# FY 2018 – FY 2019 Biennium
# Economic Report of the Governor

This publication, required by Section 4-74a of the Connecticut General Statutes, is prepared by the Office of Policy and Management.


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February 8, 2017
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# ECONOMIC ASSUMPTIONS OF THE GOVERNOR'S BUDGET

## The U.S. Economy

In response to the events of 2016, International Monetary Fund chief Christine Lagarde warned of a "race to the bottom" on tax, trade, and regulation. Indeed, these are some of the defining issues of 2016 which led to the surprise outcomes in the "Brexit" referendum and the U.S. presidential election. On June 23, 2016, voters in the United Kingdom (UK) voted 52% to 48% in favor of leaving the European Union (EU). According to an analysis matching voting records to regional demographic data, those who voted to exit the EU tended to be older, from rural areas, and with lower income. This group was largely persuaded by anti-immigration sentiments stemming from the free movement of people across the EU. Over the next few years the UK will negotiate the terms of separation with the EU, including issues such as trade with EU's single market, the imposition of tariffs, and the movement of people.

Similarly, Donald Trump prevailed in the U.S. presidential elections. As in the UK, voters supporting Trump tended to be older and from smaller metro areas or rural America – areas which have struggled economically since the Great Recession. According to the Census Bureau, as of summer 2016, employment levels in nonmetropolitan areas was still two percent lower than pre-recession levels, compared to metropolitan areas that had five percent more jobs than in 2008. This is primarily the result of the types of jobs created since the Great Recession - in service providing industries in mostly large metropolitan areas.

Another phenomenon of economic recovery since the Great Recession is the lack of wage growth, which finally turned a corner in 2016. Based on an analysis by the Federal Reserve Bank of San Francisco which averaged four indicators of wage growth, the average rate of wage growth between 1983 to 2015 was 3.25%. However, since 2010 this average rate of wage growth remained below 2%, and only recently broke the 2% barrier. This is partially the result of the composition of jobs, including the loss of higher-wage goods-producing jobs and the growth of service-providing jobs, many of which are low-wage. Also compounding the issue is the composition of the U.S.'s workforce, including higher-wage retirees exiting the labor force and the entry of recent graduates and reentry of low-wage workers into full-time jobs. Wage growth has, however, finally started to gain some momentum in 2016. The Bureau of Labor Statistics' average hourly earnings indicator grew at a faster rate in 2016, from about 2% year-over-year since 2008 to a high of 2.9% by December 2016.

Other signs of strength in the labor market include the national unemployment rate, which was down to 4.7% as of December 2016. Economists suggest the nation has reached the "natural rate" of unemployment, or a healthy level of unemployment knowing there will always be workers cycling through jobs as they search for better opportunities and some level of structural unemployment related to misalignment between workers' job skills and employer needs.

Inflation also ticked up in December 2016 to 2.1% year-over-year, the fastest rate since June 2014, and just at the Federal Reserve's 2% inflation target. The Federal Reserve raised its target interest rate for the second time in a decade to range from 0.5% to 0.75%, and promised additional hikes in 2017, economic conditions permitting. Increasing wages, low unemployment, and promised infrastructure spending and lower taxes by the Trump administration increase the likelihood of further interest rate hikes by the Federal Reserve.

**The Connecticut Economy**

Connecticut experienced a flurry of business activity in 2016. After announcing a nationwide search for new headquarters in May 2015, General Electric (GE) announced in January 2016 it had selected Boston, Massachusetts as its new home. Of the approximately 800 jobs located at headquarters in Fairfield, Connecticut, about 200 were slated to move to Boston with another 400 to 500 positions remaining in Connecticut but at GE's Norwalk facilities. GE is currently realigning its industry focus, having sold off its financial arm and gearing up for "GE's Industrial Internet of Things", through which they will focus on helping industrial organizations with efficiency and performance.

As a result of a decision by the U.S. military to overhaul and expand the submarine fleet, in mid-2016 Electric Boat (EB) announced expansion plans at its Groton, Connecticut and Quonset Point, Rhode Island facilities. EB expects to hire 4,000 new employees over the next 15 years, establishing a workforce of about 18,000 between the two locations. In January 2017, Electric Boat announced the hiring of 2,000 new employees within the year at its Connecticut and Rhode Island plants. Of the 2,000, 1,350 are slated for Connecticut's Groton location, for a net gain of about 800 jobs after accounting for retirements and separations for other reasons.

In September 2016, Governor Malloy and Sikorsky struck a $220 million deal, later approved by the legislature, in which Sikorsky agreed to build a new line of helicopters (King Stallion) in the state until at least 2032. As part of the 14-year agreement, in addition to keeping headquarters here in Connecticut, Sikorsky agreed to increase full-time employment to more than 8,000 from its current 7,600, double its spending with suppliers throughout the state, and increase capital spending by 22%. Following on the heels of the Sikorsky deal, Pratt & Whitney announced in September 2016 its plans to hire 8,000 new employees over the next decade. Over the coming year, Pratt & Whitney expects to hire 1,000 engineers and 1,000 workers in the manufacturing sector.

As of the latest Connecticut Department of Labor (DOL) report for December 2016, the unemployment rate in Connecticut dropped 1.1 percentage points over the year to 4.4%, and stands 0.3 percentage points below the national unemployment rate. Moreover, the number of persons employed in Connecticut according to the household survey is at an all-time high of 1,814,700. However, DOL's other monthly survey of businesses has portrayed a contradictory narrative, with Connecticut experiencing job losses for six out of the last eight months. December

2016 employment currently stands at 2,000 less than December 2015. The annual average, however, shows a gain of 11,600 jobs in 2016 compared to 2015 (a growth of 0.7%). The other important labor market indicator, weekly unemployment job claims, has been flat and therefore does not indicate continued job losses in the state. Annually the business survey is benchmarked against unemployment insurance administrative data. The benchmark revision results available in March may bring some clarity to what is occurring in Connecticut's labor market.

Regardless of the recent volatility in total nonfarm employment data, some longer term trends have held in two key industry sectors for Connecticut. Jobs within the Finance and Insurance subsector, which continued to sustain losses post-recession until mid-2014, have grown 1.6% in 2016 compared to 2015; and employment in the manufacturing subsector, which has been declining in the state for decades, has held steady over the past two years at about 159,000 jobs.

According to the U.S. Census Bureau, Connecticut has experienced a slight population loss for the last three calendar years, from 2014 through 2016. There are a number of factors driving this population loss. Connecticut's population is one of the oldest in the country; the median age in Connecticut is 40.6 compared to 37.8 nationwide. As a result, the death rate in Connecticut is slightly higher and the birth rate slightly lower than the nation. Moreover, teenage birth rates have declined throughout the nation, but more precipitously in Connecticut – births to teenagers between the ages of 15 to 19 have declined by 46% between 2010 to 2015. Another outcome of being an older state, especially in the Northeast, is that retirees continue to move south and west for retirement as they have done for decades. Finally, as job growth in Connecticut has fallen behind the national trend, some population loss may also be due to the working age population seeking employment elsewhere.

By the end of 2016, Connecticut's real estate market had turned a corner. According to The Warren Group, even as the number of single-family home sales has been increasing for several years, the median price of single-family homes in Connecticut has been falling – about 3% in 2014, 2% in 2015, and 0.4% as of November 2016. However, since September 2016 the declining trend in prices reversed, with median single-family home prices increasing 2.3% in September, 2.1% in October, and 3.9% in November 2016. Similarly, Connecticut's condominium market has seen increasing sales but declining prices over the last few years. The trend reversed in late 2016, with the median price of condominiums up 1.9% in October and 0.3% in November 2016.

The Trump presidency brings a high level of uncertainty to federal policies and as a result to state budgeting. Repeal or replacement of the Affordable Care Act could have a significant impact on health care programs offered in the state, particularly Medicaid and the state's health insurance exchange. Moreover, the conversion of Medicaid and the Supplemental Nutrition Assistance Program to block grants has been discussed, as has reducing or eliminating certain federal block grant programs such as Temporary Assistance to Needy Families. Additional policy changes are likely as the budget for federal fiscal year 2017 and the reinstatement of the federal debt limit later this year are debated. However, the Trump administration has stated its intention to reduce top marginal tax rates, which could be beneficial to Connecticut given the number of wealthy

residents in this state and considering Connecticut is a net contributor of taxes to the federal government.

**Economic Assumptions of the Governor's Budget**

The U.S. economy is projected to continue accelerating through FY 2019, reaching up to 2.6% growth, before slowing to 2.1% in FY 2020. Inflation is expected to increase in FY 2017 to 2.0% (which is the Federal Open Market Committee's target rate), and continue to climb up to 2.6% by FY 2020. The U.S. unemployment rate is projected to stabilize around 4.2% in the outyears. The growth in housing starts is expected to decline slightly in FY 2017, before stabilizing around 5% growth in the outyears. U.S. new vehicle sales surpassed their FY 2005 pre-recession peak of 17 million sales and are expected to stay in the same range throughout the forecast period.

Though lagging the U.S., Connecticut's economy is expected to accelerate in FY 2017 to about 1.2% growth, and further accelerate over the forecast period to 1.8% by FY 2020. The rate of personal income growth in Connecticut slightly decreased in FY 2016, but is projected to return to 3.8% growth in FY 2017 and accelerate to mid-4% growth between FY's 2018 to 2020. Housing starts have been volatile in the state; it is projected there will be about 600 fewer housing starts in FY 2017 compared to FY 2016. Housing starts are then expected to rebound in FY 2018 with almost 16% growth before declining to 8% growth by FY 2020. Connecticut's employment growth is expected to slow in FY 2017 to 0.1%, return to 0.5% growth by FY 2019, before falling again in FY 2020 to 0.3%. The unemployment rate in the state is expected to essentially match the national rate by the end of FY 2017, and stabilize around 4.4% by FY 2020.

## TABLE A-1
## U.S. AND CONNECTICUT ECONOMIC INDICATORS

| | U.S. Real GDP (Billions of Dollars) | | CT Real GSP (Millions of Dollars) | | U.S. Housing Starts (Millions) | | CT Housing Starts | |
|---|---|---|---|---|---|---|---|---|
| Fiscal Year | Value | Growth | Value | Growth | Value | Growth | Value | Growth |
| 2015 | 16,231 | 2.9% | 225.1 | 0.4% | 1.1 | 10.5% | 4,728.8 | 0.7% |
| 2016 | 16,513 | 1.7% | 225.8 | 0.3% | 1.2 | 9.0% | 5,772.2 | 22.1% |
| 2017 | 16,848 | 2.0% | 228.5 | 1.2% | 1.2 | 2.4% | 5,184.4 | -10.2% |
| 2018 | 17,249 | 2.4% | 232.0 | 1.5% | 1.3 | 8.7% | 6,006.7 | 15.9% |
| 2019 | 17,696 | 2.6% | 236.5 | 1.9% | 1.4 | 5.9% | 6,728.7 | 12.0% |
| 2020 | 18,067 | 2.1% | 240.7 | 1.8% | 1.4 | 4.6% | 7,275.8 | 8.1% |

| | U.S. Employment (Millions) | | CT Employment (Thousands) | | U.S. Unemployment Rate | | CT Unemployment Rate | |
|---|---|---|---|---|---|---|---|---|
| Fiscal Year | Value | Growth | Value | Growth | Value | Growth | Value | Growth |
| 2015 | 140.4 | 2.1% | 1,668.5 | 0.8% | 5.7 | -1.1 | 6.1 | -1.1 |
| 2016 | 143.1 | 1.9% | 1,680.7 | 0.7% | 5.0 | -0.7 | 5.5 | -0.5 |
| 2017 | 145.4 | 1.5% | 1,682.9 | 0.1% | 4.7 | -0.2 | 4.8 | -0.7 |
| 2018 | 147.0 | 1.1% | 1,686.7 | 0.2% | 4.5 | -0.3 | 4.7 | -0.1 |
| 2019 | 148.9 | 1.3% | 1,695.3 | 0.5% | 4.2 | -0.3 | 4.4 | -0.3 |
| 2020 | 150.4 | 1.0% | 1,701.0 | 0.3% | 4.2 | 0.0 | 4.4 | 0.0 |

| | Consumer Price Index | | U.S. New Vehicle Sales (Millions) | | CT Personal Income (Millions of Dollars) | |
|---|---|---|---|---|---|---|
| Fiscal Year | Value | Growth | Value | Growth | Value | Growth |
| 2015 | 236.7 | 0.7% | 16.8 | 6.0% | 243,408.9 | 3.8% |
| 2016 | 238.3 | 0.7% | 17.5 | 3.8% | 250,401.1 | 2.9% |
| 2017 | 243.1 | 2.0% | 17.5 | 0.0% | 259,914.4 | 3.8% |
| 2018 | 248.4 | 2.2% | 17.5 | 0.1% | 270,977.4 | 4.3% |
| 2019 | 254.0 | 2.3% | 17.6 | 0.4% | 283,200.5 | 4.5% |
| 2020 | 260.6 | 2.6% | 17.5 | -0.4% | 295,699.8 | 4.4% |

## REVENUE FORECAST

The following table shows the actual General Fund Revenue collections for fiscal 2016, and estimated revenue collections for fiscal 2017 and projected revenue collections for fiscal 2018 and fiscal 2019 by major sources.

**TABLE A-2**
**STATE OF CONNECTICUT - GENERAL FUND REVENUES**
**(In Millions)**

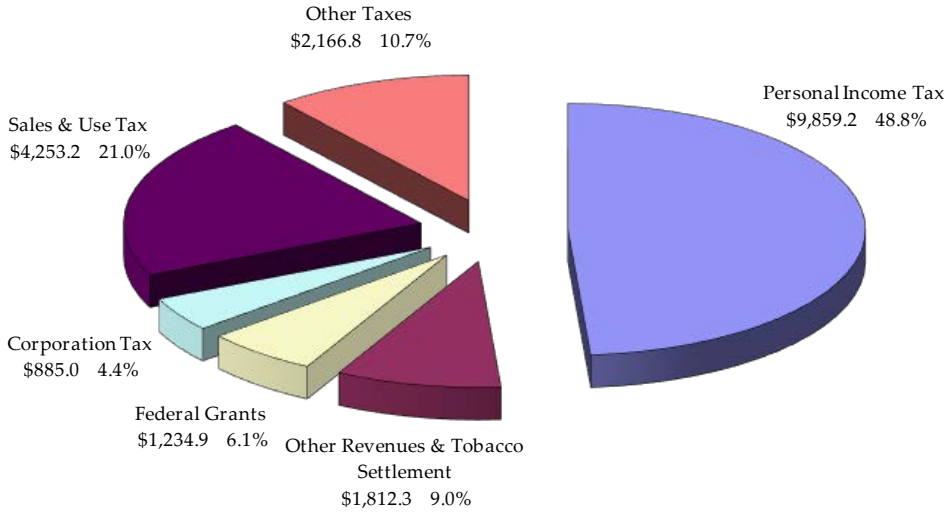
| Taxes | Actual Revenue 2015-16 | Estimated Revenue 2016-17 | Projected Revenue Current Rates 2017-18 | Proposed Revenue Changes 2017-18 | Net Projected Revenue 2017-18 |
|---|---|---|---|---|---|
| Personal Income Tax | $ 9,181.6 | $ 9,437.5 | $ 9,739.2 | $ 120.0 | $ 9,859.2 |
| Sales & Use Tax | 4,181.9 | 4,249.4 | 3,884.1 | 369.1 | 4,253.2 |
| Corporation Tax | 880.4 | 919.3 | 870.0 | 15.0 | 885.0 |
| Public Service Tax | 289.9 | 283.9 | 292.3 | - | 292.3 |
| Inheritance & Estate Tax | 221.8 | 174.6 | 180.1 | - | 180.1 |
| Insurance Companies Tax | 238.8 | 245.4 | 227.0 | 10.4 | 237.4 |
| Cigarettes Tax | 373.5 | 371.1 | 354.1 | 59.8 | 413.9 |
| Real Estate Conveyance Tax | 196.5 | 206.8 | 213.5 | - | 213.5 |
| Oil Companies Tax | 0.2 | - | - | - | - |
| Alcoholic Beverages Tax | 63.1 | 62.2 | 62.6 | 1.9 | 64.5 |
| Admissions & Dues Tax | 39.3 | 39.0 | 39.5 | - | 39.5 |
| Health Provider Tax | 701.7 | 701.5 | 701.1 | (1.0) | 700.1 |
| Miscellaneous Tax | 17.0 | 20.1 | 20.5 | 5.0 | 25.5 |
| Total Taxes | $ 16,385.9 | $ 16,710.8 | $ 16,584.0 | $ 580.2 | $ 17,164.2 |
| Less Refunds of Tax | (1,120.2) | (1,106.5) | (1,146.8) | - | (1,146.8) |
| Less Earned Income Tax Credit | (103.0) | (133.6) | (150.0) | 25.0 | (125.0) |
| Less R&D Credit Exchange | (7.6) | (8.5) | (8.8) | - | (8.8) |
| Total - Taxes Less Refunds | $ 15,155.1 | $ 15,462.2 | $ 15,278.4 | $ 605.2 | $ 15,883.6 |
| **Other Revenue** | | | | | |
| Transfers-Special Revenue | $ 340.0 | $ 345.5 | $ 363.6 | $ - | $ 363.6 |
| Indian Gaming Payments | 265.9 | 267.0 | 267.3 | - | 267.3 |
| Licenses, Permits, Fees | 296.5 | 269.2 | 298.3 | 18.7 | 317.0 |
| Sales of Commodities | 43.5 | 42.6 | 43.8 | - | 43.8 |
| Rents, Fines, Escheats | 141.7 | 128.0 | 130.1 | 0.3 | 130.4 |
| Investment Income | 0.9 | 3.8 | 5.9 | - | 5.9 |
| Miscellaneous | 179.8 | 330.5 | 181.3 | 409.3 | 590.6 |
| Less Refunds of Payments | (60.3) | (66.1) | (67.5) | - | (67.5) |
| Total - Other Revenue | $ 1,208.0 | $ 1,320.5 | $ 1,222.8 | $ 428.3 | $ 1,651.1 |
| **Other Sources** | | | | | |
| Federal Grants | $ 1,301.5 | $ 1,224.6 | $ 1,199.9 | $ 35.0 | $ 1,234.9 |
| Transfer From Tobacco Settlement | 110.6 | 108.5 | 93.7 | - | 93.7 |
| Transfers From/(To) Other Funds | 5.6 | (218.3) | (112.7) | (747.7) | (860.4) |
| Total - Other Sources | $ 1,417.7 | $ 1,114.8 | $ 1,180.9 | $ (712.7) | $ 468.2 |
| **Total - General Fund Revenues** | $ 17,780.8 | $ 17,897.5 | $ 17,682.1 | $ 320.8 | $ 18,002.9 |

| Projected Revenue Current Rates 2018-19 | Proposed Revenue Changes 2018-19 | Net Projected Revenue 2018-19 | Explanation of Changes |
|---|---|---|---|
| $ 10,067.3 | $ 115.0 | $ 10,182.3 | **Personal Income Tax** Eliminate Property Tax Credit. DRS Fresh Start Initiative. |
| 4,007.7 | 360.7 | 4,368.4 | **Sales Tax** Eliminate Sales Tax Transfer to Municipal Revenue Sharing Account. Reflects changes to tobacco related taxes and minimum bottle pricing. DRS Fresh Start Initiative. |
| 900.3 | 7.0 | 907.3 | **Corporation Tax** DRS Fresh Start Initiative. |
| 301.2 | - | 301.2 | **Inheritance and Estate Tax** Phase-in increase to federal exemption amount over 3 years. Lower the lifetime cap from $20 million to $15 million. |
| 186.1 | (20.1) | 166.0 | **Insurance Companies Tax** Reduce Insurance Premiums Tax from 1.75% to 1.50%. Permanently maintain the Three Tier Credit Cap and the moratorium on the Film Tax Credit. |
| 230.5 | (2.4) | 228.1 | **Cigarettes Tax** Increase Cigarettes Tax from $3.90/pack to $4.35/pack and increase other tobacco related taxes. |
| 336.8 | 52.9 | 389.7 | |
| 220.2 | - | 220.2 | |
| - | - | - | **Alcoholic Beverages Tax** Modify minimum bottle pricing. |
| 63.0 | 2.5 | 65.5 | |
| 39.8 | - | 39.8 | **Health Provider Taxes** Modifications to the Ambulatory Surgical Center Tax. |
| 700.2 | (1.0) | 699.2 | |
| 21.0 | - | 21.0 | **Miscellaneous Tax** DRS Fresh Start Initiative. |
| $ 17,074.1 | $ 514.6 | $ 17,588.7 | |
| (1,201.0) | - | (1,201.0) | **Earned Income Tax Credit (EITC)** Reduce EITC to 25%. |
| (155.6) | 26.0 | (129.6) | |
| (9.2) | - | (9.2) | **License, Permits, and Fees** Various fee increases. |
| $ 15,708.3 | $ 540.6 | $ 16,248.9 | |
| $ 370.9 | $ - | $ 370.9 | **Rents, Fines, Escheats** Increase carbonated bottle deposit to ten cents. Miscellaneous penalties. |
| 199.0 | - | 199.0 | |
| 275.9 | 40.5 | 316.4 | **Miscellaneous Revenue** Town reimbursement for Teachers' Retirement Fund and miscellaneous other reimbursements. |
| 44.9 | - | 44.9 | |
| 132.1 | 12.3 | 144.4 | **Federal Grants** Revenue gain resulting from expenditure changes. |
| 7.0 | - | 7.0 | |
| 185.0 | 422.6 | 607.6 | **Transfers- Tobacco Settlement** Transfer from the Tobacco and Health Trust Fund. |
| (68.9) | - | (68.9) | |
| $ 1,145.9 | $ 475.4 | $ 1,621.3 | **Transfers-Other Funds** Transfer to the Municipal Revenue Sharing Fund. Transfer to the Teachers' Retirement Fund. |
| $ 1,202.3 | $ 40.3 | $ 1,242.6 | |
| 94.2 | 1.0 | 95.2 | |
| (112.7) | (769.9) | (882.6) | |
| $ 1,183.8 | $ (728.6) | $ 455.2 | |
| $ 18,038.0 | $ 287.4 | $ 18,325.4 | |

## GENERAL FUND REVENUES FY 2018

(In Millions)

## TOTAL $ 18,002.9 MILLION*

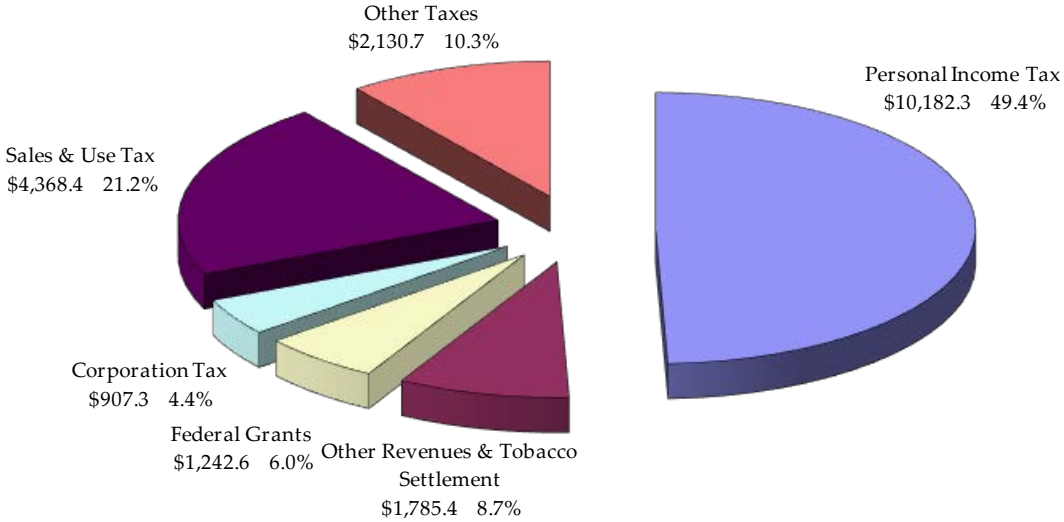



* Refunds are estimated at $1,146.8 million in FY 2018, R&D Credit Exchange is estimated at $8.8 million, Earned Income Tax Credit is estimated at $125.0 million, Refunds of Payments are estimated at $67.5 million, and Transfers to Other Funds are estimated at $860.4 million in FY 2018.

## GENERAL FUND REVENUES FY 2019

(In Millions)

## TOTAL $ 18,325.4 MILLION*




* Refunds are estimated at $1,201.0 million in FY 2019, R&D Credit Exchange is estimated at $9.2 million, Earned Income Tax Credit is estimated at $129.6 million, Refunds of Payments are estimated at $68.9 million, and Transfers to Other Funds are estimated at $882.6 million in FY 2019.

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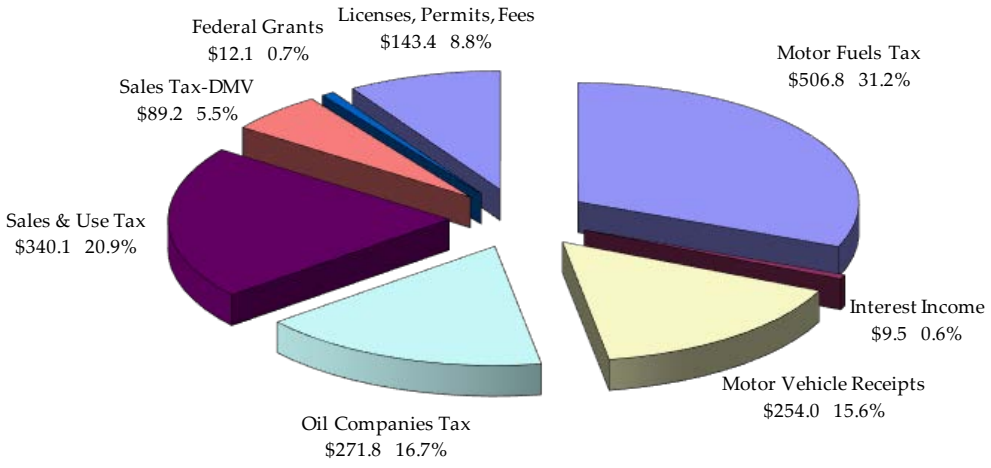
## TABLE A-3
## STATE OF CONNECTICUT
## SPECIAL TRANSPORTATION FUND REVENUES
## (In Millions)

| | Actual Revenue | Estimated Revenue | Projected Revenue Current Rates | Proposed Revenue Changes | Net Projected Revenue |
|---|---|---|---|---|---|
| **Taxes** | 2015-16 | 2016-17 | 2017-18 | 2017-18 | 2017-18 |
| Motor Fuels Tax | $ 518.2 | $ 503.7 | $ 506.8 | $ - | $ 506.8 |
| Oil Companies Tax | 250.0 | 255.7 | 278.8 | (7.0) | 271.8 |
| Sales and Use Tax | 109.0 | 194.5 | 340.1 | - | 340.1 |
| Sales Tax - DMV | 87.2 | 88.3 | 89.2 | - | 89.2 |
| Total Taxes | $ 964.4 | $ 1,042.2 | $ 1,214.9 | $ (7.0) | $ 1,207.9 |
| Less Refunds of Taxes | (17.4) | (14.5) | (12.6) | - | (12.6) |
| Total - Taxes Less Refunds | $ 947.0 | $ 1,027.7 | $ 1,202.3 | $ (7.0) | $ 1,195.3 |
| **Other Sources** | | | | | |
| Motor Vehicle Receipts | $ 251.5 | $ 252.0 | $ 254.0 | $ - | $ 254.0 |
| Licenses, Permits, Fees | 143.9 | 142.8 | 143.4 | - | 143.4 |
| Interest Income | 8.2 | 8.5 | 9.5 | - | 9.5 |
| Federal Grants | 12.2 | 12.1 | 12.1 | - | 12.1 |
| Transfers From Other Funds | (6.5) | (6.5) | (6.5) | - | (6.5) |
| Less Refunds of Payments | (3.4) | (3.8) | (3.9) | - | (3.9) |
| Total - Other Sources | $ 405.8 | $ 405.1 | $ 408.6 | $ - | $ 408.6 |
| **Total - STF Revenues** | $ 1,352.8 | $ 1,432.8 | $ 1,610.9 | $ (7.0) | $ 1,603.9 |

### FISCAL YEAR 2018 - TOTAL $1,603.9 MILLION*



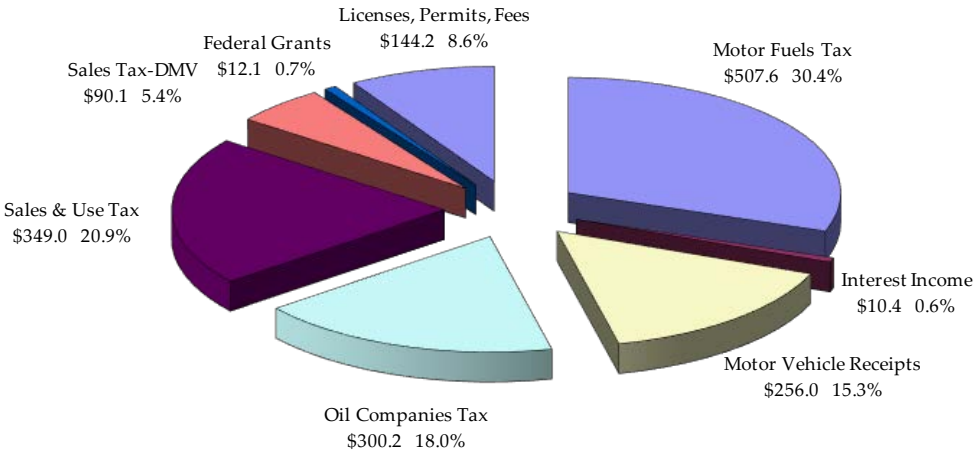

* Refunds are estimated at $16.5 million and Transfers Other Funds at $6.5 million in FY 2018

| Projected Revenue Current Rates 2018-19 | Proposed Revenue Changes 2018-19 | Net Projected Revenue 2018-19 |
|---|---|---|
| $ 507.6 | $ - | $ 507.6 |
| 308.0 | (7.8) | 300.2 |
| 349.0 | - | 349.0 |
| 90.1 | - | 90.1 |
| $ 1,254.7 | $ (7.8) | $ 1,246.9 |
| (14.1) | - | (14.1) |
| $ 1,240.6 | $ (7.8) | $ 1,232.8 |
| | | |
| $ 256.0 | $ - | $ 256.0 |
| 144.2 | - | 144.2 |
| 10.4 | - | 10.4 |
| 12.1 | - | 12.1 |
| (6.5) | - | (6.5) |
| (4.1) | - | (4.1) |
| $ 412.1 | $ - | $ 412.1 |
| | | |
| $ 1,652.7 | $ (7.8) | $ 1,644.9 |

## Explanation of Changes

**Oil Companies Tax**
Segregate aviation fuel collections in excess of two percent rate.

**FISCAL YEAR 2019 - TOTAL $1,644.9 MILLION***




*Refunds are estimated at $18.2 million and Transfers to Other Funds at $6.5 million in FY 2019.

## IMPACT OF THE GOVERNOR'S BUDGET ON THE STATE'S ECONOMY

A government budget has three purposes: it outlines necessary and desirable public services, it estimates how much these services will cost, and it defines the resources that are required to provide these services. The budget is a fundamental policy document of every level of government. As proposed, enacted and implemented, it represents a consensus regarding what government realistically can and ought to do.

The economic implications of government budgets are significant. Government expenditures and investment at the federal, state and local levels are an important dimension of the national economy, accounting for about 18% of gross domestic product. The Governor's budget will account for an estimated 7.3% of Connecticut's gross state product in fiscal year 2018, and state government's expenditure and revenue actions will inevitably influence the state's economy.

### Expenditure Actions

#### General Government

*Second Chance Society Initiatives*

With crime in Connecticut at a 50-year low and recidivism down dramatically, the state's prison population continues to decline. As of January 1, 2017, the total inmate population was 14,532 - down nearly 1,000 offenders from the same time last year. The current inmate population is substantially below the all-time high of 19,894 in 2008.

The Governor is proposing additional Second Chance Society initiatives in this budget including bail reform that, when combined with the continuing trends in declining crime and prison admissions, will allow another prison closure in FY 2018 and four additional units in other facilities to be closed during FY 2018. These reductions will result in fewer posts such that existing staff can be redeployed elsewhere to posts currently being covered by overtime. It is estimated that $11.9 million in staff and operating costs will be saved in FY 2018.

*Municipal Accountability*

Governor Malloy is proposing a plan for greater accountability by municipalities receiving higher levels of state aid. With some municipalities experiencing fiscal distress and the Governor's initiative to increase education funding, particularly for poorer communities, it makes sense to have a statewide board that is empowered to review municipal finances and oversee efforts to restore fiscal stability when warranted. Under this plan, the Municipal Accountability Review Board (MARB) is established. The board will have nine members, including the Secretary of the Office of Policy and Management (co-chair), the State Treasurer (co-chair), four members appointed by the Governor, the local chief elected official, a labor representative representing an

employee group of the municipality and a member appointed by the Governor recommended by the regional Council of Governments. The proposal provides a system with four tiers determined by factors including bond ratings, fund balance as a percentage of revenues, state aid as a percent of the general fund budget, and increased levels of state aid and equalized mill rates. The proposal eliminates the municipal spending cap requirement for municipalities that are not in tiers II, III and IV.

The Governor's proposed budget includes funding for necessary staff and related expenses to support the work of the Municipal Finance Advisory Committee (MFAC) and the MARB in their work with designated municipalities.

**Education and Workforce Programs**

*A New Approach to Municipal Aid*
Since taking office, Governor Malloy has demonstrated strong support for municipal aid. This budget continues that support and takes a new approach by asking municipalities to share one-third of the costs for the teachers' retirement system, which has been funded by the state for decades. The Governor invests in education by modifying the state's Education Cost Sharing (ECS) formula to make it more progressive and makes changes to fully fund the formula. Additionally, the budget reallocates the portion of the ECS grant attributable to special education funding into a new Special Education Grant.

This budget recognizes the challenges faced by municipalities with high mill rates and with significant amounts of tax exempt property. The Governor's recommended budget provides property tax relief by eliminating the real property tax exemption on hospitals, creating a local property tax option, and providing supplemental payments to hospitals to help minimize potential tax losses. The two existing payment in lieu of tax programs (PILOTS) are modified to provide the greatest reimbursement to the towns that have the greatest proportions of exempt properties. Finally, this budget continues to support new municipal revenue sharing through the select payments in lieu of taxes grant, additional revenue sharing grant, and funding for motor vehicle property tax relief.

**Health and Human Services**

Additional funding is recommended in the Department of Public Health (DPH) for several initiatives designed to enhance public health. Approximately $9.5 million is provided to make the human papillomavirus (HPV) vaccine universally available to privately-insured eleven and twelve year olds through the Connecticut Vaccine Program, making access comparable to that afforded publicly-insured children through the federal Vaccines for Children program. In order to assure the adequacy and safety of the state's drinking water, water systems will be assessed a

fee that will address projected shortfalls in the federal EPA Drinking Water State Revolving Fund program, thus maintaining the critical activities of the Drinking Water Section at DPH.

DPH will also be licensing urgent care centers, which will support the Department of Social Services (DSS) in a new initiative called "Safe to Wait." Designed to reduce non-emergent emergency department visits, this program provides Medicaid beneficiaries with information and education about alternatives to the emergency department by connecting them to primary care and licensed urgent care centers throughout the state.

The Governor's budget preserves funding for critical residential and day services programs in the Department of Developmental Services (DDS) and provides funding to annualize and fund additional placements for individuals aging out of services in the Department of Children and Families (DCF) or local education agencies and additional community-based placements each year for initiatives such as Money Follows the Person (MFP). New funding, annualizing at $3.8 million, is provided to support the efforts of the Intellectual Disability (ID) Partnership created last year to develop innovative and cost-effective ways to serve individuals with intellectual disabilities. This funding will help address the waiting list and explore initiatives that can develop a broader continuum of community-based residential services. Additionally, $1.8 million of this funding will stabilize providers undergoing conversion of DDS grant-funded services to Medicaid fee-for-service payments by allowing rates for the lower-paid providers to be increased without having to reduce funding from the higher rate providers.

Reductions from funding which previously supported state-operated services were taken in DDS to reflect further downsizing of state-operated services like Southbury Training School and the regional centers and conversions of state-operated residential community living arrangements (CLAs) to privately-operated CLAs.

Reductions were also taken to reflect conversion of certain state-operated programming in DMHAS' Local Mental Health Authorities to private providers. Also, in an effort to streamline services and enhance service delivery, DMHAS will centralize detoxification services at Connecticut Valley Hospital in Middletown by relocating a 21-bed program from Blue Hills campus in Hartford. This restructuring will not result in any loss of beds in the DMHAS system.

The most significant change in DSS is related to a proposal to revert back to the eligibility levels that were in place under the Medicare Savings Program(MSP) prior to FY 2010, in order to bring Connecticut's eligibility levels more in line with other states. Even with this change, Connecticut's levels will still exceed the vast majority of other states. Connecticut is also one of only eight states that does not have an asset test, but the Governor is not proposing to reinstitute the asset test that was in place prior to FY 2010. The proposal will reduce state Medicaid expenditures by $29.6 million in FY 2018 and $39.5 million in FY 2019 ($59.2 million in FY 2018 and $79.0 million in FY 2019 after factoring in the federal share). These savings figures reflect the state's share of Medicaid expenditures, which cover the costs of deductibles, coinsurance and copayments under the Qualified Medicare Beneficiary program, which is by far the largest of the three components of

MSP. In addition, because Medicare premiums are covered through the diversion of Medicaid revenue, less revenue will need to be diverted to cover these costs, resulting in additional revenue of $36.9 million in FY 2018 and $42.1 million in FY 2019. In total, after factoring in some funding to assist with the transition, this proposal will result in net savings to the state of $66.4 million in FY 2018 and $81.6 million in FY 2019.

