: Breakdown of Connecticut Sub-Prime Loans

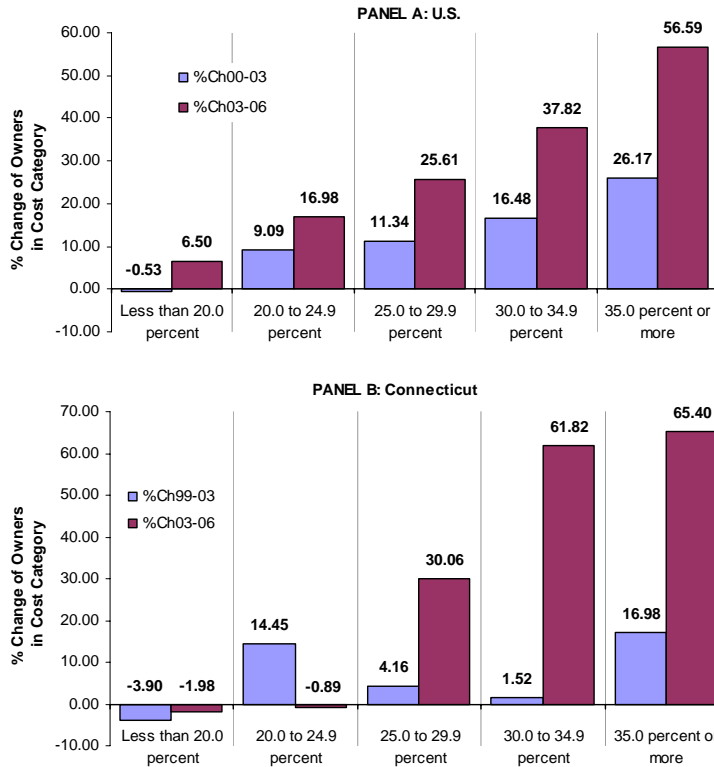
Reason for Loan	Loan Amount (\$)	Loans (#)	Loan Amount (%)	Loans (%)
Refi. Cash-Out	7,819,701,584	35,790	51.65	49.79
Refi. No Cash-Out	1,338,781,024	5,271	8.84	7.33
Purchase	5,981,427,402	30,826	39.51	42.88
	15,139,910,010	71,887	100.00	100.00

SOURCE: Pitkin, Howard F. and Gary E. King, Sub-Prime Mortgage Task Force Final Report (Nov. 9, 2007) Governor's Sub-Prime Mortgage Task Force: Hartford, p. 23

How does Connecticut look going forward into 2008 and 2009? If the data from the U.S. Census Bureau's American Community Survey is any indication, then there is some reason to be cautious about the State's homeowners' ability to weather this crisis. To begin with, Connecticut is a high, housing-cost state, and any increase in financial stress would be particularly onerous to the State's homeowners. Graph 22 presents the growth-rate of those in various categories of monthly housing expenditures on mortgage payments as a percentage of income. Of particular interest are the categories of 30.0% to 34.9% and 35%, or more. It is these two categories where homeowners' monthly, mortgage payments exceed the 28% maximum for a conventional mortgage. Thus, the growth-rate of those in these two categories is worrisome. Panel A presents the growth-rates in the various categories for the U.S. over 2000-03 and 2003-06 periods, and Panel B shows the same information for Connecticut. Though Connecticut had growth-rates in the two highest categories that were much lower than those for the U.S. over the 2000-03 Period, the situation took a dramatic turn after 2003. Since 2003, Connecticut has had significantly higher growth in the two highest categories, compared to the U.S. over the 2003-06 Period. Some areas of the State have had higher growth in these categories than others. While Connecticut had a 65% increase in those paying 35%, or more, of the monthly income in mortgage payments (compared to a 57% increase for the U.S.), both Hartford and New Haven counties had a 75% increase of those in the highest category. But, even these increases pale in comparison to the growing stresses in New London County. As depicted in Graph 23, New London County had a 115% increase in the number of those paying between 30.0% and 34.9% of their monthly income in mortgage payments, and a 110% increase in those paying 35%, or more.

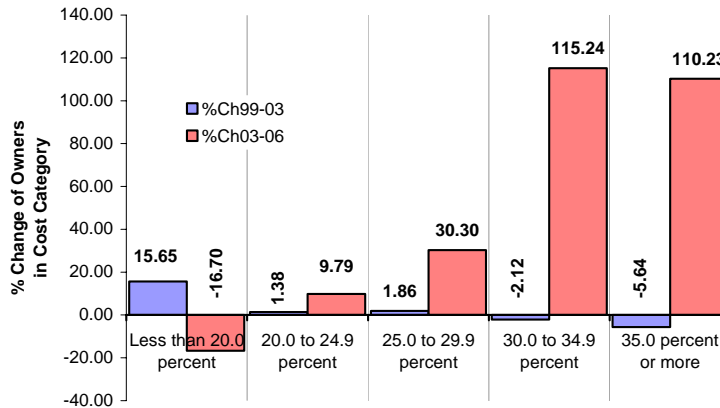
⁹⁴ Ibid., p. 23.

GRAPH 22: Percent Change of Those in Monthly Housing-Cost Categories for U.S. (excludes 'Not Computed'): 2000-03 and 2003-06



SOURCE: American Community Survey, U.S. Census Bureau

GRAPH 23: Percent Change of Those in Monthly Housing-Cost Categories-New London County CT (excludes 'Not Computed'): 2000-03 and 2003-06



SOURCE: American Community Survey and 2000 Decennial Census, U.S. Census Bureau

In summary, though Connecticut has a smaller percentage of its outstanding loans in sub-primes, and though its default rates are lower than that for the U.S. and many surrounding states, there is still reason to be cautious about Connecticut's ability to weather the sub-prime storm. Particularly, the explosion in the growth-rate in the number of those whose monthly mortgage payments, as a percentage of their monthly income, exceeds the minimum 28% required for a conventional mortgage. With the U.S. Economy sliding into possible recession, if not already in one, the ability of these borrowers to hold on to their homes becomes more questionable.

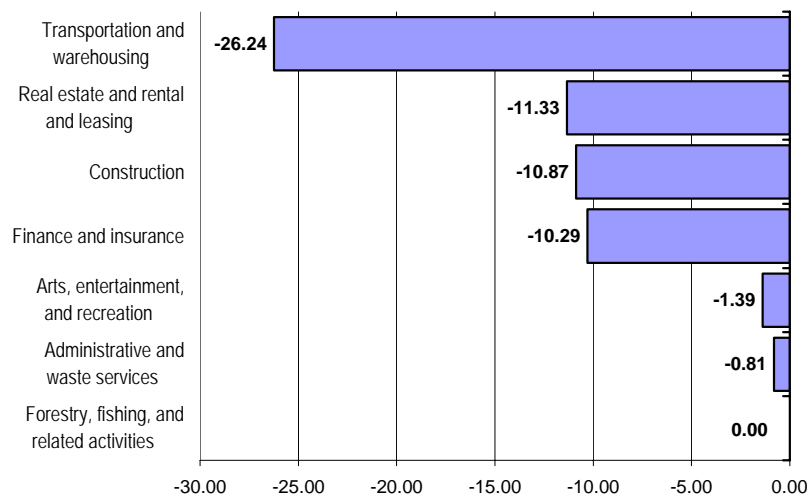
Instability in the Financial Markets

Even if Connecticut escapes relatively unscathed from the direct affects of the sub-prime meltdown, in terms of the massive home foreclosures seen by many states as sub-primes reset, because of the importance of the financial sector to the State's Economy, it could take a hit from the indirect route, as the sub-prime mess destabilizes the financial markets. It would particularly affect Fairfield County, home to many hedge funds.