Another area where the Governor is looking to more closely align Connecticut's program eligibility with that of other states is the proposal to reduce income eligibility for HUSKY A adults to the same level as that for low-income adults under HUSKY D. As of January 2016, Connecticut was one of only a few states still providing coverage to parents and relative caregivers with income over 138% of the federal poverty level. This proposal will reduce state expenditures by $500,000 in FY 2018, $11.3 million in FY 2019, and $14.9 million in FY 2020 ($1.0 million in FY 2018, $22.6 million in FY 2019 and $29.8 million in FY 2020 after factoring in the federal share). Coverage for pregnant women and children enrolled in HUSKY A will not be impacted.

Other proposed reductions include limiting intake to the state-funded home care program, eliminating funding for the small hospital pool, capping adult dental benefits, and consolidating several non-entitlement accounts and programs and reducing their overall funding.

The Governor's budget does not include any adjustments related to the potential repeal of the Affordable Care Act. Even if this were to occur, the timing of any such action and the details of what a replacement might look like are largely unknown. In addition, the Governor's budget does not include any adjustments to reflect potential federal changes to the Medicaid program – reduction or elimination of the enhanced match for low-income childless adults, block granting of the Medicaid program, instituting per capita caps, etc. – nor does it reflect potential federal changes that could impact any of the state's other entitlement programs. There is obviously great uncertainty about the future of Connecticut's federally supported entitlement programs and staff at the Department of Social Services and the Office of Policy and Management are following the discussions closely and will be analyzing the potential impact – both financial and programmatic – on access to health care under any scenarios that are put forward.

In order to coordinate efforts to react to potential health care reform changes at the federal level, the Governor is proposing the creation of a new agency effective July 2018, the Office of Health Strategy, to enhance coordination and consolidate accountability for the implementation of the state's health care reform strategies. The agency will be created through the consolidation of staff and resources from the Office of Health Care Access currently located within DPH, and the Statewide Innovation Model program office and the health information technology officer currently located in the Office of the Healthcare Advocate.

## Capital Proposals

Total proposed new general obligation (GO) bond authorizations are $1.79 billion in FY 2018 and $1.71 billion in FY 2019. These proposed bond authorizations are in addition to those that were previously authorized by the General Assembly and become effective during the biennium, including modified amounts of $265.19 million in FY 2018 and $225.9 million in FY 2019 for the Next Generation Connecticut/ UConn 2000 program, $150 million in FY 2018 and $95 million in FY 2019 for the CSCU 2020 program, $15.82 million in FY 2018 and $12.535 million in FY 2019 for the Bioscience Collaboration Program, and modified amounts of $15 million in FY 2018 and $15 million in FY 2019 for the Bioscience Innovation Fund. The capital budget proposal also includes the cancellation of $190.2 million in prior year GO bond authorizations that are no long necessary. Other notable proposed GO bond authorizations include:

- $1.2 billion over the biennium to meet the commitments of the school construction program;
- $60 million over the biennium for grants to Alliance School districts for capital improvements;
- $139.7 million over the biennium for the Connecticut State Colleges and Universities for equipment, technology improvements, and building projects;
- $181.5 million over the biennium for information technology investments and replacement of equipment to enhance state agency efficiency and effectiveness;
- $340 million over the biennium for housing related initiatives in the areas of affordable housing, the state's public housing portfolio, and under the state's successful supportive housing program;
- $125 million over the biennium for the Local Capital Improvement Program;
- $213 million over the biennium for Clean Water fund grants;
- $375 million over the biennium for the Department of Economic and Community Development to continue to provide low interest loans to attract and retain businesses and jobs in the state;
- $100 million over the biennium for the Urban Act Program;
- $40 million over the biennium for redevelopment of brownfields;
- $60 million over the biennium for the Capital Region Development Authority to assist with development in downtown Hartford; and
- $125 million over the biennium to revitalize and renew the XL Center in Hartford.

The Governor is also proposing $1.64 billion in additional special tax obligation bond authorizations over the biennium, including $120 million for Town Aid Road grants, for the Department of Transportation's regular program for maintaining and improving our highways and transit systems. This funding is in addition to the $1.3 billion previously approved for the biennium under the Let's Go! CT long-term transportation plan.

Finally, the Governor's proposal includes $508.5 million over the biennium for revenue bonds to finance loans for clean water and drinking water projects.

## Revenue Proposals

Over the past few years, the State of Connecticut has enacted policies to incentivize the retention and expansion of those industries that are vitally important to our state. Within the defense and aerospace sectors those initiatives have begun to bear fruit whether at Pratt and Whitney, Sikorsky, or Electric Boat – all three whose outlook in our state looks the most assured in decades. In this year's budget proposal the Governor is recommending changes to the Insurance Premiums tax aimed at ensuring Connecticut remains the most desired location for this important sector of our economy. Lowering the Insurance Premiums tax rate from 1.75% to 1.5% will provide competitive benefits to local companies whether they are conducting business in this state or in other states. This rate reduction will also provide tangible relief for Connecticut policyholders. This year's budget also makes changes to the state's Estate Tax which is often characterized as being uncompetitive and driving some of the most industrious citizens away from the state. This proposal would phase-in an increase in the Estate Tax exemption from its current $2 million level to the federal level of over $5 million over three years. In addition, the maximum lifetime cap on the total amount that could be paid under the Estate and Gift tax will be lowered from $20 million to $15 million. These changes are aimed at keeping Connecticut competitive in the region for high net worth individuals. In order to partially address the budgetary shortfall in the upcoming biennium, the Governor is proposing several revenue enhancements. These include eliminating the property tax credit on the Personal Income Tax, lowering the Earned Income Tax Credit to 25% of the federal level, increasing various tobacco related taxes, and eliminating minimum bottle pricing under the state's alcoholic beverage laws. These initiatives are expected to raise $195.7 million in FY 2018 and $190.1 million in FY 2019. Other smaller initiatives primarily involve certain fee changes and increasing the current five cent deposit on carbonated beverage. bottle deposits to ten cents. The Governor's budget also seeks to enhance the collection of state taxes through the Department of Revenue Services' "Fresh Start" initiative, which is expected to yield $60 million in FY 2018 and $25 million in FY 2019.

## Conclusion

Governor Malloy remains committed to a fiscally responsible state government which lives within the state's means and promotes Connecticut's quality of life. The Governor's proposed fiscal year 2018-2019 biennial budget addresses the fiscal and economic realities facing the state. The Governor's budget is balanced, represents limited growth over prior years, and is below the proposed definition for the constitutional spending cap.

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# E C O N O M I C  R E P O R T
# O F  T H E  G O V E R N O R

## FY 2018 – FY 2019 Biennium

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# INTRODUCTION

This report fulfills the requirements of Section 4-74a of the General Statutes which stipulates that:

> "The budget document shall include the recommendations of the Governor concerning the economy and shall include an analysis of the impact of both proposed spending and proposed revenue programs on the employment, production and purchasing power of the people and industries within the state."

This report is also designed to provide a brief profile of the State of Connecticut, the economy of the state, revenues and economic assumptions that support the Governor's budget, and an analysis of the impact of both proposed spending and proposed revenue programs on the economy of the State of Connecticut.

The report focuses on eight areas including: (1) the general characteristics of the state; (2) the profile of employment in the state; (3) an in-depth analysis of important Connecticut sectors; (4) the performance indicators the United States, the New England region, and Connecticut; (5) a discussion of the most important revenue sources; (6) the economic assumptions of the Governor's budget and a numerical comparison of some of the important indicators used in the preparation of the Governor's budget; (7) the revenue forecasts of the General Fund and the Special Transportation Fund; and (8) the expected impact of the Governor's budget on the economy of the State of Connecticut.

## EXECUTIVE SUMMARY

Highlights included in this report are as follows:

### Population

Between 2000 and 2010, Connecticut's population grew at a rate of 4.9%, faster than the 3.8% population growth in New England but trailing behind the 9.7% of the U.S. In fiscal year 2016, Connecticut's population experienced a year over year decline of an estimated 2,500 residents. Connecticut continues to experience net outmigration, with a deficit of over 20,500 between 2007 and 2016. Current Connecticut population estimates indicate that the relative share of Connecticut's elderly population (age 65+) exceeded the U.S., while its younger age cohorts, those under 45, trailed the nation as a whole. The proportion of residents holding a bachelor's degree in Connecticut is 13.5% higher than the nation, while the proportion of those holding a graduate or professional degree is 48.2% higher than the nation.

### Housing

Connecticut's housing market indicators show signs of recovery in fiscal year 2016. Following a decline in fiscal year 2014 and flat growth in fiscal year 2015, housing starts in Connecticut increased by 22.1% in fiscal year 2016. Median existing home prices increased 0.5% in Connecticut in fiscal year 2016, significantly lower than the U.S. as a whole, which saw median home prices increase 5.8%. Thirty year mortgage rates remain extremely low, decreasing to 3.8% in fiscal year 2016. Nationally, homeowner equity as a percentage of home values improved to 56.3% in fiscal year 2016, reaching their highest level since the housing collapse in fiscal year 2008.

### Employment

In FY 2016 Connecticut gained approximately 12,000 non-farm jobs, representing a 0.7% growth in jobs. During the recent financial crisis, Connecticut lost approximately 100,000 non-farm jobs, and as of fiscal year 2016 had regained 74,570. Manufacturing remains an important sector of Connecticut's economy, representing 9.5% of all non-farm jobs in fiscal year 2016. Connecticut saw its first increase in manufacturing employment in over a decade, increasing 0.25% in FY 2016, while the U.S. experienced similar growth in manufacturing employment. Nonmanufacturing employment gained approximately 11,800 jobs, or 0.8%, in FY 2016, trailing the U.S.'s growth of 2.1% and New England's growth of 1.4%. The largest growth in nonmanufacturing employment in Connecticut came in the Transportation and Warehousing sector, which gained 1,900 jobs or a 4.4% increase over the prior year. In FY 2016, Connecticut's unemployment rate averaged 5.5%, higher than the U.S. at 5.0% and New England at 4.6%.

### Energy

Energy markets continued to experience significant changes in 2016, as an abundance of supply in the oil market, driven in part by the North American energy boom, continued to drive down

the price of oil and gasoline during the year. In calendar year 2015, the United States continued to be the world's largest supplier of oil. In 2014 Connecticut consumed 3.0 thousand BTU's per 2009 chained dollar of GDP, making it one of the most energy efficient states relative to output. Overall, Connecticut is 33.2% below the nation's per capita energy consumption and ranks 5th in energy efficiency per capita. In 2015, Connecticut residents consumed 412.1 gallons of gasoline per capita, lower than the national average of 439.1 gallons. Connecticut's energy efficiency is likely due in part to the high relative price of energy in the state. In 2014 Connecticut's overall energy costs were 30% higher than the national average and its electricity prices were 63% higher than the national average.

**Export Sector**

Exports play a crucial role in the economy. The U.S. trade deficit in 2015 was $463.0 billion, up from $392.1 billion in 2014. Total trade exports grew 42.8% from 2006 to 2015, while trade imports have grown 20.0% over the same period. Connecticut exports totaled $15.2 billion and accounted for 6.4% of GSP in 2015. Over the past five years, Connecticut's exports have decreased by an average of 1.6% per year. Transportation equipment, nonelectrical machinery and computer and electronic equipment are Connecticut's largest exporting industries and comprise 64.8% of exports in 2015.

**Defense Industry**

Prime defense contracts tend to be a leading indicator of Connecticut's economic activity. In federal fiscal year (FFY) 2015, Connecticut contractors were awarded $12.1 billion in defense related prime contracts, down 8.0% from the $13.2 billion awarded in FFY 2014. However, as defense contract awards normally take several years to complete, the 3-year moving average is a better reflection of actual production activities. In FFY 2015, this average was $11.8 billion.

**Retail Trade**

Connecticut's retail trade in FY 2016 totaled $55.4 billion, a 1.5% increase over FY 2015. Growth in durable sales outpaced growth in non-durable sales in FY 2016, at 4.0% and 0.4% respectively. U.S. E-commerce sales continued their rapid growth, increasing an estimated 15.4% compared to a 0.9% increase in traditional retail sales. Connecticut retail trade as a percentage of disposable income decreased slightly to 26.4% in FY 2016 from 26.7% in FY 2015.

## Nonfinancial Debt

Total nonfinancial debt grew 137.5% between 2000 and 2015, far outpacing GDP growth of 74.0%. Federal indebtedness grew 270.8%, state and local government debt grew 153.8%, business debts grew 94.2% and household debts grew 98.6%. Connecticut's state government debt outstanding at the end of FY 2014 was $33.2 billion, up from $32.4 billion in FY 2013 and $32.0 billion in FY 2012. Connecticut per capita state government debt was $9,242 in FY 2014, far above the fifty state average of $3,603 in FY 2014.

## Gross State Product

In fiscal year 2016, Connecticut's real GSP increased 0.3% to $225.8 billion in 2009 dollars, falling behind the U.S. and New England which saw increases of 1.6% and 1.5% respectively. Per capita real GSP in Connecticut was 25.5% higher than that of the U.S.

## Personal Income

In fiscal year 2016, real personal income in Connecticut increased 2.9%, compared to 3.8% growth in the U.S. and 4.0% growth in New England. In fiscal year 2016, Connecticut possessed the highest per capita personal income in the nation at $69,953, a growth of 3.1% over FY 2015.

## Economic Forecast

Connecticut's personal income is expected to increase 4.3% in FY 2018 and 4.5% in FY 2019 to $270,977 and $283,200 respectively. Connecticut is projected to add 3,800 jobs in FY 2018 and 8,600 jobs in FY 2019, or a respective 0.2% and 0.5% growth. The unemployment rate is projected to decline to 4.7% in FY 2018 and 4.4% in FY 2019.

## GENERAL CHARACTERISTICS OF THE STATE OF CONNECTICUT

Connecticut is located in southern New England, bordered by Long Island Sound, New York, Massachusetts and Rhode Island. The state enjoys a favorable location within the region as rail, truck, air transport and ports provide easy access to local and regional markets in the United States, Canada, and even Europe and South America. Over one-quarter of the total population of the United States and more than 50% of the Canadian population live within a 500-mile radius of Connecticut.

Connecticut is highly urbanized with a population density of 738 persons for each of its 4,842.4 square miles of land, compared with 87 persons per square mile of land for the United States (3,531,905 square miles), based on 2010 census figures. Hartford, the capital, is a center for the insurance industry and a major service center for business and commerce. Industrial activity in the state is concentrated in two regions: the Naugatuck valley, extending from Bridgeport north, and a belt extending from Hartford west to New Britain and Bristol, and south to New Haven.

### Demographics

As required by the United States Constitution, a census is taken every ten years. After the 1970 census, growth in Connecticut has been slower than the nation as a whole.

**TABLE 1**
**CENSUS POPULATION COUNTS**
**(In Thousands)**

| | United States | | New England | | Connecticut | |
|---|---|---|---|---|---|---|
| Year | Number | % Growth | Number | % Growth | Number | % Growth |
| 1930 | 123,203 | 16.3 | 8,166 | 10.3 | 1,607 | 16.3 |
| 1940 | 132,165 | 7.2 | 8,437 | 3.3 | 1,709 | 6.3 |
| 1950 | 151,326 | 14.5 | 9,314 | 10.3 | 2,007 | 17.4 |
| 1960 | 179,323 | 18.5 | 10,509 | 12.8 | 2,535 | 26.3 |
| 1970 | 203,302 | 13.4 | 11,847 | 12.6 | 3,032 | 19.6 |
| 1980 | 226,542 | 11.4 | 12,349 | 4.2 | 3,108 | 2.5 |
| 1990 | 248,710 | 9.8 | 13,207 | 6.9 | 3,287 | 5.8 |
| 2000 | 281,422 | 13.2 | 13,923 | 5.4 | 3,406 | 3.6 |
| 2010 | 308,746 | 9.7 | 14,445 | 3.8 | 3,574 | 4.9 |

Source: U.S. Bureau of the Census

Between 2000 and 2010, Connecticut's population grew by 4.9%. Growth in some of the state's smaller counties, including Middlesex, New London, Tolland, and Windham counties, outpaced the state as a whole.

**TABLE 2**
**COUNTY POPULATION IN CONNECTICUT**

| County | 2000 Census | 2000 Percent | 2010 Census | 2010 Percent | Percent Change |
|---|---|---|---|---|---|
| Fairfield | 882,567 | 25.9 | 916,829 | 25.7 | 3.9 |
| Hartford | 857,183 | 25.2 | 894,014 | 25.0 | 4.3 |
| Litchfield | 182,193 | 5.3 | 189,927 | 5.3 | 4.2 |
| Middlesex | 155,071 | 4.6 | 165,676 | 4.6 | 6.8 |
| New Haven | 824,008 | 24.2 | 862,477 | 24.1 | 4.7 |
| New London | 259,088 | 7.6 | 274,055 | 7.7 | 5.8 |
| Tolland | 136,364 | 4.0 | 152,691 | 4.3 | 12.0 |
| Windham | 109,091 | 3.2 | 118,428 | 3.3 | 8.6 |
| TOTAL | 3,405,565 | 100.0 | 3,574,097 | 100.0 | 4.9 |

Source: U.S. Bureau of the Census

In FY 2016, Connecticut's population declined for the third consecutive year. By comparison, population grew modestly in both New England and the nation as a whole. The following table shows population for the last ten fiscal years for each of the three geographical areas.

**TABLE 3**
**POPULATION BY FISCAL YEAR**
**(In Thousands)**

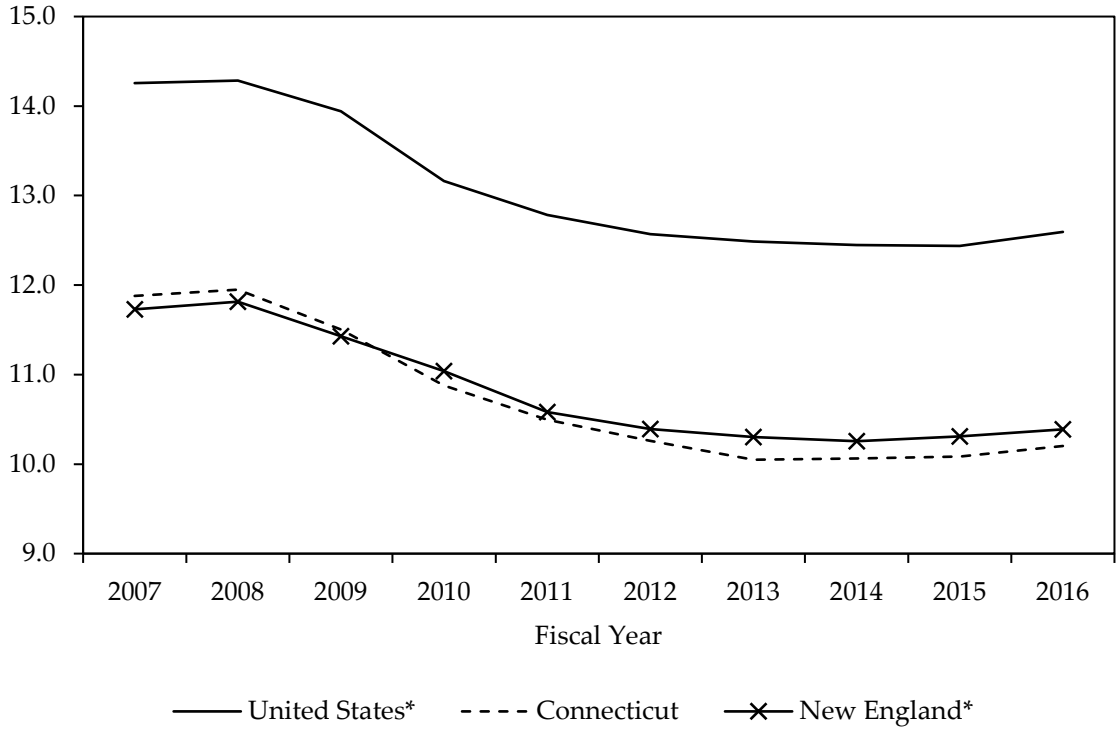
| Fiscal | United States* | | New England | | Connecticut | |
|---|---|---|---|---|---|---|
| Year | Population | % Growth | Population | % Growth | Population | % Growth |
| 2007 | 300,763.8 | 1.0 | 14,266.6 | 0.2 | 3,523.6 | 0.3 |
| 2008 | 303,627.8 | 1.0 | 14,317.3 | 0.4 | 3,538.7 | 0.4 |
| 2009 | 306,280.4 | 0.9 | 14,379.8 | 0.4 | 3,555.7 | 0.5 |
| 2010 | 308,848.4 | 0.8 | 14,440.7 | 0.4 | 3,572.4 | 0.5 |
| 2011 | 311,293.1 | 0.8 | 14,504.8 | 0.4 | 3,586.0 | 0.4 |
| 2012 | 313,621.1 | 0.7 | 14,560.3 | 0.4 | 3,592.1 | 0.2 |
| 2013 | 315,921.7 | 0.7 | 14,616.0 | 0.4 | 3,595.8 | 0.1 |
| 2014 | 318,310.2 | 0.8 | 14,670.2 | 0.4 | 3,595.7 | (0.0) |
| 2015 | 320,702.2 | 0.8 | 14,713.4 | 0.3 | 3,592.3 | (0.1) |
| 2016 | 323,249.9 | 0.8 | 14,753.4 | 0.3 | 3,589.8 | (0.1) |

* Includes armed forces oversees
Source: Bureau of the Census, IHS

There are two drivers of change in a population. The first is the natural change, calculated as births per 1,000 people less deaths per 1,000 people. The natural change in Connecticut was 1.9

per 1,000 people in FY 2016, down from 3.6 per 1,000 people in FY 2006. This represents a 46% decline in the natural change rate during the previous decade. Births, in particular, have been reduced in the period following the Great Recession. In Connecticut, there were 10.2 births per 1,000 people in FY 2016, down from 11.8 births per 1,000 people in FY 2006. This represents a 14% reduction in the birth rate in the state. The birth rate in Connecticut has been lower than both New England and the nation as a whole in every year since FY 2010. The following graph shows the rates of birth in the United States, New England, and Connecticut.

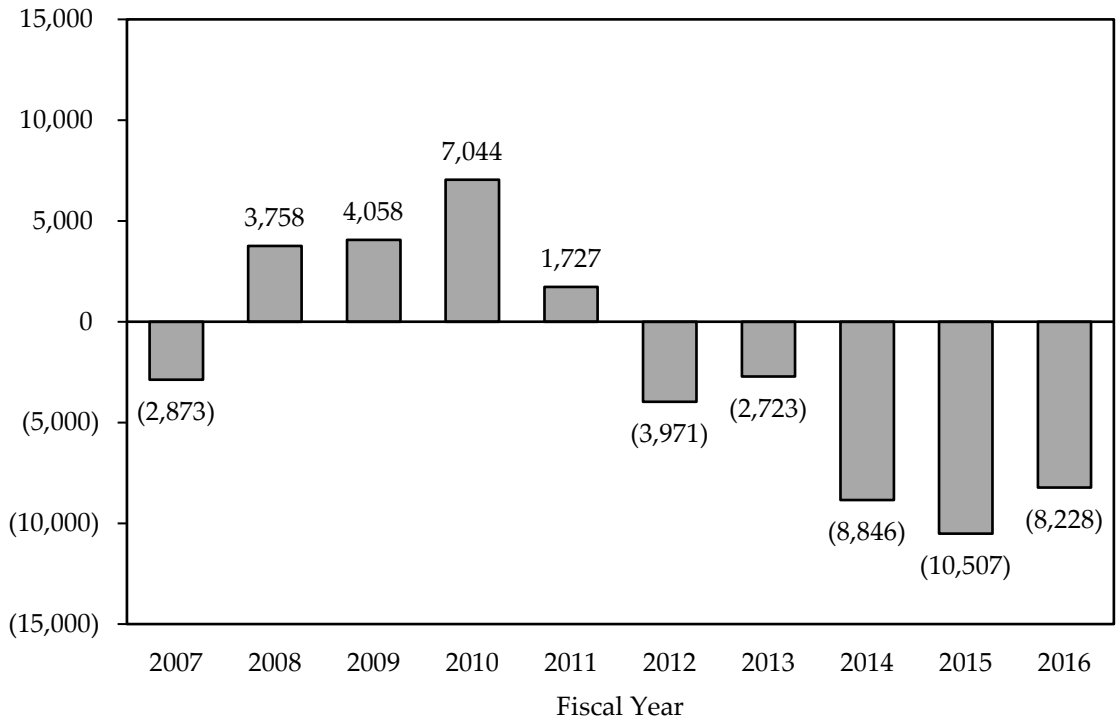
**BIRTH RATE**
**Per 1,000 Residents**




* Sum of states' totals
Source: Bureau of the Census, IHS

The second driver of population change is migration. Generally speaking, the domestic migratory pattern in the United States has been towards the South and West. This pattern has resulted in population growth in the so-called "sunbelt states." At the same time, international migration has contributed to population growth in the nation. Over the past decade, Connecticut has experienced net outmigration. In FYs 2014-2016, this outmigration was sufficient to cancel out any population growth from births, resulting in population declines in those years. The following graph shows net outmigration for the state in each of the previous ten fiscal years.

**CONNECTICUT NET MIGRATION BY FISCAL YEAR**




Source: Bureau of the Census, IHS

**Age Cohorts**

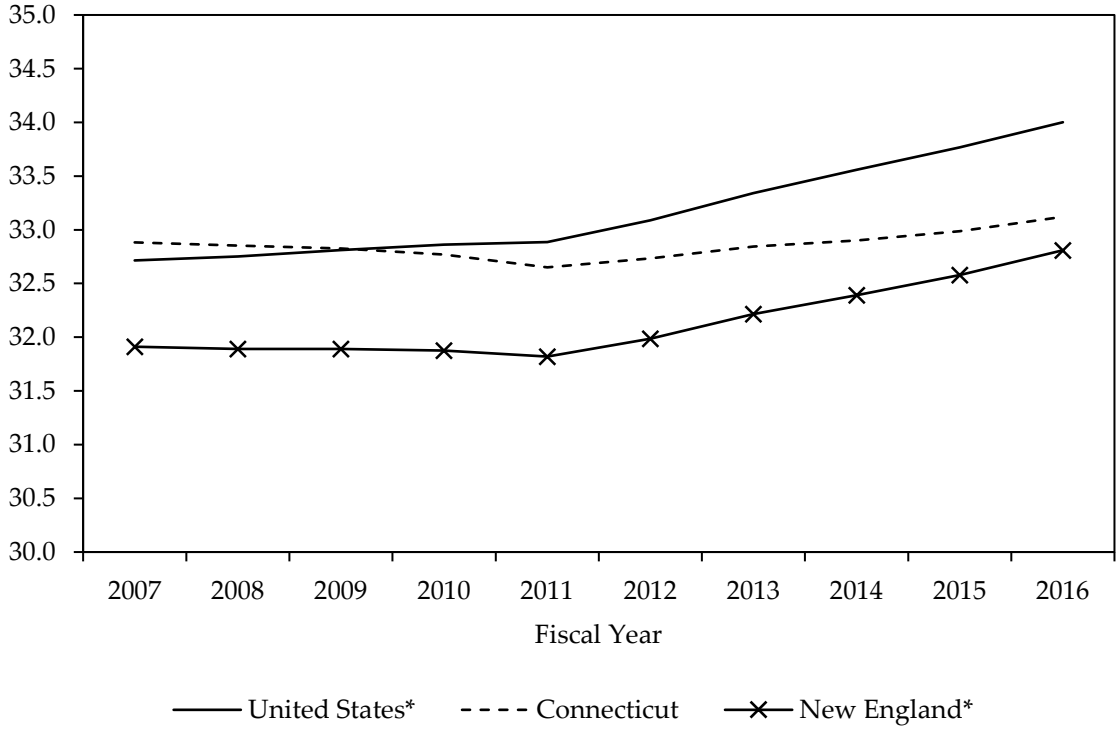
Connecticut tends to be older than the nation as a whole. In 2015, the Bureau of the Census reported the median age in Connecticut was 40.4 years, compared to a national median age of 37.6 years. An older population in the state has implications both for private economic activity and for demand for state government services. The following table summarizes population by age cohort in calendar year 2015 for Connecticut and the United States. Cohorts age 45 and older represent a larger portion of the population in Connecticut compared to the United states, while those cohorts below age 45 represent a smaller portion of the population. In Connecticut, there is a particularly large population in the age 45-54 cohort. As this cohort ages out of the workforce, there will be significant change, challenges, and opportunities in the Connecticut economy.

**TABLE 4**
**POPULATION BY AGE COHORT**
**Calendar Year 2015**

| | Connecticut | | United States | |
|---|---|---|---|---|
| Age Cohort | Population | % of Total | Population | % of Total |
| 0-14 Years | 637,503 | 17.7 | 61,093,786 | 19.3 |
| 15-24 Years | 492,864 | 13.7 | 43,958,713 | 13.9 |
| 25-34 Years | 436,678 | 12.2 | 42,881,649 | 13.5 |
| 35-44 Years | 448,840 | 12.5 | 40,651,910 | 12.8 |
| 45-54 Years | 556,454 | 15.5 | 43,895,858 | 13.9 |
| 55-64 Years | 478,605 | 13.3 | 39,417,628 | 12.5 |
| 65+ Years | 542,278 | 15.1 | 44,615,477 | 14.1 |
| Total | 3,593,222 | 100.0 | 316,515,021 | 100.0 |

Source: Bureau of the Census

**DEPENDENCY RATIO**
**(Number of Dependent Population per 100 Provider Population)**




Source: Bureau of the Census, IHS
* Based on sum of states' population data

The previous graph shows the dependency ratio for Connecticut, New England, and the United States over the previous ten fiscal years. The dependency rate is calculated as the number of dependent population per 100 provider population. "Dependent population" means either those age 14 or younger and those over the age of 65. "Provider population" means those aged 15 to 64. No consideration is made as to whether members of each group are currently participating in the labor force, a limit to this analysis. As the graph shows, the dependency rate in Connecticut has been below the nation each year since FY 2010. The dependency ratio in Connecticut was 33.1 persons per 100 provider population, compared to 34.0 in the United States and 32.8 in New England. The lower ratio in Connecticut is the result of a smaller proportion of those age 14 or younger in the state. While these individuals tend to consume many state services in the short run, they also represent the future provider population.

**Educational Attainment**

One of Connecticut's greatest economic strengths is a highly educated and talented workforce. This workforce gives the state a competitive edge in areas such as professional services and advanced manufacturing. The following table summarizes the highest level of educational attainment in calendar year 2015 for Connecticut and the United States, according to the Bureau of the Census. Note that the proportion of those holding a bachelor's degree in Connecticut is 13.5% higher than the nation, while the proportion of those holding a graduate or professional degree is 48.2% higher than the nation.

**TABLE 5**
**EDUCATIONAL ATTAINMENT, PERCENT OF POPULATION 25 YEARS AND OVER**
**Calendar Year 2015**

| | Connecticut | United States | Connecticut as a % of U.S. |
|---|---|---|---|
| Less than high school | 10.2% | 13.3% | 76.7% |
| High school diploma or equivalent | 27.4% | 27.8% | 98.6% |
| Some college, no degree | 17.5% | 21.1% | 82.9% |
| Associate's degree | 7.4% | 8.1% | 91.4% |
| Bachelor's degree | 21.0% | 18.5% | 113.5% |
| Graduate or professional degree | 16.6% | 11.2% | 148.2% |

*Note, columns may not add to 100.0% due to rounding
Source: Bureau of the Census

## Households

Demand for goods and services depends upon the level of household income and the total number of households. The number of households is a function of household size and population: for example, for a given population, as the size of the household declines, the number of households increases, which causes higher demand for housing and automobiles as well as household goods and services.

The number of households in Connecticut in FY 2016 was an estimated 1,360,813, up slightly from FY 2015 but still below FY 2010 levels. This reflects both the slow growth of Connecticut's population over the last several years and a long term trend toward smaller household size. Family households include a householder and one or more other persons living in the same household who are related by birth, marriage or adoption. Non-family households include a householder living alone or with non-relatives.

**TABLE 6**
**HOUSEHOLDS**
**(In Thousands)**

| Fiscal | United States* | | New England* | | Connecticut | |
|---|---|---|---|---|---|---|
| Year | Households | % Growth | Households | % Growth | Households | % Growth |
| 2007 | 114,032.4 | 0.9 | 5,579.9 | 0.2 | 1,351.7 | 0.1 |
| 2008 | 115,064.4 | 0.9 | 5,604.5 | 0.4 | 1,359.6 | 0.6 |
| 2009 | 115,951.5 | 0.8 | 5,639.9 | 0.6 | 1,365.3 | 0.4 |
| 2010 | 116,626.2 | 0.6 | 5,662.2 | 0.4 | 1,369.7 | 0.3 |
| 2011 | 117,108.6 | 0.4 | 5,682.2 | 0.4 | 1,366.1 | (0.3) |
| 2012 | 117,879.1 | 0.7 | 5,693.0 | 0.2 | 1,367.2 | 0.1 |
| 2013 | 118,446.6 | 0.5 | 5,680.0 | (0.2) | 1,358.3 | (0.7) |
| 2014 | 119,171.1 | 0.6 | 5,695.8 | 0.3 | 1,361.5 | 0.2 |
| 2015 | 120,126.7 | 0.8 | 5,702.4 | 0.1 | 1,359.9 | (0.1) |
| 2016 | 121,301.0 | 1.0 | 5,716.8 | 0.3 | 1,360.8 | 0.1 |

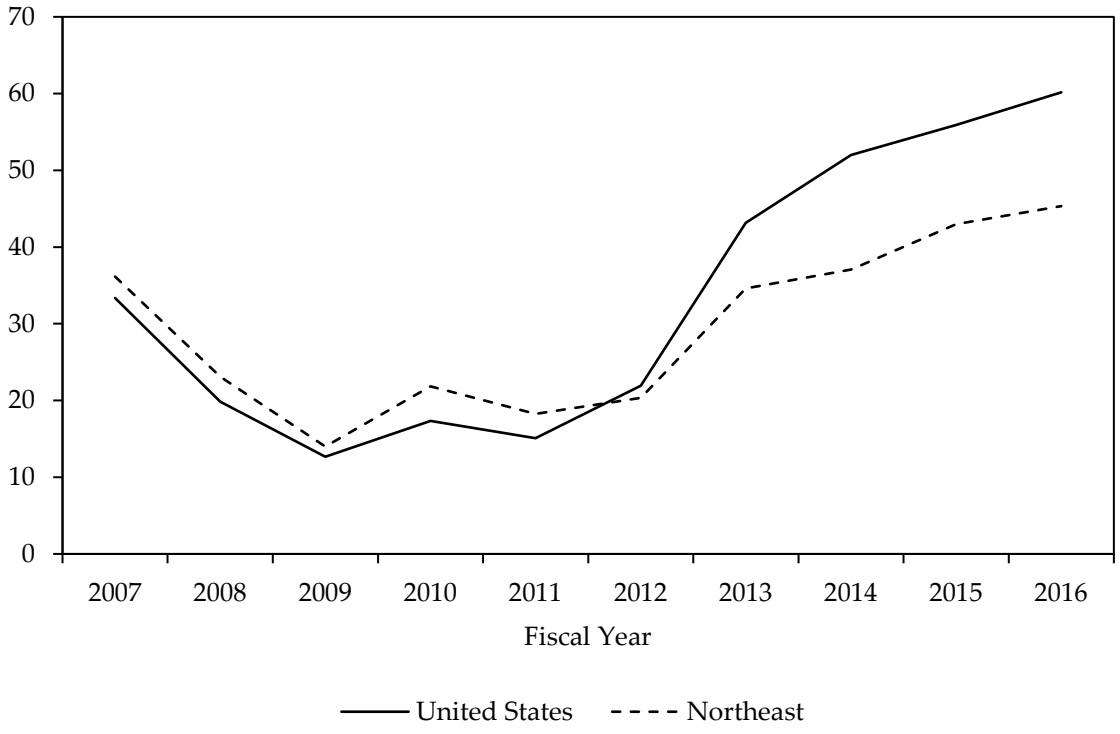
Source: Bureau of the Census, IHS
*Sum of states' data

## Housing

The collapse of the housing bubble, which began in FY 2007 and continued until FY 2012, fundamentally impacted our nation's housing market and economy. As home values declined, financial derivatives based on the housing market exposed the nation's banks to extraordinary risk. The ensuing financial crisis precipitated the worst recession in modern times. Slow economic growth and financial regulations intended to curtail the excesses of the housing bubble have had a sobering effect on the housing market recovery. Recent economic indicators would suggest that the market has turned a corner. However, acceleration of the housing recovery remains uneven across the country.

One leading indicator of strength in the housing market is the monthly National Association of Home Builders Housing Market Index (HMI), which gauges builder confidence in the demand for single-family homes. The index can range from 0 to 100; a reading over 50 indicates that the majority of builders view housing market conditions as good. During FY 2016, the average HMI reading for the nation was 60. By comparison, the average HMI reading for the northeast region during the same period was 45. The following graph shows a ten year history of the HMI for the United States and the northeast. The graph illustrates the gap in builder confidence between the United States as a whole and the northeast region in recent years.

**HOUSING MARKET INDEX IN THE UNITED STATES AND NORTHEAST REGION**




Source: National Association of Home Builders

**Housing Starts**

Housing starts, or the number of housing units on which construction has begun, reached a nadir in FY 2011. This dramatic decline in the aftermath of the Great Recession negatively impacted homebuilders and contributed to the high unemployment rate nationwide. While starts have rebounded in recent years, growth in New England and Connecticut have been slower than the nation as a whole. Between 2011 and 2016, the compound annual growth rate in starts was 15.1% in the United States, versus 11.5% in New England and 10.3% in Connecticut. However, growth in starts in Connecticut grew by 22.1% in FY 2016, versus 20.9% in New England and 9.0% in the United States. The following table summarizes starts in the Nation, New England, and Connecticut.

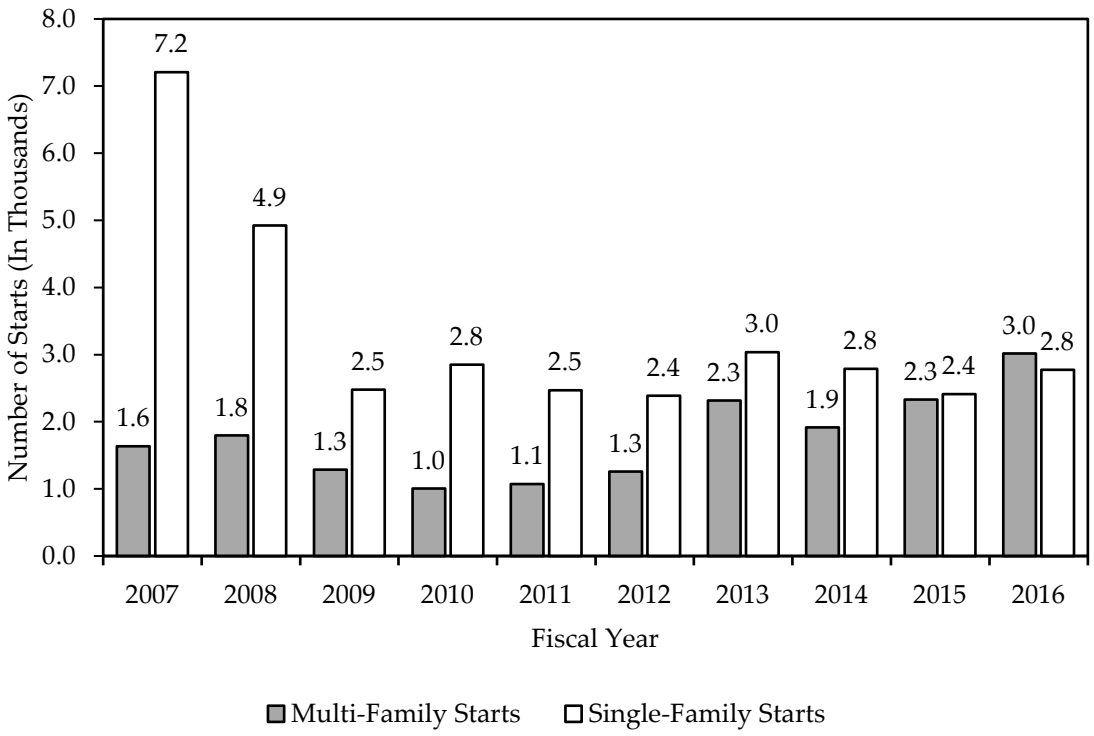
**TABLE 7**
**HOUSING STARTS**
**(In Thousands)**

| Fiscal | United States | | New England | | Connecticut | |
|---|---|---|---|---|---|---|
| Year | Number | % Growth | Number | % Growth | Number | % Growth |
| 2007 | 1,546.2 | (24.1) | 41.6 | (23.2) | 8.8 | (22.7) |
| 2008 | 1,132.4 | (26.8) | 31.0 | (25.3) | 6.7 | (24.0) |
| 2009 | 646.3 | (42.9) | 18.6 | (40.1) | 3.8 | (44.0) |
| 2010 | 594.0 | (8.1) | 19.5 | 4.8 | 3.9 | 2.4 |
| 2011 | 569.7 | (4.1) | 18.7 | (3.9) | 3.5 | (8.1) |
| 2012 | 684.4 | 20.1 | 20.3 | 8.3 | 3.6 | 2.9 |
| 2013 | 876.7 | 28.1 | 24.4 | 20.3 | 5.4 | 46.9 |
| 2014 | 955.0 | 8.9 | 26.5 | 8.6 | 4.7 | (12.1) |
| 2015 | 1,055.3 | 10.5 | 26.6 | 0.6 | 4.7 | 0.8 |
| 2016 | 1,150.3 | 9.0 | 32.2 | 20.9 | 5.8 | 22.1 |

Source: U.S. Department of Commerce, Bureau of the Census, IHS.

In Connecticut, the mix of starts has been significantly different than it was prior to the crisis in the housing market. In FY 2016, starts in multi-family housing units actually exceeded single-family units. Starts of single-family homes remain well below their FY 2007 level. This change may be driven by demographic changes and shifting preferences in the state. As the size of the average household has decreased and the Connecticut population has aged, demand for smaller and more affordable housing units has increased. The following graph shows both single- and multi-family housing starts in Connecticut by fiscal year.

**CONNECTICUT SINGLE-FAMILY AND MULTI-FAMILY STARTS**
**(In Thousands)**




Source: U.S. Department of Commerce, Bureau of the Census, IHS

**Household Formations**

Given that housing starts were low through the recent recession, it is no surprise that household formation has also been depressed. New households may be formed when children move out of their family's home, individuals live singly after previously sharing a residence, or couples separate. Households are reduced when young people move back home with their parents or individuals pass away. The number of households is also impacted by both in- and out-migration. Connecticut has been a net out-migration state in recent years. While the number of households in the United States has grown modestly over the last decade, the number of households in Connecticut has remained relatively flat. The number of households in Connecticut grew by only nine thousand between FY 2007 and FY 2016. The following table summarizes household formation data for both the United States and Connecticut.

**TABLE 8**
**U.S. HOUSEHOLD FORMATIONS**
**(In Thousands)**

| Fiscal Year | United States Total Households | Net Change in Households from Previous Year | Connecticut Total Households | Net Change in Households from Previous Year |
|---|---|---|---|---|
| 2007 | 115,210 | 1,424 | 1,352 | 2 |
| 2008 | 116,062 | 852 | 1,360 | 8 |
| 2009 | 116,405 | 343 | 1,365 | 6 |
| 2010 | 116,637 | 232 | 1,370 | 4 |
| 2011 | 117,702 | 1,065 | 1,366 | (4) |
| 2012 | 118,855 | 1,153 | 1,367 | 1 |
| 2013 | 120,139 | 1,285 | 1,358 | (9) |
| 2014 | 121,104 | 964 | 1,362 | 3 |
| 2015 | 122,331 | 1,227 | 1,360 | (2) |
| 2016 | 123,581 | 1,250 | 1,361 | 1 |

Source: U.S. Bureau of the Census, IHS

**Median Sales Price of Housing**

Median sales price is the midpoint at which half of the sales are above and half below the price. In FY 2016, the median sales price for existing homes in the nation recovered. In Connecticut, the median sales price remained 15.0% below its 2007 level. Historically, the median price of an existing family home has been much higher in Connecticut than in the nation. That gap has closed considerably over the past decade. In FY 2016, the median price of a home in Connecticut was only 18.6% higher than the national average. The following table summarizes data on the median sale price for existing single-family homes.

The U.S. housing affordability index decreased to 166.0 in FY 2016. To interpret the housing affordability index, a value of 100 means that a family with the median income has exactly enough income to qualify for a mortgage on a median-priced home, assuming a 20% down payment. A value above 100 signifies that a family earning the median income has more than enough income to qualify for a mortgage loan on a median-priced home. The affordability index continues to remain favorable. The following table summarizes the affordability index over the previous ten fiscal years.

**TABLE 9**
**SALES PRICE OF EXISTING HOMES IN CONNECTICUT AND THE UNITED STATES**

| Fiscal Year | Median Price U.S. | % Change | Median Price CT | % Change | CT as a % of U.S. | U.S. Affordability Index |
|---|---|---|---|---|---|---|
| 2007 | $220,117 | (1.7) | $317,257 | 0.6 | 144.1 | 111.6 |
| 2008 | $207,125 | (5.9) | $310,794 | (2.0) | 150.1 | 127.0 |
| 2009 | $180,500 | (12.9) | $291,352 | (6.3) | 161.4 | 160.2 |
| 2010 | $172,775 | (4.3) | $279,347 | (4.1) | 161.7 | 169.2 |
| 2011 | $169,033 | (2.2) | $269,795 | (3.4) | 159.6 | 179.5 |
| 2012 | $167,975 | (0.6) | $261,349 | (3.1) | 155.6 | 194.5 |
| 2013 | $185,758 | 10.6 | $262,335 | 0.4 | 141.2 | 195.1 |
| 2014 | $201,750 | 8.6 | $266,389 | 1.5 | 132.0 | 168.0 |
| 2015 | $214,908 | 6.5 | $268,207 | 0.7 | 124.8 | 168.8 |
| 2016 | $227,267 | 5.8 | $269,574 | 0.5 | 118.6 | 166.0 |
| 07-16 Change | $7,150 | 3.2 | ($47,683) | (15.0) | | |
| 07-16 CAGR* | | 0.4 | | (1.8) | | |

*Compound Annual Growth Rate
Source: IHS

**Housing Finance**

In FY 2016, thirty-year fixed mortgage rates averaged 3.80%, down from 3.91% in FY 2015 and 4.33% in FY 2014. Low interest rates and sluggish home sales have put downward pressure on mortgage rates during the housing market collapse and recent recovery.

**TABLE 10**
**30 YEAR FIXED-RATE MORTGAGES**

| Fiscal Year | Average Rate | % Change | Fiscal Year | Average Rate | % Change |
|---|---|---|---|---|---|
| 2007 | 6.35 | 2.3 | 2012 | 4.01 | (12.7) |
| 2008 | 6.19 | (2.5) | 2013 | 3.53 | (12.1) |
| 2009 | 5.57 | (10.1) | 2014 | 4.33 | 22.9 |
| 2010 | 5.00 | (10.3) | 2015 | 3.91 | (9.7) |
| 2011 | 4.59 | (8.1) | 2016 | 3.80 | (3.0) |

Source: Freddie Mac

Delinquency rates on mortgages have decreased in recent years, following a turbulent period in the aftermath of the 2007 housing bust. According to economic data from the Federal Reserve, the delinquency rate on single family residential mortgages was 5.0% in FY 2016, their lowest level since FY 2009.

**Total Home Sales**

Total home sales have not returned to levels experienced prior to the housing crisis, both in Connecticut and the nation. Causes may include deferred household formations, stricter lending standards, decreased speculation, and a trend toward renting instead of owning. The following table shows home sales for Connecticut, New England, and the United States by state fiscal year. Following two years of declines, total home sales in Connecticut increased in FY 2016 by 7.9%, to their highest level since FY 2008. Total home sales grew by 5.1% in the United States and 8.5% in New England in FY 2016.

**TABLE 11**
**Total Home Sales**
**(In Thousands)**

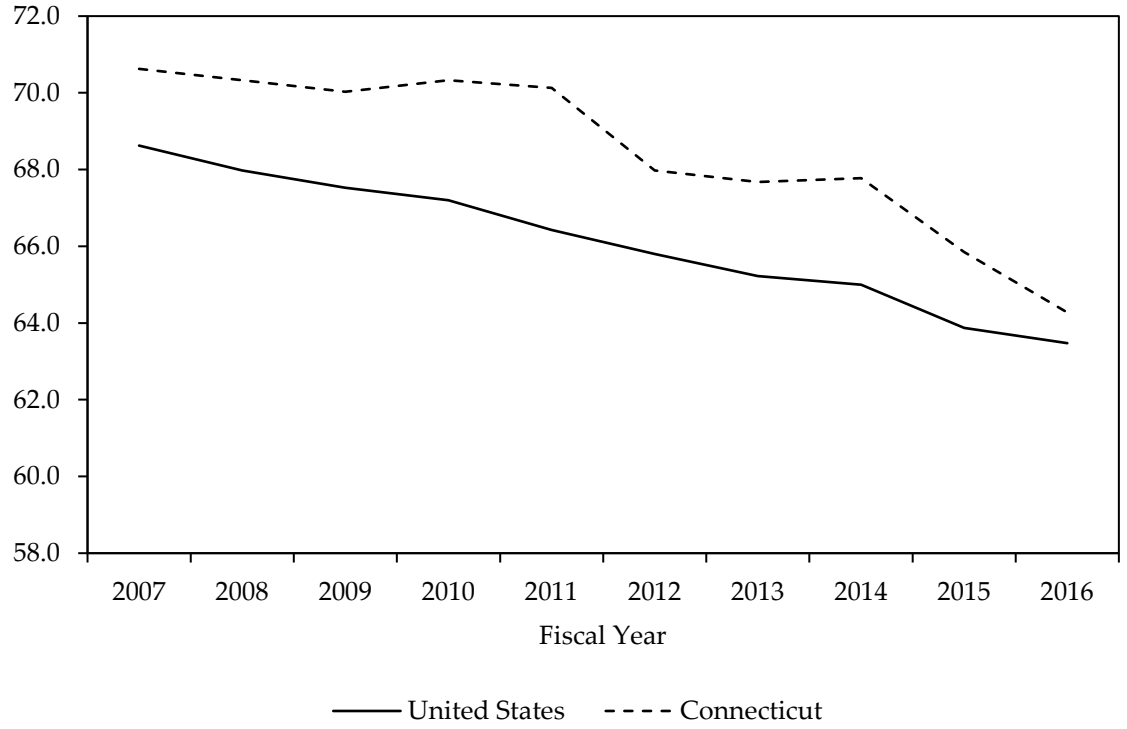
| Fiscal | United States | | New England* | | Connecticut | |
|---|---|---|---|---|---|---|
| Year | Number | % Change | Number | % Change | Number | % Change |
| 2007 | 5,760.2 | (15.6) | 265.3 | (15.4) | 64.2 | (15.0) |
| 2008 | 4,371.0 | (24.1) | 201.1 | (24.2) | 46.8 | (27.1) |
| 2009 | 3,941.0 | (9.8) | 169.8 | (15.6) | 35.8 | (23.4) |
| 2010 | 4,550.6 | 15.5 | 209.5 | 23.4 | 44.5 | 24.2 |
| 2011 | 3,920.1 | (13.9) | 171.4 | (18.2) | 35.7 | (19.7) |
| 2012 | 4,251.7 | 8.5 | 184.6 | 7.7 | 38.0 | 6.3 |
| 2013 | 4,707.4 | 10.7 | 207.4 | 12.3 | 43.9 | 15.6 |
| 2014 | 4,752.1 | 0.9 | 207.1 | (0.1) | 43.0 | (2.2) |
| 2015 | 4,884.3 | 2.8 | 207.8 | 0.3 | 42.2 | (1.9) |
| 2016 | 5,134.7 | 5.1 | 225.5 | 8.5 | 45.5 | 7.9 |

Source: National Association of Retailers, IHS
* Sum of States' Home Sales

**Homeownership and Home Equity**

Homeownership has experienced a long-term decline in the years following the housing crisis. This may be attributable to a number of factors, including weak economic growth, stricter lending standards, and millenials deferring their first home purchase. The following graph shows homeownership rates in both the United States and Connecticut in FY 2007 through FY 2016. Historically, Connecticut has had a higher homeownership rate than the national average. However, that gap has narrowed in recent years. In FY 2016, the homeownership rate was 64.3% in Connecticut and 63.5% in the nation.

**HOMEOWNERSHIP RATES IN THE UNITED STATES AND CONNECTICUT**




Source: U.S. Census Bureau

While the rate of homeownership has declined in the last decade, the home equity rate has increased. Nationally, owners' equity in their homes has increased from a nadir of 37.8% in FY 2010 to 56.3% in FY 2016. Two factors have pushed owners' equity higher over the last decade. First, home values have nominally recovered from the housing bust. The Case-Shiller Home Price Index, which measures home values using data on sales prices of single-family homes, exceeded its previous peak in September of 2016. At the same time, the same economic and regulatory forces that have reduced homeownership have also reduced the overall indebtedness resulting from home mortgages. The following table summarizes owners' equity data from the Federal Reserve.

**TABLE 12**
**OWNERS' EQUITY AS A PERCENTAGE OF HOUSEHOLD REAL ESTATE**
**(In Billions)**

| Fiscal Year | Home Values* | Home Mortgages* | Home Equity |
|---|---|---|---|
| 2007 | 22,400.1 | 10,029.1 | 55.2% |
| 2008 | 20,110.2 | 10,626.9 | 47.2% |
| 2009 | 17,023.0 | 10,588.7 | 37.8% |
| 2010 | 16,630.8 | 10,347.1 | 37.8% |
| 2011 | 16,059.2 | 9,930.6 | 38.2% |
| 2012 | 16,189.0 | 9,671.6 | 40.3% |
| 2013 | 17,580.4 | 9,470.4 | 46.1% |
| 2014 | 19,275.3 | 9,393.3 | 51.3% |
| 2015 | 20,428.2 | 9,390.1 | 54.0% |
| 2016 | 21,724.9 | 9,496.7 | 56.3% |

Source: Federal Reserve "Flow of Funds" Table B.101
* In Nominal Dollars

## EMPLOYMENT PROFILE

### Employment Estimates

The employment estimates for most of the tables included in this section are from the U.S. Bureau of Labor Statistics and the Connecticut Labor Department. They are developed as part of the federal-state cooperative Current Employment Statistics (CES) Program. The estimates for the state and the labor market areas are based on the responses to surveys of 5,000 Connecticut employers registered with the Unemployment Insurance program. Companies are chosen to participate based on specifications from the U.S. Bureau of Labor Statistics. As a general rule, all large establishments are included in the survey as well as a sample of smaller employers. It should be noted, however, that this method of estimating employment may result in under-counting jobs created by agricultural and private household employees, self-employed individuals and unpaid family workers who are not included in the sample. The survey only counts total business payroll employment in the economy.

In an effort to provide a broader employment picture, the following table, based on residential employment, was developed. Total residential employment is estimated based on household surveys which include individuals excluded from establishment employment figures such as self-employed and workers in the agricultural sector. By this measure, residential employment in fiscal year 2016 increased by 8,072 jobs. Likewise, the level of establishment employment based on the survey response increased by 12,133 jobs in fiscal year 2016.

The following table provides a ten fiscal year historical profile of residential and establishment employment in Connecticut.

**TABLE 13**
**CONNECTICUT SURVEY EMPLOYMENT COMPARISONS**
**(In Thousands)**

| Fiscal Year | Residential Employment | % Growth | Establishment Employment | % Growth |
|---|---|---|---|---|
| 2007 | 1,762.6 | 1.95 | 1,689.9 | 1.14 |
| 2008 | 1,777.7 | 0.86 | 1,706.4 | 0.97 |
| 2009 | 1,757.3 | (1.15) | 1,664.8 | (2.43) |
| 2010 | 1,728.8 | (1.63) | 1,606.1 | (3.53) |
| 2011 | 1,740.9 | 0.70 | 1,618.5 | 0.77 |
| 2012 | 1,742.9 | 0.11 | 1,631.1 | 0.78 |
| 2013 | 1,718.4 | (1.40) | 1,643.8 | 0.78 |
| 2014 | 1,741.0 | 1.31 | 1,654.5 | 0.65 |
| 2015 | 1,779.7 | 2.23 | 1,668.5 | 0.85 |
| 2016 | 1,787.8 | 0.45 | 1,680.7 | 0.73 |

Source: U.S. Bureau of Labor Statistics, Connecticut Department of Labor, IHS Economics

## Nonagricultural Employment

Nonagricultural employment includes all persons employed except federal military personnel, the self-employed, proprietors, unpaid family workers, farm and household domestic workers. Nonagricultural employment is comprised of the broad manufacturing sector and the nonmanufacturing sector. These two components of nonagricultural employment are discussed in detail in the following sections.

The following table shows a ten fiscal year historical profile of nonagricultural employment in the United States, the New England region, and Connecticut.

**TABLE 14**
**NONAGRICULTURAL EMPLOYMENT**
**(In Thousands)**

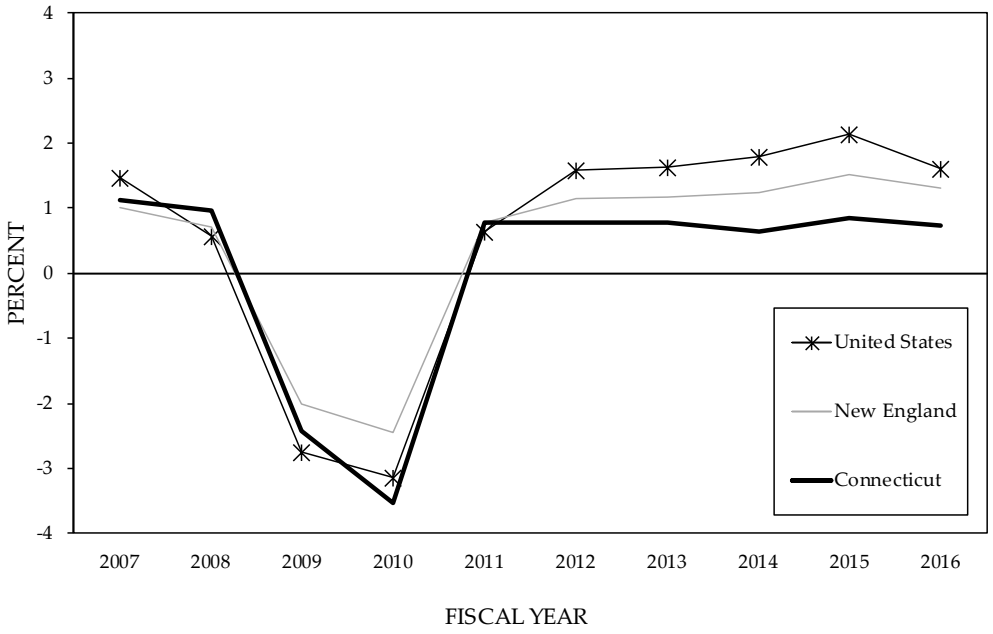
| Fiscal | United States | | New England | | Connecticut | |
|---|---|---|---|---|---|---|
| Year | Number | % Growth | Number | % Growth | Number | % Growth |
| 2007 | 137,295 | 1.46 | 7,042 | 1.00 | 1,690 | 1.14 |
| 2008 | 138,084 | 0.57 | 7,093 | 0.72 | 1,706 | 0.97 |
| 2009 | 134,299 | (2.74) | 6,951 | (2.00) | 1,665 | (2.43) |
| 2010 | 130,090 | (3.13) | 6,781 | (2.44) | 1,606 | (3.53) |
| 2011 | 130,912 | 0.63 | 6,834 | 0.78 | 1,618 | 0.77 |
| 2012 | 133,003 | 1.60 | 6,912 | 1.14 | 1,631 | 0.78 |
| 2013 | 135,184 | 1.64 | 6,992 | 1.17 | 1,644 | 0.78 |
| 2014 | 137,604 | 1.79 | 7,080 | 1.25 | 1,654 | 0.65 |
| 2015 | 140,561 | 2.15 | 7,187 | 1.51 | 1,669 | 0.85 |
| 2016 | 142,837 | 1.62 | 7,281 | 1.32 | 1,681 | 0.73 |

Source: U.S. Bureau of Labor Statistics, Connecticut Labor Department, IHS Economics

In Connecticut, approximately 45% of total personal income is derived from wages earned by workers classified in the nonagricultural employment sector. Thus, increases in employment in this sector lead to increases in personal income growth and consumer demand. In addition, nonagricultural employment can be used to compare similarities and differences between economies, whether state or regional, and to observe structural changes within. These factors make nonagricultural employment figures a valuable indicator of economic activity.

Connecticut experienced positive growth in nonagricultural employment from fiscal year 2004 through fiscal year 2008. After reaching a peak in fiscal year 2008, Connecticut lost approximately 100,000 nonagricultural jobs due to the Great Recession. As of fiscal year 2016 Connecticut had regained approximately 74,570 nonagricultural jobs. The following chart provides a graphic presentation of the growth rates in nonagricultural employment for the state, New England region and nation over a ten fiscal year period.

**NONAGRICULTURAL EMPLOYMENT**
**PERCENT GROWTH BY FISCAL YEAR**




Source: U.S. Bureau of Labor Statistics, Connecticut Labor Department, IHS Economics

The following table shows employment growth rates for the United States and the State of Connecticut over six decades beginning in state fiscal year 1950. This table highlights the robust growth of nonagricultural employment for Connecticut prior to 1990 juxtaposed against the modest 2.2% growth between 1990 and 2000 and the negative 4.5% growth during the 2000-2010 time period which was significantly impacted by the Great Recession. U.S. growth was negative in the 2000-2010 period for the first time in five decades with a 0.5% decline. Since 2010, employment growth has increased for both the United States and Connecticut by 9.8% and 4.6% respectively.

**TABLE 15**
**NONAGRICULTURAL EMPLOYMENT**
**LONG-TERM GROWTH RATES**
**(Not Seasonally Adjusted)**

| | Growth Rates | | Cumulative Growth Rates | |
|---|---|---|---|---|
| Fiscal Year | United States | Connecticut | United States | Connecticut |
| 1950-1960 | 23.4% | 24.6% | 23.4% | 24.6% |
| 1960-1970 | 31.6% | 31.9% | 62.4% | 64.4% |
| 1970-1980 | 27.3% | 17.8% | 106.7% | 93.6% |
| 1980-1990 | 20.4% | 16.1% | 148.8% | 124.8% |
| 1990-2000 | 20.0% | 2.2% | 198.7% | 129.7% |
| 2000-2010 | (0.5%) | (4.5%) | 197.1% | 119.3% |
| 2010-2016 | 9.8% | 4.6% | 226.8% | 129.4% |

Source: U.S. Bureau of Labor Statistics

Throughout the last two decades, while manufacturing employment in Connecticut has been steadily declining, employment growth in nonmanufacturing industries has surged. Relatively rapid growth in the nonmanufacturing sector is a trend that is evident nationwide and reflects the increased importance of the service industry. This shift in employment provides for relatively more stable economic growth in the long run through the moderation of the peaks and troughs of economic cycles. In fiscal year 2016, approximately 90% of the state's workforce was employed in nonmanufacturing jobs, up from roughly 50% in the early 1950s.

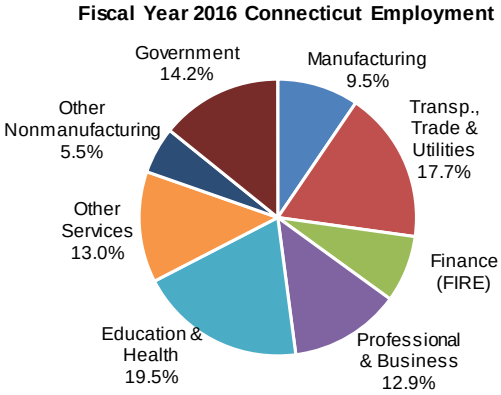
The following table depicts the decrease in the ratio of manufacturing employment to total employment in Connecticut over the last six decades.

**TABLE 16**
**CONNECTICUT MANUFACTURING EMPLOYMENT**
**COMPARED TO TOTAL EMPLOYMENT**
**(In Thousands)**

| Fiscal Year | Total Employment | Manufacturing Employment | NonMfg. Employment | Mfg. Employment as a Percentage of Total Employment |
|---|---|---|---|---|
| 1950 | 766.1 | 379.9 | 386.2 | 49.6 |
| 1955 | 874.7 | 423.2 | 451.6 | 48.4 |
| 1960 | 915.2 | 407.1 | 508.1 | 44.5 |
| 1965 | 1,033.0 | 436.2 | 596.8 | 42.2 |
| 1970 | 1,198.1 | 441.8 | 756.3 | 36.9 |
| 1975 | 1,224.6 | 389.8 | 834.8 | 31.8 |
| 1980 | 1,428.4 | 440.8 | 987.6 | 30.9 |
| 1985 | 1,558.2 | 408.0 | 1,150.2 | 26.2 |
| 1990 | 1,623.5 | 341.0 | 1,282.5 | 21.0 |
| 1995 | 1,556.4 | 251.9 | 1,304.6 | 16.2 |
| 2000 | 1,682.2 | 236.8 | 1,445.4 | 14.1 |
| 2005 | 1,657.2 | 196.4 | 1,460.8 | 11.9 |
| 2010 | 1,606.1 | 165.5 | 1,440.6 | 10.3 |
| 2016 | 1,680.7 | 159.3 | 1,521.4 | 9.5 |

Source: U.S. Bureau of Labor Statistics, Connecticut Labor Department

The graph on the right provides a breakdown of Connecticut employment in fiscal year 2016. Connecticut employment is highly concentrated in nonmanufacturing employment sectors with only 9.5% of Connecticut laborers employed in the manufacturing sector. The services sector, which includes the professional and business, education and health, and leisure and hospitality segments (included in Other Services), is clearly the leading sector with 45.4% of those working employed in that classification.

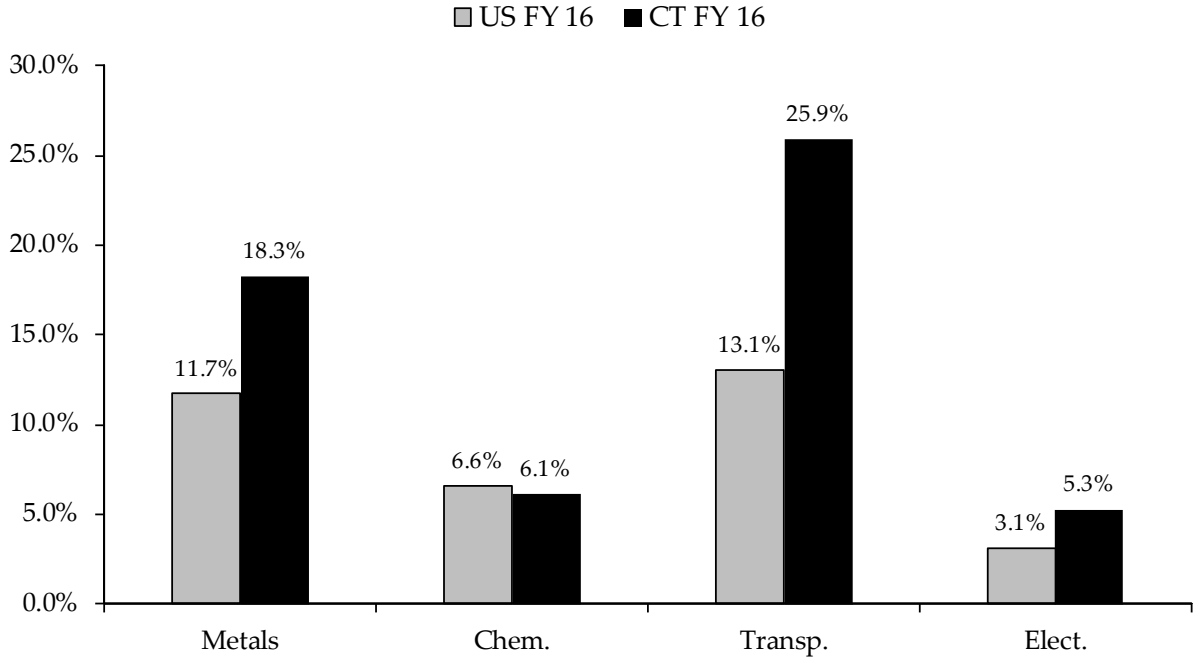


## Manufacturing Employment

Even with declines in overall manufacturing employment, the ratio of manufacturing employment to total employment still defines Connecticut as one of the major manufacturing and industrial states in the country. Within this broad definition, the manufacturing sector can be further broken down into several major components.

Over the last decade the state's distribution of manufacturing employment has remained relatively stable. Defense expenditures have stabilized the transportation equipment sector as evidenced by the percentage of total state manufacturing employment in that sector at 22.6% in fiscal year 2007 and 25.9% in fiscal year 2016. The fabricated metals production sector employment figures as a percent of total state manufacturing have remained stable over the past decade at approximately 17.5% in fiscal 2007 and 18.3% in fiscal 2016. The other major manufacturing sectors, electrical equipment and appliances and chemicals, make up approximately 5.3% and 6.1% of the total manufacturing sector respectively in fiscal 2016. The distribution of employment figures within the manufacturing sector highlights that Connecticut manufacturing is diversified, but has a greater reliance on the metals and transportation equipment sectors.

**COMPARISON OF MANUFACTURING EMPLOYMENT IN CERTAIN SECTORS**
**(As A Percentage Of Total Manufacturing Employment)**




Source: U.S. Bureau of Labor Statistics, Connecticut Labor Department, IHS Economics

In fiscal year 2016, manufacturing employment in the state and New England grew by 0.25% and 0.07% respectively. This is the first time that manufacturing employment grew for both Connecticut and the New England region in over a decade.

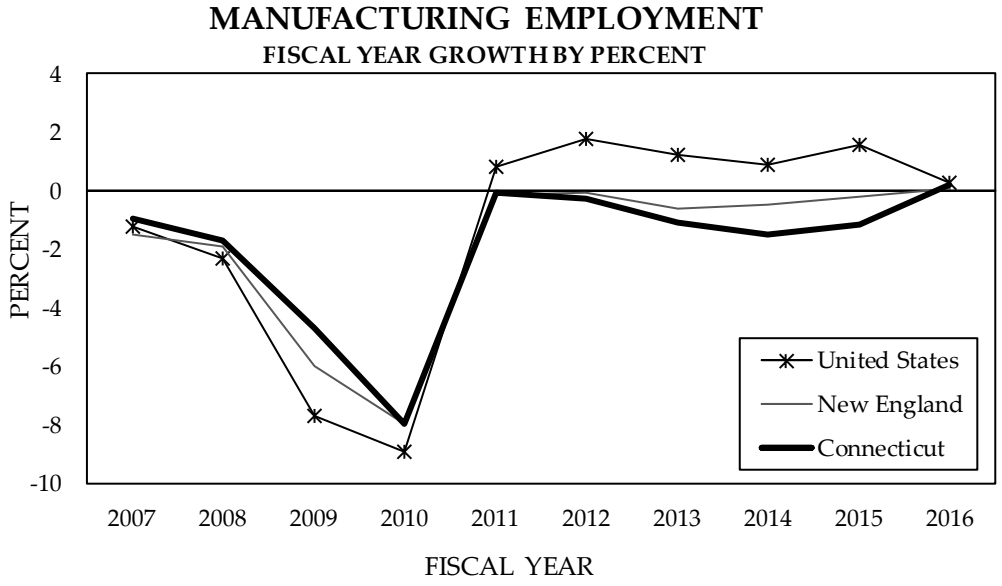
**TABLE 17**
**MANUFACTURING EMPLOYMENT**
**(In Thousands)**

| Fiscal | United States | | New England | | Connecticut | |
|---|---|---|---|---|---|---|
| Year | Number | % Growth | Number | % Growth | Number | % Growth |
| 2007 | 14,030.3 | (1.22) | 715.2 | (1.49) | 191.9 | (0.91) |
| 2008 | 13,710.1 | (2.28) | 701.5 | (1.90) | 188.7 | (1.70) |
| 2009 | 12,655.1 | (7.70) | 659.4 | (6.00) | 179.8 | (4.71) |
| 2010 | 11,527.7 | (8.91) | 607.0 | (7.95) | 165.5 | (7.93) |
| 2011 | 11,626.1 | 0.85 | 606.4 | (0.10) | 165.4 | (0.08) |
| 2012 | 11,834.3 | 1.79 | 606.0 | (0.07) | 165.0 | (0.24) |
| 2013 | 11,978.3 | 1.22 | 602.6 | (0.57) | 163.2 | (1.08) |
| 2014 | 12,085.7 | 0.90 | 599.9 | (0.44) | 160.8 | (1.49) |
| 2015 | 12,277.4 | 1.59 | 598.7 | (0.20) | 158.9 | (1.16) |
| 2016 | 12,310.8 | 0.27 | 599.1 | 0.07 | 159.3 | 0.25 |

Source: U.S. Bureau of Labor Statistics, Connecticut Labor Department

Historically, manufacturing employment closely parallels the business cycle, typically expanding when the economy is healthy and contracting during recessionary periods, as it did during the early 1980s. However, this relationship changed in the latter part of the 1980s, as contractions in manufacturing employment were not initially accompanied by a recession. Other factors, such as heightened foreign competition, smaller defense budgets, and improved productivity through automation, played a significant role in affecting the overall level of manufacturing employment in Connecticut.

The erosion of the state's manufacturing base reflects the national trend away from traditional industries, both durable and nondurable. More of U.S. demand is being satisfied by foreign producers who can manufacture goods more cheaply. The upward trend of higher productivity has enabled Connecticut manufacturers to make more with fewer workers. Even with the structural change, manufacturing employment in Connecticut still accounts for 9.5% of all nonfarm payroll jobs, compared with 8.7% in the U.S. and 8.2% in New England through fiscal year 2016. The following table provides a breakdown of the state's manufacturing employment by industry and indicates percentage changes for the year and for a ten year period for each of the manufacturing sectors.




Source: U.S. Bureau of Labor Statistics, Connecticut Labor Department

Manufacturing employment showed, for the first time in over a decade, signs of improvement in fiscal year 2016 over fiscal year 2015. The largest growth was in Transportation Equipment at 2.8% followed by Printing and related support at 1.7%. Reductions in employment were seen in electrical equipment and applicances which dropped 4.2%, and chemicals production which dropped 1.9% over the same period. Despite the recent improvements the percentage change from fiscal year 2007 to 2016 demonstrates the overall decline in manufacturing employment during the last decade.

**TABLE 18**
**CONNECTICUT MANUFACTURING EMPLOYMENT BY INDUSTRY**
**(In Thousands)**

| | | | | Percent Change | |
|---|---|---|---|---|---|
| Industry | FY 2007 | FY 2015 | FY 2016 | FY 2015 to FY 2016 | FY 2007 to FY 2016 |
| Transportation Equipment | 43.5 | 40.2 | 41.3 | 2.8 | (5.0) |
| Fabricated Metal Production | 33.6 | 29.4 | 29.1 | (0.8) | (13.4) |
| Electrical Equipment & Appl. | 10.8 | 8.8 | 8.4 | (4.2) | (22.2) |
| Chemicals | 15.4 | 10.0 | 9.8 | (1.9) | (36.8) |
| Printing & Related Support | 7.8 | 5.1 | 5.2 | 1.7 | (33.4) |
| Industrial Machinery | 18.2 | 14.1 | 13.9 | (1.7) | (23.5) |
| All Other | 62.5 | 51.4 | 51.6 | 0.4 | (17.5) |
| Total Mfg. Employment | 191.9 | 158.9 | 159.3 | 0.2 | (17.0) |

Source: U.S. Bureau of Economic Analysis, Connecticut Labor Department, IHS Economics

## Nonmanufacturing Employment

The nonmanufacturing sector is comprised of industries that provide a service. Services differ significantly from manufactured goods in that the output is generally intangible, it is produced and consumed concurrently, and it cannot be inventoried. Connecticut's nonmanufacturing sector consists of the industries listed in the following table. Over the last three decades, nonmanufacturing employment has risen in importance to the Connecticut economy, reflecting the overall national trend away from manufacturing.