As noted in the discussion in the "The Growth in Non-Farm Earnings" section of this paper (see above), Finance and Insurance accounted for 34% of the year-to-year (YTY) growth in Connecticut's Non-Farm Earnings for the fourth quarter of 2007. And, in the first quarter of 2007, the State's Finance and Insurance Sector contributed \$3.505 billion, or two-thirds, of the growth in Connecticut's Non-Farm Earnings. In 2006, the latest year of industry-detail data, there were only three NAICS sectors that accounted for more than 10% of Connecticut's Non-Farm Earnings: Government (12.3%), Manufacturing (14.2%), and the sector that accounted for the largest share, Finance and Insurance (16.5%). The industry that accounted for the largest share of Finance and Insurance earnings was Securities, Commodities, and Brokers, which accounted for 41.2% of the earnings of that sector in 2006, and, it accounted for nearly 7% of total Non-Farm Earnings. Securities, Commodities, and Brokers grew by 13.1% between 2005 and 2006, more than twice the rate of the Finance and Insurance Sector (+5.1%). Obviously, Finance and Insurance is an important contributor to Connecticut's income growth, which is why the current instability in financial markets could have some dire consequences for the State's Economy. Because it is the Securities, Commodities, and Brokers industry that contains the hedge funds, and, those hedge funds whose portfolios are heavily invested in financial derivatives constructed from pools of sub-prime mortgages are exposed to potentially significant losses, due to the mis-pricing of the risk-adjusted returns on these assets. Further, since hedge funds are based on leveraging, they are particularly susceptible to liquidity crises. This exposes a significant source of income-generation for Connecticut's Economy to financial crisis. Thus, a significant jump-start to the State's Economy, over the current recovery/expansion, could quickly turn into a wild card resulting in an abrupt decline in Connecticut's Non-Farm Earnings.

Graph 24 shows the seven NAICS sectors that subtracted from Connecticut Non-Farm Earnings growth between the second and third quarters of 2007 (save Forestry and Fishing, which made zero contribution). Of the four NAICS sectors that made a 10%, or larger, subtraction from Non-Farm Earnings in 2007Q3, on a QTQ basis, three are related to the housing recession/financial crisis that intensified in 2007, particularly with the cumulative effects of home foreclosures and the liquidity crisis in August 2007. Real Estate, Rental, and Leasing, Construction, and Finance and Insurance subtracted a total of \$281 million, or one-third, from Non-Farm Earnings. The subtraction by Transportation and Warehousing probably reflects, at least indirectly, the softness in consumer retail spending, resulting from high indebtedness, and reverse wealth effects from slowdowns, or outright declines, in housing-price appreciation. In addition, reverse multiplier effects from reductions in home-ownership related expenditures have also effected consumer retail spending, which also is transmitted to the Transportation and Warehousing Sector.

GRAPH 24: Relative QTQ Subtractions from CT Non-Farm Income Growth: 2007Q3



SOURCE: U.S. Bureau of Economic Analysis

Finance and Insurance has provided Connecticut's Economy with a jump-start over the current cycle. But, with the spreading contagion in the financial markets, due to the sub-prime meltdown, on the heels of the collapse of the housing bubble, could the Finance and Insurance Sector now become a drag-force halting the momentum of Connecticut's Economy? Particularly, the Securities, Commodity Contracts, and Investments industry, within the Finance and Insurance Sector, which contains hedge funds, is a sector that is being particularly battered by the liquidity crisis, which has been generated by the sub-prime meltdown. And, Connecticut is particularly exposed to this particular aspect of the current financial crisis. Connecticut's Industry Earnings in Securities and Commodities Contracts has grown from 12.7% of Finance and Insurance Sector earnings in 1990, to 33.9% of that sector's earnings in 2000, growing two percentage points/year over the decade. Between 2000 and 2006, its growth in share slowed to a 1.3 percentage point/year gain, resulting in a 41.2% share of Finance and Insurance sectoral earnings in 2006. However, between 2005 and 2006, the Securities Industry's share of Finance and Insurance earnings accelerated rapidly: its share grew by just under three percentage points in one year. This further increased Connecticut's vulnerability to the instability in this sector. Obviously, one quarter's data on income and earnings growth does not make a trend, and fourth-quarter data could tell a different story. However, recent and current trends make this unlikely. Hence, the interpretation of this data is within the context of the current housing recession, and its consequences, especially in the growing destabilization of the financial sector, including the banking sector, in conjunction with weakening data for employment. Industrial output, and consumer confidence and spending in the last quarter of 2007, and going into 2008. Only a sudden and dramatic turnaround in the economic data for the first quarter of 2008 could change the current likely scenario: a rapid deceleration in economic activity, with a high likelihood of a 2008 recession.

May 2008 Update

Sub-Prime Resets/Home Foreclosures-- Though not hit as badly as some parts of the country, Connecticut has not made it through the housing recession/sub-prime meltdown unscathed. Nevertheless, based on January 2008 data, 65.3% of Connecticut's sub-prime mortgages are current. In Tolland County the share of sub-primes current is 70%. Based on January 2008 data, 48.8% of Connecticut's ARM's had a late payment within the last 12 months, with New Haven, New London, and Windham counties exceeding 50%. Connecticut will have 41.3% of its ARM's reset in the next 12 months (as of January 2008)⁹⁵, with 43.3% expected to reset in Tolland County, followed by New Haven County (42.5%) and Fairfield County (41.5%). This is higher than any other New England state, except Rhode Island, which

⁹⁵ Federal Reserve Bank of New York Website's webpage, "Dynamic Maps of Nonprime Mortgage Conditions in the United States" at <http://www.newyorkfed.org/mortgagemaps/> (May 14, 2008)

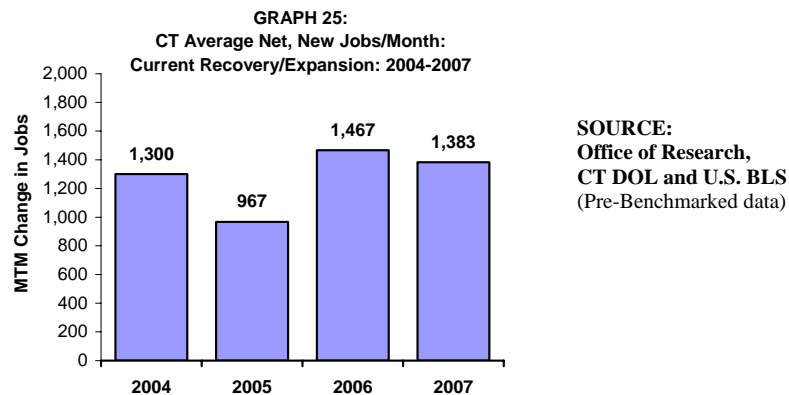
will have 42.3% of its ARM's reset in the next 12 months. Further, though lower than places like Texas, where it is 18.6%, at 9.9%, Connecticut has the highest percent of low FICO scores with high LTV (Loan-to-Value ratio) in New England. Hartford County, at 12.0%, is the highest in the State, followed by Windham County at 11.1%. Middlesex and Fairfield counties are the lowest at 7.3% and 7.2%.

Finally, according to the Governor's Sub-Prime Mortgage Task Force, Connecticut, as of November 2007, had about 71,000 active sub-prime mortgages, with outstanding loan balances totaling more than \$15 billion. Over 8% of these mortgages were seriously delinquent. About 21,000 adjustable rate sub-prime mortgages will reset to a higher interest rate between October of 2007 and 2009⁹⁶. Thus, the State will not know the extent of the effects of sub-prime defaults until 2009.