Nonmanufacturing employment gained approximately 11,800 positions and increased by approximately 0.8% from fiscal year 2015 to 2016. This growth was due in large part to an increase in the services sector which grew by 1.0% (7,800 additional employed). The education and health sector also experienced the largest percentage growth from fiscal year 2007 to 2016 with a 15.4% gain during that period.

The following table provides detail on Connecticut's nonmanufacturing employment by industry and indicates percentage changes for the year and over a ten year period for each of the sectors.

**TABLE 19**
**CONNECTICUT NONMANUFACTURING EMPLOYMENT BY INDUSTRY**
**(In Thousands)**

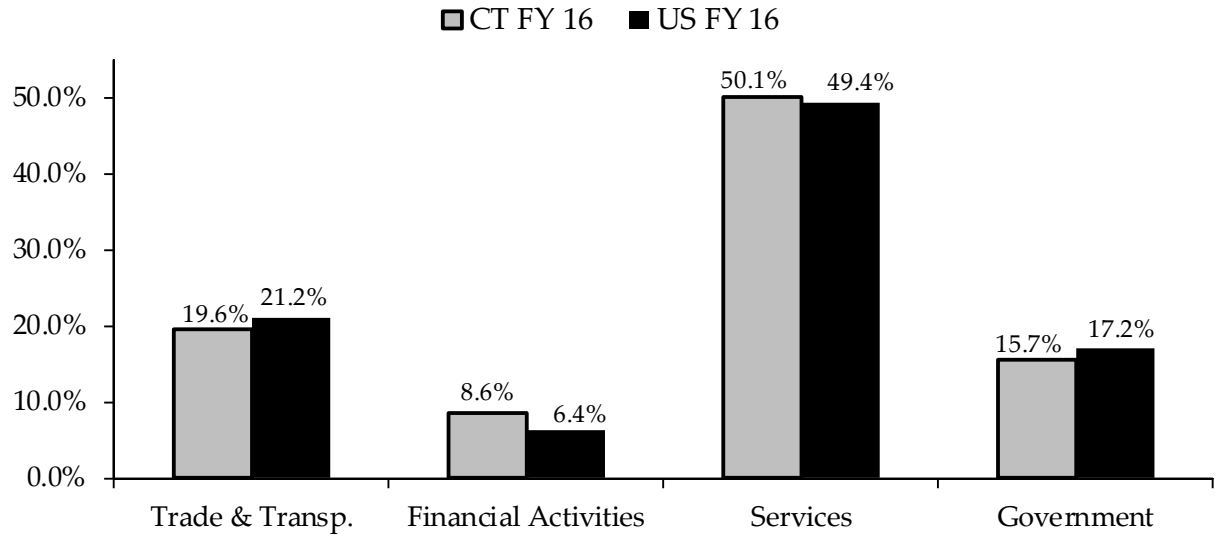
| | | | | Percent Change | |
|---|---|---|---|---|---|
| Industry | FY 2007 | FY 2015 | FY 2016 | FY 2015 to FY 2016 | FY 2007 to FY 2016 |
| Construction & Mining | 68.5 | 57.4 | 58.4 | 1.80 | (14.71) |
| Information | 38.1 | 32.3 | 33.2 | 3.05 | (12.68) |
| Transp., Trade & Utilities | 307.2 | 296.2 | 298.0 | 0.62 | (2.99) |
| Transp., & Warehousing | 41.8 | 43.5 | 45.4 | 4.43 | 8.70 |
| Utilities | 6.6 | 5.7 | 5.6 | (2.78) | (16.33) |
| Wholesale | 67.7 | 62.6 | 63.1 | 0.75 | (6.78) |
| Retail | 191.1 | 184.3 | 183.9 | (0.21) | (3.74) |
| Finance (FIRE) | 145.0 | 129.5 | 131.0 | 1.15 | (9.66) |
| Finance & Insurance | 123.8 | 110.0 | 110.6 | 0.59 | (10.67) |
| Real Estate | 21.1 | 19.5 | 20.3 | 4.27 | (3.75) |
| Services | 689.6 | 754.6 | 762.4 | 1.03 | 10.56 |
| Professional & Business | 207.5 | 214.7 | 217.1 | 1.13 | 4.64 |
| Education & Health | 283.8 | 325.9 | 327.5 | 0.51 | 15.40 |
| Leisure & Hospitality | 134.0 | 150.5 | 152.9 | 1.60 | 14.10 |
| All Other Services | 64.3 | 63.5 | 64.8 | 2.01 | 0.86 |
| Government | 249.7 | 239.7 | 238.4 | (0.57) | (4.53) |
| Federal | 19.6 | 17.6 | 17.7 | 0.38 | (9.98) |
| State & Local | 230.1 | 222.1 | 220.7 | (0.65) | (4.07) |
| Total Nonmanufacturing Employment | 1,498.0 | 1,509.6 | 1,521.4 | 0.78 | 1.56 |

Note: Totals may not agree with detail due to rounding.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, IHS Economics

The following chart provides a comparison of select nonmanufacturing sectors in Connecticut to national results.

**COMPARISON OF NONMANUFACTURING EMPLOYMENT IN CERTAIN SECTORS**
**(As A Percentage Of Total Non-Manufacturing Employment)**




Source: U.S. Bureau of Labor Statistics, IHS Economics

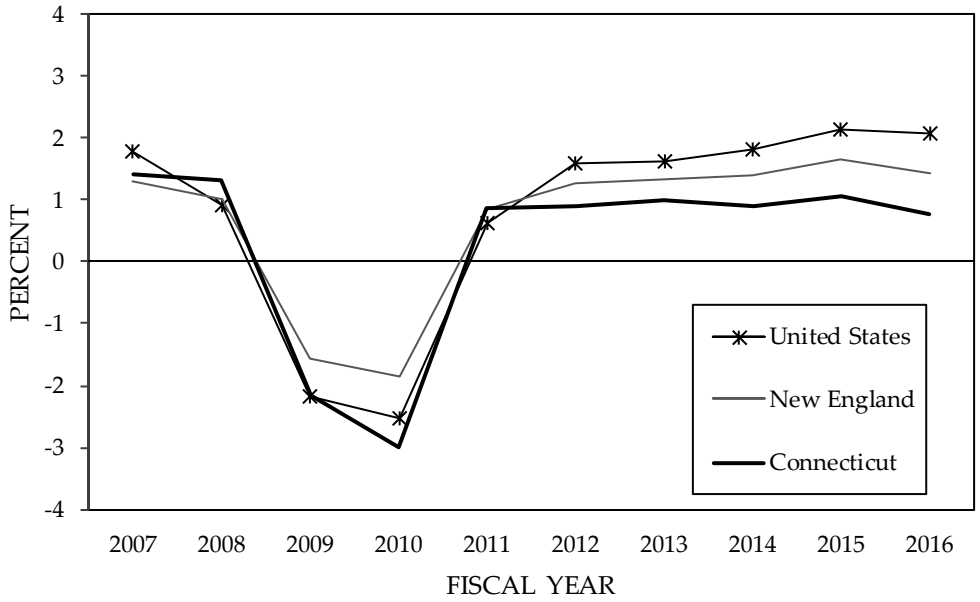
The following table and chart provide a ten fiscal year profile of nonmanufacturing employment in the United States, the New England region, and Connecticut.

**TABLE 20**
**NONMANUFACTURING EMPLOYMENT**
**(In Thousands)**

| Fiscal | United States | | New England | | Connecticut | |
|---|---|---|---|---|---|---|
| Year | Number | % Growth | Number | % Growth | Number | % Growth |
| 2007 | 123,323 | 1.8 | 6,327 | 1.3 | 1,498 | 1.4 |
| 2008 | 124,441 | 0.9 | 6,391 | 1.0 | 1,518 | 1.3 |
| 2009 | 121,719 | (2.2) | 6,291 | (1.6) | 1,485 | (2.2) |
| 2010 | 118,645 | (2.5) | 6,174 | (1.9) | 1,441 | (3.0) |
| 2011 | 119,376 | 0.6 | 6,227 | 0.9 | 1,453 | 0.9 |
| 2012 | 121,258 | 1.6 | 6,306 | 1.3 | 1,466 | 0.9 |
| 2013 | 123,234 | 1.6 | 6,390 | 1.3 | 1,481 | 1.0 |
| 2014 | 125,478 | 1.8 | 6,480 | 1.4 | 1,494 | 0.9 |
| 2015 | 128,153 | 2.1 | 6,588 | 1.7 | 1,510 | 1.1 |
| 2016 | 130,824 | 2.1 | 6,682 | 1.4 | 1,521 | 0.8 |

Source: U.S. Bureau of Labor Statistics, Connecticut Labor Department

## NONMANUFACTURING EMPLOYMENT
### PERCENTAGE CHANGE BY FISCAL YEAR




Source: U.S. Bureau of Labor Statistics, IHS Economics

Average annual salaries for Connecticut's nonmanufacturing industries are listed in the following table. The figures were derived by dividing total wage and salary disbursements by employment. Percentage changes over the previous year and over the decade are also provided.

**TABLE 21**
**AVERAGE CONNECTICUT NONMANUFACTURING ANNUAL SALARIES**

| | | | | Percent Change | |
|---|---|---|---|---|---|
| | FY | FY | FY | FY 2015 to | FY 2007 to |
| Industry | 2007 | 2015 | 2016 | FY 2016 | FY 2016 |
| Construction | $ 56,018 | $ 63,908 | $ 70,019 | 9.6 | 25.0 |
| Information | 67,854 | 96,098 | 98,929 | 2.9 | 45.8 |
| Transp., Trade & Utilities | 44,985 | 48,947 | 50,572 | 3.3 | 12.4 |
| Wholesale Trade | 79,565 | 90,886 | 93,032 | 2.4 | 16.9 |
| Retail Trade | 30,092 | 32,709 | 34,156 | 4.4 | 13.5 |
| Finance, Ins. & Real Estate | 131,426 | 150,299 | 152,120 | 1.2 | 15.7 |
| Professional & Business Services | 69,789 | 86,412 | 87,987 | 1.8 | 26.1 |
| Education & Health Services | 44,132 | 51,597 | 53,474 | 3.6 | 21.2 |
| Leisure & Hospitality Services | 21,393 | 24,160 | 25,428 | 5.2 | 18.9 |
| Government | 49,723 | 59,858 | 61,237 | 2.3 | 23.2 |
| Federal | 85,735 | 104,373 | 106,413 | 2.0 | 24.1 |
| State and Local | 49,047 | 58,760 | 60,074 | 2.2 | 22.5 |

Source: U.S. Bureau of Economic Analysis, IHS Economics

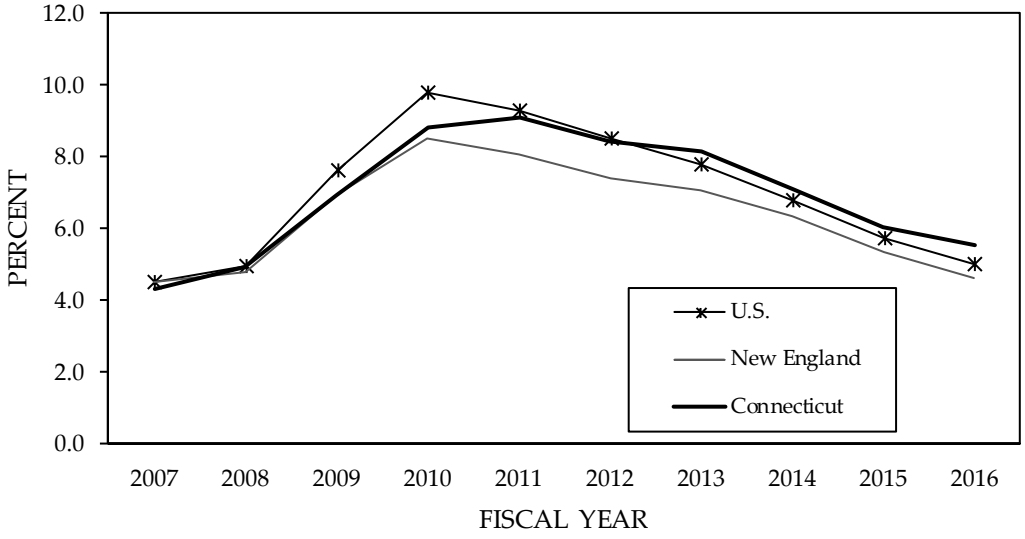
## Unemployment Rate

The unemployment rate is the proportion of persons in the civilian labor force who do not have jobs but are actively looking for work. The rate is based upon a monthly survey in which household members are asked a series of questions, one of which is whether a jobless person has looked for work at some time during the preceding four weeks. Those looking for work are considered in the labor force but unemployed. The following table shows the unemployment rate for the U.S., the New England region, and Connecticut over a ten year period. Unemployment rates have fallen considerably since the end of the recession and are now considered to be at the "natural" rate of unemployment. Connecticut's unemployment rate for FY 2016 was 5.5% compared to a national average of 5.0%.

**TABLE 22**
**UNEMPLOYMENT RATES (%)**

| Fiscal Year | United States | New England | Connecticut |
|---|---|---|---|
| 2007 | 4.5 | 4.5 | 4.3 |
| 2008 | 5.0 | 4.8 | 4.9 |
| 2009 | 7.6 | 7.0 | 6.9 |
| 2010 | 9.8 | 8.5 | 8.8 |
| 2011 | 9.3 | 8.0 | 9.1 |
| 2012 | 8.5 | 7.4 | 8.4 |
| 2013 | 7.8 | 7.1 | 8.1 |
| 2014 | 6.8 | 6.3 | 7.1 |
| 2015 | 5.7 | 5.3 | 6.1 |
| 2016 | 5.0 | 4.6 | 5.5 |

**UNEMPLOYMENT RATES**
**BY FISCAL YEAR**




Source: U.S. Bureau of Labor Statistics, IHS Economics

## Establishments and Employment by Firm Size

There is great interest in job creation policies, and especially targeted policies to support and grow specific types of firms within the Connecticut economy. To guide such initiatives, the following table shows the historical trends in number of establishments (the fixed physical location where economic activity occurs) and employment by firm size for the Connecticut economy. Produced by the U.S. Census Bureau, the Business Dynamics Statistics (BDS) provide annual measures of business dynamics (such as job creation and destruction, establishment births and deaths, and firm startups and shutdowns) for the economy. The BDS is created from the Census Bureau's Business Register, and tabulates data at the establishment level. Establishments are a subset of firms, by either a direct establishment-to-firm relationship or multiple establishments to one firm. In analyzing the BDS dataset by state, it is important to note that though all establishments are based within the state, parent firms for the state's establishments can be anywhere nationwide.

The following table shows BDS statistics for Connecticut from 1980 to the present. The majority of establishments fall into firm sizes of 1 to 49 employees, however the share of establishments in this category has been growing more slowly compared to the other categories. From 1980 to 2014 Connecticut experienced 21.2% growth in the number of establishments in the state, however, establishments belonging to firms 49 or fewer employees only grew 7.3%. This compares to 160.4% growth in establishments belonging to firms of size 10,000 or more, and 100.8% growth in firms size 1,000 to 9,999. Over the most recent recovery from 2010 to 2014, the number of establishments belonging to firms with 999 or fewer employees declined. Only establishments in firms with 1,000 or more employees grew.

Employment by firm size, in contrast, is more evenly divided between the smallest and largest category of firms. Total employment grew by 18.8% from 1980 to 2014, with the greatest growth occurring in mid-size firms. Employment in firms size 1,000 to 9,999 grew by 32.5%, followed by firms size 50 to 249 by 25.5%. Employment in the largest and smallest firms grew slightly below average. Over the most recent recovery from 2010 to 2014, employment grew fastest in firms size 1,000 to 9,999.

## TABLE 23
## CONNECTICUT ESTABLISHMENTS AND EMPLOYMENT BY FIRM SIZE

| | | | | | | Growth | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1980 | 1990 | 2000 | 2010 | 1980 |
| | 1980 | 1990 | 2000 | 2010 | 2014 | to 1990 | to 2000 | to 2010 | to 2014 | to 2014 |
| Establishments by Firm Size | | | | | | | | | | |
| 1 to 49 | 54,929 | 66,792 | 64,570 | 60,165 | 58,921 | 21.6% | -3.3% | -6.8% | -2.1% | 7.3% |
| 50 to 249 | 3,696 | 4,889 | 5,161 | 5,328 | 5,180 | 32.3% | 5.6% | 3.2% | -2.8% | 40.2% |
| 250 to 999 | 1,635 | 2,190 | 2,344 | 2,860 | 2,807 | 33.9% | 7.0% | 22.0% | -1.9% | 71.7% |
| 1000 to 9999 | 2,367 | 3,276 | 4,063 | 4,459 | 4,752 | 38.4% | 24.0% | 9.7% | 6.6% | 100.8% |
| 10000+ | 3,039 | 4,724 | 6,071 | 7,554 | 7,914 | 55.4% | 28.5% | 24.4% | 4.8% | 160.4% |
| Total | 65,666 | 81,871 | 82,209 | 80,366 | 79,574 | 24.7% | 0.4% | -2.2% | -1.0% | 21.2% |
| Employment by Firm Size | | | | | | | | | | |
| 1 to 49 | 358,717 | 451,188 | 444,597 | 403,626 | 408,967 | 25.8% | -1.5% | -9.2% | 1.3% | 14.0% |
| 50 to 249 | 187,735 | 233,551 | 250,329 | 231,141 | 235,692 | 24.4% | 7.2% | -7.7% | 2.0% | 25.5% |
| 250 to 999 | 124,587 | 144,954 | 141,765 | 147,439 | 148,062 | 16.3% | -2.2% | 4.0% | 0.4% | 18.8% |
| 1000 to 9999 | 209,728 | 239,216 | 247,489 | 243,997 | 277,838 | 14.1% | 3.5% | -1.4% | 13.9% | 32.5% |
| 10000+ | 371,695 | 417,446 | 450,910 | 410,683 | 417,447 | 12.3% | 8.0% | -8.9% | 1.6% | 12.3% |
| Total | 1,252,462 | 1,486,355 | 1,535,090 | 1,436,886 | 1,488,006 | 18.7% | 3.3% | -6.4% | 3.6% | 18.8% |

Source: Business Dynamics Statistics, U.S. Bureau of the Census

## SECTOR ANALYSIS

### Energy

The cost of energy has an outsized impact on the economy. For most consumers, transportation and household energy are major and unavoidable expenses, and their cost can affect other spending decisions. Because the U.S. is a net importer of energy, changes in the global energy market often result in changes in the domestic economy. All of the nation's recessions in recent history were concurrent with energy disruptions that occurred worldwide: in 1973 (Arab Oil Embargo), in 1979 (Iranian Revolution), in 1981 (Iran/Iraq war), and in in 1991 (Iraq invasion of Kuwait). The March 2001 recession followed an energy supply disturbance that occurred in late 2000 when petroleum inventories remained relatively low and the price reached a then-record high of $37.80 per barrel, the highest since the Gulf War of 1991. The last recession, which began in December 2007, was preceded by a hike in oil prices accompanied by the joint crises in the housing and financial markets. West Texas Intermediate (WTI) crude oil crept up to a monthly average high of $94.62 a barrel in November 2007, up nearly 60% from a year earlier. The price continued to rise to an all-time monthly record high of $133.93 a barrel in June 2008.

Just as increases in the price of oil can negatively impact consumers, price decreases can put money back into consumer's pockets. Price declines occurred during 2014 through the first quarter of 2016, and these savings will have a positive impact on Connecticut residents. In 2015, each Connecticut household consumed an average of 1,090 gallons of gasoline. This means that for each ten cent decrease in the price of gasoline, Connecticut households will save an average of $108.97 per year. According to AAA's Daily Fuel Gauge Report, the cost of gasoline in Connecticut dropped by more than 40% between 2013 and 2015. On an annualized basis, the decrease from 2014 to 2015 would result in an average savings of $803 per Connecticut household, or over $1.0 billion statewide.

The United States, like the rest of the industrialized world, relies heavily on three fossil fuels: crude oil, coal, and natural gas. The following three sections describe energy production and consumption for the world, the United States, and Connecticut.

### Worldwide

World oil supply and demand increased slightly in 2015 from 2014 levels. Demand from emerging economies continued to rise. World oil supply and demand among countries or regions continued to be significantly imbalanced. The following table illustrates the disparity between the world's suppliers of oil and its users. Members of the Organization of Petroleum Exporting Countries (OPEC) continued to supply more oil than they consumed. As an example, Saudi Arabia produced 12.01 million barrels per day (MBPD) while consuming 3.90 MBPD, generating an 8.11 MBPD surplus. The Organization for Economic Cooperation and Development (OECD), on the other hand, consumed more than it supplied. In 2015, the OECD consumed 45.64 MBPD, while supplying only 23.53 MBPD, registering a 22.11 MBPD deficit.

**TABLE 24**
**WORLD OIL SUPPLY AND DEMAND**
**Calendar Year 2015**

| | Supply | | | Demand | |
|---|---|---|---|---|---|
| | Millions of Barrels Per Day | % of Total | | Millions of Barrels Per Day | % of Total |
| Total OECD (a) | 23.53 | 25.7% | Total OECD | 45.64 | 48.0% |
| United States | 12.70 | 13.9% | United States | 19.40 | 20.4% |
| Canada | 4.40 | 4.8% | Canada | 2.32 | 2.4% |
| Mexico | 2.59 | 2.8% | Mexico | 1.93 | 2.0% |
| Other OECD | 3.85 | 4.2% | Japan | 4.15 | 4.4% |
| | | | Germany | 2.34 | 2.5% |
| Total OPEC (c) | 38.23 | 41.7% | France | 1.61 | 1.7% |
| Saudi Arabia | 12.01 | 13.1% | Italy | 1.26 | 1.3% |
| United Arab Emirates | 3.90 | 4.3% | United Kingdom | 1.56 | 1.6% |
| Iran | 3.92 | 4.3% | Other OECD | 11.08 | 11.7% |
| Iraq | 4.03 | 4.4% | | | |
| Other OPEC | 14.36 | 15.7% | Total Non-OECD | 49.37 | 52.0% |
| | | | Russia | 3.11 | 3.3% |
| All Other | 29.91 | 32.6% | China | 11.97 | 12.6% |
| Russia | 10.98 | 12.0% | India | 4.16 | 4.4% |
| China | 4.31 | 4.7% | Saudi Arabia | 3.90 | 4.1% |
| Other | 14.62 | 15.9% | Other | 26.23 | 27.6% |
| **Total 2015 Supply** | 91.67 | 100.0% | **Total 2015 Demand** | 95.01 | 100.0% |
| **Total 2014 Supply** | 88.83 | | **Total 2014 Demand** | 93.11 | |
| Change | 2.84 | 3.2% | Change | 1.90 | 2.0% |

Note:
(a) The OECD includes the United States, Western and some Eastern European countries, some Latin American countries, Israel, Australia, Canada, Japan, and New Zealand.
(b) The OPEC includes Algeria, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.
Totals may not add due to rounding.
Source: BP Statistical Review of World Energy, June 2016

The United States has become increasingly less reliant on foreign oil due to the development of new oil production technologies as well as increasing fuel efficiency. The nation consumed 19.40 MBPD in 2015, up slightly from 19.04 MBPD consumed in 2014. The country supplied 12.70 MBPD in 2015, up from 11.64 MPBD supplied in 2014. The country had a 34.5% dependency rate on foreign oil supplies, the lowest rate since 1986. The U.S. accounted for 20.4% of global demand and 13.9% of global supply. Deficits between supply and demand also exist in larger economies such as China, Japan, France, and Germany.

Demand in China and India, the world's two most populous countries, continued its upward trend, accounting for 17.0% of the worldwide demand total in 2015, up from 5.6% in 1991. China, the world's second largest consumer, switched from a net exporter of oil in 1993, and began running an increasing oil deficit as its economy continued to grow at a brisk pace. In 2015 China consumed 11.97 MBPD while supplying 4.31 MBPD, registering a 7.66 MBPD deficit. China had a 64.0% dependence rate on foreign oil in 2015, significantly ahead of the United States.

Table 31 shows world oil and natural gas reserves by country. Oil or natural gas reserves are the estimated quantities that are recoverable in the future from known reservoirs under existing technological, operating, and economic conditions. Resources that currently are not technologically recoverable but could become recoverable in the future as technologies advance may also be added to the reserve. Energy companies whose equities are traded on the U.S. stock market are required to report their holdings of proved reserves.

Total world oil reserves decreased 2.4 billion barrels (BBs) to 1,697.6 BBs in 2015. Reserves remain concentrated in the Middle East. Venezuela increasingly holds a significant percentage of the world's proven oil reserves as well; the country's reserves have now surpassed those of Saudi Arabia. Canada also shares a major portion of the world's oil reserves due to the tar sands in Alberta, Canada. U.S. oil reserves increased by 6.5 BBs to 55 BBs in 2015 according to statistics from BP.

Total world natural gas reserves decreased 4.4 trillion cubic feet (TCF) in 2015 to 6,599.4 TCFs according to BP. Russia, a significant exporter of natural gas to Europe, held 17.3% of these reserves. Middle Eastern countries held 42.8% of world reserves. Natural gas reserves in the United States have increased in recent years due to the development of horizontal drilling and hydraulic fracturing technologies used to extract shale gas. During a five year period from 2010-2014 proven reserves in the U.S. increased 105.0 TCFs, or 37.0%.

World energy reserves continue to mirror the pattern of disparity found in the oil supply market. The share of world oil reserves held by all OPEC countries is 71.4%. The Middle East controls 47.3% of world oil reserves with Saudi Arabia controlling approximately 15.7% of the total, followed by Iran's 9.3% and Iraq's 8.4%. The Middle East countries also control 42.8% of natural gas reserves.

**TABLE 25**
**WORLD OIL & NATURAL GAS RESERVES**
**Calendar Year 2015**

| | Oil | | Gas | |
|---|---|---|---|---|
| | Billions of Barrels | % of Total | Trillions of Cubic Feet | % of Total |
| **North America** | **238.0** | **14.0%** | **450.3** | **6.8%** |
| United States | 55.0 | 3.2% | 368.7 | 5.6% |
| Mexico | 10.8 | 0.6% | 11.4 | 0.2% |
| Canada | 172.2 | 10.1% | 70.2 | 1.1% |
| **Central & South America** | **329.2** | **19.4%** | **268.1** | **4.1%** |
| Venezuela | 300.9 | 17.7% | 198.4 | 3.0% |
| **Europe and Eurasia*** | **155.2** | **9.1%** | **2,005.1** | **30.4%** |
| European Union | 5.6 | 0.3% | 59.2 | 0.9% |
| Russia | 102.4 | 6.0% | 1,139.6 | 17.3% |
| **Middle East** | **803.5** | **47.3%** | **2,826.6** | **42.8%** |
| Saudi Arabia | 266.6 | 15.7% | 294.0 | 4.5% |
| Iran | 157.8 | 9.3% | 1,201.4 | 18.2% |
| Iraq | 143.1 | 8.4% | 130.5 | 2.0% |
| Kuwait | 101.5 | 6.0% | 63.0 | 1.0% |
| Qatar | 25.7 | 1.5% | 866.2 | 13.1% |
| **Africa** | **129.1** | **7.6%** | **496.7** | **7.5%** |
| Libya | 48.4 | 2.9% | 53.1 | 0.8% |
| Nigeria | 37.1 | 2.2% | 180.5 | 2.7% |
| **Asia Pacific** | **42.6** | **2.5%** | **552.6** | **8.4%** |
| **Total 2015 estimate** | **1,697.6** | **100.0%** | **6,599.4** | **100.0%** |
| **Total 2014 estimate** | **1,700.0** | | **6,603.8** | |
| **Change** | **-2.4** | **-0.1%** | **-4.4** | **-0.1%** |

Totals may not add due to rounding.
Source: BP Statistical Review of World Energy, June 2016

**United States**

The U.S. has the largest demand for world oil. While the country contains 4.4% of the world population and produces 13.9% of world oil, it consumes 20.4% of world oil. The nation has long been a net energy importer, although America's energy dependence has decreased in recent years. According to the Energy Information Administration's *Monthly Energy Review*, the U.S. consumed 97.80 quadrillion British Thermal Units (QBTU's) of energy in 2015. While this was 2.2 times the 1960 level, energy use has decreased from its peak of 101.03 QBTU's in 2007.

Whereas the U.S. produced 88.07 QBTU's and exported 12.91 QBTU's in 2015, it required net imports of 10.92 QBTU's, which represented 11.2% of total national energy consumption, compared to 22.3% in 2010, 25.2% in 2000, 16.7% in 1990, and 6.0% in 1960. In 2015, 79.7% of energy produced in the U.S. was from fossil fuels (coal, 20.4%; natural gas, 37.0%; and crude oil, 22.3%). Coal and crude oil have historically been the leading energy sources in the U.S., though natural gas has been increasingly prominent since the 1980s.

National energy consumption rose steadily during the 1990s and 2000s before peaking in 2007. Changes in energy consumption are driven by overall economic conditions, the movement of prices, and increases in energy efficiency. The following table displays energy usage in the U.S. in 2015 by fuel type and by economic sector. Petroleum products are currently the most important energy source for the U.S. economy. The 35.60 quadrillion petroleum-generated BTU's accounted for 36.4% of U.S. energy consumption, followed by natural gas at 28.15 QBTU's and coal at 15.57 QBTU's. These fossil fuel sources together accounted for approximately 81.1% of U.S. energy consumption. Nuclear power and hydroelectric power were distant followers.

**TABLE 26**
**U.S. ENERGY CONSUMPTION IN 2015**
**(Quadrillion BTU's)**

| Fuels | Resi -dential | Com-mercial | In-dustrial | Trans-portation | Electric Generation | Total | % of Total |
|---|---|---|---|---|---|---|---|
| Natural Gas | 4.75 | 3.29 | 9.40 | 0.73 | 9.99 | 28.15 | 28.8 |
| Petroleum | 1.00 | 0.57 | 8.32 | 25.43 | 0.28 | 35.60 | 36.4 |
| Coal | - | 0.03 | 1.38 | - | 14.16 | 15.57 | 15.9 |
| Nuclear | - | - | - | - | 8.34 | 8.34 | 8.5 |
| Renewables | | | | | | | |
| Hydroelectric | - | - | 0.01 | - | 2.38 | 2.39 | 2.4 |
| Other* | 0.59 | 0.20 | 2.29 | 1.35 | 2.74 | 7.17 | 7.3 |
| Electricity | 4.78 | 4.64 | 3.27 | 0.03 | - | 12.71 | 13.0 |
| Electric Losses | 9.55 | 9.63 | 6.54 | 0.05 | (37.88) | (12.12) | (12.4) |
| Total Demand | 20.67 | 18.35 | 31.21 | 27.59 | | 97.80 | |

Note: * Includes power generated from wood, biofuels, wind, waste, geothermal, tide, and solar/photovoltaic, as well as imported electricity.
Totals may not add due to rounding.

Source: U.S. Dept. of Energy, Energy Information Administration

The U.S. lags other developed countries in utilizing renewable energy. Hydroelectricity, for example, provided approximately 6.3% of electric generation in the U.S., versus approximately 60% in Canada. Capital investments in alternative renewable energy from solar, hydroelectric, wind, biofuels, and geothermal have increased dramatically in the U.S.; nonetheless, their share of power production remains relatively small. Green energy is expected to play an important role in the U.S. as energy efficiency and awareness of the environmental impact of greenhouse gas emissions rises. Operable nuclear reactors declined to 99 units through the end of 2014, down from a peak of 112 units in 1990. In 2016, the first new U.S. nuclear reactor in over 20 years began operation, bringing the total up to 100. Nuclear generation accounted for 22.0% of domestic electricity net generation in 2015. The U.S. is the world's largest nuclear power producer, accounting for more than 30% of worldwide nuclear electricity production.

There are five energy-use sectors: residential, commercial, industrial, transportation, and electric power generation. The first four sectors are end-users while the last one is an intermediate-user consisting of all utility and non-utility facilities and equipment used in the electricity industry. The industrial sector was the largest end-user of energy, consuming 31.21 QBTU's in 2015, followed by transportation at 27.59 QBTU's, residential at 20.67 QBTU's, and commercial at 18.35 QBTU's.

In contrast to the relatively smooth trends in the other sectors, industrial consumption has shown the greatest fluctuation, dropping sharply in 1975, 1980-83, 2001-03, and 2008-09 in response to high oil prices and economic slowdowns. The electric power generation sector consumes and also produces energy. Energy losses occur throughout the entire electrical system beginning with utility generation in fossil-fired, nuclear or hydroelectric power plants all the way to the end-users. Energy losses are approximately two-thirds of total energy input during the conversion process of heat energy into mechanical energy for turning electric generators. Of the electricity generated, it is estimated that about 7% is lost in transmission and distribution.

**Crude Oil Prices**

Crude oil prices have a long history of large fluctuations that affect the global and U.S. economies as well as inflation levels. In 1973, the year of the Arab Oil Embargo, crude oil prices in the U.S. measured by the composite refiners' acquisition cost averaged $4.15 per barrel. After two consecutive supply disturbances brought on by the Iranian Revolution in 1979 and the Iran-Iraq war in 1980, oil prices reached $35.28 per barrel in 1981. Long-term prices then trended down to a low of $12.54 per barrel by 1998 and then stayed in the $20 range until mid-2003. Crude oil prices started to creep up above $30 per barrel in late 2003, soared to the mid $90s in 2008 and hit a record high of nearly $134 per barrel in mid-2008. Prices then plummeted 70% to close in the low $40s per barrel by the end of the year.

Following the collapse of oil prices in the midst of the Great Recession, the refiner's acquisition cost rebounded, rising to the mid $70s in late 2009 and the low $80s in late 2010. Prices hovered around $100 per barrel from 2011 through the first half of 2014. However, beginning in the fall of 2014, the cost of a barrel of oil began to decline significantly due to oversupply in the global

market. In September 2015, the composite refiner acquisition cost was $45.53 a barrel; a more than 50% reduction from September 2014. Acquisition costs dropped another 20% from 2015 to 2016. Adjusted for inflation, 2011's annual price of $98.77 per barrel price in 2010 dollars was an all-time high. In real terms, annual average refiner's acquisition costs have dropped in each successive year following that peak.

**TABLE 27**
**CRUDE OIL PRICES AND U.S. CONSUMPTION**
Refiners' Crude Oil Acquisition Costs* Per Barrel

| Year | Current $ | In 2010 $* | Year | Current $ | In 2010 $* |
|---|---|---|---|---|---|
| 1973 | 4.15 | 20.37 | 2005 | 50.24 | 56.11 |
| 1975 | 10.38 | 42.06 | 2006 | 60.24 | 65.18 |
| 1980 | 28.07 | 74.30 | 2007 | 67.94 | 71.46 |
| 1981 | 35.24 | 84.51 | 2008 | 94.74 | 95.98 |
| 1985 | 26.75 | 54.22 | 2009 | 59.29 | 60.26 |
| 1990 | 22.22 | 37.09 | 2010 | 76.69 | 76.69 |
| 1995 | 17.23 | 24.66 | 2011 | 101.87 | 98.77 |
| 2000 | 28.26 | 35.79 | 2012 | 100.93 | 95.87 |
| 2001 | 22.95 | 28.27 | 2013 | 100.49 | 94.07 |
| 2002 | 24.10 | 29.22 | 2014 | 92.02 | 84.77 |
| 2003 | 28.53 | 33.81 | 2015 | 48.39 | 44.53 |
| 2004 | 36.98 | 42.69 | 2016** | 38.72 | 35.15 |

Note: * Adjusted by 2010 CPI-U, where 1982-1984 = 100.00 and 2010 = 218.08.
** Average for the first three quarters.

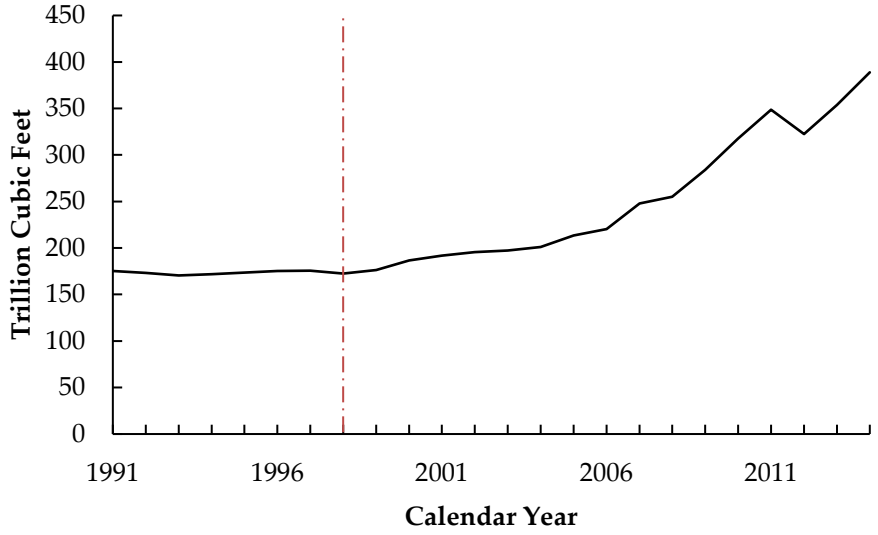
Source: U.S. Department of Energy, Energy Information Administration

**Shale Energy**

Oil producers in the United States are increasingly able to extract natural gas and petroleum from shale formations across the country. Increased production of these fuels is attributable to the development of horizontal drilling and hydraulic fracturing ("fracking") technology. In the process of fracking, producers pump a mixture of water, sand, and chemicals into shale wells to extract natural gas and petroleum. In conjunction with horizontal drilling, this technique has made the development of shale energy sources economically feasible. As a result, energy resources in the country have increased. The following chart shows the amount of dry natural gas reserves in the United States in trillion cubic feet (TCF) from 1991 to 2014. The dashed line represents the first commercially successful use of fracking in 1998. As the graph shows, the amount of proven natural gas reserves has grown dramatically since the introduction of this technology.