Crisis in Financial Markets-- Finance and Insurance, hit by the sub-prime mess, both due to mortgage foreclosures and consequent financial meltdown, is expected to shed 3,500 jobs over the forecast horizon. This could be overly optimistic, as many announced layoffs by major banks have yet to be implemented. A potential significant impact on the State's economy is the announcement by UBS, Switzerland's largest bank, and one of the 10 largest in the World, that they will reduce its workforce by 5,500⁹⁷. This could impact Connecticut significantly, not only does UBS have several locations in the State, but it has a significant presence at its North American headquarters on Washington Street in downtown Stamford. Further, another "top-10" bank, as part of its overall plan to address first-quarter, 2008 pre-tax write-downs and credit costs on sub-prime related direct exposures, and shore up its capital base, CitiGroup plans to shrink the bank from \$2.2 trillion in assets to \$1.7 trillion. As a result, Connecticut will suffer some collateral damage (no pun intended). CitiGroup will close all of its Connecticut branches, save those in Fairfield County⁹⁸.

V. CONNECTICUT'S LABOR MARKETS: Current Conditions

The Growth in Non-Farm Employment⁹⁹—After the surge in job-growth coming out of the State's July 2000-July 2003, three-year recession, averaging 1,300 net, new jobs/month in 2004, the job-creation pace abated in 2005 to 967 jobs/month. Graph 25 tracks the average number of jobs/month added to Connecticut's Economy for 2004, 2005, 2006, and 2007. Job-creation accelerated again to 1,467/month in 2006, with the pace slowing somewhat to 1,383 jobs/month in 2007.



However, even given this pace, Connecticut's monthly, job-creation rate only exceeded that for the U.S. once over this cycle: the first half of 2007. This is depicted in Graph 26. In fact, Connecticut's job-

⁹⁶ Pitkin, Howard F. and Gary E. King, SUB-PRIME MORTGAGE TASK FORCE: Final Report (November 9, 2007) p. 9.

⁹⁷ See the "Our News" Webpage on the UBS Website at <http://www.ubs.com/1/e/about/news.html?newsId=142639> (May 14, 2008)

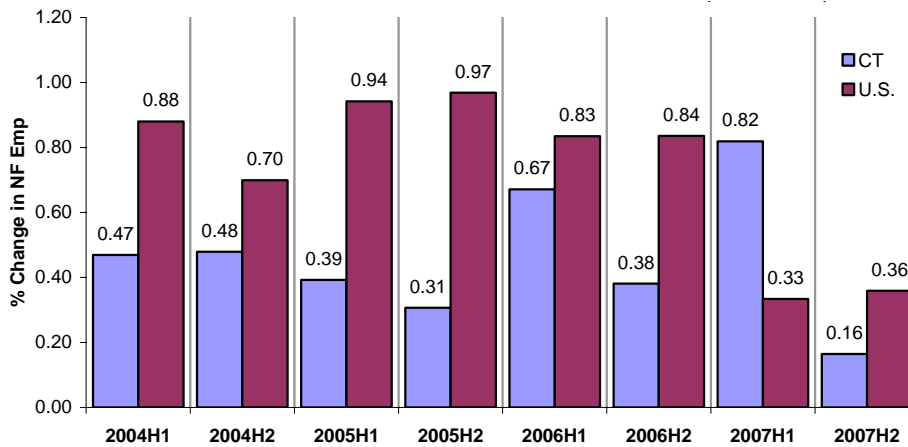
⁹⁸ See webpage at CitiGroup Website at <http://www.citigroup.com/citigroup/press/2008/080418a.htm> (May 14, 2008)

⁹⁹ The following is based on *pre-benchmarked*, 2006 Connecticut employment data.

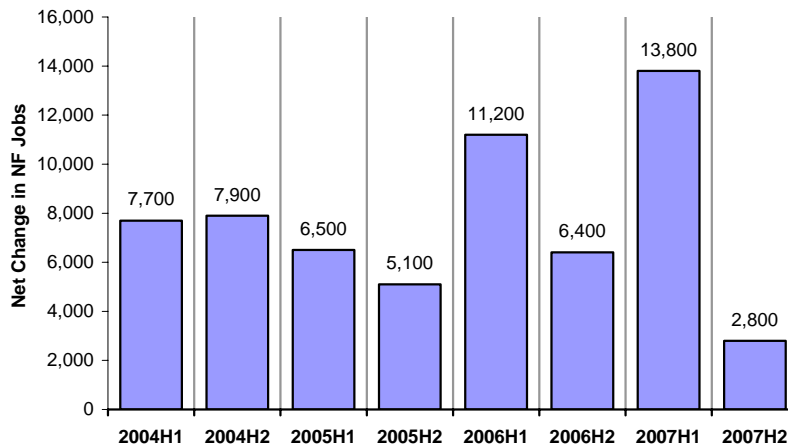
creation rate decelerated rapidly in the second half of 2007. U.S. job-growth has also gradually declined over 2007, but did not rapidly slow until the very end of the years. Notice too from Graph 27, that Connecticut's job-growth has decelerated, from the first half to the second half, in 2005, 2006, and 2007, the deceleration becoming more pronounced over each successive year, with the growth rate in the second half of 2007 falling to just one-fifth of its first-half pace. To put it in perspective, had the first-half growth-rate been maintained all year, Connecticut's Non-Farm Employment would have grown by 1.65%, adding 27,714 jobs the State's Economy in 2007. However, the deceleration in growth resulted in a 0.32%, annualized, growth-rate, which translates into a tepid 5,375 new jobs.

Graph 27, recasts Graph 26, but it looks at the job-growth, rather than the growth-rate, and it focuses on Connecticut only. And, again, the second-half deceleration pattern is observed. Notice the two job-growth spurts in the first halves of 2006 and 2007. They are the only two periods, in Graph 27, in which more than 10,000 jobs were added to the State's Economy over a six-month period. In the first have of 2007, 11,200 net, new jobs were created in the State's Economy, and in the first half of 2007, 13,800 were created. What drove these growth-spurts? And, are they likely to be repeated in 2008, even if there is a recession?

GRAPH 26: Percent Change in CT and U.S. NF Employment:
 1st & 2nd halves of 2004, 2005, 2006, and 2007 (pre-BM data)



GRAPH 27: Net-Change in CT NF Jobs:
 1st & 2nd halves of 2004, 2005, 2006, and 2007 (pre-BM data)

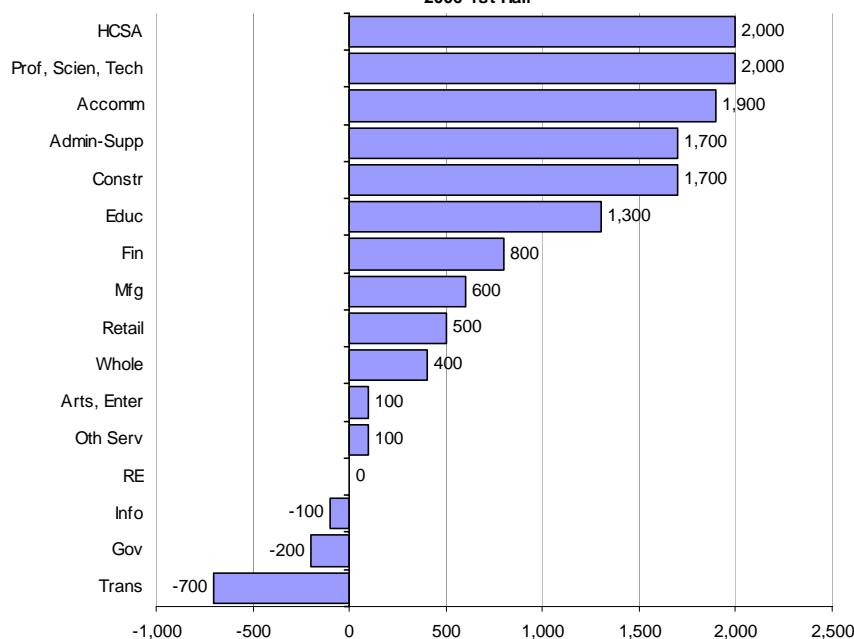


SOURCE: Office of Research,
 CT DOL and U.S. BLS
 (Pre-Benchmarked data)

Graphs 28A and 28B show Connecticut sectors, ranked by the largest contributors to job-growth, to the largest subtractors from job-growth over the first halves of 2006 and 2007. The top six sectors, that

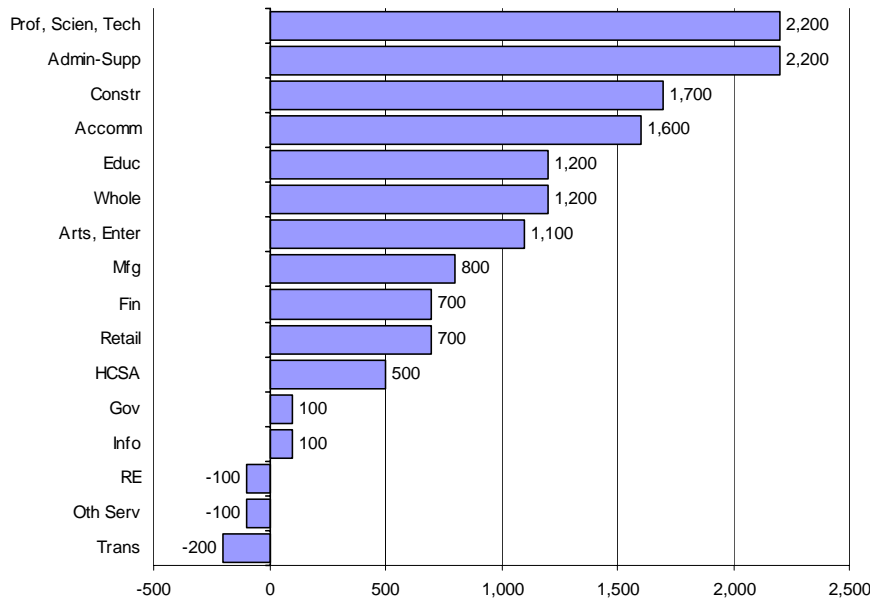
accounted for 94.6% of the net, new jobs created in Connecticut over the first half of 2006 each added more than 1,000 new jobs. Health Care and Social Assistance (HCSA) and Professional, Scientifics, and Technical each added 2,000 jobs, Accommodation and Food Services added 1,900, Administrative and Support and Construction each added 1,700, and Educational Services added 1,300. It is these same sectors that have played an important role in the jobs created at the National level. Save Finance and Insurance, which has seen huge income gains, while adding 800 jobs, the sectors dominating job-growth pretty much mirror the pattern of Connecticut's industry-earnings growth, discussed above. That is, trend-forces, driven by demographics and lifestyles, have accounted for the job and income-growth in HCSA, Educational Services, and Accommodation and Food Services, at both, the state and national levels. Whether trend-driven, cyclical, or some of both, the demand for business services has produced strong income and job-growth in Professional, Scientific, and Technical Services, and Administration and Support. Construction has been driven, at the state level, by expansions at the tribal casinos and other projects that have more than offset the effects of the housing bust—at least, for the time being.

GRAPH 28A: Sectoral Contributions to Connecticut Job-Growth:
 2006-1st Half

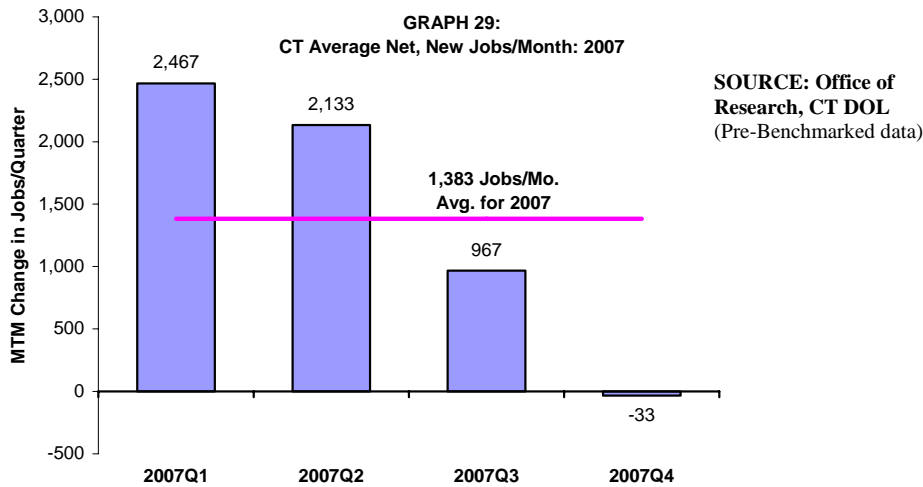


The growth in the first half of 2007 closely mirrors that of 2006. However, there are some notable differences. HCSA only created one-fourth as many jobs in the first half of 2007, compared to 2006 (2,000 versus 500), and the Arts and Entertainment Sector added 11 times as many jobs in the first half of 2007 as it did in 2006 (1,100 versus 100). This surge in Arts and Entertainment jobs is probably related to increased movie-production activity in Connecticut, due to recently passed tax incentives, and the expansions at the tribal casinos. Job-gains in the Administrative and Support Sector are also partly driven by increased film-production activity in the State.

**GRAPH 28B: Sectoral Contributions to Connecticut Job-Growth:
 2007-1st Half**

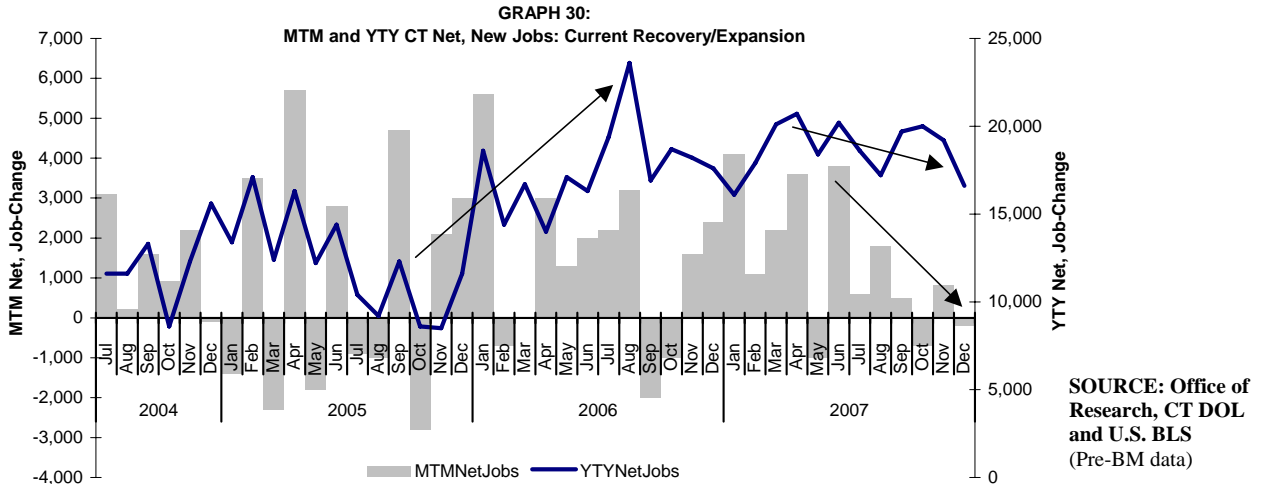


Graph 29 looks at the average number of jobs/month added to the State’s Economy over the four quarters of 2007. The horizontal line in Graph 29 depicts the average monthly job/gain for 2007.