The increased production of fossil fuels from shale formations has had a significant impact on the global market for fossil fuels. Beginning in the second half of 2014, the combination of additional capacity from shale formations and the refusal of OPEC to cap production led to sharply lower fossil fuel prices. Energy observers predict that natural gas and petroleum from shale formations will continue to improve the United States' energy production. The U.S. Energy Information Administration (EIA) forecasts that dry natural gas production will increase 38.6% between 2014 and 2040, from 26.3 QBTU to 36.4 QBTU. As fossil fuel production from shale deposits and other non-traditional petroleum resources increases, the nation's energy dependence on other oil producing countries will continue to decline. Connecticut's energy market may benefit from development of shale resources. The state is located in close proximity to one of the nation's largest shale formations, the Marcellus shale gas field in New York and Pennsylvania.

**U.S. Proven Natural Gas Reserves, 1991-2014**




Dashed line represents first commercial use of horizontal fracturing in 1998.

Source: U.S. Department of Energy, Energy Information Administration

## Efficiency

Increasing efficiency has been a focal point of the nation's energy conservation policy. Energy regulatory agencies have been aggressively protecting the environment by promoting energy-efficient products over the past two decades. The National Appliance Energy Conservation Act of 1987 set minimum efficiency standards for 13 appliances and prohibited the sale if standards were not met. In 1992, the EPA embarked upon "*Energy Star*" as a voluntary labeling program to identify and promote energy-efficient products to reduce greenhouse gas emissions. *Energy Star* products use less energy and help protect the environment. The *Energy Star* label now covers product categories from small battery chargers to central air conditioners, and includes appliances, electronics, heating and cooling equipment, office equipment, lighting, commercial food services, and new buildings and plants with additional energy-saving features that are 20–30% more efficient than standard homes.

To promote energy efficient buildings in the U.S., Leadership in Energy and Environmental Design (LEED), a non-profit organization under the U.S. Green Building Council (USGBC), provides green building rating standards for environmentally sustainable construction and design.

Aside from energy conservation, increased productivity also promotes energy efficiency. Productivity, a crucial ingredient in the economy's long-term vitality, is a measure of economic efficiency which relates to how effectively economic inputs are converted into output. Productivity is measured by comparing the amount of goods and services produced with the inputs that are used in production. A measure of efficiency is the amount of energy used to produce a dollar of Gross Domestic Product (GDP). The following table compares U.S. consumption of fuel sources and illustrates the nation's improvement in energy efficiency.

**TABLE 28**
**U.S. PRIMARY ENERGY CONSUMPTION & ENERGY EFFICIENCY**

| | U.S. Energy Consumption | | GDP | BTU | |
|---|---|---|---|---|---|
| Calendar | Total | Annualized | Billion | Per $1 GDP | Annualized |
| Year | Quadrillion BTU's | % Change* | (In 2009$) | (In 2009$) | % Change* |
| 1990 | 84.49 | 2.0 | 8,955.0 | 9,434 | (1.3) |
| 1995 | 91.03 | 1.5 | 10,174.8 | 8,947 | (1.1) |
| 2000 | 98.82 | 1.7 | 12,559.7 | 7,868 | (2.5) |
| 2005 | 100.19 | 0.3 | 14,234.3 | 7,039 | (2.2) |
| 2010 | 97.48 | (0.5) | 14,783.8 | 6,594 | (1.3) |
| 2011 | 96.90 | (0.6) | 15,020.6 | 6,451 | (2.2) |
| 2012 | 94.49 | (2.5) | 15,354.6 | 6,154 | (4.6) |
| 2013 | 97.24 | 2.9 | 15,612.2 | 6,229 | 1.2 |
| 2014 | 98.46 | 1.2 | 15,982.3 | 6,160 | (1.1) |
| 2015 | 97.42 | (1.1) | 16,397.2 | 5,941 | (3.6) |

**Annualized percent change calculated using a compound annualized growth rate formula*
Source: U.S. Dept. of Energy, Energy Information Administration, *Monthly Energy Review*
U.S. Dept. of Commerce, Bureau of Economic Analysis

Between 1990 and 2015, energy consumption per dollar of real GDP decreased at a compound annual rate of 1.68% per year. In 1985, 10,060 BTU's of energy were required to produce $1 of GDP measured in 2009 dollars. In 2015, that number was 5,941 BTU's, a 40.9% reduction. The long-term decline in energy consumption per dollar of GDP resulted from efficiency improvements and a structural shift from energy intensive industries to those that consume less energy but create more value added products, such as finance, banking, and professional services. However, improvements in energy efficiency vary from period to period, depending upon

energy prices, consumers' consumption habits, and technology improvements. Efficiency tends to stagnate when fuel prices decline; as oil prices fall, the incentive to conserve energy diminishes.

**Oil Stability Program**

To protect against supply disruptions, the United States began to create a Strategic Petroleum Reserve (SPR) under the Energy Policy and Conservation Act of 1975 (EPCA). The SPR program was established as a 750 million barrel capacity crude oil reserve with the objective of achieving a maximum draw-down rate within 15 days of the notice to proceed, and currently has a design capacity of 714 million barrels. To maximize long-term protection against oil supply disruptions, President George W. Bush in late 2001 directed the Secretary of Energy to fill the SPR up to its capacity. As of December 2015, the reserve held 695.1 million barrels of crude oil. The federal budget passed by the U.S. Congress in October of 2015 includes a plan to sell 58 million barrels from the SPR from 2018 until 2025, more than 8% of current reserves, as a revenue measure.

In early 2000, a shortage of home heating oil sent prices to a high of $2.45 per gallon from $1.00 per gallon a year earlier. To reduce such risk in the future, the U.S. Department of Energy established the Northeast Home Heating Oil Reserve under the SPR program. The maximum inventory of heating oil in the reserve is 2 million barrels, which will provide relief for approximately 10 days. This reserve program was permanently established in March of 2001 as a part of America's energy readiness effort, separating it from the Strategic Petroleum Reserve. According to 2014 data from Energy Information Administration, heating oil is the dominant, though declining, fuel used for home heating in Connecticut with 43.2% of all homes in the state using heating oil as the primary heating fuel.

**Connecticut**

Connecticut is one of the most energy efficient states in the nation. The state consumed 2,991 BTU's per 2009 chained dollar of Gross State Product in 2014, the latest available data. Connecticut was one of the most efficient states based on this measure, behind only the District of Columbia and New York. Connecticut was 51.6% below the national average of 6.2 thousand BTU's. When compared to the national per person consumption, Connecticut residents are moderate energy users. Connecticut consumed 209 million BTU's per capita in 2014, ranking 46th among the 50 states plus the District of Columbia, behind New York, Rhode Island, California, Hawaii, and Florida. Connecticut was 33.2% below the national figure of approximately 313 million BTU's per capita. The state has few local energy sources, and it must import nearly all the energy that it consumes. This situation affects Connecticut consumers' energy choices and results in prices that are higher than the national average. In 2014, Connecticut residents spent $27.84 per million BTU, compared to $21.33 for the nation.

**TABLE 29**
**CONSUMER ENERGY PRICES IN THE UNITED STATES AND CONNECTICUT***
**Nominal Dollars per Million BTU in 2014**

| | Natural Gas | Motor Gasoline | Distillate Fuel Oil* | All Petroleum** | Retail Electricity | Total Energy |
|---|---|---|---|---|---|---|
| Connecticut | $9.17 | $29.36 | $27.04 | $28.06 | $49.96 | $27.84 |
| United States | $7.20 | $27.48 | $26.17 | $25.38 | $30.74 | $21.41 |
| CT as a % of the U.S. | 127% | 107% | 103% | 111% | 163% | 130% |

Note: * Includes diesel fuels and fuel oils used for residential space heating.
** Includes motor gasoline, residential and distillate fuel oil, liquefied petroleum gases, and jet fuel, etc.

Source: U.S. Department of Energy, Energy Information Administration, *State Data 2014*

The above table compares various prices to the national average for natural gas, motor gasoline, distillate fuel oil, residential electricity, and total average energy paid by consumers in 2014, the latest data available. Overall energy costs in Connecticut in 2014 were 30% higher than the national average, with retail electricity prices 55% higher than the national average. The electric industry has been deregulated in the state since the late 1990s.

**TABLE 30**
**CONNECTICUT ENERGY CONSUMPTION IN 2014**
**(Trillion BTU's)**

| Fuels | Resi-dential | Com-mercial | In-dustrial | Trans-portation | Electric Generation | CT Total | % of CT Total | % of US Total |
|---|---|---|---|---|---|---|---|---|
| Natural Gas | 52.0 | 52.0 | 28.8 | 4.8 | 103.0 | 240.6 | 32.2 | 27.9 |
| Petroleum | 64.8 | 14.1 | 18.3 | 220.2 | 4.9 | 322.3 | 43.1 | 35.4 |
| Coal | - | - | - | - | 9.1 | 9.1 | 1.2 | 18.3 |
| Nuclear | - | - | - | - | 165.7 | 165.7 | 22.1 | 8.5 |
| Hydroelectric | - | - | - | - | 4.1 | 4.1 | 0.5 | 2.5 |
| Other | 10.4 | 1.5 | 2.4 | - | 15.4 | 29.7 | 4.0 | 7.4 |
| Deliv. Elec. | 43.6 | 44.0 | 12.0 | 0.6 | - | 100.2 | 13.4 | 12.9 |
| Deliv. Losses | 78.6 | 79.3 | 21.6 | 1.0 | (302.2) | (121.7) | (16.3) | (12.9) |
| Total Demand | 249.4 | 190.9 | 83.1 | 226.7 | - | 748.1 | 100.0 | 100.0 |
| % of Total-CT | 33.3 | 25.5 | 11.1 | 30.3 | - | 100.0 | | |
| % of Total-U.S. | 22.0 | 18.7 | 31.8 | 27.5 | - | 100.0 | | |

Note: Other includes power generated from wood, biofuels, wind, waste, geothermal, tide, and solar/photovoltaic, as well as imported electricity.
Totals may not add due to rounding.

Source: U.S. Department of Energy, Energy Information Administration, *State Energy Data 2014*

The preceding table displays the amount and percentage share of total energy consumed in Connecticut by fuel source and sector in 2013, the latest available data. Compared to the nation, petroleum and natural gas provide more of Connecticut's energy needs, while coal provides significantly less. Petroleum remains the main source of energy in Connecticut because it is easily transported and fuel oil is a significant source to heat homes. In 2014, 43.2% of Connecticut households used fuel oil for home heating, followed by natural gas at 34.3%, electricity at 15.6%, others at 3.9%, and liquefied petroleum gases at 3.7%. The state's petroleum products are received at the ports in New Haven, New London, and Bridgeport, and shipped by barge on the Connecticut River to central Connecticut. Additionally, a pipeline runs from New Haven to Springfield, Massachusetts, supplying petroleum to Hartford and northern Connecticut.

Connecticut is also more reliant on nuclear energy and less reliant on coal for electric generation than the United States. In 2014, the latest data available, the state generated 33,676,980 net megawatt hours of electricity, primarily from nuclear power. Retail sales within the state were at 29,354,460 megawatt hours of electricity. This implies that Connecticut was more than 100% electricity self-sufficient, unlike 2000, when the state generated 56.8% of its own demand and relied on imports from other states and Canada for the balance of its need while certain nuclear reactors were shut down for servicing. In 2014, Connecticut had net electricity exports of 21.5 Trillion BTU.

The power grid that supplies electricity to the entire state is owned and operated by both private and municipal electric companies. Transmission lines connect Connecticut with New York, other New England states, and Canada. These interconnections allow the companies serving Connecticut to meet large or unexpected electric load requirements from resources located outside of Connecticut's borders.

All electric utilities in the state are members of the New England Power Pool and operate as part of the regional bulk power system. An independent system operator, ISO New England Inc., operates this regional system. In 2015, there were 1,625,901 electric consumers in Connecticut. Of these, 90.4% were residential customers, 9.4% were commercial customers, and 0.3% were industrial and transportation customers. Approximately 90% of the electricity was sold by two investor-owned companies: Eversource and United Illuminating.

Natural gas is delivered to Connecticut through pipelines that traverse the state. Natural gas pipeline supplies are generally shipped to Connecticut from Canada and the Gulf of Mexico area, although development of the Marcellus Shale Formation in New York and Pennsylvania could provide additional supply to the region. Connecticut also receives liquefied natural gas (LNG) through interstate pipelines from a terminal located in Boston, Massachusetts which is supplied by LNG tanker ships. Natural gas service is provided to parts of the state through one municipal and three private gas distribution companies. Since 1996, the state's Public Utilities Regulatory Authority (formerly DPUC) has allowed some competitive market forces to enter the natural gas industry in the state. Commercial and industrial gas consumers can choose non-regulated suppliers for their natural gas requirements. Natural gas is delivered to consumers using the local

distribution company's mains and pipelines. Located at or near the end of pipelines, Connecticut's distribution companies have to pay higher transportation costs and outbid other buyers in order to gain access rights to the gas wellhead.

**Gasoline Consumption and Automotive Fuel Economy**

In the U.S., highway vehicles consume approximately 98% of all gasoline, with about 2% used for other purposes such as agriculture, aviation, construction and boating. In 2015, gasoline consumption in the U.S. totaled 141.7 billion gallons, with Connecticut accounting for 1.48 billion gallons, 1.04% of the nation's consumption. The table below shows gasoline consumption for the U.S. and Connecticut since 1995.

In 2015, Connecticut residents consumed 412.1 gallons of gasoline per capita, versus 439.1 gallons per capita for the nation. Per capita consumption is attributable to several factors, including gas prices, income levels, traffic conditions, average weight of vehicles, distance residents drive to work or shop, and percentage of workers telecommuting or ride sharing. As one of the smallest and most densely populated states in the nation, Connecticut residents generally commute shorter distances to work and shop. Per capita consumption reached a peak in 2005, and has fallen faster in Connecticut than in the U.S. since then. Between 2005 and 2015, per capita consumption decreased more than 10% in Connecticut, versus 7% for the nation. This has reduced Connecticut's per capita consumption to 93.9% of the U.S. amount.

As the highest per capita personal income state in the nation, Connecticut residents tend to own more automobiles. Connecticut residents owned 406 private and commercial automobiles per 1,000 residents in 2015, versus 350 for the nation. Also, Connecticut had 707 driver licenses per 1,000 residents in 2015, compared to 671 licenses for the nation. Connecticut residents trail the nation as a whole in the use of carpooling. The United States Census Bureau estimates that in 2013, of those commuting to work by car, 9.6% of Connecticut residents carpooled, versus 10.9% for the nation as a whole.

**TABLE 31**
**GASOLINE CONSUMPTION IN THE UNITED STATES & CONNECTICUT**

| Calendar Year | U.S.* Total Gallons (000's) | Annual** % Change | CT Total Gallons (000's) | Annual** % Change | Gallons Per Capita U.S.* | Gallons Per Capita CT | CT/U.S.* (%) |
|---|---|---|---|---|---|---|---|
| 1995 | 120,875,789 | 1.9% | 1,302,750 | 0.0% | 453.3 | 391.7 | 86.4% |
| 2000 | 132,279,950 | 1.8% | 1,476,340 | 2.5% | 468.2 | 432.4 | 92.3% |
| 2005 | 140,338,710 | 1.2% | 1,614,697 | 1.8% | 474.3 | 460.3 | 97.0% |
| 2006 | 140,320,089 | 0.0% | 1,566,875 | -3.0% | 469.7 | 445.3 | 94.8% |
| 2007 | 140,436,133 | 0.1% | 1,567,360 | 0.0% | 465.7 | 444.0 | 95.3% |
| 2008 | 136,499,418 | -2.8% | 1,494,164 | -4.7% | 448.4 | 421.2 | 93.9% |
| 2009 | 136,877,949 | 0.3% | 1,512,081 | 1.2% | 445.7 | 424.3 | 95.2% |
| 2010 | 137,592,937 | 0.5% | 1,514,622 | 0.2% | 444.4 | 423.1 | 95.2% |
| 2011 | 135,204,475 | -1.7% | 1,467,953 | -3.1% | 433.5 | 409.0 | 94.3% |
| 2012 | 134,998,800 | -0.2% | 1,449,384 | -1.3% | 429.7 | 403.5 | 93.9% |
| 2013 | 135,595,239 | 0.4% | 1,438,625 | -0.7% | 428.5 | 400.0 | 93.3% |
| 2014 | 137,883,016 | 1.7% | 1,434,867 | -0.3% | 432.4 | 398.9 | 92.3% |
| 2015 | 141,722,390 | 2.8% | 1,479,844 | 3.1% | 439.1 | 412.1 | 93.9% |
| **Average** | **2010-2015** | | | | 434.6 | 407.8 | 93.8% |

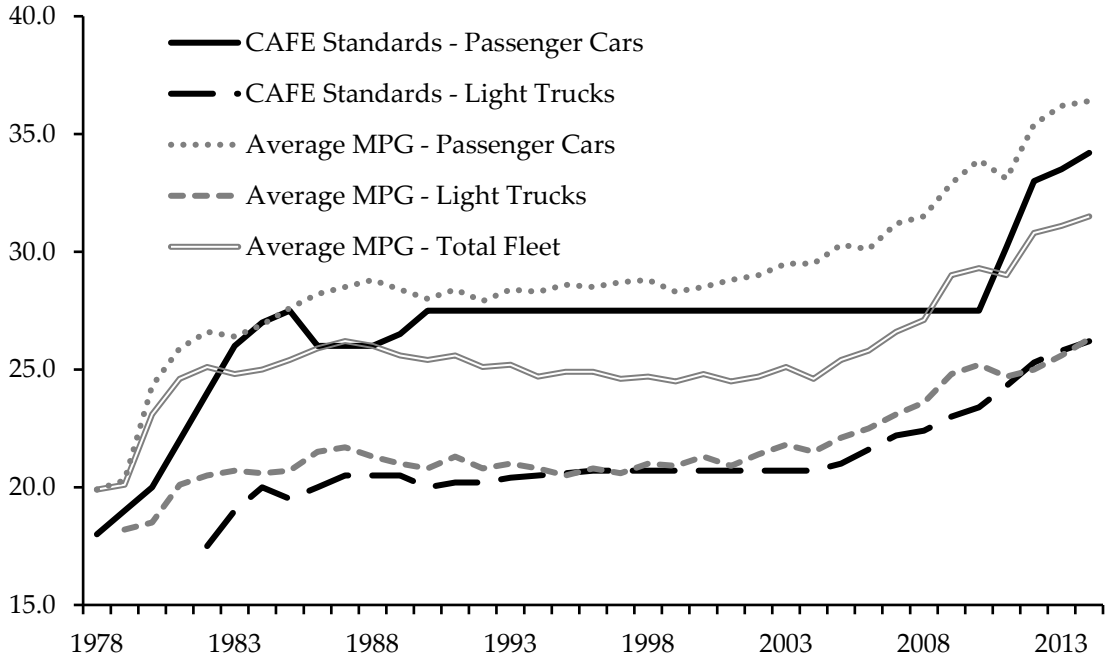
* Fifty states plus Washington, D.C.
** Annual growth calculated using compound annual growth rate formula
Source: U. S. Dept. of Transp., Office of Highway Information Management, *Highway Statistics*

**Corporate Average Fuel Economy (CAFE)**

Emissions of carbon dioxide from motor vehicles represent over 30% of the total greenhouse gas emissions in the U.S. In 1973, requirements for Corporate Average Fuel Economy (CAFE) in motor vehicles were first proposed in the wake of Arab oil embargo. In 1975, the Energy Policy and Conservation Act established the CAFE system and authorized the Department of Transportation to set automobile fuel efficiency standards, starting in model year (MY) 1978 for passenger cars and MY 1979 for light trucks. The measurement of CAFE is performed by manufacturers and reported to the U.S. Environmental Protection Agency. The chart below illustrates the automotive fuel economy history for the CAFE standards for passenger cars and light trucks and their average miles per gallon (MPG) that had been produced. While CAFE standards for light trucks continued to increase from 17.5 MPG in MY 1982 to 23.5 MPG in MY 2010, standards for passenger cars remained the same at 27.5 MPG from 1990 to 2010.

Increases in fuel efficiency varied over the past three and a half decades, accelerating during the 1970s and 1980s while remaining relatively constant during the 1990s. Fuel efficiency accelerated again during the 2000s and 2010s. Light trucks gained market share in the 1990s and continued into the early 2000s while sales for high-powered, four-wheel drive cars, and larger, heavier, less fuel-efficient models increased, reducing the average MPG rating for new vehicles. In 1987, the total fleet fuel economy hit a peak at 26.2 MPG when new light trucks made up 31.6% of new light vehicle purchases. Total fleet fuel economy finally returned to 1987 levels in 2007, and reached a high of 31.5 MPG in 2014, the latest data available. Light truck sales have remained relatively constant over the past decade. In 2004 new light trucks sales peaked at 55.6% and then began trending downward to a low of 48.1% in 2009. By 2010 light trucks rebounded and have hovered around 50% of new light vehicle sales.

**Miles per Gallon (MPG) for CAFE Standards and Produced Vehicles**




Source: U.S. Dept. of Transportation, National Highway Traffic Safety Administration

Federal law imposes a civil penalty of $5.50 for each tenth of a MPG by which a manufacturer's CAFE level falls short of the standard, multiplied by the total number of passenger automobiles or light trucks produced by the manufacturer in that model year. To further improve air quality and fuel efficiency, the U.S. Congress in 2007 passed the Energy Independence and Security Act that required the fuel efficiency standard to increase to 35 MPG by MY 2020. In the spring of 2009, the federal government accelerated those requirements and moved up the deadline to MY 2016. The National Highway Traffic Safety Administration (NHSTA) issued two new rules to increase CAFE standards under legal authority granted by the 2007 Act. The first ruling, adopted in April of 2010, raised the average MPG for MY 2016 to 34.1 MPG. The second rule, adopted in August of 2012, raised it to 54.5 MPG by MY 2025. As a result, the average MPG for passenger cars was

36.4 MPG in MY 2014, the latest data available, while the average for light trucks was 26.2 MPG. Increases in fuel economy put downward pressure on demand for, and by extension the price of, motor fuels.

**Fluctuations in Gasoline Prices**

The price of gasoline is one of the most closely watched items by consumers. As of September 2015, The U.S. Bureau of Labor Statistics assigned a relative weight of 3.173% to this single component to calculate the CPI-U index, the consumer price index for all urban consumers.

Short-term gasoline prices have long been known for their drastic volatility, often rising and dropping markedly during short periods of time. The average retail gasoline price for all grades in the U.S. in October of 2016 was $2.36 per gallon, compared to $2.29 in October of 2015 and $3.17 in October of 2014. The average retail price for all grades hit an all-time high of $4.06 in July of 2008, before plummeting to $1.69 in December that same year. During the first six months of 2016, average monthly prices rose 32% from $1.87 per gallon in February to a year high of $2.47 per gallon in June. Because the global oil market is oversupplied and OPEC has signaled it will not cut down on production, prices are projected to remain relatively low through 2017. Changes in gasoline price are determined by the cost of crude oil, supply and demand of fuel, any disruption of refinery operations, inventory levels, seasonality and weather conditions, the regulation of environmental standards, and geopolitical conditions.

**TABLE 32**
**RETAIL MOTOR GASOLINE PRICES**
**(Dollars per Gallon, Regular Gasoline)**

| Calendar Year | Nominal Price | Real Price* | Calendar Year | Nominal Price | Real Price* |
|---|---|---|---|---|---|
| 1950 | $0.27 | $1.96 | 2008 | $3.25 | $3.27 |
| 1960 | 0.31 | 1.77 | 2009 | 2.35 | 2.35 |
| 1970 | 0.36 | 1.58 | 2010 | 2.78 | 2.75 |
| 1980 | 1.25 | 2.82 | 2011 | 3.52 | 3.41 |
| 1990 | 1.16 | 1.74 | 2012 | 3.62 | 3.44 |
| 2000 | 1.52 | 1.86 | 2013 | 3.51 | 3.28 |
| 2005 | 2.27 | 2.47 | 2014 | 3.36 | 3.09 |
| 2006 | 2.57 | 2.71 | 2015 | 2.52 | 2.29 |
| 2007 | 2.80 | 2.87 | 2016** | 2.24 | 2.01 |

Note: Prices for 1950 to 1970 are leaded regular; 1980 and after are unleaded regular.
* Adjusted by GDP Price Deflator (2009=100)
** First three quarters of 2016
Source: U.S. Dept. of Energy, Energy Information Administration; Bureau of Economic Analysis

The long run nominal price shows a relatively stable upward trend except for sharp upticks in the early 1980s and the most recent years. The table above shows the history of retail motor gasoline prices in the U.S. Prices averaged approximately 30 cents per gallon during the 1950s through the early 1970s. Prices began increasing after the Arab oil embargo in 1973. They rose to an average of $3.25 per gallon in 2008 before declining to an average of $2.35 per gallon in 2009. In the intervening years, the annual average price has hovered around $3.50. However, gas prices began to decline during the second half of 2014. In January 2015 the average U.S. price of regular unleaded dipped to $2.12 per gallon, is lowest price since April 2009.

The real prices listed are adjusted for inflation in 2009 dollars. In 2012, the average real price reached a high of $3.44 per gallon in 2009 dollars. In both real and nominal terms, the annual average price was below 2012's high through 2013, 2014, 2015, and the first three quarters of 2016.

**Gasoline Prices in Developed Countries**

Gasoline prices in the U.S. may rank among the lowest in the world for oil-importing countries, and even lower than some oil-exporting countries. Average gasoline prices in the European countries are more than double that of the U.S.

According to the International Energy Agency, the average after-tax retail fuel price in the U.S. was $2.25 per gallon in October 2016, compared to an average of $5.50 in France, Germany, Italy, Spain, and the United Kingdom.

**TABLE 33**
**END-USER GASOLINE PRICES AMONG DEVELOPED COUNTRIES**
**Dollars per Gallon, October 2016**

| Country | Before Tax ($) | Tax ($) | End-User Price ($) | Tax As a % of Price | U.S. End-User Price as a % of Other Country |
|---|---|---|---|---|---|
| France | 1.91 | 3.62 | 5.53 | 65.5% | 40.7% |
| Germany | 1.95 | 3.61 | 5.56 | 64.9% | 40.5% |
| Italy | 2.02 | 4.15 | 6.17 | 67.3% | 36.5% |
| Spain | 2.14 | 2.79 | 4.93 | 56.6% | 45.6% |
| United Kingdom | 1.72 | 3.59 | 5.31 | 67.6% | 42.4% |
| **Average of Above** | **1.95** | **3.55** | **5.50** | **64.4%** | **40.9%** |
| Japan | 2.15 | 2.39 | 4.54 | 52.6% | 49.6% |
| Canada | 1.98 | 1.11 | 3.09 | 35.9% | 72.8% |
| USA | 1.80 | 0.45 | 2.25 | 20.0% | |

Note: Unleaded premium for France, Germany, Italy, Spain, UK; regular unleaded for Canada, Japan and the United States
Source: International Energy Agency, *Monthly Oil Price Statistics*, October 2016

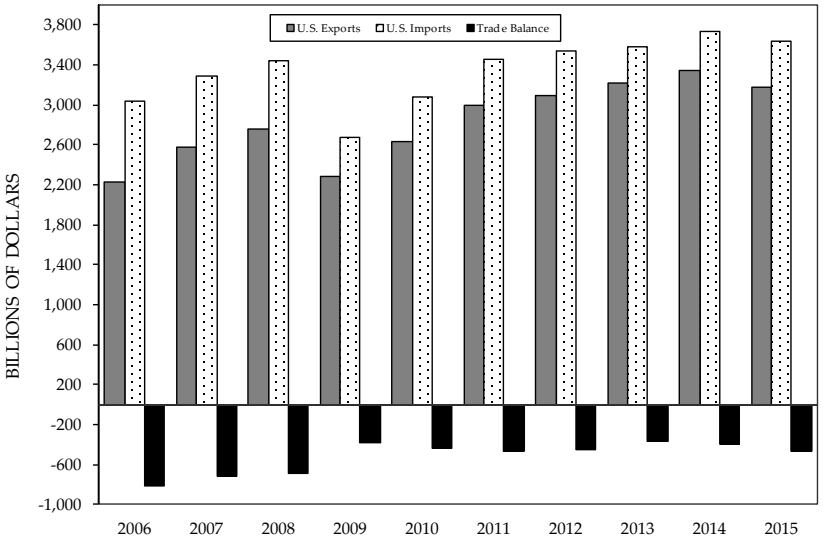
Due to heavy subsidies, fuel prices in most Middle Eastern countries are below the price for crude oil on the world market. Taxes on transportation fuels, in addition to steep taxes on car purchases and ownership, have been used as a way to reduce traffic and prevent environmental damage, as well as to conserve energy. Many European countries such as the United Kingdom, France, and Germany have used a high tax policy on fuel to discourage car use and hence gasoline consumption. The above table shows the retail price of gasoline among selected countries in October 2016. The tax portion of the price of gasoline in the U.S. accounted for only 20.0% of the retail price on average, compared to 67.6% in the U.K. and 64.9% in Germany. Of the average $0.45 per gallon in taxes in the U.S., 18.4 cents per gallon was the federal excise tax with the remainder attributable to state taxes. While fuel taxes in most European OECD countries continued to increase, the U.S. federal fuels tax has remained at 18.4 cents per gallon since August of 1993.

## Export Sector

Trade has played an important role in the U.S. economy. U.S. real exports and imports of goods and services accounted for 28.0% of Gross Domestic Product (GDP) in 2015, down from the previous peak of 31.0% in 2013. Exports and a favorable balance of payments have traditionally been important to the growth of the U.S., affecting employment, production, and income. Real exports of goods and services have been significantly boosting economic growth over the past decades. Total trade exports have grown 42.8% from 2006 through 2015, while total trade imports have grown 20.0% over the same time period.

The following graph illustrates the United States' trade balance for the past ten years. In 2015, the deficit increased to $463.0 billion, up from $392.1 billion in 2014.

**U.S. TRADE BALANCE**
**BY CALENDAR YEAR**




Source: U.S. Department of Commerce, Bureau of Economic

Consistent with recent history, the United States trade balances in the past decade generally improved during recession years and deteriorated during recovery and expansionary periods. Trade deficits narrowed in 1991, 2001 and 2009 when the U.S. experienced an economic slowdown, whereas deficits widened during the boom years that were experienced during most of the 1990s and 2000s until 2008 when the last recession began. Since 2008 the U.S. trade balance has improved compared to the early 2000s and has remained relatively stable over the past five years.

## TABLE 34
## U.S. TRADE DEFICIT BY CATEGORY
**(In Billions of Dollars)**

| | 2014 | | | 2015 | | |
|---|---|---|---|---|---|---|
| | Exports | Imports | Balance | Exports | Imports | Balance |
| **Total Trade** | **3,338.8** | **3,730.8** | **(392.1)** | **3,172.7** | **3,635.7** | **(463.0)** |
| **Merchandise** | **1,633.3** | **2,385.5** | **(752.2)** | **1,510.3** | **2,272.9** | **(762.6)** |
| Foods/Beverages | 143.7 | 126.8 | 16.9 | 127.7 | 128.8 | (1.1) |
| Industrial Supplies & Materials | 500.4 | 675.6 | (175.3) | 417.1 | 492.3 | (75.3) |
| Capital Goods, Excluding Autos | 551.7 | 598.7 | (47.0) | 539.7 | 606.7 | (67.0) |
| Autos | 159.8 | 329.5 | (169.7) | 151.9 | 350.1 | (198.1) |
| Consumer Goods | 198.0 | 558.7 | (360.7) | 197.3 | 596.5 | (399.3) |
| Others | 79.7 | 96.2 | (16.5) | 76.6 | 98.4 | (21.8) |
| **Services** | **743.3** | **481.3** | **262.0** | **750.9** | **488.7** | **262.2** |
| Travel & Transportation | 282.0 | 199.7 | 82.3 | 291.7 | 209.9 | 81.8 |
| Business Services | 288.9 | 207.6 | 81.3 | 290.1 | 208.7 | 81.4 |
| Royalties & License fees | 129.9 | 42.2 | 87.7 | 124.7 | 39.5 | 85.2 |
| Other Services | 42.5 | 31.8 | 10.7 | 44.3 | 30.5 | 13.8 |
| **Investment Income** | **962.2** | **864.1** | **98.1** | **911.5** | **874.1** | **37.4** |
| Direct Investment | 478.1 | 189.4 | 288.7 | 476.6 | 167.1 | 309.5 |
| Portfolio Investment Income | 294.3 | 377.5 | (83.3) | 308.2 | 400.4 | (92.2) |
| U.S. Gov't Receipts/Payments | 140.4 | 266.3 | (125.9) | 128.6 | 273.6 | (145.0) |
| Other Investment Income | 49.5 | 30.9 | 18.6 | (1.9) | 33.0 | (34.9) |
| | | | Net Change From Previous Year | | | |
| **Total Trade** | **124.0** | **149.6** | **(25.6)** | **(166.1)** | **(95.2)** | **(70.9)** |
| **Merchandise** | **41.3** | **91.2** | **(49.9)** | **(123.0)** | **(112.6)** | **(10.4)** |
| Foods/Beverages | 7.6 | 10.8 | (3.2) | (16.0) | 2.0 | (18.0) |
| Industrial Supplies & Materials | 7.9 | (11.0) | 19.0 | (83.3) | (183.3) | 100.0 |
| Capital Goods, Excluding Autos | 17.0 | 39.7 | (22.7) | (12.0) | 8.1 | (20.1) |
| Autos | 7.2 | 19.9 | (12.8) | (7.9) | 20.6 | (28.4) |
| Consumer Goods | 9.9 | 25.8 | (15.9) | (0.7) | 37.8 | (38.6) |
| Others | (8.2) | 6.0 | (14.2) | (3.1) | 2.2 | (5.3) |
| **Services** | **41.8** | **20.2** | **21.6** | **7.6** | **7.4** | **0.2** |
| Travel & Transportation | 17.8 | 10.9 | 6.8 | 9.7 | 10.2 | (0.5) |
| Business Services | 21.1 | 6.9 | 14.2 | 1.3 | 1.1 | 0.1 |
| Royalties & License fees | 1.9 | 3.3 | (1.5) | (5.2) | (2.7) | (2.5) |
| Other Services | 1.1 | (1.0) | 2.1 | 1.9 | (1.2) | 3.1 |
| **Investment Income** | **40.8** | **38.2** | **2.7** | **(50.7)** | **10.1** | **(60.7)** |
| Direct Investment | 0.0 | 7.6 | (7.6) | (1.4) | (22.3) | 20.8 |
| Portfolio Investment Income | 15.8 | 15.8 | 0.1 | 13.9 | 22.9 | (8.9) |
| U.S. Gov't Receipts/Payments | 13.7 | 16.1 | (2.4) | (11.8) | 7.3 | (19.1) |
| Other Investment Income | 11.3 | (1.3) | 12.6 | (51.4) | 2.1 | (53.5) |

Note: Percent changes were derived before rounding to billions.
Source: U.S. Bureau of Economic Analysis

**Merchandise Trade**

According to the U.S. Department of Commerce, international trade is classified into three categories: merchandise trade, service transactions, and investment income. There are six subcategories within merchandise trade including: foods and beverages; industrial supplies and materials; capital goods excluding autos; autos; consumer goods and others. The deficit in merchandise trade increased by $10.4 billion for a total deficit of $762.6 billion in 2015, up from $752.2 billion in 2014. This increase was largely the result of increases in the importation of autos and consumer goods due to improvements in the United States economy.

United States merchandise imports have been concentrated among four categories: industrial supplies and materials, capital goods excluding autos, autos, and consumer goods. These four categories accounted for 90.0% of total merchandise imports in 2015. In contrast, U.S. exports have been concentrated in two categories: capital goods, and industrial supplies and materials. These two categories accounted for approximately 63.3% of the country's merchandise exports in 2015. Capital goods excluding autos were the largest export for the United States at $539.7 billion in 2015. Within this category machinery and equipment, except consumer-type, was the largest contributor at $413.7 billion.

Of the total trade deficit of $463.0 billion, consumer goods and autos accounted for the largest portions of the deficit, reaching $399.3 billion and $198.1 billion, respectively in 2015. Consumer goods consist of durables and nondurables. Durable goods include household and kitchen appliances such as radio and stereo equipment, televisions and video receivers, bicycles, watches, toys and sporting goods. Nondurables include footwear, apparel, medical, dental and pharmaceutical preparations. The trade deficit in the consumer goods category increased in 2015 by $38.6 billion.

The second largest portion of the deficit occurred in autos. This category includes automotive vehicles, parts and engines. In 2015, the U.S. imported $350.1 billion worth of these goods compared to the $151.9 billion that the U.S. exported. The autos trade deficit at $198.1 billion represents a $28.4 billion increase from 2014's deficit of $169.7 billion.

The third largest portion of the merchandise trade deficit occurred in industrial supplies and materials at $75.3 billion, a decrease of $100.0 billion from 2014's deficit of $175.3 billion. This reduction was largely due to falling energy prices, specifically crude oil.