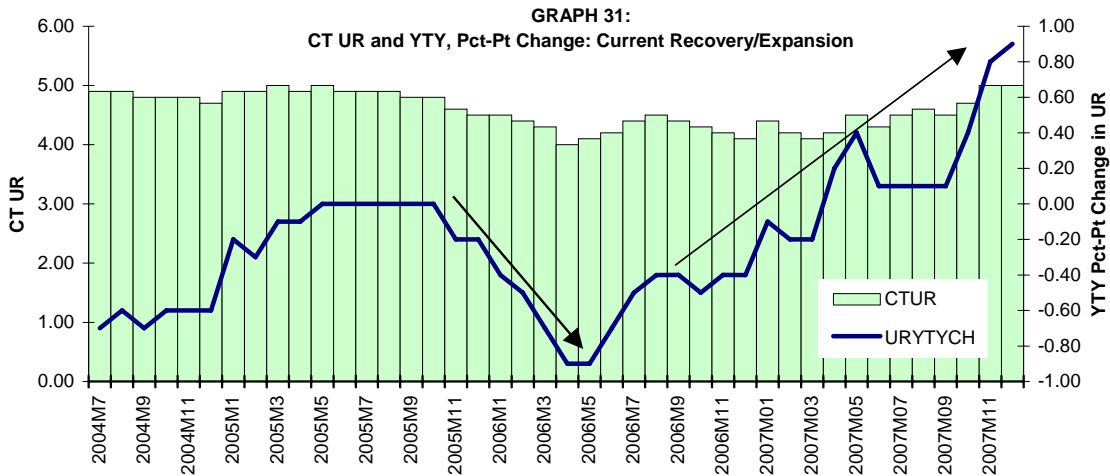
The deceleration in Connecticut job-growth over 2007 is apparent. For the entire second half of the year, job-growth fell below the average monthly rate for the year, further, average monthly job-creation turned negative in the fourth quarter. This has closely followed the pattern in the national jobs picture, as the economy appears to be descending into recession going into 2008.

Graph 30 takes a longer view of the month-to-month (MTM) and year-to-year (YTY) job-growth over Connecticut’s current recovery/expansion, following it from one year into it (July 2007) to December 2007. Graph 31 tracks the level of Connecticut’s Unemployment Rate (UR), on the left vertical scale, and the YTY percentage-point change in the UR from July 2004 to December 2007.



From Graph 30, the strong acceleration the YTY job-creation continued from November 2005 until August 2006. Just prior to the upward trend in YTY job-growth, were three MTM surges of 5,700 in April 2005, 4,700 in September 2005, and 5,600 in January 2006. The acceleration in YTY growth ended with the YTY job-growth of 23,600 in August 2006. Since April 2007, there has been a slowly, but steadily, declining YTY growth in Connecticut's Non-Farm jobs. And, after adding 3,800 jobs in June 2007, there has been a steep decline in the MTM growth in jobs, at the same time that YTY growth has been declining.

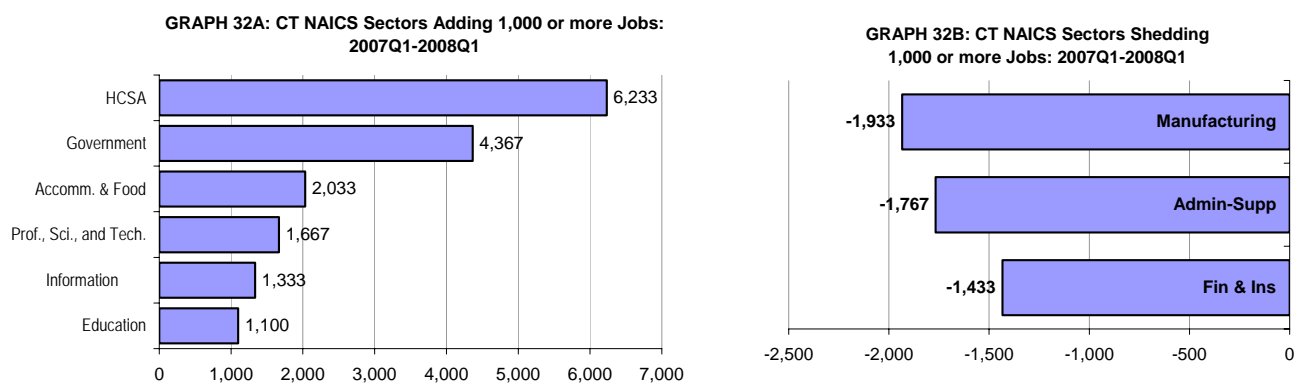
From Graph 31, after declining from its plateau in October 2005, the YTY percentage-point increase in the Unemployment Rate (UR) has been steadily climbing since May 2006. After backing off slightly, and then holding steady, between May and September 2007, it has resumed its ascent, but at a steeper pace. The conclusion that can be drawn from the trends in Non-Farm Employment and the UR is that, unless there is a dramatic reversal, beginning in January 2008, or unless benchmarking shows stronger growth, then it looks as if the State is following the National, and maybe even the International Economy, into, if not recession, then a significant, and rapid, slowing in growth going into 2008.



SOURCE: Office of Research, CTDOL and U.S. BLS (Pre-BM data)

May 2008 Update

The Good News—The trend-dominated sectors of the State’s Economy, driven by demographics and lifestyles, continued to create jobs even after overall employment declined after December 2007. From Graph 32A, the latest Establishment Survey data shows that, on a Year-to-Year (YTY) basis, the *health care and social assistance (HCSA) sector* added 6,233 jobs in the first quarter of 2008, with *ambulatory care, hospitals, and nursing and residence care facilities* accounting for most of the gains. Government added 4,367 jobs in the first quarter, mostly at the state and local levels. *Accommodation and food services* added 2,033 jobs in the first quarter of 2008 (YTY), with *full-service restaurants* contributing the largest share of the sector’s job-growth. With *computer systems and design* making the major contributions, the *professional, technical, and scientific sector* reversed course and gained 1,667 over the first three months of 2008, on a YTY basis. This dramatically reverses the trend in job-losses for this sector over the last quarter of 2007. *Information* added 1,333 new positions in the first quarter. This continues the reversal of this sector’s job-losses, which began in the second quarter of 2007. *Education*, driven by *educational services* added 1,100 net, new jobs. At the three-digit industry level, *securities, commodities, and brokers* (which includes *investment banks and hedge funds*) continued to add jobs in 2008, adding 767 jobs over the first quarter, despite the credit crunch and financial meltdown. However, there may be a delayed effect on staffing adjustments that will show up later on in the year (e.g., Swiss bank giant, UBS, which has a significant presence in downtown Stamford, announced on May 6, 2008 that it will reduce its workforce by 5,500¹⁰⁰ by mid-2009).