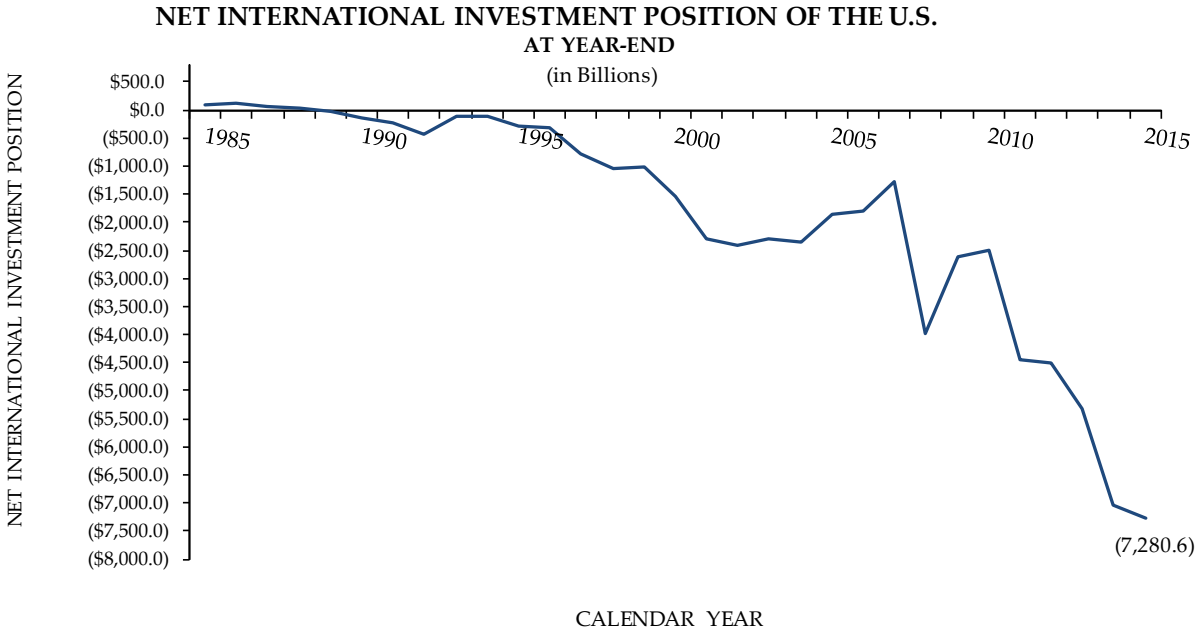
**Service Transactions**

The United States is highly competitive in the delivery of services. The surplus in service transactions increased to $262.2 billion in 2015, from a surplus of $262.0 billion in 2014. Imports increased 1.5% to $488.7 billion while exports of services increased 1.0% to $750.9 billion. Of the $262.2 billion total surplus in 2015, $85.2 billion was attributable to royalty and license fees.

## Investment Income

The balance in investment income registered a surplus of $37.4 billion in 2015. Investment income contains two components: 1) receipts generated from U.S.-owned assets abroad including direct investments, other private securities such as U.S. government-owned securities, corporate bonds and stocks, and 2) compensation receipts of workers employed abroad in international organizations and foreign embassies stationed in the U.S., including wages, salaries, and benefits. Payments are the counterpart of U.S. receipts; they are paid on foreign-owned assets invested in the U.S. There are six major types of foreign assets in the United States, including U.S. government securities held by foreign governments and the private sector, direct investments, and liabilities captured by private bonds, corporate stocks and U.S. banks.

According to the U.S. Bureau of Economic Analysis, in calendar 2015 foreign assets in the U.S., measured at current cost, decreased by $1,142.3 billion, or -3.6%, to $30,621.4 billion, compared to a decrease of $1,376.7 billion to $23,340.8 billion for U.S. assets abroad. This placed U.S. international investment at a net negative $7,280.6 billion. U.S. direct investment in assets abroad continues to exceed foreign direct investment in the U.S. In 2015, the U.S.'s direct investment abroad was $6,978.3 billion and foreign direct investment in the U.S. was $6,543.8 billion, registering $434.5 billion in net investment. Foreign assets in the United States are mostly in securities such as bonds and stocks issued by the U.S. Treasury and corporations.




Source: U.S. Bureau of Economic Analysis

## TABLE 35
## U.S. INTERNATIONAL TRANSACTIONS
**(By Area, In Billions of Dollars)**

| | 2014 | | | 2015 | | |
|---|---|---|---|---|---|---|
| | Exports | Imports | Balance | Exports | Imports | Balance |
| **Total Trade** | 3,338.8 | 3,730.8 | (392.1) | 3,172.7 | 3,635.7 | (463.0) |
| Europe | 1,034.9 | 1,033.7 | 1.2 | 1,007.3 | 1,027.1 | (19.8) |
| Canada | 438.6 | 427.3 | 11.4 | 386.3 | 375.7 | 10.7 |
| Latin America (1) | 788.8 | 715.6 | 73.2 | 750.3 | 693.2 | 57.1 |
| Asia and Pacific (2) | 795.9 | 1,249.7 | (453.7) | 765.0 | 1,282.1 | (517.1) |
| Africa | 61.2 | 64.6 | (3.4) | 47.8 | 56.7 | (8.9) |
| Middle East | 120.1 | 146.5 | (26.4) | 113.9 | 107.1 | 6.8 |
| Others (3) | 99.2 | 93.5 | 5.7 | 102.1 | 93.8 | 8.2 |
| | | | | | | |
| European Union (4) | 867.8 | 865.3 | 2.6 | 855.6 | 866.8 | (11.2) |
| Australia | 67.8 | 26.9 | 40.9 | 64.6 | 26.6 | 37.9 |
| Japan | 148.7 | 232.3 | (83.6) | 142.3 | 224.9 | (82.6) |
| China | 183.7 | 526.5 | (342.8) | 179.1 | 541.3 | (362.3) |
| | | | Net Change From Previous Year | | | |
| **Total Trade** | 124.0 | 149.6 | (25.6) | (166.1) | (95.2) | (70.9) |
| Europe | 60.6 | 59.3 | 1.3 | (27.6) | (6.6) | (21.0) |
| Canada | 9.5 | 17.3 | (7.9) | (52.3) | (51.6) | (0.7) |
| Latin America (1) | 23.4 | 19.1 | 4.3 | (38.5) | (22.4) | (16.1) |
| Asia and Pacific (2) | 20.9 | 60.6 | (39.7) | (30.9) | 32.4 | (63.3) |
| Africa | 1.1 | (15.9) | 17.0 | (13.4) | (7.9) | (5.5) |
| Middle East | 2.6 | (0.2) | 2.7 | (6.2) | (39.4) | 33.2 |
| Others (3) | 6.0 | 9.4 | (3.4) | 2.8 | 0.4 | 2.5 |
| | | | | | | |
| European Union (4) | 65.3 | 53.4 | 11.8 | (12.3) | 1.5 | (13.8) |
| Australia | (2.8) | 2.8 | (5.6) | (3.2) | (0.3) | (2.9) |
| Japan | 5.3 | (3.0) | 8.2 | (6.4) | (7.4) | 0.9 |
| China | 10.4 | 28.9 | (18.6) | (4.6) | 14.8 | (19.4) |

(1) Includes Argentina, Brazil, Mexico, Venezuela, and other western hemisphere countries
(2) Includes Australia, China, Hong Kong, India, Japan, Republic of Korea, Singapore, Taiwan, and other Asia and Pacific countries
(3) Includes figures for International Organizations and unallocated areas
(4) Includes 27 member states: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Netherlands, & United Kingdom

Source: U.S. Department of Commerce, U.S. Bureau of Economic Analysis

The previous table shows U.S. trade transactions by area for 2015. The goods, services and income payments trade deficit in 2015 was $463.0 billion, an increase of $70.9 billion. In 2015 the United States imported more from the Asia and Pacific area, Africa, and Europe than it exported to those regions but exported more than imported in the same year to Canada, Middle East and Latin America.

In 2015, the United States imported $541.3 billion worth of goods, services and income payments from China while exporting only $179.1 billion to that country. The resulting trade deficit with China was $362.3 billion in 2015, larger than the 2014 deficit of $342.8 billion. The top five U.S. imports from China in 2015 were electrical machinery and equipment at $133.2 billion, power generation equipment at $104.1 billion, furniture at $28.1 billion, toys and games at $24.5 billion, and footwear at $17.3 billion. To further illustrate the disparity in trade between the two countries: while the amount of electrical machinery and equipment imported into the U.S. from China was $133.2 billion in 2015, the top U.S. export to China was aircraft/spacecraft parts at only $15.4 billion.

**Connecticut Exports**

In Connecticut, the export sector has assumed an important role in the state's overall economic growth. State exports of goods for the past five years averaged 6.4% of Gross State Product (GSP).

According to figures published by the United States Department of Commerce, which were adjusted and enhanced by the World Institute for Social and Economic Research to capture a greater percent of indirect exports, Connecticut exports of commodities totaled $15,240.6 million in 2015. The state's economy benefits from goods produced not only for direct shipment abroad but also from those that are ultimately exported from other states. These indirect exports are important in industries whose products require further processing such as primary metals, fabricated metal products and chemicals. In addition, indirect exports are important in industries whose products constitute components and parts for assembly into machinery, electrical equipment and transportation equipment.

Connecticut industries that rely most heavily on exports are Transportation Equipment (NAICS 336), Nonelectrical Machinery (NAICS 333) and Computer & Electronic Equipment (NAICS 334). The top three industries accounted for 64.8% of Connecticut's foreign sales in 2015. The following table shows the breakdown of major products by NAICS code for the past five years. In 2015, transportation equipment, which includes aircraft engines and spare parts, gas turbines, and helicopters and spacecraft accounted for 46.0% of total exports up from 45.8% of exports in 2014. In terms of average annual growth from 2011 to 2015, Electrical Equipment posted the strongest growth at 8.6%, followed by Miscellaneous Manufacturing at 7.9%.

Overall growth in exports of commodities for the past five years averaged -1.6%. Exports of $15.2 billion are estimated to account for 5.9% of Connecticut Gross State Product (GSP) in 2015, which is lower than the 6.4% level in 2014.

**TABLE 36**
**COMMODITY EXPORTS ORIGINATING IN CONNECTICUT BY PRODUCT**
**(In Millions)**

| NAICS | Industry | 2011 | 2012 | 2013 | 2014 | 2015 | Percent of 2015 Total | Average Growth 11-15 |
|---|---|---|---|---|---|---|---|---|
| 322 | Paper | 176.9 | 146.3 | 141.1 | 142.7 | 131.2 | 0.9% | -7.2% |
| 325 | Chemicals | 914.7 | 1,026.2 | 992.6 | 970.5 | 1,039.9 | 6.8% | 3.3% |
| 326 | Plastics and Rubber | 311.3 | 267.6 | 239.8 | 233.5 | 230.3 | 1.5% | -7.3% |
| 331 | Primary Metal | 569.1 | 704.3 | 648.2 | 637.8 | 675.6 | 4.4% | 4.4% |
| 332 | Fabricated Metal | 674.8 | 690.4 | 720.2 | 733.0 | 706.9 | 4.6% | 1.2% |
| 333 | Machinery, exc. Elec. | 1,858.9 | 1,761.2 | 1,758.8 | 2,071.8 | 1,666.9 | 10.9% | -2.7% |
| 334 | Comp. & Electronic | 1,444.4 | 1,365.9 | 1,237.0 | 1,268.1 | 1,188.7 | 7.8% | -4.8% |
| 335 | Electrical Equipment | 742.5 | 873.3 | 900.1 | 1,002.7 | 1,033.0 | 6.8% | 8.6% |
| 336 | Transportation | 6,878.6 | 7,158.2 | 8,004.8 | 7,317.3 | 7,012.8 | 46.0% | 0.5% |
| 339 | Misc. MFG | 240.6 | 273.1 | 307.8 | 330.7 | 326.2 | 2.1% | 7.9% |
| | Other | 2,421.0 | 1,604.6 | 1,476.3 | 1,248.6 | 1,229.1 | 8.1% | -15.6% |
| **Total Commodity Exports** | | 16,232.8 | 15,871.1 | 16,426.7 | 15,956.8 | 15,240.6 | | -1.6% |
| | % Growth | 1.3% | -2.2% | 3.5% | -2.9% | -4.5% | | |
| Gross State Product ($M) | | 232,271 | 238,322 | 242,417 | 250,764 | 258,532 | | |
| | % Growth | 0.8% | 2.6% | 1.7% | 3.4% | 3.1% | | 2.7% |
| Exports as a % of GSP | | 7.0% | 6.7% | 6.8% | 6.4% | 5.9% | | 6.4% |

Source: World Institute for Strategic Economic Research (WISERTrade.org)

The bulk of Connecticut's exports are shipped by air from Bradley International Airport and by sea from the port of New Haven. In 2015, exports originating from Connecticut totaled $15.2 billion, with 66.1% of the total being shipped by air, 15.4% being delivered by sea, and the remaining 18.5% being transported inland by railroad or truck to Canada, Mexico or other states for further shipment to other countries. This compares with 55.4% by air, 17.6% by sea, and 27.5% by land for exports totaling $4.5 billion in 1990. This reflects the demand for meeting just-in-time inventory requirements, with the majority of goods transported by air as that mode of transportation provides more frequent departures and faster transit times.

The following table shows the ten major foreign countries to which state firms export their products. France is again the largest destination country in 2015 at 12.7%, followed by Germany, Canada, United Arab Emirates, and Mexico. These five countries accounted for 53.3% of total state exports in 2015. Exports to the United Arab Emirates (U.A.E) have grown the fastest in the past five years at an average growth rate of 30.9% due to an increase in transportation related purchases over the last decade. Exports to the United Kingdom have grown from 2011-2015 at a rate of 6.4%, followed by Mexico with 4.6% growth over the same period.

**TABLE 37**
**COMMODITY EXPORTS ORIGINATING IN CONNECTICUT BY COUNTRY**
**(In Millions of Dollars)**

| Destination | 2015 Rank | 2011 | 2012 | 2013 | 2014 | 2015 | Percent of 2015 Total | 2011-2015 Average Growth Rate |
|---|---|---|---|---|---|---|---|---|
| France | 1 | 1,961.0 | 1,906.6 | 2,425.3 | 2,210.7 | 1,941.9 | 12.7% | -0.2% |
| Germany | 2 | 1,385.5 | 1,485.7 | 1,397.2 | 1,711.8 | 1,653.3 | 10.8% | 4.5% |
| Canada | 3 | 1,713.6 | 1,914.8 | 1,909.7 | 1,939.3 | 1,623.2 | 10.7% | -1.3% |
| U.A.E. | 4 | 542.2 | 1,089.2 | 1,212.1 | 1,142.0 | 1,592.1 | 10.4% | 30.9% |
| Mexico | 5 | 1,101.8 | 1,142.2 | 1,213.3 | 1,280.7 | 1,319.1 | 8.7% | 4.6% |
| China | 6 | 983.0 | 1,008.9 | 912.5 | 907.6 | 1,028.4 | 6.7% | 1.1% |
| United Kingdom | 7 | 689.5 | 625.7 | 693.8 | 719.0 | 884.5 | 5.8% | 6.4% |
| Japan | 8 | 582.2 | 573.5 | 527.6 | 539.8 | 525.2 | 3.4% | -2.5% |
| Netherlands | 9 | 555.4 | 508.8 | 486.7 | 489.5 | 476.6 | 3.1% | -3.8% |
| South Korea | 10 | 488.3 | 551.1 | 569.3 | 658.3 | 456.0 | 3.0% | -1.7% |
| Other Areas | | 6,230.2 | 5,064.7 | 5,079.3 | 4,358.2 | 3,740.4 | 24.5% | -12.0% |
| **Total** | | 16,232.8 | 15,871.1 | 16,426.7 | 15,956.8 | 15,240.6 | 100.0% | -1.6% |

Source: World Institute for Strategic Economic Research (WISERTrade.org)

In an effort to create jobs and investment, the Connecticut Department of Economic and Community Development has continued to work with a number of foreign companies to establish branches in Connecticut. As a result of this work, foreign countries continually invest and own firms in the state. This foreign investment is an important stimulus for Connecticut's economic growth and future productivity as 6.9% of the state's total private industry employment in 2015 was a result of foreign investment. In 2015, 99,400 Connecticut workers were employed by foreign-controlled companies, a reduction of 800 since 2012. Major sources of foreign investment in Connecticut in 2015 included the Netherlands, the United Kingdom, Germany, and Japan.

The Connecticut Department of Economic and Community Development continues to promote international trade to increase Connecticut's global competitiveness. The methods employed to promote international trade include providing export assistance to Connecticut companies as well as providing assistance to foreign companies interested in expanding or relocating in Connecticut. Further information regarding assistance, services, or publications is available through:

State of Connecticut
Department of Economic and Community Development
505 Hudson Street
Hartford, Connecticut 06106
(860) 270-8166, 270-8067, or 270-8068
http://www.state.ct.us/ecd

## Connecticut's Defense Industry

The defense industry is an integral part of Connecticut's manufacturing sector, and has been since the inception of the United States as a nation. The state's economy is still affected by the volume of defense contracts awarded or subcontracted to Connecticut firms.

In federal fiscal year (FFY) 2015, contractors in the state were awarded $12.1 billion worth of defense-related prime contracts, with the heaviest concentration in the state's transportation equipment sector. This was down 8.0% from the $13.2 billion received in awards in FFY 2014. Of the total awarded, the following five companies were the top contractors in the state, primarily for the described areas of work:

1. United Technologies Corp. — Aircraft, Engines & Turbines
2. General Dynamics Corp. — Submarines
3. Northrop Grumman — Aerospace
4. Gartner, Inc. — Information Technology
5. Applied Physical Sciences Corp. — Research and Development

The following table shows the distribution of prime defense contracts in the state by program or type of work, with a heavy reliance on submarines and rotary wing aircraft, which is very different from the national distribution of all contracts awarded. It is this concentration in large weapon programs which plays a role in the volatility of state awards.

**TABLE 38**
**VALUE OF PRIME CONTRACT AWARDS BY PROGRAM IN FFY 2015**
**(In Millions)**

| Connecticut Program | Value | Percent | United States Program | Value | Percent |
|---|---|---|---|---|---|
| Combat Ships and Landing Vessels | $ 4,888 | 40.2% | Aircraft Fixed Wing | $ 21,267 | 8.4% |
| Gas Turbines and Jet Engines | 2,335 | 19.2% | Engineering & Tech Services | 12,624 | 5.0% |
| Aircraft, Rotary Wing | 2,166 | 17.8% | General Healthcare Services | 10,440 | 4.1% |
| R&D Defense Systems | 564 | 4.6% | Combat Ships and Landing Vessels | 8,834 | 3.5% |
| Maintenance and Repair of Equipment | 529 | 4.4% | Professional Support Services | 6,224 | 2.5% |
| Other | 1,663 | 13.7% | Other | 193,874 | 76.6% |
| Total | $12,147 | 100.0% | Total | $253,263 | 100.0% |

Source: Federal Procurement Data System (FPDS.gov)

The following table displays the geographic distribution of prime defense contracts within the state, with the majority of the work in Fairfield, New London and Hartford Counties.

**TABLE 39**
**GEOGRAPHIC DISTRIBUTION OF CONNECTICUT PRIME AWARDS**
**(And Total Awards in Thousands of Dollars)**

| | FFY 2011 | FFY 2012 | FFY 2013 | FFY 2014 | FFY 2015 |
|---|---|---|---|---|---|
| Fairfield | 35.4% | 42.0% | 29.5% | 26.2% | 27.6% |
| Hartford | 25.9% | 23.1% | 26.4% | 18.9% | 28.7% |
| Litchfield | 0.4% | 0.3% | 0.3% | 0.2% | 0.3% |
| Middlesex | 0.4% | 0.4% | 0.1% | 0.1% | 0.1% |
| New Haven | 0.8% | 0.7% | 0.6% | 0.7% | 0.5% |
| New London | 36.9% | 33.4% | 42.8% | 53.8% | 42.6% |
| Tolland | 0.1% | 0.1% | 0.2% | 0.1% | 0.1% |
| Windham | 0.1% | 0.0% | 0.0% | 0.1% | 0.1% |
| State Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| | | | | | |
| State Total | $12,491,324 | $12,750,303 | $10,036,201 | $13,207,901 | $12,147,055 |

Source: Federal Procurement Data System

Prime defense contracts have tended to be "leading" indicators of the state's economic activity. This means that changes in defense contract awards precede changes in employment. However, new defense contract awards cannot be directly converted into anticipated employment gains or losses because: a) contracts have different terms and different completion dates; b) subcontracting on prime awards may be done by firms in different states; c) research and development contracts are usually capital intensive rather than labor intensive; d) there often exists a time lag between contract award and funding availability; and e) as productivity improvements are achieved over time by manufacturers, the same (or greater) amount of work can be done by fewer employees. Nearly all defense related employment within Connecticut falls under the Bureau of Labor Statistics' Transportation Equipment category.

To compare the relative volatility of contract awards with defense related employment, the coefficient of variation is used: the larger the number, the greater the volatility. It is derived by dividing the standard deviation of a variable by its mean. The coefficient of variation for the state's defense contract awards over the past decade was 0.165 compared with 0.031 for transportation equipment employment. This implies that the fluctuations in transportation employment are milder than the fluctuations in defense contract awards. Because most defense contract awards are long-term projects, there is usually a backlog of unfinished orders in the pipeline, allowing continued employment even if new contracts are not received.

From $7.7 billion in FFY 2006, real defense contract awards—the value of contracts after accounting for inflation—increased to $10.3 billion in FFY 2015. This represents an annual percentage growth rate of 3.4% per year from FFY 2006 to FFY 2015.

**TABLE 40**
**CONNECTICUT DEFENSE CONTRACT AWARDS AND RELATED EMPLOYMENT**

| Federal Fiscal Year | Defense Contract Awards ($ 000's) | % Growth | Connecticut Transportation Equipment Employment ($ 000's) | % Growth | Defense Contract Awards in 2006 Dollars ($ 000's) | % Growth |
|---|---|---|---|---|---|---|
| 2006 | 7,664,577 | (14.7) | 43.60 | 0.7 | 7,664,577 | (17.3) |
| 2007 | 8,616,669 | 12.4 | 43.52 | (0.2) | 8,381,974 | 9.4 |
| 2008 | 12,226,104 | 41.9 | 43.93 | 1.0 | 11,447,662 | 36.6 |
| 2009 | 11,851,941 | (3.1) | 43.94 | 0.0 | 11,139,042 | (2.7) |
| 2010 | 11,238,752 | (5.2) | 42.41 | (3.5) | 10,387,016 | (6.8) |
| 2011 | 12,491,324 | 11.1 | 42.11 | (0.7) | 11,192,943 | 7.8 |
| 2012 | 12,750,304 | 2.1 | 42.31 | 0.5 | 11,194,296 | 0.0 |
| 2013 | 10,036,202 | (21.3) | 41.75 | (1.3) | 8,681,835 | (22.4) |
| 2014 | 13,207,901 | 31.6 | 40.62 | (2.7) | 11,250,342 | 29.6 |
| 2015 | 12,147,055 | (8.0) | 40.18 | (1.1) | 10,329,128 | (8.2) |
| Coefficient of Variation | 0.165 | | 0.031 | | 0.138 | |

Sources: U.S. Department of Defense, Bureau of Labor Statistics; Federal Procurement Data System

**TABLE 41**
**COMPARISON OF U.S. AND CONNECTICUT DEFENSE CONTRACT AWARDS**

| Federal Fiscal Year | Connecticut Defense Contract Awards ($ Millions) | % Growth | 3-Year Moving Average ($ Millions) | % Growth | U.S. Defense Contract Awards ($ Millions) | % Growth | 3-Year Moving Average ($ Millions) | % Growth |
|---|---|---|---|---|---|---|---|---|
| 2006 | 7,665 | (14.7) | 8,494 | (1.6) | 262,133 | 9.5 | 235,797 | 10.3 |
| 2007 | 8,617 | 12.4 | 8,421 | (0.9) | 298,884 | 14.0 | 266,796 | 13.1 |
| 2008 | 12,226 | 41.9 | 9,502 | 12.8 | 354,881 | 18.7 | 305,300 | 14.4 |
| 2009 | 11,852 | (3.1) | 10,898 | 14.7 | 331,120 | (6.7) | 328,295 | 7.5 |
| 2010 | 11,239 | (5.2) | 11,772 | 8.0 | 323,104 | (2.4) | 336,368 | 2.5 |
| 2011 | 12,491 | 11.1 | 11,861 | 0.8 | 329,420 | 2.0 | 327,881 | (2.5) |
| 2012 | 12,750 | 2.1 | 12,160 | 2.5 | 318,406 | (3.3) | 323,643 | (1.3) |
| 2013 | 10,036 | (21.3) | 11,759 | (3.3) | 268,710 | (15.6) | 305,512 | (5.6) |
| 2014 | 13,208 | 31.6 | 11,998 | 2.0 | 260,715 | (3.0) | 282,610 | (7.5) |
| 2015 | 12,147 | (8.0) | 11,797 | (1.7) | 253,263 | (2.9) | 260,896 | (7.7) |
| Coefficient of Variation | 0.165 | | | | 0.121 | | | |

Source: U.S. Department of Defense, Federal Procurement Data System

The coefficient of variation for Connecticut's defense contract awards over the past decade was 0.165, compared to 0.121 for the U.S., reflecting a pattern of fluctuations in the state's annual levels of defense contract awards which is slightly higher but not inconsistent with that of awards nationally.

As defense contract awards normally take several years to complete, the three-year moving average is a better reflection of actual production activities. Overall defense changes in Connecticut have historically been more severe and more volatile than the national average. Both of these factors have negative implications for the state's economy. Volatility imposes difficulties for the industry in terms of long term planning, making future capital investment less likely and decreasing the dollars devoted to research and development.

Connecticut's total defense awards, based on a three year moving average, increased at an annual percentage growth rate of 3.7% during the nine-year period from 2006 to 2015, compared to a percentage growth rate of 1.1% for the nation.

The relative share of defense related production activity, measured by the size of the moving average of defense contract awards compared to Gross State Product (GSP), was at or below 2.0% in the late 1990s and has generally hovered around 4.0% to 5.0% since then. In comparison, this share was 9.8% in 1982. The following table provides a ten year history of U.S. and Connecticut defense awards and the proportion of state GSP such awards represent.

In FFY 2015, while Connecticut ranked fifth in total defense contracts awarded, it ranked second in per capita defense dollars awarded with a figure of $3,383. This figure was 3.5 times the national average of $972. In 2014, Connecticut ranked fourth in total defense contracts awarded and second in per capita defense dollars awarded with a figure of $3,672. This was 4.5 times the national average of $817 for that year.

The wars in Afghanistan and Iraq and the war on terrorism created a need for replacements for lost equipment and systems, spare parts, and new features on existing systems as new needs were identified in the ever-changing environment. Since the wind down of those wars, recent national defense spending has shown slow but steady declines as less of those services are needed. Connecticut is one of the few states that has seen a rise in recent defense spending due to an increased emphasis on upgrading the United States' submarine fleet.

**TABLE 42**
**CONNECTICUT DEFENSE CONTRACT AWARDS AND GSP**

| Federal Fiscal Year | Connecticut Defense Contract Awards ($ Millions) | U.S. Defense Contract Awards ($ Millions) | CT as % of U.S. | Cal. Year CT GSP Current Dollars ($ Millions) | 3-year Average CT Awards ($ Millions) | CT Awards as % of CT GSP |
|---|---|---|---|---|---|---|
| 2006 | 7,665 | 262,133 | 2.9% | 218,157 | 8,494 | 3.9% |
| 2007 | 8,617 | 298,884 | 2.9% | 232,043 | 8,421 | 3.6% |
| 2008 | 12,226 | 354,881 | 3.4% | 234,785 | 9,502 | 4.0% |
| 2009 | 11,852 | 331,120 | 3.6% | 225,236 | 10,898 | 4.8% |
| 2010 | 11,239 | 323,104 | 3.5% | 229,123 | 11,772 | 5.1% |
| 2011 | 12,491 | 329,420 | 3.8% | 232,488 | 11,861 | 5.1% |
| 2012 | 12,750 | 318,406 | 4.0% | 236,181 | 12,160 | 5.1% |
| 2013 | 10,036 | 268,710 | 3.7% | 240,952 | 11,759 | 4.9% |
| 2014 | 13,208 | 260,715 | 5.1% | 248,924 | 11,998 | 4.8% |
| 2015 | 12,147 | 253,263 | 4.8% | 256,692 | 11,797 | 4.6% |

Source: Bureau of Economic Analysis, IHS Economics

Some of the primary defense systems of interest to Connecticut include:

1. CH-53K Heavy Lift Helicopter
2. UH-60 Utility Helicopter (Blackhawk)
3. S-70i Black Hawk Helicopter
4. MH-60R Helicopter (Seahawk)
5. MH-60S Helicopter (Seahawk)
6. C-17 Globemaster Aircraft
7. F-15 Aircraft
8. F-16 Aircraft
9. F-35 Joint Strike Fighter (JSF) Aircraft
10. H-92 Superhawk
11. S-70B Seahawk
12. Virginia Class Submarine

**TABLE 43**
**COMPARISON OF STATE PRIME CONTRACT AWARDS**
**Federal Fiscal Year 2015**

| State | Prime Contract Awards ($ 000's) | Rank | $ Per Capita Prime Contract Awards | Rank | State | Prime Contract Awards ($ 000's) | Rank | $ Per Capita Prime Contract Awards | Rank |
|---|---|---|---|---|---|---|---|---|---|
| Virginia | 29,652,188 | 2 | 3,534 | 1 | Florida | 10,038,427 | 7 | 494 | 26 |
| Connecticut | **12,147,055** | **5** | **3,383** | **2** | South Carolina | 2,352,145 | 24 | 480 | 27 |
| Maryland | 12,804,432 | 4 | 2,130 | 3 | Indiana | 2,971,530 | 21 | 449 | 28 |
| Alaska | 1,425,413 | 31 | 1,929 | 4 | Utah | 1,296,400 | 34 | 432 | 29 |
| Alabama | 8,467,926 | 9 | 1,742 | 5 | Illinois | 5,304,659 | 15 | 413 | 30 |
| Massachusetts | 9,458,184 | 8 | 1,391 | 6 | Nebraska | 749,904 | 40 | 395 | 31 |
| Kentucky | 5,635,696 | 14 | 1,273 | 7 | Louisiana | 1,843,238 | 28 | 394 | 32 |
| Hawaii | 1,729,400 | 29 | 1,207 | 8 | Iowa | 1,145,089 | 35 | 366 | 33 |
| Arizona | 7,994,402 | 10 | 1,169 | 9 | Wisconsin | 2,014,599 | 27 | 349 | 34 |
| Missouri | 6,581,088 | 11 | 1,081 | 10 | Ohio | 3,642,868 | 19 | 314 | 35 |
| Texas | 29,520,180 | 3 | 1,072 | 11 | New York | 6,062,571 | 12 | 306 | 36 |
| Maine | 1,405,085 | 32 | 1,057 | 12 | Kansas | 856,435 | 38 | 294 | 37 |
| Colorado | 4,731,707 | 18 | 865 | 13 | North Carolina | 2,592,129 | 22 | 258 | 38 |
| New Hampshire | 1,126,796 | 36 | 847 | 14 | Michigan | 2,438,523 | 23 | 246 | 39 |
| Washington | 5,872,258 | 13 | 818 | 15 | Vermont | 152,545 | 47 | 244 | 40 |
| Pennsylvania | 10,312,061 | 6 | 805 | 16 | Delaware | 207,109 | 43 | 219 | 41 |
| Mississippi | 2,348,771 | 25 | 785 | 17 | Tennessee | 1,348,207 | 33 | 204 | 42 |
| California | 30,671,121 | 1 | 783 | 18 | Oregon | 784,481 | 39 | 194 | 43 |
| Minnesota | 3,576,414 | 20 | 651 | 19 | Arkansas | 520,607 | 42 | 175 | 44 |
| New Jersey | 5,054,913 | 17 | 564 | 20 | North Dakota | 126,599 | 49 | 167 | 45 |
| Oklahoma | 2,199,700 | 26 | 562 | 21 | South Dakota | 138,459 | 48 | 161 | 46 |
| Rhode Island | 591,760 | 41 | 560 | 22 | Montana | 166,160 | 46 | 161 | 47 |
| New Mexico | 1,095,809 | 37 | 525 | 23 | Idaho | 177,324 | 44 | 107 | 48 |
| Nevada | 1,470,395 | 30 | 507 | 24 | Wyoming | 57,272 | 50 | 98 | 49 |
| Georgia | 5,111,855 | 16 | 500 | 25 | West Virginia | 170,584 | 45 | 93 | 50 |
| U.S. Total | 253,262,559 | | 972 | | | | | | |

Source: Federal Procurement Data System, Bureau of the Census

## Retail Trade in Connecticut

Consumer spending on goods and services, ranging from pencils to refrigerators to haircuts to electricity, accounted for approximately 70% of the state's gross domestic product (GDP) in fiscal 2016. During the last decade, variations in retail trade closely matched variations in GDP growth, making retail trade an important barometer of economic health.

The North American Industry Classification includes establishments that engage in selling merchandise for personal or household consumption and rendering services incidental to the sale of the goods in the retail trade industry. The North American Industry Classification System (NAICS) codes for retail trade are from NAICS 44 to NAICS 45. In general, retail establishments are classified in these codes according to the principal lines of commodities sold (e.g. apparel, groceries) or the usual trade designation (e.g. liquor store, drug store).

The following table shows the major group in each NAICS code as well as the state's retail trade history for the past two fiscal years. Retail sales reflect the pulse of economic conditions: they perform strongly as the economy expands and perform poorly during a recession. Connecticut retail trade in fiscal 2016 totaled $55.4 billion, a 1.5% increase over fiscal year 2015 and the sixth straight year of increased total trade.

**TABLE 44**
**RETAIL TRADE IN CONNECTICUT**
**(In Millions)**

| NAICS | Industry | FY 2015 | % of Total | FY 2016 | % of Total | % Change |
|---|---|---|---|---|---|---|
| 441 | Motor Vehicle and Parts Dealers | $9,585 | 17.6% | $9,899 | 17.9% | 3.3% |
| 442 | Furniture and Home Furnishings Stores | 1,768 | 3.2 | 1,898 | 3.4 | 7.3 |
| 443 | Electronics and Appliance Stores | 1,653 | 3.0 | 1,644 | 3.0 | (0.6) |
| 444 | Building Material and Garden Supply Stores | 2,836 | 5.2 | 3,035 | 5.5 | 7.0 |
| 445 | Food and Beverage Stores | 10,743 | 19.7 | 10,964 | 19.8 | 2.1 |
| 446 | Health and Personal Care Stores | 4,848 | 8.9 | 5,075 | 9.2 | 4.7 |
| 447 | Gasoline Stations | 3,330 | 6.1 | 3,196 | 5.8 | (4.0) |
| 448 | Clothing and Clothing Accessories Stores | 2,993 | 5.5 | 3,083 | 5.6 | 3.0 |
| 451 | Sporting Goods, Hobby, Book and Music Stores | 1,055 | 1.9 | 1,085 | 2.0 | 2.9 |
| 452 | General Merchandise Stores | 5,509 | 10.1 | 5,503 | 9.9 | (0.1) |
| 453 | Miscellaneous Store Retailers | 5,740 | 10.5 | 5,774 | 10.4 | 0.6 |
| 454 | Nonstore Retailers | 4,496 | 8.2 | 4,204 | 7.6 | (6.5) |
| | Total | $54,554 | 100.0% | $55,359 | 100.0% | 1.5% |
| Durables (NAICS 441,442, 443, 444) | | $15,843 | 29.0% | $16,475 | 29.8% | 4.0% |
| Nondurables (All Other NAICS) | | $38,712 | 71.0% | $38,884 | 70.2% | 0.4% |

Source: Connecticut Department of Revenue Services

Retail trade can be broken down into two major categories; durable and nondurable goods. Durable goods are items that presumably last three years or more and include items such as automobiles, furniture, and appliances. Durable goods are normally big-ticket items that are sensitive to the overall economic climate. Purchases of such goods increase when interest rates decrease or when consumers' income grows and consumer confidence increases. This was the case in FY 2016 when durable goods sales grew by 4.0%. Nondurable goods have a shorter life span and include items such as food, gas, apparel, and other miscellaneous products. Sales of nondurable goods are typically less volatile as most items are deemed "necessities" and consumption is relatively insensitive to price variations. The previous table shows that Connecticut sales of nondurable goods grew by 0.4% in FY 2016.

In addition to the traditional transactions occurring in Connecticut-based "bricks and mortar" establishments, a significant amount of retail activity is also taking place over the internet. Rulings from the U.S. Supreme Court forbid states from forcing retailers to collect sales tax unless the seller has a physical presence in the state where the purchase is made (nexus). According to the U.S. Department of Commerce, in FY 2016 national retail e-commerce sales are estimated at $367.4 billion, accounting for 7.7% of total retail sales of $4,757.2 billion. Retail transactions through the internet in general have increased much faster than traditional brick and mortar sales. Estimated e-commerce retail sales rose by 15.4% in FY 2016 compared to a 0.9% increase for traditional retail sales. The estimate of e-commerce sales does not include travel agencies, financial services, manufacturers, and wholesalers.

Connecticut has seen an erosion of its tax base due to the internet sales trend. In a study conducted by the University of Tennessee's Center for Business and Economic Research in April 2009, it was estimated that in 2012, Connecticut would lose approximately $63.8 million in state revenue due to e-commerce. Although the Office of Policy and Management believes that the revenue loss is significant, the exact amount is difficult to determine as many retailers that have established internet sales channels have nexus in Connecticut. Moreover, one key online retailer, Amazon, began collecting sales tax in Connecticut on November 1, 2013, after it reached an agreement with the state that involved constructing a $50 million distribution center in Windsor.

Currently, state and local governments as well as the private sector have undertaken a joint effort referred to as the Streamlined Sales Tax Project (SSTP). The project's aim is to fundamentally restructure the national sales tax system by creating a uniform taxable base, thereby simplifying tax administration among the states and eventually allowing for sales tax collection for online sales. The Streamlined Sales and Use Tax Agreement went into effect in October of 2005. As of December 2016, 24 of the 44 states who have authorized participation in SSTP have enacted legislation to fully comply with the agreement to become full-member states, including New Jersey, Rhode Island, and Vermont. Connecticut is currently one of the 44 states referred to as a participant state, as it has not enacted legislation to modify its sales tax.

Retail trade as a percentage of disposable income in Connecticut decreased to 26.4% in FY 2016, from 26.7% in FY 2015. The state's per capita disposable income of $58,569 in FY 2016 was 37.4% above the national average of $42,632. In FY 2016, Connecticut per capita retail trade was estimated at $15,465. With the highest per capita disposable income in the nation, continued long-term growth in retail sales is expected. In general, wealthier people tend to purchase more expensive cars and replace them more frequently. The same may be applicable for other durable goods such as computer equipment, appliances and furniture.

**TABLE 45**
**RETAIL SALES IN CONNECTICUT BY EMPLOYEES AND ESTABLISHMENTS**

| | Sales ($M) | Number of Employees | Per Employee Sales ($ 000's) | Per Number of Establish. | Employees Per Establish. | Annual Payroll ($M) |
|---|---|---|---|---|---|---|
| 2007 | 52,165.5 | 196,133 | 266.0 | 13,807 | 14.2 | 5,160.4 |
| 2012 | 51,632.5 | 182,528 | 282.9 | 12,597 | 14.5 | 4,974.5 |
| Growth (%) | (1.0) | (6.9) | 6.3 | (8.8) | 2.0 | (3.6) |

Source: U.S. Department of Commerce, 2007 and 2012 Economic Census

According to the 2012 economic census on retail sales, a survey that is done once every five years by the U.S. Department of Commerce, Connecticut had $51.6 billion of retail sales, down from $52.2 billion in 2007. Although the retail trade sector is one of the major sources of jobs in the Connecticut economy, the number of establishments and employment within the sector has declined. In 2012, the sector had 12,597 establishments with 182,528 employees, down from 13,807 establishments and 196,133 employees in 2007.

## Nonfinancial Debt

For many years, national attention has been focused on the issue of the federal budget and trade deficits, as well as the level of indebtedness of domestic nonfinancial entities. Domestic Nonfinancial Debt (DNFD) is the aggregate net indebtedness of all nonfinancial borrowers in the United States. It includes the borrowings of all levels of government, business and households. It excludes the debt of foreigners and the liabilities of financial intermediaries such as commercial banks, thrift institutions and finance companies.

The following table shows the 26-year history from 1990 to 2015 for total DNFD and each of its four components – households, businesses, federal government, and state and local governments. In 2015, the year-end total domestic nonfinancial debt outstanding was $45,273.0

billion, approximately 2.5 times GDP. Total non-financial debt between 2000 and 2015 has grown 137.5%, outpacing the growth in GDP of 74.0%.

By 2015, of the total $45.3 trillion nonfinancial debt outstanding, the federal government accounted for 33.5%, followed by households at 31.6%, nonfinancial business at 28.2%, and state and local governments at 6.7%. However, debt outstanding in the private sector accounted for 59.8% of the total in 2015, down from 72.3% in 2000. Due to the financial crisis, deficit spending has led the federal government to overtake the household sector in total outstanding nonfinancial debt.

The DNFD-to-GDP ratio stood at 248.4% in 2015, up from 182.0% in 2000, implying a faster growth in nonfinancial debt than GDP in the past decade. Growth during the 2000s prior to the financial crisis resulted from accommodative fiscal and monetary policy, less stringent financing standards on mortgages, and an economic recovery that stimulated borrowing and higher spending levels in the business sector. Growth in the DNFD-to-GDP ratio has stabilized recently, increasing slightly from 244.8% in 2010 to 248.4% in 2015.

**Household Borrowing**

Household borrowing, which includes home mortgages, consumer credit, and other miscellaneous items, totaled $14.3 trillion by the end of 2015. Of the $14.3 trillion, home mortgage loans accounted for $9.5 trillion, or 66.8% of household borrowing, followed by consumer credit at $3.5 trillion, or 24.7%, and the remainder in other miscellaneous items.

With the onset of the Great Recession in 2007 and the subsequent slow economic recovery, total growth in household borrowing dramatically fell from 96.8% between 2000 to 2007, to 0.9% growth between 2007 to 2015. This is atypical of past recoveries where credit expansion typically enhanced economic growth. The slow growth is primarily driven by the 10% decline in home mortgages, as consumers refrained from spending, paid off debt and increased savings to strengthen their balance sheets.

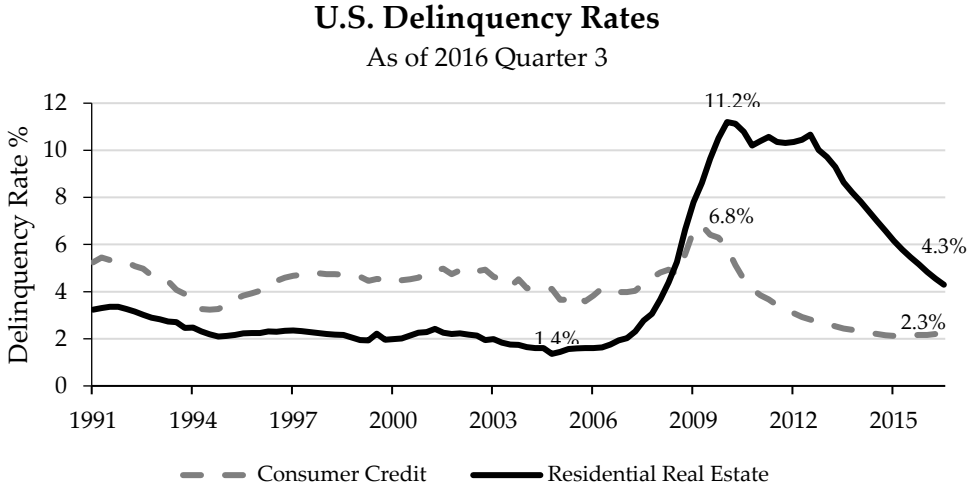
**TABLE 46**
**DOMESTIC NON-FINANCIAL DEBT (DNFD) OUTSTANDING BY SECTOR IN THE U.S.**
**In Billions of Dollars at Year-end**

| | 1990 | 2000 | 2015 | 2015 % of Total | Growth (1990 to 2000) | Growth (2000 to 2015) |
|---|---|---|---|---|---|---|
| Private Sector | | | | | | |
| Households | | | | | | |
| Home Mortgages | $2,489.3 | $4,813.9 | $9,547.2 | 21.1% | 93.4% | 98.3% |
| Consumer Credit | 824.4 | 1,741.3 | 3,535.7 | 7.8% | 111.2% | 103.1% |
| Other | 292.9 | 639.5 | 1,204.9 | 2.7% | 118.3% | 88.4% |
| Total - Households | $3,606.6 | $7,194.7 | $14,287.8 | 31.6% | 99.5% | 98.6% |
| Business | | | | | | |
| Mortgages | $1,210.8 | $1,738.8 | $3,844.8 | 8.5% | 43.6% | 121.1% |
| Corporate Bonds | 1,008.2 | 2,277.7 | 4,807.4 | 10.6% | 125.9% | 111.1% |
| Other | 1,554.8 | 2,565.6 | 4,127.3 | 9.1% | 65.0% | 60.9% |
| Total - Business | $3,773.8 | $6,582.1 | $12,779.5 | 28.2% | 74.4% | 94.2% |
| Total - Private Sector | $7,380.4 | $13,776.8 | $27,067.3 | 59.8% | 86.7% | 96.5% |
| Public Sector | | | | | | |
| Federal Government* | $2,830.8 | $4,090.0 | $15,165.6 | 33.5% | 44.5% | 270.8% |
| State & Local Gov't | 987.4 | 1,197.9 | 3,040.1 | 6.7% | 21.3% | 153.8% |
| Total - Public Sector | $3,818.2 | $5,287.9 | $18,205.7 | 40.2% | 38.5% | 244.3% |
| Total DNFD | $11,198.6 | $19,064.7 | $45,273.0 | 100.0% | 70.2% | 137.5% |
| GDP, 4th Quarter | $6,023.3 | $10,472.3 | $18,222.8 | | 73.9% | 74.0% |
| DNFD as a % of GDP | 185.9% | 182.0% | 248.4% | | | |

Source: Board of Governors of the Federal Reserve System, IHS Economics
*Excludes intra-governmental holdings of Treasury securities

As shown in the chart below, delinquency rates on all residential real estate loans increased after the onset of the Great Recession as a correction related to sub-prime and Alt-A mortgages (mortgages that are riskier than prime, but less risky than subprime mortgages) engulfed consumers. From an average rate of 2.3% from 1991 to mid-2008, delinquency rates reached a high of 11.2% in the first quarter of 2010. By the third quarter of 2016, this figure fell to 4.3%. The increase was due to plunging housing prices coupled with reset provisions on certain mortgages and a slowdown in the economy.

Consumer credit, not secured by real estate, is comprised of non-revolving credit (such as automobile and personal loans) and revolving credit (which includes credit card debt and store charges). Over the years, consumer credit has helped finance a large expansion in spending for consumer non-durables as more consumers rely on credit cards for making purchases online. After averaging 4.4% from 1991 to mid-2008, delinquency rates on credit card loans have improved to 2.3% in third quarter 2016 from 6.8% in mid-2009.



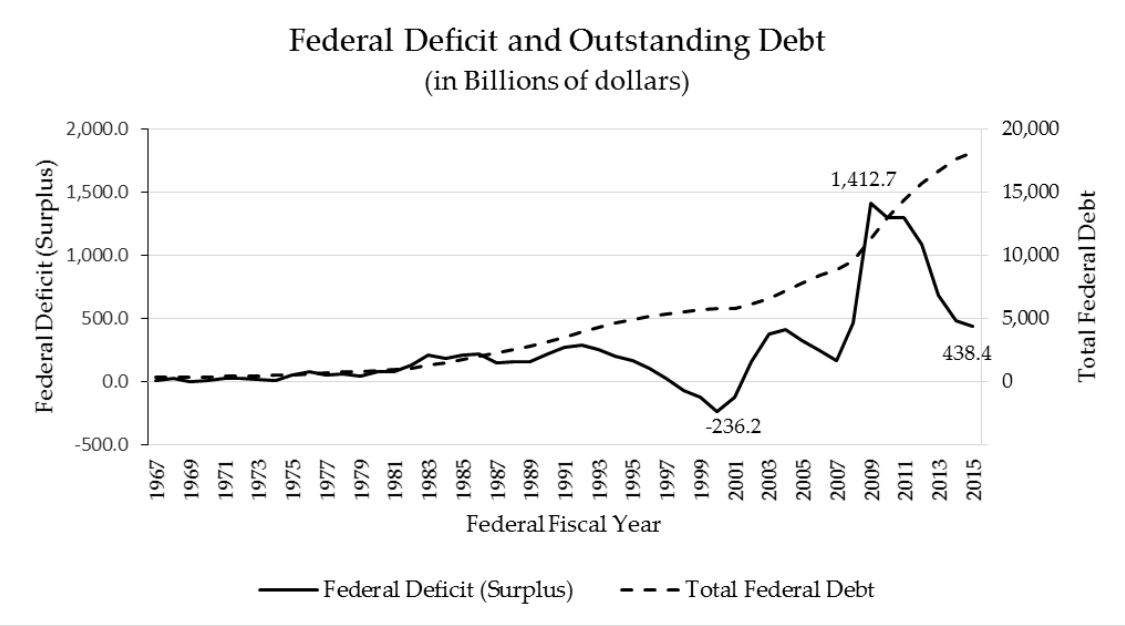

Source: Federal Reserve Bank of St. Louis

**Business Borrowing**

Business borrowings include debts owed by corporations, nonfarm corporations and farms. Total borrowings were $12.8 trillion at the end of 2015. Borrowing instruments include corporate bonds, commercial paper, municipal securities, bank loans, and mortgages. Mortgages, corporate bonds, and others were divided almost evenly among the total. Prior to the Great Recession, growth in business borrowings were driven by mortgages which grew 108.8% between 2000 to 2007, compared to 5.9% since 2007. After the Great Recession, growth in business borrowings has been led by corporate bonds, which grew 67.6% between 2007 to 2015, compared to 25.9% between 2000 to 2007.

**Government Borrowing**

The U.S. federal budget has long been operating under deficits. The federal deficit started surging in the early 1980s from expansionary fiscal policy and tax cuts, intending to sacrifice a short-term loss in revenue for a long-term gain through more rapid economic growth. This expectation, however, was not fully realized and deficits persisted into the late 1990s.




Source: Federal Reserve Board of St. Louis
Note: For the purposes of the above graph, federal deficits are expressed as positive numbers.

As shown in the graph above, after registering deficits in most of the 1990s, the federal budget on unified basis, which includes all operating and trust funds such as Social Security and Medicare programs, turned to a surplus in 1998 which peaked at $236.2 billion in federal fiscal year (FFY) 2000. Federal operations turned red again in FFY 2002 reaching a high of $412.7 billion in FFY 2004 before slightly recovering. The onset of the Great Recession boosted federal spending for FFY 2009 through FFY 2012. Contributing factors included the $700 billion financial bailout known as the Troubled Asset Relief Program (TARP), and the $787 billion economic stimulus program, per the American Recovery and Reinvestment Act (ARRA), along with increases in Medicare, Medicaid, unemployment insurance, Social Security, and defense spending. At the same time, tax receipts declined due to the effects of the recession and tax cuts from the ARRA program. The federal deficit reached a high of $1,412.7 billion in FFY 2009 before dropping dramatically in FFY 15 to $438.4 billion. The federal government in FFY 2015 spent an estimated $1.18 for every dollar it took in, a decrease from the recent high of $1.63 in FFY 2010.

As the federal operating budget continued to post a deficit, the national debt also increased. By the end of FFY 2015, gross debt outstanding registered $18.2 trillion, up 3.4% from FFY 2014, however one of the lowest rates of increase since FFY 2001. The U.S.'s deficit of 9.8% of GDP in FFY 2009 was a record high since WWII, but has since declined to 2.4% in FFY 2015.

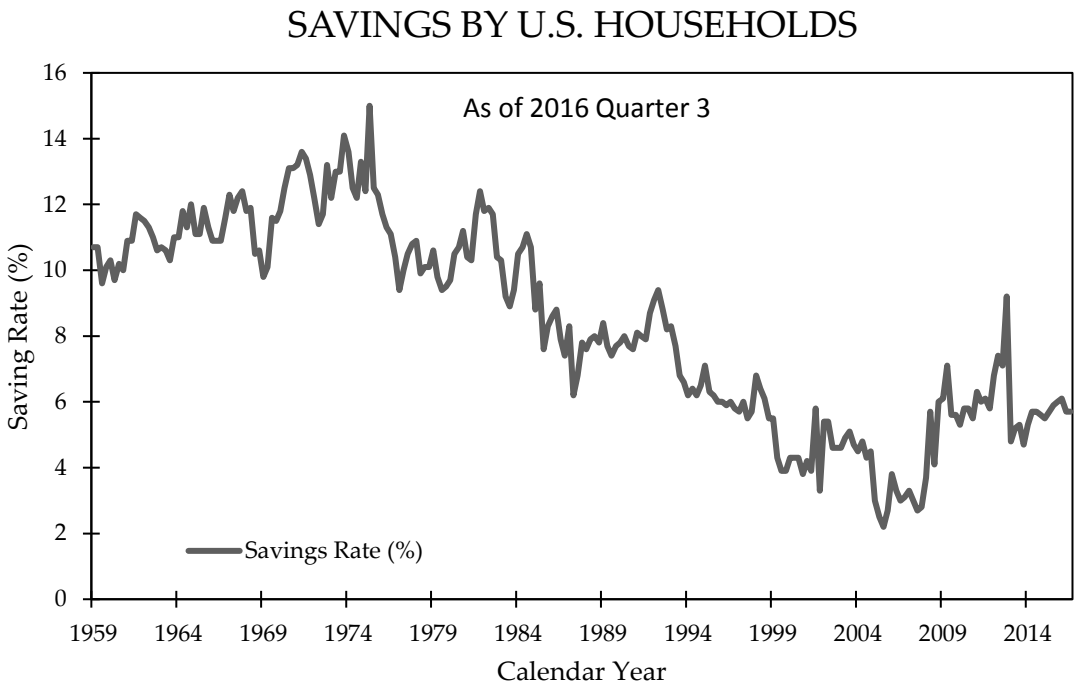
According to the U.S. Census Bureau's "State Government Finances," state government debt outstanding in Connecticut at the end of fiscal 2014, the latest available year, was $33.2 billion, compared to $32.4 billion in 2013 and $32.0 billion in 2012. Connecticut per capita state government debt has increased over the past three years, from $8,899 in fiscal 2012 to $9,242 in fiscal 2014. The fifty state average has decreased over the past three years, from $3,657 in fiscal 2012 to $3,603 in fiscal 2014.

Connecticut's overall credit rating is determined by four major rating agencies: Moody's Investors Service, Standard & Poor's Corporation, Fitch Investors Service, Inc., and Kroll Bond Ratings. As of the end of November 2016, Connecticut's General Obligation bonds are rated Aa3 by Moody's with a "negative" credit outlook and AA- by Kroll Bond Ratings and Fitch Investors Service with a "stable" credit outlook. Connecticut is rated AA- by Standard & Poor's Corporation with a negative outlook. The rating process provides information for investors about risk. High ratings generally result in lower borrowing costs.

**Savings by U.S. Households**

The chart below shows the national savings rate for U.S. consumers from 1959 through the third quarter of 2016. After remaining at an average of 11.4% between 1959 and 1980, the U.S. savings rate began trending down from a high of 12.4% in late 1981 to a low of 2.2% in mid-2005. The savings rate then climbed back up to 9.2% by the fourth quarter of 2012 before falling to the current level of 5.7% in the third quarter of 2016. The average savings rate for the past 5 years is 6.0%.

In the aftermath of the Great Recession, households began saving more while paying down debt, boosting the savings rate. These measures have led to slow growth in personal consumption and economic growth. A 1% increase in the savings rate is equivalent to a spending decrease of approximately $141 billion for the nation's economy, which equates to 0.84% of GDP. In Connecticut, a 1% increase in the savings rate would decrease spending by $2.0 billion.




Source: IHS Economics

**Household Balance Sheet**

The Federal Reserve Bank's "Flow of Funds Accounts" maintains statistics on the assets, liabilities, and net worth for the household sector. The table below shows these three components that comprise a balance sheet for 1970, 2007, and 2015, to evaluate the financial position of the nation's households.

**TABLE 47**
**Balance Sheet of Households and Non-profit Organizations**
**In Billions of Dollars**

| | 1970 In Real $* | % of Total | 2007 In Real $* | % of Total | 2016 Q2 | % of Total | Average Growth** |
|---|---|---|---|---|---|---|---|
| **Assets** | | | | | | | |
| Real Estate | 6,328.4 | 23.7% | 26,996.4 | 28.9% | 25,594.7 | 24.7% | 3.2% |
| Stock related | 8,235.7 | 30.8% | 33,993.7 | 36.3% | 42,930.2 | 41.4% | 3.7% |
| Other | 12,145.0 | 45.5% | 32,555.6 | 34.8% | 35,225.4 | 34.0% | 2.4% |
| Time & Saving Deposits | 3,346.2 | 12.5% | 8,742.5 | 9.3% | 10,860.2 | 10.5% | 2.7% |
| Corporate Bonds | 183.6 | 0.7% | 1,233.8 | 1.3% | 1,037.4 | 1.0% | 3.9% |
| Gov't Securities*** | 902.0 | 3.4% | 3,192.3 | 3.4% | 3,188.5 | 3.1% | 2.8% |
| **Total** | 26,709.1 | 100.0% | 93,545.6 | 100.0% | 103,750.3 | 100.0% | 3.1% |
| **Liabilities** | | | | | | | |
| Home Mortgages | 1,765.5 | 59.7% | 12,269.4 | 73.7% | 9,553.2 | 65.0% | 3.8% |
| Consumer Credit | 825.1 | 27.9% | 3,023.3 | 18.2% | 3,605.3 | 24.5% | 3.3% |
| Other | 364.6 | 12.3% | 1,349.0 | 8.1% | 1,529.1 | 10.4% | 3.2% |
| **Total** | 2,955.2 | 100.0% | 16,641.6 | 100.0% | 14,687.6 | 100.0% | 3.6% |
| **Net Worth** | 23,753.9 | | 76,904.0 | | 89,062.7 | | |
| Net Home Equity | 4,562.9 | | 14,727.0 | | 16,041.5 | | 2.8% |
| As a % of Net Worth | 19.2% | | 19.1% | | 18.0% | | |
| Per Capita Net Worth ($) | 115,109.1 | | 253,532.5 | | 275,160.7 | | 2.0% |
| **As a % of Total Assets** | | | | | | | |
| Home Mortgages | 6.6% | | 13.1% | | 9.2% | | |
| Liabilities | 11.1% | | 17.8% | | 14.2% | | |
| Net worth | 88.9% | | 82.2% | | 85.8% | | |

Note:
* Real dollar is calculated by using the estimated CPI-U for 2016
** Compound annual growth rate
*** Includes Treasury and Municipal securities
Source: Board of Governors of the Federal Reserve System

**Assets**

Total assets can be categorized into three components: real estate assets, stock related assets, and other assets (including bank deposits, bonds, money market fund shares, and consumer durable goods). In the second quarter of 2016, household assets totaled $103.7 trillion with real estate comprising 24.7% of total assets, stocks 41.4%, and the remaining 34.0% in other assets. In 1970, real estate comprised 23.7% of total assets, stocks 30.8%, and all other assets 45.5%. This reflects that stock related assets rose in importance over the past four and a half decades relative to real estate and other assets.

From 1955 to 1970, total assets grew at a compound annual growth rate of 3.8%. Total asset growth then slowed in 1970, with a compound annual growth rate of 3.4% through 2007. From 1970 to 2007 total liabilities grew at a compound annual growth rate of 4.8%, as financial vehicles such as home equity loans and credit cards became popular. Total real assets reached a peak of $93.5 trillion in 2007 before declining sharply during the great recession, reflecting the onset of the Great Recession.

**Liabilities**

Household liabilities totaled $14.7 trillion in the second quarter of 2016. Home mortgages accounted for 65.0% of the total with consumer credit at 24.5% and other liabilities at 10.4%. This compared to 59.7%, 27.9%, and 12.3%, respectively, in 1970, reflecting a much faster growth in home mortgage borrowings. Between the first quarter of 2002 and the fourth quarter of 2007, quarterly growth in home mortgages, supported by extraordinarily favorable mortgage rates and an aggressive mortgage lending strategy, averaged 2.9%, outpacing growth in consumer credit (1.4%) and total liabilities (2.5%). Consumer credit primarily includes auto loans, personal loans, and credit card balances.

**Net Worth**

Net worth (assets less liabilities) measures the resulting financial condition of consumers, which affects the overall economy through its wealth impact on consumers' spending and business activities. Net worth totaled $89.1 trillion in the second quarter of 2016. When measured in 2016 dollars, real net worth grew from $23.8 trillion in 1970 to a pre-recession peak of $76.9 trillion in 2007, before declining to $62.5 trillion in 2008. Per capita real net worth increased from $115,109 in 1970 to $264,375 in 2015, with an annual growth rate of 1.9%.

Along with the increase in net worth has come the additional burden of greater liabilities. In 1970 liabilities accounted for 11.1% of total assets, yet by 2016 they had risen to 14.2% of assets. The primary driver of this change was an increase in home mortgage liability. Indeed, the ratio of home mortgages to total assets grew from 6.6% in 1970, to 13.1% in 2007, before falling to 9.2% in 2016. The increasing use of debt to finance American lifestyles has also increased the proportion of income that must be devoted to repaying that debt. Debt service, which consists of the required

payments on outstanding mortgage and consumer debt, as a percentage of disposable personal income has gradually risen from 10.6% in 1980, the earliest available data, to 13.2% in the fourth quarter of 2007. Debt service has since declined to 10.0% as of second quarter 2016, a result of lower interest rates due to the onset of the Great Recession and the expansionary monetary policy implemented by the Federal Reserve.

## PERFORMANCE INDICATORS

This section examines trends in various economic performance indicators for the United States, the New England region and Connecticut. Statistics are provided demonstrating the economic performance of these areas and showing their strengths and weaknesses.

### Gross Product

Gross Domestic Product (GDP) is a measure of domestic production produced by the Bureau of Economic Analysis (BEA). GDP is "the market value of the final goods and services produced by labor and property in the United States." GDP is comprised of:

- personal consumption expenditures;
- government consumption expenditures and gross investment;
- gross private domestic investment; and
- net exports of goods and services.

While GDP measures economic activity in a geographical area, Gross National Product (GNP) measures the economic activity produced by residents of that area. Unlike Gross Domestic Product, GNP adjusts for income derived from domestic investments in foreign companies and foreign investments in domestic companies. GDP measures all economic activity within a territory and is consistent with other economic indicators such as employment and shipments of manufactured goods.

Because prices of goods and services change over time, nominal GDP will change even if there is no difference in physical output. To measure changes in real output, GDP is adjusted by an index of the general price level and expressed in constant dollars. The Bureau of Economic Analysis uses a chained dollars inflation index to provide an "apples-to-apples" comparison between years, currently based on calendar year 2009.

A state's economic activity is measured using Gross State Product (GSP). Like GDP, GSP is the current market value of all final goods and services produced by labor and property in a state. In FY 2016, the State of Connecticut produced an estimated $255.7 billion in goods and services - $225.8 billion in calendar year 2009 dollars. This was an estimated increase of 2.5% in current dollars and 0.3% in real dollars over FY 2015. Growth in Connecticut GSP lagged both the region and the nation. Since FY 2009, the nadir of the most recent recession, nominal gross product has increased 9.9% in Connecticut, 21.3% in New England and 25.8% in the nation through FY 2016. In real terms, Connecticut's GSP was 3.6% below its FY 2009 level in FY 2016, as growth in the state was insufficient to keep up with inflation through FY 2014. The following table provides data on the recent ten year history of gross state product for the three regions.

## TABLE 48
## GROSS PRODUCT

**A. Millions of Current Dollars**

| Fiscal | United States* | | New England * | | Connecticut | |
|---|---|---|---|---|---|---|
| Year | Dollars | % Growth | Dollars | % Growth | Dollars | % Growth |
| 2007 | 14,073,028 | 4.8 | 781,430 | 4.8 | 228,787 | 5.8 |
| 2008 | 14,595,284 | 3.7 | 809,856 | 3.6 | 240,781 | 5.2 |
| 2009 | 14,433,783 | (1.1) | 800,340 | (1.2) | 232,637 | (3.4) |
| 2010 | 14,528,645 | 0.7 | 814,885 | 1.8 | 233,627 | 0.4 |
| 2011 | 15,138,306 | 4.2 | 838,141 | 2.9 | 235,010 | 0.6 |
| 2012 | 15,753,569 | 4.1 | 860,109 | 2.6 | 236,464 | 0.6 |
| 2013 | 16,271,099 | 3.3 | 876,049 | 1.9 | 239,514 | 1.3 |
| 2014 | 16,900,008 | 3.9 | 895,287 | 2.2 | 242,816 | 1.4 |
| 2015 | 17,644,693 | 4.4 | 935,006 | 4.4 | 249,459 | 2.7 |
| 2016 | 18,156,112 | 2.9 | 970,504 | 3.8 | 255,716 | 2.5 |
| % Increase ('09 to '16) | | 25.8 | | 21.3 | | 9.9 |

**B. Constant Dollars****

| Fiscal | United States* | | New England * | | Connecticut | |
|---|---|---|---|---|---|---|
| Year | Dollars | % Growth | Dollars | % Growth | Dollars | % Growth |
| 2007 | 14,673,955 | 1.8 | 821,438 | 1.9 | 241,854 | 3.0 |
| 2008 | 14,849,885 | 1.2 | 836,000 | 1.8 | 249,601 | 3.2 |
| 2009 | 14,440,790 | (2.8) | 805,758 | (3.6) | 234,350 | (6.1) |
| 2010 | 14,444,756 | 0.0 | 812,406 | 0.8 | 232,857 | (0.6) |
| 2011 | 14,744,214 | 2.1 | 825,758 | 1.6 | 231,296 | (0.7) |
| 2012 | 15,011,771 | 1.8 | 831,619 | 0.7 | 227,987 | (1.4) |
| 2013 | 15,196,738 | 1.2 | 829,173 | (0.3) | 225,915 | (0.9) |
| 2014 | 15,488,573 | 1.9 | 830,179 | 0.1 | 224,136 | (0.8) |
| 2015 | 15,935,649 | 2.9 | 847,514 | 2.1 | 225,102 | 0.4 |
| 2016 | 16,196,279 | 1.6 | 860,636 | 1.5 | 225,836 | 0.3 |
| % Increase ('09 to '16) | | 12.2 | | 6.8 | | (3.6) |

* Sum of States' Gross State Products.

** Reported in calendar year 2009 chained dollars

Source: Bureau of Economic Analysis

As growth in some sectors in the economy will outpace other sectors, the composition of gross product will change over time. This is true of both the nation as well as Connecticut. Between FY 2009 and FY 2016, the contribution to Connecticut's GSP from transportation, trade and utilities; professional and business services; and healthcare and education increased, while manufacturing

and FIRE (Finance, Insurance, and Real Estate) fell. The FIRE and manufacturing sectors have historically played an outsized role in Connecticut's economy. However, in FY 2016, professional and business services and transportation, trade, and utilities exceeded the manufacturing sector's contribution to Connecticut's GSP. Manufacturing's contribution to national gross domestic product also decreased between FY 2009 and FY 2016. Connecticut GSP as a portion of national GDP decreased between FY 2009 and FY 2016, from 1.6 to 1.4 percent.

**TABLE 49**
**GROSS PRODUCT BY SOURCE**
**(In Billions of Current Dollars)**

| | FY 2009 | | | | FY 2016 | | | |
|---|---|---|---|---|---|---|---|---|
| Industry | U.S. | % | CT | % | U.S. | % | CT | % |
| Agriculture, Forest & Fisheries | 139.2 | 1.0 | 0.31 | 0.1 | 170.9 | 0.9 | 0.31 | 0.1 |
| Construction & Mining | 964.1 | 6.7 | 7.53 | 3.2 | 1,034.8 | 5.7 | 8.72 | 3.4 |
| Manufacturing | 1,755.0 | 12.2 | 30.07 | 12.9 | 2,172.7 | 12.0 | 26.44 | 10.3 |
| Transportation, Trade & Utilities | 2,359.8 | 16.3 | 32.79 | 14.1 | 3,005.3 | 16.6 | 39.84 | 15.6 |
| Information | 713.7 | 4.9 | 10.03 | 4.3 | 866.9 | 4.8 | 11.57 | 4.5 |
| Finance, Insurance & Real Estate | 2,794.9 | 19.4 | 69.10 | 29.7 | 3,718.0 | 20.5 | 71.02 | 27.8 |
| Professional & Business Services | 1,718.2 | 11.9 | 26.30 | 11.3 | 2,257.7 | 12.4 | 31.51 | 12.3 |
| Health Care & Education | 1,185.2 | 8.2 | 21.73 | 9.3 | 1,542.1 | 8.5 | 26.35 | 10.3 |
| Leisure & Hospitality | 528.5 | 3.7 | 6.40 | 2.8 | 731.0 | 4.0 | 7.76 | 3.0 |
| Other Services | 331.3 | 2.3 | 4.50 | 1.9 | 411.5 | 2.3 | 5.21 | 2.0 |
| Government | 1,944.0 | 13.5 | 23.88 | 10.3 | 2,245.1 | 12.4 | 26.98 | 10.6 |
| Total | 14,433.8 | 100.0 | 232.64 | 100.0 | 18,156.1 | 100.0 | 255.72 | 100.0 |
| Broadly Defined Services* | | 50.4 | | 59.3 | | 52.5 | | 60.0 |
| CT as a % of U.S. Total | | | 1.61 | | | | 1.41 | |

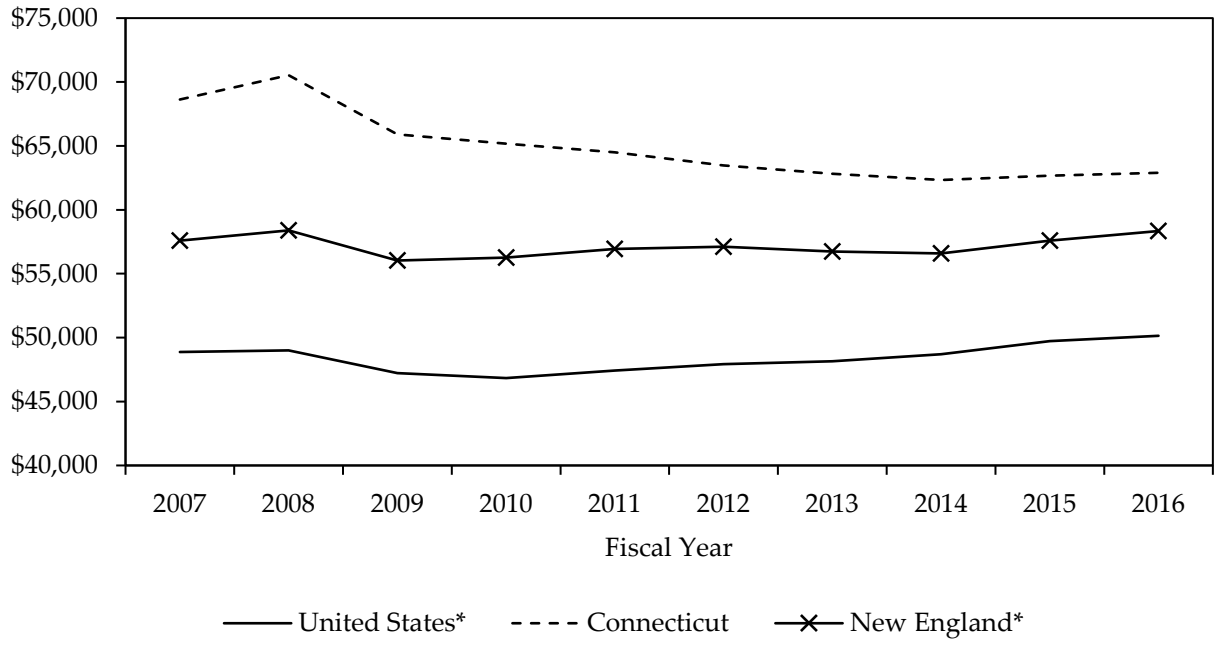
Source: Bureau of Economic Analysis

Broadly defined services in the private sector, which include information, professional and technical services, health care and education, FIRE, leisure and hospitality, and other services, increased to 60.0% of total GSP in FY 2016, up from from 59.3% in FY 2009. During this period, the contribution to GDP from services for the nation also increased to 52.5% of GDP in FY 2016 from 50.4% in FY 2009. Theoretically, Connecticut and the nation's increasingly service-based economies should smooth the business cycle, resulting in longer and shallower recessions and expansions. Activities in service sectors are less susceptible to pent-up demand, less subject to inventory-induced swings, less intensive in capital requirements, and somewhat less vulnerable to foreign competition than the manufacturing sector. Connecticut began moving toward services sooner than the nation as a whole.

**Per Capita Gross Product**

Gains in gross product may or may not fully reflect a change in the livelihoods of a territory's residents. While gross product may rise, population growth may consume those gains. Therefore, real per capita gross product, which takes into account both increases in population and inflation, provides a better measure of the standard of living among differing economies. The following graph shows real per capita gross product, in chained 2009 dollars, for the United States, New England, and Connecticut.

**REAL PER CAPITA GROSS PRODUCT**
**(In Chained 2009 Dollars)**




*Sum of States' Gross State Product

In FY 2016, real per capita gross state product in Connecticut was $62,910 in 2009 dollars, compared to $58,335 in New England and $50,144 in the United States. Real GSP in Connecticut was 25.5% higher than the nation and 7.8% higher than New England. As the preceding graph shows, per capita GSP has remained relatively flat in recent years, both in the regionally and in the nation, while declining in Connecticut through FY 2014. Unlike the nation, real per capita GSP in Connecticut remains below its previous peak of $70,534 in FY 2009. In FY 2016, real per capita GSP in Connecticut remained 10.8% below its FY 2009 level.

**Productivity**

Productivity is a measure of how efficiently goods and services are produced in an economy. Productivity is measured by comparing economic inputs, such as labor and capital, to a measure of economic outputs, such as gross state product. Over time, increases in productivity lead to a

higher standard of living. Inputs are turned into outputs more efficiently, leading to increases in output or in free time. Historically, increased productivity has led to increasing wages and corporate profits.

One potential measure of productivity in an economy is per capita gross state product (GSP). This measure indicates how much goods and services are produced for each person residing in a geographical area. As the preceding section shows, per capita GSP in Connecticut remained higher than both New England and the nation through FY 2016. However, per capita GSP falls short as a measure of labor productivity as it does not account for the number of employed persons in a geographical region or what their total labor was. Therefore, it is useful to measure productivity in terms of output per number of hours worked. The following table compares gross product and number of hours worked by production workers in the manufacturing sector for both the United States and Connecticut. In CY 2015, output per hour in the manufacturing sector was $144 in Connecticut, compared to $136 in the nation. By this measure, labor productivity in Connecticut's manufacturing sector was 5.8% higher than the nation as a whole, down from 67.3% in CY 2006. This decrease was the result of a 24% decrease in manufacturing GSP in CY 2009, 96% of which was attributable to the chemical products manufacturing subsector.