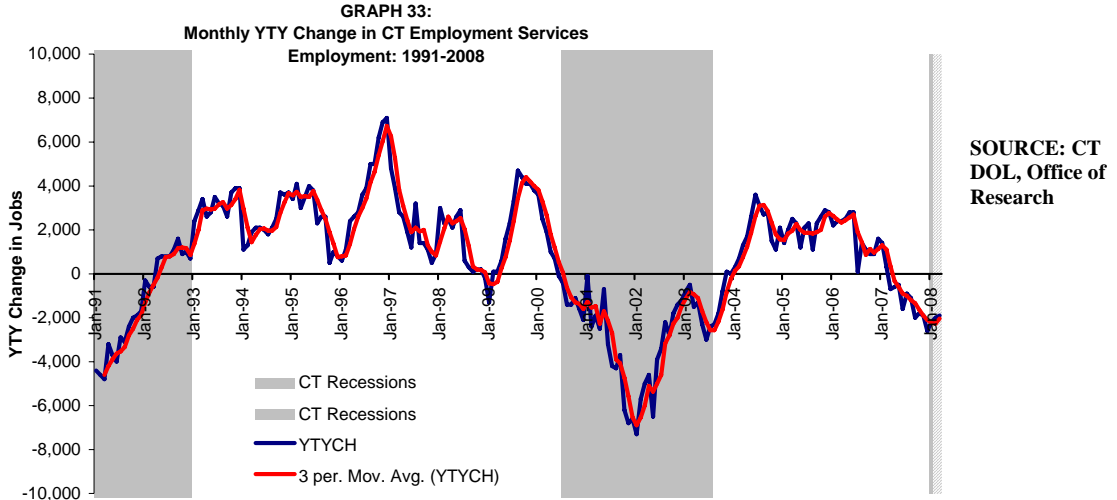
SOURCE: CT DOL, Office of Research

The Bad News—At the sectoral level (from Graph 32B), the *manufacturing* sector, buffeted by both trend and cyclical forces, continued to contract, by losing 1,933 jobs over the first quarter of 2008, on a YTY basis. The losses were fairly evenly split between the *durable goods* and *non-durable goods* sectors. Led by *employment services*, which extended its 2007 job-losses into 2008, and has been a major contributor to sectoral job-losses (discussed in more detail below), *administration and support* lost 1,767 jobs between the first quarter of 2007 and the first quarter of 2008. *Finance and insurance*, driven by losses in *credit intermediation* (discussed below), lost 1,433 jobs in the first quarter of 2008. Turning to the three-digit industry level of detail, though the job-market in Connecticut’s *securities, commodities, and brokers* industry seems to have avoided the fallout from the financial meltdown, and sub-prime mess and housing recession so far, the banking sector has already taken some hits. *Credit intermediation* declined by 1,933 jobs in the first quarter of 2008.

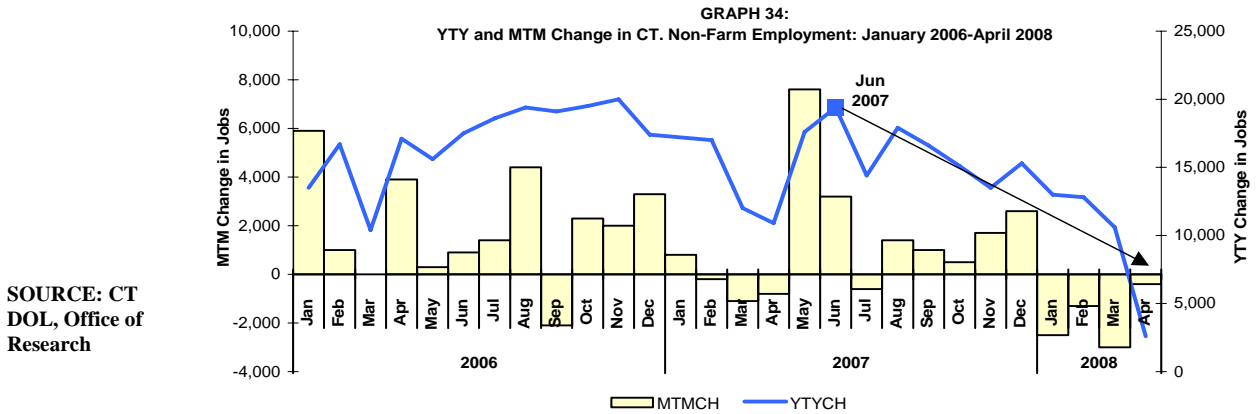
The Really Bad News—The YTY growth in Total Nonfarm Employment decelerated slightly from 12,700 to 12,600. However, this is down considerably from the YTY pace of 18,000 per month in the first half of 2007, and, as discussed above, the seasonally adjusted Nonfarm series has declined from December through March, representing three consecutive months of decline. Further, as discussed above,

¹⁰⁰ See “UBS News” page on the UBS Website at <http://www.ubs.com/1/e/about/news.html?newsId=142216> (May 6, 2008)

employment services (i.e., temporary help agencies) declined at an accelerating rate between March and December 2007, with declines holding steady at about 2,000 per month, on a YTY basis, over the first three months of 2008. Why is this significant? *Employment services* may be a leading indicator of turning points in the cycle¹⁰¹. Graph 33 tracks the monthly, YTY growth in Employment Services jobs from January 1990 to March 2008. Superimposed on the YTY-change line is a three-month moving average of



the YTY change to filter out the noise and better see the cyclical behavior of the series. Unfortunately, due to the SIC-to-NAICS conversion, the series cannot be tracked back before 1990 to catch the full 1989-92 Cycle. Employment Services is basically temporary help agencies. As is apparent, at least over the period of available data, the behavior of the monthly, YTY growth of Employment Services jobs is pro-cyclical. That is, it accelerates over expansions, and decelerates, and declines, in recessions. The decline in temp help job-growth pretty much coincided with the beginning of Connecticut's recession in July 2000 (temp help jobs began declining in June), but it appears that the YTY decline in temp employment-growth over this cycle has preceded a recession. Job-losses in Employment Services began in March 2007, whereas, Nonfarm Employment declined after December. And, in fact, based on May 2008 nonfarm employment data, has experienced four straight months of declines, though the decline was much smaller for the last month of data (April) than for the previous three months. However, there has been a rapid deceleration in the YTY growth in jobs since June 2006 (see Graph 34).



¹⁰¹ See Joo, Jungmin Charles, *Employment services industry: a harbinger of the economy*, CONNECTICUT ECONOMIC (May 2006) Connecticut Labor Department and Department of Economic and Community Development: Wethersfield and Hartford (11): 5

VI. CONNECTICUT'S ECONOMIC OUTLOOK FOR 2008 AND 2009

Connecticut's economic outlook for 2008 and 2009 is strongly tied to the fortunes of the U.S. Economy. With the National Economy, either on the verge of, or already in, recession, Connecticut would almost certainly go into recession. What may be different this time is that, for the first time in the Post Cold War Era, Connecticut's downturn may coincide with the U.S. downturn, rather than preceding it. Table 2 presents the Connecticut and U.S. downturns (i.e., the cycle-peak date ushering in recession) for the Post Oil Embargo/Bretton Woods Era. The Post Cold War downturns are indicated in boldface and yellow highlight.

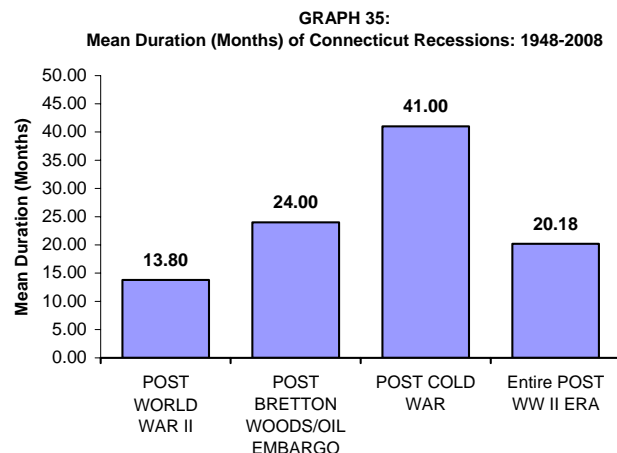
TABLE 2: Connecticut Downturns Versus U.S. Downturns-Post Oil Embargo/Bretton Woods Era

Beginning of CT Downturn*	Beginning of U.S. Downturn**	CT Lead/Lag Time
May 1974 (1974Q2)	Nov 1973 (1973Q4)	6 Month Lag
Mar 1980 (1980Q1)	Jan 1980 (1980Q1)	2 Month Lag
Sep 1981 (1981Q3)	July 1981 (1981Q3)	2 Month Lag
Feb 1989 (1989Q1)	July 1990 (1990Q3)	17 MONTH LEAD
Jul 2000 (2000Q3)	Mar 2001 (2001Q1)	8 MONTH LEAD

* State-level cycles are defined in terms of the Non-Farm Employment Cycle. Thus, each downturn for Connecticut is defined in terms of the cycle-peak in the Non-Farm Employment Series.

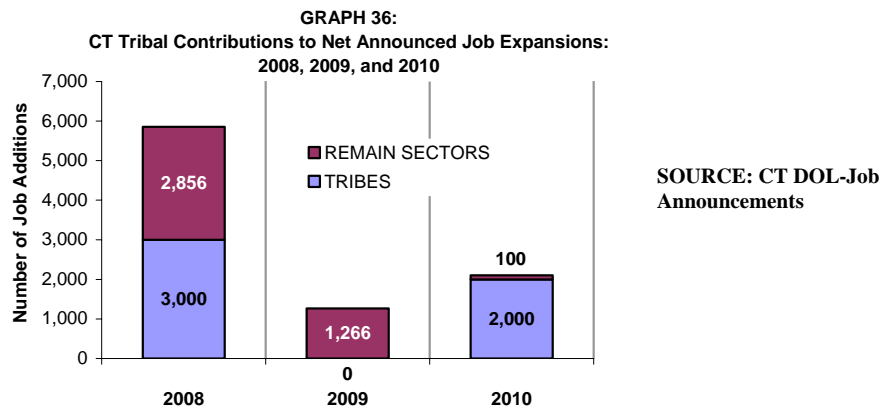
**The U.S. downturns are defined as the cycle-peak designated by the National Bureau of Economic Research.

Before the end of the Cold War, the U.S. would go into recession before Connecticut, which would lag the U.S. by 2-to-6 months. But, Connecticut has lead the U.S. in going into recession since the end of the Cold War—by 17 months in the State's 1989-92 Recession, and by eight months in its 2000-03 Recession. Both U.S. and Connecticut job-growth have slowed simultaneously over the last half of 2007. This may indicate that any downturn in the U.S. and Connecticut economies may, for the first time over the Post-1973 Era, simultaneously go into recession. Further, a Connecticut recession may be quite long, based on the State Economy's Post Cold War experience. Graph 35 breaks out the Post World War II Era into three periods, the Post World War II Period (1948-1973), the Post Bretton Woods/Oil Embargo Period (1973-1989), and the Post Cold War Period (1989-Present). As is apparent, Connecticut's recessions (based on the behavior of Non-Farm Employment) have gotten progressively longer. From relatively short durations of 13.8 months after World War II to averaging 41 months since the end of the Cold War. A Connecticut downturn beginning in 2008, based on Post Cold War performance, could last well into 2010. And, this is assuming a mild-to-moderate U.S. recession. A severe U.S. recession could be particularly ominous for Connecticut.



Mitigating some of these trends may be job announcements in the media, which have been particularly strong, compared to job reductions over the 2008-10 Period. However, the job announcements are heavily concentrated in the expansions by the tribal nations.

This is illustrated in Graph 36. Fifty-one percent of the announced, 5,856 net job-additions for 2008 are the 3,000 jobs from the Foxwoods expansion. Without a tribal expansion, a much smaller net increase of 1,266 jobs have been announced for 2009. It is too still early to assess the job-announcement picture for 2010, but so far, of the 2,100 new jobs announced in the media, 2,000 are due to the expansion of Mohegan Sun. Of course, this does not take into account the job additions and eliminations that are not announced in the media. In the final analysis, since the end of the Cold War, Connecticut's fate has been more tied to the fate of the U.S. Economy. Save expansions at the tribal casinos, mitigating recessionary forces, and Connecticut's exposure to crisis in financial markets intensifying recessionary forces, the State's economic outlook is pretty much determined by whether or not the U.S. Economy, goes into, or is already in, recession in 2008.



May 2008 Update

As discussed above, Connecticut's risks, with regard to the credit crunch, are high due to the size of the financial sector in the State, and particularly in Fairfield County. So far, job-losses have been concentrated in the credit intermediation industry of the finance sub-sector, but have the potential to spread to the securities, commodity contracts and brokers industry. In addition, the shedding of jobs by New York City's financial sector could significantly affect Connecticut, particularly Fairfield County. In addition, despite the opening of the MGM Grand at Foxwoods and the Mohegan Sun expansion slated to go on-line in 2010, whether due to the slowing economy, or regional market-saturation, or both, Foxwoods announced that it will cut its workforce by 2% May 30, 2008¹⁰².

From Table 2 (see page 21 above), three out of the four forecasts incorporated into the top-line forecasting model called for a recession in 2008, with recovery in 2009, only Ray C. Fair called for no recession. And, the Fair forecast was the only one of the four predicting that the growth-rate in U.S. RGDP would exceed 2% in 2008. The most pessimistic, the IMF, predicted that U.S. growth would not even top 1% in 2008 or 2009. The average for the forecasts shows a 1.4% growth-rate in U.S. RGDP in 2008, and 2.1% in 2009. Incorporating the four forecasts into the model for the top-line forecast, as well as, incorporating the control-total forecasts for the major NAICS sectors and job announcements, and then performing top-down and bottom-up reconciliation of the forecasts at the various levels of detail, the resultant, final forecast assumes a "V-Type" recession. That is, Connecticut Employment will continue declining throughout 2008, but will recover in 2009. Hence, the small, but positive gain predicted over the

¹⁰² NBC30.com, *Tribe That Owns Foxwoods Resorts Casino To Slash Jobs* (May 24, 2008) <http://www.nbc30.com/news/16384633/detail.html> (May 28, 2008)

eight-quarter forecast horizon. However, the risks to the forecast are considerable. And, they are heavily skewed toward the downside. The following, concluding section elaborates on the risks to the forecast and the factors pushing those risks to the downside direction.

Connecticut has not made it though the housing recession/sub-prime meltdown unscathed. Nevertheless, based on January 2008 data, 65.3% of Connecticut's sub-prime mortgages are current. In Tolland County the share of current sub-primes exceeds 70%. Based on January 2008 data, 48.8% of Connecticut's ARM's had a late payment within the last 12 months, with New Haven, New London, and Windham counties exceeding 50%. Connecticut will have 41.3% of its ARM's reset in the next 12 months (as of January 2008)¹⁰³, with 43.3% expected to reset in Tolland County, followed by New Haven County (42.5%) and Fairfield County (41.5%). This is higher than any other New England state, except Rhode Island, which will have 42.3% of its ARM's reset in the next 12 months. Further, though lower than places like Texas, where it is 18.6%, at 9.9%, Connecticut has the highest percent of low FICO scores with high LTV (Loan-to-Value ratio) in New England. Hartford County, at 12.0%, is the highest in the State, followed by Windham County at 11.1%. Middlesex and Fairfield counties are the lowest at 7.3% and 7.2%.

Finally, according to the Governor's Sub-Prime Mortgage Task Force, Connecticut, as of November 2007, had about 71,000 active sub-prime mortgages, with outstanding loan balances totaling more than \$15 billion. Over 8% of these mortgages were seriously delinquent. About 21,000 adjustable rate sub-prime mortgages will reset to a higher interest rate between October of 2007 and 2009¹⁰⁴. Thus, the State will not know the extent of the effects of sub-prime defaults until 2009.

¹⁰³ Federal Reserve Bank of New York Website's webpage, "Dynamic Maps of Nonprime Mortgage Conditions in the United States" at <http://www.newyorkfed.org/mortgagemaps/> (May 14, 2008)

¹⁰⁴ Pitkin, Howard F. and Gary E. King, SUB-PRIME MORTGAGE TASK FORCE: Final Report (November 9, 2007) p. 9.

APPENDIX

Table A-1: CURRENT CONDITIONS (2007): CT (January 2008)

INDICATOR GROUP	CHANGE: (17 Qtrs of Recovery)	PERFORMANCE: (Avg. since 1975)	CURRENT vs. AVE: (Pct-Point Diff)
Growth and Output			
Real GDP	+9.4% (5 Yrs of Recovery)	+18.9% (5 Yrs of Recovery)	-9.47
Mfg. Output (6-MMA)	+9.6% (71 Mos of U.S. Recovery)	+18.1% (71 Mos of U.S. Recovery)	-8.51 (Compared to U.S.)
Resource Utilization: Physical (Capital)-No data for Connecticut			
Resource Utilization: Human (Labor and Labor Markets)			
Non-Farm Employment	+3.8% (53 Mos of Recovery)	+10.7% (53 Mos of Recovery)	-6.86
HH Employment	+5.9% (53 Mos of Recovery)	+5.1% (Avg. of 3 Recoveries)	+0.79
UR	-0.40 Pct Pts	-2.40 Pct Pts (53 Mos of Recovery)	-2.0
Number Unemployed	-5.6% (53 Mos of Recovery)	-28.6% (Avg. of 3 Recoveries)	-23.0
Labor Force	+5.2% (53 Mos of Recovery)	+2.8% (Avg. of 3 Recoveries)	+2.41
UI Claims: Initial/Continuing Number Decline (%)	-1,071 / -15,441 (-20.9%) / (-28.1%)	-2,057 / -20,710 (-33.1% / -35.0%) (1992 Recovery)	-986 / -5,269 -12.2 / -6.9 (Pct Pts)
Business Sector Conditions			
CT Sales & Use Tax- Revenues	+10.10%	+20.3% (Based on 1992 Recov Jul 93-Dec 96)	-10.2
CT Net Establishment Formation	+3.54% (16 Qtrs of CT Recovery)	-0.06% (16 Qtrs of 92 Recovery)	+3.60
Household Sector Conditions (Consumers)			
QPI (Current \$)	+27.9% (17 Qtrs of CT Recovery)	+27.6% (Compared to U.S.)	+0.3
W & S (Current \$)	+24.58% (17 Qtrs of CT Recovery)	+24.60% (Compared to U.S.)	-0.02
QCEW W&S (Current \$)	+18.7% (16 Qtrs of CT Recovery)	+17.7%	+1.05

NOTE: The 24 Qtrs. Of U.S. Recovery/Expansion cover the period from 2001Q4 to 2007Q3, and the 71 months includes the period from November 2001 to October 2007.

Connecticut's Recovery/Expansion covers the period from 2003Q3 to 2007Q4 (17 quarters), or the 53 months covering July 2003 to December 2007.

Table A-1.1: Median Rent (+/- Margin of Error)

	U.S.	CT	Fairfield	Hartford	New Haven	New London
2000	610 (+/- 1)	681 **	838 **	645 **	666 **	646 **
2003	679 (+/- 1)	766 (+/- 10)	966 (+/- 37)	708 (+/- 12)	778 (+/- 14)	741 (+/- 40)
2006	763 (+/- 2)	886 (+/- 11)	1,099 (+/- 30)	808 (+/- 20)	892 (+/- 20)	901 (+/- 36)

Table A-1.2: Median House Price (+/- Margin of Error)

	U.S.	CT	Fairfield	Hartford	New Haven	New London
2000	120,467 (+/- 317)	166,900 Table H85**	265,100 Table H85**	142,500 Table H85**	145,500 Table H85**	139,700 Table H85**
2003	147,275 (+/- 464)	226,202 (+/- 2,223)	406,070 (+/- 12,015)	189,870 (+/- 3,892)	203,403 (+/- 5,592)	194,499 (+/- 8,198)
2006	185,200 (+/- 489)	298,900 (+/- 3,072)	508,100 (+/- 13,761)	240,400 (+/- 2,711)	265,800 (+/- 6,693)	253,200 (+/- 8,362)

Table A-1.3: Households (+/- Margin of Error)

	U.S.	CT	Fairfield	Hartford	New Haven	New London
2000	104,819,002 (+/- 131,939)	1,302,227 Table P9**	324,403 Table P9**	335,184 Table P9**	319,309 Table P9**	99,864 Table P9**
2003	108,419,506 (+/- 152,497)	1,323,339 (+/- 5,431)	327,370 (+/- 2,673)	341,573 (+/- 2,798)	319,461 (+/- 3,095)	103,343 (+/- 1,938)
2006	111,614,402 (+/- 145,530)	1,325,443 (+/- 5,814)	325,913 (+/- 2,520)	337,359 (+/- 2,509)	320,838 (+/- 3,126)	103,662 (+/- 1,980)

Table A-1.4: Housing Units (+/- Margin of Error)

	U.S.	CT	Fairfield	Hartford	New Haven	New London
2000	115,904,641 *	1,385,975 Table H1**	339,466 Table H1**	353,022 Table H1**	340,732 Table H1**	110,674 Table H1**
2003	120,879,390 *	1,410,459 *	344,906 *	358,089 *	344,790 *	112,883 *
2006	126,311,823 (+/- 6,652)	1,432,250 (+/- 206)	349,344 (+/- 438)	362,190 (+/- 304)	348,418 (+/- 307)	115,793 (+/- 121)

Table A-1.5: Median Household Income (+/- Margin of Error)

	U.S.	CT	Fairfield	Hartford	New Haven	New London
2000	41,486 (+/- 99)	53,935 Table P52**	65,249 Table C1**	50,756 Table C1**	48,834 Table C1**	50,646 Table C1**
2003	43,564 (+/- 138)	56,803 (+/- 923)	70,083 (+/- 2,767)	51,999 (+/- 1,800)	50,204 (+/- 1,247)	55,569 (+/- 2,201)
2006	48,451 (+/- 82)	63,422 (+/- 824)	76,672 (+/- 2,0778)	58,666 (+/- 1,922)	56,840 (+/- 1,363)	59,719 (+/- 2,837)

SOURCE: U.S. Census, U.S. 2000 Decennial Census, and American Community Survey 2000, 2003, and 2006.

* Controlled estimate, a statistical test is not appropriate.

** NOTE: Data based on a sample except in P3, P4, H3, and H4. For information on confidentiality protection, sampling error, non-sampling error, definitions, and count corrections for 2000 Decennial Census see <http://factfinder.census.gov/home/en/datanotes/expsf3.htm>