**TABLE 50**
**CONNECTICUT'S MANUFACTURING LABOR PRODUCTIVITY**

| | United States | | | Connecticut | | | |
|---|---|---|---|---|---|---|---|
| Cal. Year | Manufact. GDP (Million) | Work Hours (Million) | Output Per Hour | Manufact. GSP (Million) | Work Hours (Million) | Output Per Hour | % of US |
| 2006 | $1,804,221 | 18,777 | $96 | $35,310 | 220 | $161 | 167.3 |
| 2007 | $1,854,331 | 18,914 | $98 | $37,286 | 236 | $158 | 161.3 |
| 2008 | $1,814,119 | 17,781 | $102 | $36,311 | 218 | $167 | 163.3 |
| 2009 | $1,726,714 | 14,727 | $117 | $27,688 | 195 | $142 | 121.3 |
| 2010 | $1,830,585 | 14,550 | $126 | $28,080 | 187 | $150 | 119.4 |
| 2011 | $1,907,310 | 14,867 | $128 | $26,734 | 185 | $145 | 112.7 |
| 2012 | $1,983,644 | 15,622 | $127 | $27,636 | 195 | $142 | 111.5 |
| 2013 | $2,035,176 | 15,760 | $129 | $28,652 | 196 | $146 | 112.9 |
| 2014 | $2,099,429 | 15,825 | $133 | $27,340 | 192 | $142 | 107.2 |
| 2015 | $2,170,275 | 15,969 | $136 | $26,744 | 186 | $144 | 105.8 |

Sources: Bureau of Economic Analysis; Bureau of the Census, "Annual Survey of Manufactures"

**Value Added**

A full assessment of the performance of Connecticut's manufacturing sector requires information in addition to manufacturing employment. Employment figures provide only a partial view of

what is actually occurring in the manufacturing sector of the Connecticut economy. Although Connecticut lost over 34,000 manufacturing jobs, or nearly 18%, between calendar year 2006 and 2015 according to the Bureau of Labor Statistics, the impact on the economy from this loss is partially mitigated by a long-term increase in productivity per worker.

Value added is the market value of a firm's output less the value of inputs which it purchased from other firms. Changes in productivity over time can be measured by dividing the value that is added to a product by the total number of production workers involved in producing that good. In calendar year 2015, each manufacturing worker in Connecticut added more than $385,000 of value, 24% higher than the national average. Value added per production worker in Connecticut has remained higher than the nation as a whole during the most recent economic expansion, reflecting the prevalence of advanced manufacturing in the state.

The following table lists value added per production worker for Connecticut and the U.S.

**TABLE 51**
**VALUE ADDED PER PRODUCTION WORKER**
**(In Current Dollars)**

| Calendar | United States | | Connecticut | | |
|---|---|---|---|---|---|
| Year | Dollars | % Growth | Dollars | % Growth | % of US |
| 2006 | 251,178 | 5.0 | 301,115 | 12.5 | 119.9 |
| 2007 | 253,867 | 1.1 | 299,483 | (0.5) | 118.0 |
| 2008 | 255,682 | 0.7 | 313,512 | 4.7 | 122.6 |
| 2009 | 263,426 | 3.0 | 276,511 | (11.8) | 105.0 |
| 2010 | 296,423 | 12.5 | 313,652 | 13.4 | 105.8 |
| 2011 | 308,140 | 4.0 | 315,483 | 0.6 | 102.4 |
| 2012 | 294,085 | (4.6) | 331,034 | 4.9 | 112.6 |
| 2013 | 303,730 | 3.3 | 348,148 | 5.2 | 114.6 |
| 2014 | 308,850 | 1.7 | 350,918 | 0.8 | 113.6 |
| 2015 | 311,237 | 0.8 | 385,790 | 9.9 | 124.0 |

Note: Value Added Per Production Worker = $\frac{\text{Total Value Added by Manufacture}}{\text{Number of Production Workers}}$

Source: Bureau of the Census, "Annual Survey of Manufactures"

## Capital Expenditures

Capital, like labor, is an input which can drive production. Investment in capital by a firm can increase its output, thereby increasing productivity in the economy. Over time, capital investments can also decrease the need for labor in production. During the recent economic expansion, Connecticut's manufacturers have been making substantial investments in capital equipment. Total capital expenditures are defined as outlays for permanent additions and major alterations to manufacturing establishments and investments in new machinery and equipment used for replacement and additions to plant capacity. Organizations undertake capital projects for various reasons including to reduce costs, improve efficiencies, upgrade product quality, develop new products, and implement environmental and safety technology. According to the Annual Survey of Manufactures and the U.S. Census Bureau's Economic Census, for the past ten years, the level of capital expenditures within Connecticut has remained above one billion dollars. In CY 2014 and 2015, capital expenditures totaled nearly $1.5 billion annually. The following table details capital expenditures in Connecticut.

**TABLE 52**
**TOTAL CAPITAL EXPENDITURES IN CONNECTICUT**
**(In Millions of Dollars)**

| Calendar Year | Connecticut Capital Expenditures | Percent Change |
|---|---|---|
| 2006 | $1,260.5 | 4.9 |
| 2007 | $1,638.3 | 30.0 |
| 2008 | $1,166.1 | (28.8) |
| 2009 | $1,036.7 | (11.1) |
| 2010 | $1,106.3 | 6.7 |
| 2011 | $1,274.0 | 15.2 |
| 2012 | $1,317.9 | 3.4 |
| 2013 | $1,281.4 | (2.8) |
| 2014 | $1,496.1 | 16.8 |
| 2015 | $1,484.1 | (0.8) |

Source: Bureau of the Census, "Annual Survey of Manufactures"

## Total Personal Income

Total personal income, defined as current income received by persons from all sources including public and private transfer payments but excluding transfers among persons, is a reliable measure of economic performance. Total personal income captures the manufacturing sector

through manufacturing wages; the nonmanufacturing sector through wages in such areas as government, wholesale/retail trade, utilities, transportation, mining, personal services; the private sector through proprietors' income; and a part of agricultural activity via farm properties' income. Personal income is approximately 85% of Gross Domestic Product; hence, the two are well correlated.

The U.S. Department of Commerce defines the various sources of personal income as the following:

**Wages and Salaries** - the monetary remuneration of employees, including the compensation of corporate officers; commissions, tips and bonuses; and receipts in kind that represent income to the recipient. Wages and salaries are measured before deductions such as social security contributions and union dues.

**Other Labor Income** - consists primarily of employer contributions for employee pension and insurance funds and employer contributions for government social insurance.

**Property Income** - income from dividends, interest and rents.

Dividends are payments in cash or other assets, excluding stock, by corporations organized for profit, to non-corporate stockholders who are U.S. residents.

Interest is the monetary and imputed interest income of persons from all sources. Imputed interest represents the excess of income received by financial intermediaries from funds entrusted to them by persons, over income disbursed by these intermediaries to persons. Part of imputed interest reflects the value of financial services rendered without charge to persons by depository institutions. The remainder is property income held by life insurance companies and private non-insured pension funds on behalf of persons; one example is the additions to policyholder reserves held by life insurance companies.

Rental income is the monetary income of persons (except those primarily engaged in the real estate business) from the rental of real property (including mobile homes); the imputed net rental income of owner-occupants of nonfarm dwellings; and the royalties received by persons from patents, copyrights, and rights to natural resources.

**Proprietors' Income** - the income, including income-in-kind, of sole proprietorships and partnerships and of tax-exempt cooperatives. The imputed net rental income of owner occupants of farm dwellings with certain adjustments is included.

**Transfer Payments** - income payments to persons, generally in monetary form, for which they do not render current services. These include payments by the government and business to individuals and nonprofit institutions.

**Personal Contributions to Social Insurance** - contributions made by individuals under the various social insurance programs. Payments by employees and the self-employed (farm and nonfarm) are included as well as contributions that are sometimes made by employers on behalf of their employees (i.e., those customarily paid by the employee but, under special arrangement, paid by the employer).

The correlation between Gross Domestic Product and personal income provides another basis of comparison among individual states. A comparison of growth rates in personal income is a good indicator of a state's present and potential future performance.

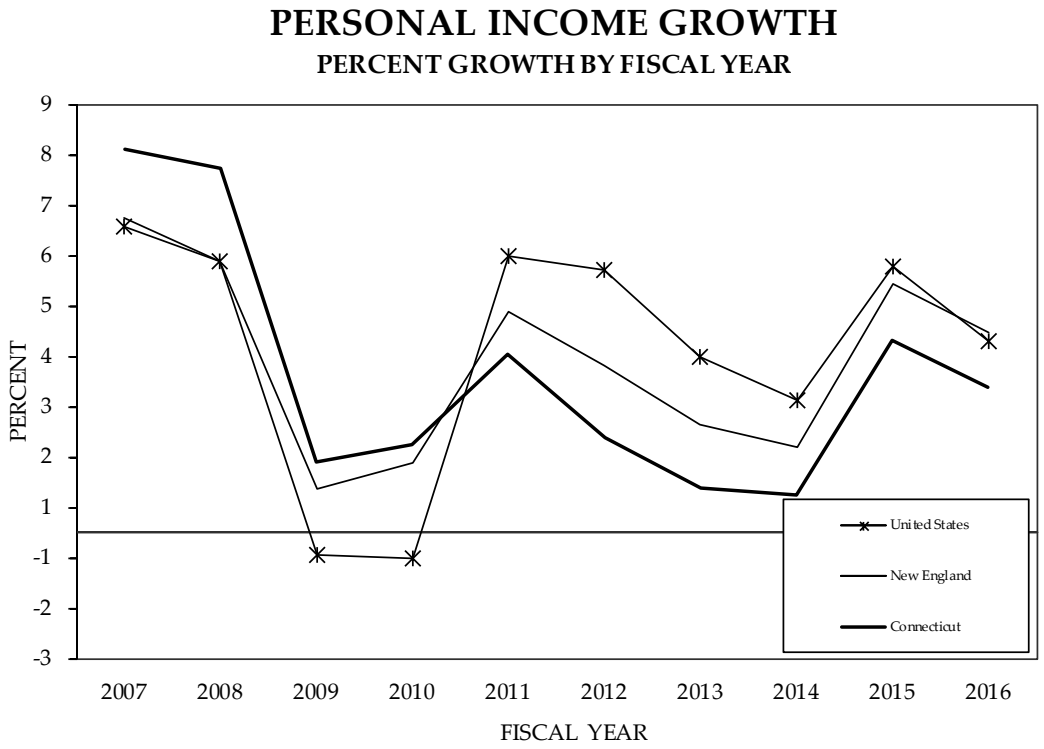
According to figures provided by the U.S. Bureau of Economic Analysis, personal income for Connecticut residents during fiscal year 2016 was $250.4 billion, a 2.9% increase over fiscal year 2015. Total personal income in Connecticut increased 26.7% from fiscal 2007 to 2016. For the United States, total personal income increased 34.4%, and in the New England region, the increase for the same period was 31.7%.

The following table and chart show personal income for the United States, the New England region, and Connecticut.

**TABLE 53**
**PERSONAL INCOME**
**(In Millions)**

| Fiscal | United States | | New England | | Connecticut | |
|---|---|---|---|---|---|---|
| Year | Dollars | % Growth | Dollars | % Growth | Dollars | % Growth |
| 2007 | 11,701,050 | 6.09 | 685,663 | 6.24 | 197,699 | 7.59 |
| 2008 | 12,329,750 | 5.37 | 722,593 | 5.39 | 211,980 | 7.22 |
| 2009 | 12,275,250 | (0.44) | 728,826 | 0.86 | 214,910 | 1.38 |
| 2010 | 12,211,975 | (0.52) | 738,767 | 1.36 | 218,633 | 1.73 |
| 2011 | 12,883,175 | 5.50 | 771,161 | 4.38 | 226,363 | 3.54 |
| 2012 | 13,555,550 | 5.22 | 796,730 | 3.32 | 230,649 | 1.89 |
| 2013 | 14,026,350 | 3.47 | 813,729 | 2.13 | 232,705 | 0.89 |
| 2014 | 14,394,650 | 2.63 | 827,594 | 1.70 | 234,454 | 0.75 |
| 2015 | 15,155,375 | 5.28 | 868,373 | 4.93 | 243,409 | 3.82 |
| 2016 | 15,728,950 | 3.78 | 902,718 | 3.96 | 250,401 | 2.87 |

Source: U.S. Department of Commerce, Bureau of Economic Analysis




Source: U.S. Department of Commerce, Bureau of Economic Analysis

Connecticut's sources of personal income vary slightly from those of the United States, with wages and employee salaries accounting for approximately 45.4% of total personal income compared to 51.0% for the nation in fiscal year 2016. The following table shows the sources of personal income for the United States and Connecticut over a ten fiscal year period. The table indicates a significant shift from manufacturing wages to other sources of income including property income and transfer payments.

**TABLE 54**
**SOURCES OF PERSONAL INCOME**
**(In Billions of Dollars)**

| | Fiscal Year 2007 | | | | Fiscal Year 2016 | | | |
|---|---|---|---|---|---|---|---|---|
| | U.S. | % | CT | % | U.S. | % | CT | % |
| Manufacturing Salaries & Wages | 745.7 | 6.4 | 13.0 | 6.6 | 817.0 | 5.2 | 12.6 | 5.0 |
| Nonmanufacturing Salaries & Wages | 5,493.6 | 46.9 | 84.8 | 42.9 | 7,201.2 | 45.8 | 101.2 | 40.4 |
| Proprietors Income | 1,014.7 | 8.7 | 20.6 | 10.4 | 1,400.4 | 8.9 | 28.7 | 11.5 |
| Property Income | 2,247.3 | 19.2 | 50.7 | 25.6 | 2,935.3 | 18.7 | 67.2 | 26.8 |
| Other Labor Income | 1,472.9 | 12.6 | 21.4 | 10.8 | 1,874.7 | 11.9 | 25.1 | 10.0 |
| Transfer Payments Less Payments to Social Insurance | 726.9 | 6.2 | 7.3 | 3.7 | 1,500.4 | 9.5 | 15.6 | 6.2 |
| Total | 11,701.1 | 100.0 | 181.0 | 100.0 | 15,729.0 | 100.0 | 237.1 | 100.0 |

Note: Totals may not agree with detail due to rounding.
Source: U.S. Department of Commerce, Bureau of Economic Analysis

Connecticut's distribution of wages and salaries by industry varies more significantly from those of the United States, with the Finance, Insurance, and Real Estate industry accounting for approximately 17.5% of total wages compared to 9.3% for the nation in fiscal year 2016. The following table shows a comparative study of the wages and salaries distribution for the United States and Connecticut over a ten fiscal year period. The table also clearly shows a significant shift from manufacturing and construction to education and health care.

**TABLE 55**
**WAGES AND SALARIES DISTRIBUTION BY INDUSTRY**
**(as a % of Total)**

| | Fiscal Year 2007 | | Fiscal Year 2016 | |
|---|---|---|---|---|
| | U.S. % | CT % | U.S.% | CT % |
| Manufacturing | 12.1 | 13.3 | 10.3 | 11.1 |
| Finance, Insurance & Real Estate | 10.0 | 19.5 | 9.3 | 17.5 |
| Construction & Mining | 6.7 | 3.9 | 5.9 | 3.6 |
| Public Utility, Trade & Transp. | 16.6 | 14.1 | 15.9 | 13.2 |
| Information | 3.4 | 2.6 | 3.5 | 2.9 |
| Education & Health | 11.6 | 12.8 | 13.5 | 15.4 |
| Leisure & Hospitality | 4.4 | 2.9 | 4.9 | 3.4 |
| Other Professional & Business | 15.8 | 14.8 | 17.9 | 16.8 |
| Other Services | 3.1 | 2.6 | 3.2 | 2.6 |
| Government | 15.7 | 13.3 | 14.9 | 13.3 |
| Fishing, Forestry, & Farming | 0.5 | 0.1 | 0.6 | 0.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |

Note: U.S. Total Wages & Salaries in FY 2007: $6,239,275.0 million and $8,018,175.0 million in FY 2016
CT Total Wages & Salaries in FY 2007: $97,767.3 million and $113,816.4 million in FY 2016
Source: U.S. Department of Commerce, Bureau of Economic Analysis

**Per Capita Personal Income**

One of the more important single indicators of a state's performance is the growth in per capita personal income. Per capita income is total personal income divided by the population. On a per capita basis, personal income growth in Connecticut increased 24.7% from fiscal year 2007 to 2016, compared to a national increase of 25.1% and a New England region increase of 27.5%.

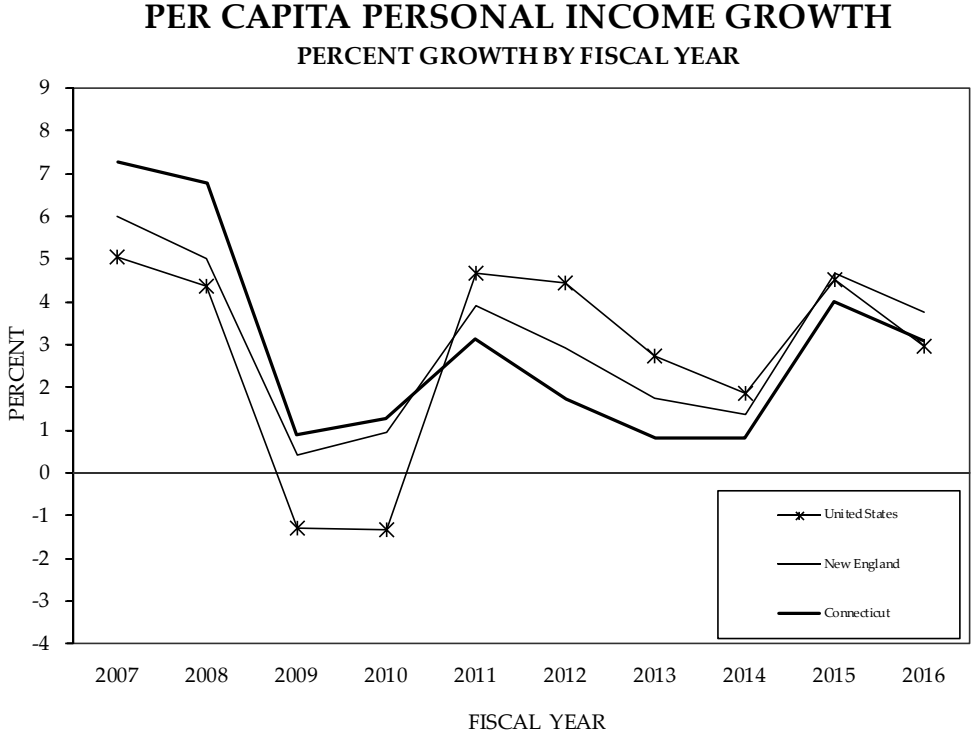
Per capita personal income in Connecticut, for the most recent fiscal year, was 14.1% higher than for the New England region and 43.8% higher than for the United States. Connecticut's per capita personal income continues to be at a higher level than that of the nation and New England due to the concentration of relatively high paying manufacturing industries, major corporate headquarters within the state, and the financial services sector.

The following table shows the growth in per capita personal income for ten fiscal years for the United States, the New England region and Connecticut. The chart provides a graphic representation of the growth rates in per capita personal income for the three entities over a ten fiscal year period.

## TABLE 56
## PER CAPITA PERSONAL INCOME

| Fiscal | United States | | New England | | Connecticut | |
|---|---|---|---|---|---|---|
| Year | Dollars | % Growth | Dollars | % Growth | Dollars | % Growth |
| 2007 | 38,904 | 5.06 | 48,061 | 6.00 | 56,107 | 7.28 |
| 2008 | 40,608 | 4.38 | 50,470 | 5.01 | 59,903 | 6.76 |
| 2009 | 40,078 | (1.30) | 50,684 | 0.42 | 60,441 | 0.90 |
| 2010 | 39,540 | (1.34) | 51,158 | 0.93 | 61,199 | 1.25 |
| 2011 | 41,386 | 4.67 | 53,162 | 3.92 | 63,122 | 3.14 |
| 2012 | 43,223 | 4.44 | 54,716 | 2.92 | 64,206 | 1.72 |
| 2013 | 44,398 | 2.72 | 55,679 | 1.76 | 64,727 | 0.81 |
| 2014 | 45,222 | 1.86 | 56,434 | 1.36 | 65,245 | 0.80 |
| 2015 | 47,257 | 4.50 | 59,073 | 4.68 | 67,851 | 3.99 |
| 2016 | 48,659 | 2.97 | 61,301 | 3.77 | 69,953 | 3.10 |

Source: U.S. Department of Commerce, Bureau of Economic Analysis




Source: U.S. Department of Commerce, Bureau of Economic Analysis

The following table shows per capita income for each of the fifty states with their corresponding ranking for fiscal year 2016. In 2016, Connecticut ranked number one in the nation based on per capita personal income. Connecticut's figure of $69,953 for per capita personal income remained approximately 43.8% higher than the national average.

**TABLE 57**
**PER CAPITA PERSONAL INCOME BY STATE**
**(Fiscal 2016)**

| State | Per Capita Income | Rank | State | Per Capita Income | Rank |
|---|---|---|---|---|---|
| **Connecticut** | **69,953** | **1** | Iowa | 46,309 | 26 |
| Massachusetts | 63,756 | 2 | Oklahoma | 45,509 | 27 |
| New Jersey | 61,015 | 3 | Florida | 44,972 | 28 |
| New York | 59,806 | 4 | Oregon | 44,497 | 29 |
| New Hampshire | 57,117 | 5 | Ohio | 44,248 | 30 |
| Maryland | 56,914 | 6 | Maine | 43,635 | 31 |
| Wyoming | 55,599 | 7 | Michigan | 43,612 | 32 |
| Alaska | 55,561 | 8 | Louisiana | 43,163 | 33 |
| North Dakota | 55,096 | 9 | Missouri | 43,023 | 34 |
| California | 54,910 | 10 | Tennessee | 42,737 | 35 |
| Virginia | 52,910 | 11 | Indiana | 42,700 | 36 |
| Washington | 52,629 | 12 | Nevada | 42,505 | 37 |
| Illinois | 51,378 | 13 | Montana | 42,010 | 38 |
| Minnesota | 51,351 | 14 | North Carolina | 41,356 | 39 |
| Colorado | 51,275 | 15 | Georgia | 41,067 | 40 |
| Rhode Island | 50,745 | 16 | Utah | 39,925 | 41 |
| Pennsylvania | 50,428 | 17 | Arizona | 39,534 | 42 |
| Hawaii | 49,536 | 18 | Kentucky | 39,048 | 43 |
| Vermont | 49,404 | 19 | South Carolina | 38,857 | 44 |
| Nebraska | 49,007 | 20 | Arkansas | 38,796 | 45 |
| Delaware | 48,071 | 21 | Alabama | 38,624 | 46 |
| South Dakota | 47,862 | 22 | Idaho | 38,607 | 47 |
| Kansas | 47,763 | 23 | New Mexico | 38,367 | 48 |
| Texas | 47,129 | 24 | West Virginia | 37,054 | 49 |
| Wisconsin | 46,580 | 25 | Mississippi | 35,396 | 50 |
| U.S. Average | $48,659 | | | | |

Source: U.S. Department of Commerce, Bureau of Economic Analysis

**Per Capita Disposable Personal Income**

The following table shows per capita disposable income for each of the fifty states with their corresponding ranking for fiscal year 2016. Per capita disposable income is defined as the income available to an individual for spending or saving. It is per capita personal income less personal tax and nontax payments. Personal taxes are composed of federal, state and local income taxes, as well as personal property taxes and estate and gift taxes. Nontax payments are made up of fines and fees.

**TABLE 58**
**PER CAPITA DISPOSABLE PERSONAL INCOME BY STATE**
**(Fiscal 2016)**

| State | Per Capita Disposable Income | Rank | State | Per Capita Disposable Income | Rank |
|---|---|---|---|---|---|
| **Connecticut** | **58,569** | **1** | Wisconsin | 41,200 | 26 |
| Massachusetts | 53,602 | 2 | Oklahoma | 41,092 | 27 |
| New Jersey | 52,496 | 3 | Florida | 40,016 | 28 |
| New Hampshire | 51,294 | 4 | Ohio | 39,213 | 29 |
| Alaska | 50,472 | 5 | Maine | 39,082 | 30 |
| New York | 49,782 | 6 | Tennessee | 39,067 | 31 |
| Wyoming | 49,435 | 7 | Louisiana | 38,964 | 32 |
| Maryland | 49,114 | 8 | Oregon | 38,729 | 33 |
| North Dakota | 48,691 | 9 | Michigan | 38,618 | 34 |
| California | 46,967 | 10 | Indiana | 38,228 | 35 |
| Washington | 46,905 | 11 | Missouri | 38,207 | 36 |
| Virginia | 46,158 | 12 | Nevada | 38,107 | 37 |
| Rhode Island | 44,835 | 13 | Montana | 37,129 | 38 |
| Colorado | 44,637 | 14 | North Carolina | 36,719 | 39 |
| Illinois | 44,538 | 15 | Georgia | 36,375 | 40 |
| Pennsylvania | 44,451 | 16 | Arizona | 35,542 | 41 |
| Hawaii | 44,279 | 17 | Utah | 35,464 | 42 |
| Minnesota | 44,181 | 18 | South Carolina | 35,001 | 43 |
| Vermont | 44,166 | 19 | Alabama | 34,951 | 44 |
| Nebraska | 43,559 | 20 | Kentucky | 34,918 | 45 |
| South Dakota | 43,401 | 21 | Arkansas | 34,885 | 46 |
| Kansas | 42,698 | 22 | New Mexico | 34,829 | 47 |
| Delaware | 42,697 | 23 | Idaho | 34,786 | 48 |
| Texas | 42,157 | 24 | West Virginia | 33,376 | 49 |
| Iowa | 41,355 | 25 | Mississippi | 32,410 | 50 |

U.S. Average $42,632

Source: U.S. Department of Commerce, Bureau of Economic Analysis

All figures derived by: $\frac{\text{Disposable Personal Income}}{\text{Population}}$

## Inflation and Its Effect On Personal Income

Inflation is defined as a rise in the general price level (or average level of prices) of all goods and services, or equivalently a decline in the purchasing power of a unit of money. The general price level varies inversely with the purchasing power of a unit of money. Hence, when prices increase purchasing power declines.

To take into account the erosion of purchasing power due to increasing prices, income is deflated by a consumer price index. The Consumer Price Index (CPI) is a measure of the average change in prices over time for a fixed market basket of goods and services. The Bureau of Labor Statistics publishes CPI's for two population groups: a CPI for All Urban Consumers (CPI-U) which covers approximately 80 percent of the total population; and a CPI for Urban Wage Earners and Clerical Workers (CPI-W) which covers 32 percent of the total population and is a subset of the CPI-U population. The CPI-U includes, in addition to wage earners and clerical workers, groups such as professional, managerial and technical workers, the self employed, short-term workers, the unemployed, retirees and others not in the labor force.

The following table shows the Consumer Price Index for All Urban Consumers and its growth over a ten fiscal year period.

**TABLE 59**
**THE U.S. CONSUMER PRICE INDEX**
**(1982-84=100)**

| Fiscal Year | CPI | % Growth |
|---|---|---|
| 2007 | 204.1 | 2.60 |
| 2008 | 211.7 | 3.71 |
| 2009 | 214.6 | 1.40 |
| 2010 | 216.8 | 0.98 |
| 2011 | 221.1 | 1.98 |
| 2012 | 227.6 | 2.95 |
| 2013 | 231.4 | 1.67 |
| 2014 | 235.0 | 1.56 |
| 2015 | 236.7 | 0.72 |
| 2016 | 238.3 | 0.67 |

Source: U.S. Bureau of Labor Statistics

The CPI is a weighted index that is based on prices of food (13.7%), apparel (3.2%), housing (33.5%), transportation (14.8%), medical care (8.5%), education (6.4%), and the other goods that people buy for day-to-day living (19.9%). In addition, all taxes directly associated with the purchase and use of items and services are included in the index. In calculating the index, price changes for the various items in 85 urban areas across the country are averaged together with weights which represent their importance in the spending of the appropriate population group.

Local data is then combined to obtain a U.S. city average. Movements of the indexes from one month to another are usually expressed as percentage changes rather than changes in index points, because index point changes are affected by the level of the index in relation to its base period while percentage changes are not.

**Real Personal Income**

Real personal income is total personal income deflated by the Consumer Price Index, a measure of personal income that usually includes adjustments for changes in prices. The following table shows real personal income growth for the United States, the New England region and Connecticut since the base period of 1982-84. These figures, because they take into account the effects of inflation, provide a better perspective on overall gains in personal income.

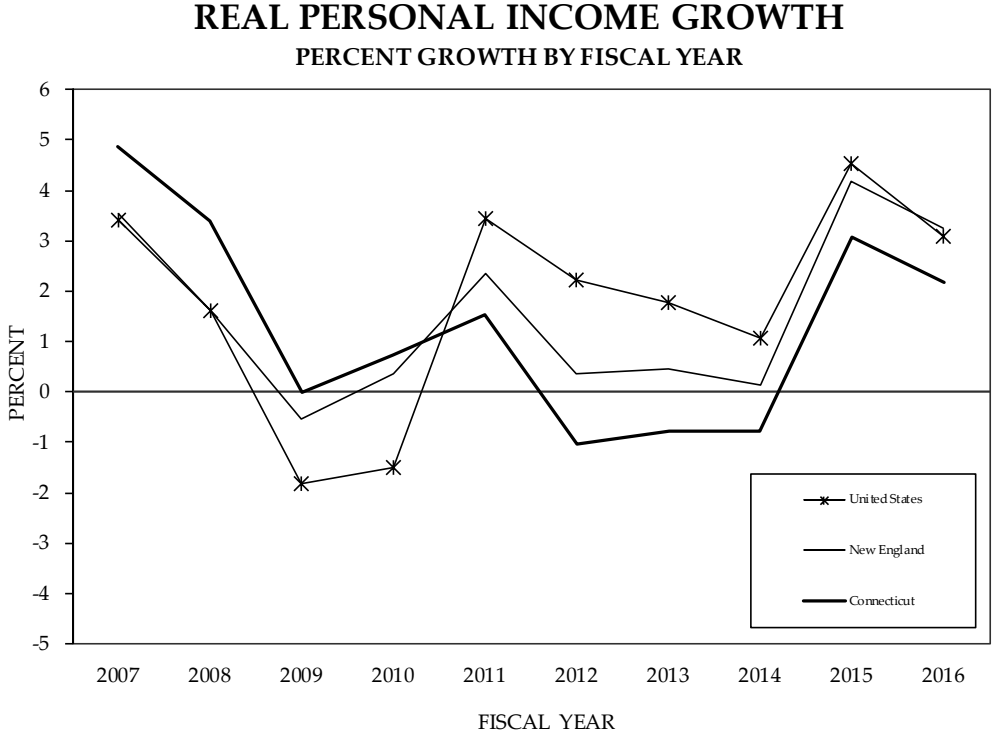
**TABLE 60**
**REAL PERSONAL INCOME**
**(In Millions)**

| Fiscal | United States | | New England | | Connecticut | |
|---|---|---|---|---|---|---|
| Year | Dollars | % Growth | Dollars | % Growth | Dollars | % Growth |
| 2007 | 5,732,661 | 3.40 | 335,925 | 3.55 | 96,858 | 4.87 |
| 2008 | 5,824,602 | 1.60 | 341,354 | 1.62 | 100,140 | 3.39 |
| 2009 | 5,718,766 | (1.82) | 339,544 | (0.53) | 100,122 | (0.02) |
| 2010 | 5,633,835 | (1.49) | 340,820 | 0.38 | 100,863 | 0.74 |
| 2011 | 5,827,874 | 3.44 | 348,845 | 2.35 | 102,398 | 1.52 |
| 2012 | 5,956,553 | 2.21 | 350,098 | 0.36 | 101,351 | (1.02) |
| 2013 | 6,062,001 | 1.77 | 351,683 | 0.45 | 100,572 | (0.77) |
| 2014 | 6,125,896 | 1.05 | 352,197 | 0.15 | 99,776 | (0.79) |
| 2015 | 6,403,607 | 4.53 | 366,914 | 4.18 | 102,848 | 3.08 |
| 2016 | 6,601,517 | 3.09 | 378,875 | 3.26 | 105,095 | 2.18 |

Source: U.S. Department of Commerce, Bureau of Economic Analysis, IHS Economics

It is important to note that there are regional differences in prices. Local area CPI indexes are by-products of the national CPI program. Because each local index is a small subset of the national index, it has a smaller sample size and is therefore subject to substantially more sampling and other measurement error than the national index. Therefore, local area indexes show greater volatility than the national index in the short run, although their long-term trends are quite similar. Therefore, the national Consumer Price Index was utilized in the table above to provide the comparison among the United States, the New England region and Connecticut.

The following chart provides a graphic presentation of the growth in real personal income for the three entities over a ten fiscal year period.




Source: U.S. Department of Commerce, Bureau of Economic Analysis

**Real Per Capita Personal Income**

Real per capita personal income is per capita personal income deflated by the Consumer Price Index and shows how individuals in a geographical entity have fared after adjusting for the effects of inflation. A comparison of the growth rates measures the relative economic performance of each entity as it adjusts personal income growth by population changes.

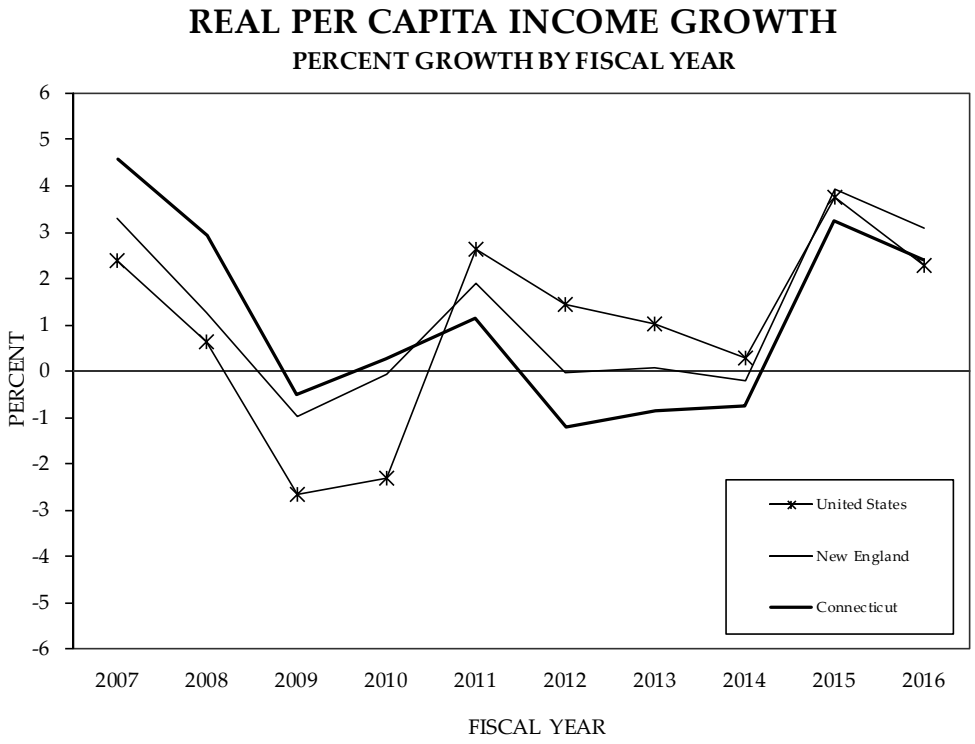
**TABLE 61**
**REAL PER CAPITA PERSONAL INCOME**

| Fiscal | United States | | New England | | Connecticut | |
|---|---|---|---|---|---|---|
| Year | Dollars | % Growth | Dollars | % Growth | Dollars | % Growth |
| 2007 | 19,060 | 2.40 | 23,546 | 3.31 | 27,489 | 4.57 |
| 2008 | 19,183 | 0.65 | 23,842 | 1.26 | 28,298 | 2.95 |
| 2009 | 18,672 | (2.67) | 23,613 | (0.96) | 28,158 | (0.50) |
| 2010 | 18,241 | (2.30) | 23,601 | (0.05) | 28,233 | 0.27 |
| 2011 | 18,722 | 2.63 | 24,049 | 1.90 | 28,554 | 1.14 |
| 2012 | 18,993 | 1.45 | 24,043 | (0.02) | 28,213 | (1.19) |
| 2013 | 19,188 | 1.03 | 24,064 | 0.08 | 27,974 | (0.85) |
| 2014 | 19,245 | 0.30 | 24,017 | (0.20) | 27,766 | (0.74) |
| 2015 | 19,967 | 3.75 | 24,960 | 3.93 | 28,669 | 3.25 |
| 2016 | 20,422 | 2.28 | 25,728 | 3.08 | 29,360 | 2.41 |

Source: IHS Economics, Bureau of Economic Analysis

All figures derived by: $\frac{\text{Total Real Personal Income}}{\text{Population}}$

The previous table shows the growth in real per capita personal income for the United States, the New England region, and Connecticut. The chart below provides a graphic presentation of the growth in real per capita personal income for the three entities over a ten fiscal year period.




Source: IHS Economics, Bureau of Economic Analysis

**TABLE 62**
**GROWTH IN REAL PER CAPITA PERSONAL INCOME**
**(Base Year: 1982-1984)**

| Fiscal | % Growth | | % Cumulative Growth | |
|---|---|---|---|---|
| Year | United States | Connecticut | United States | Connecticut |
| 1950-1960 | 31.0% | 29.9% | 31.0% | 29.9% |
| 1960-1970 | 38.1% | 40.1% | 80.9% | 82.1% |
| 1970-1980 | 15.0% | 11.8% | 108.0% | 103.6% |
| 1980-1990 | 21.1% | 38.2% | 151.9% | 181.3% |
| 1990-2000 | 15.7% | 19.0% | 191.4% | 234.7% |
| 2000-2010 | 6.4% | 16.8% | 210.1% | 291.0% |
| 2010-2016 | 9.2% | 2.5% | 241.2% | 300.6% |

Source: U.S. Department of Commerce, Bureau of Economic Analysis

The above table highlights the cumulative growth in real per capita personal income over the past sixty-five years. Overall, Connecticut has higher cumulative growth in real per capita personal income, exceeding the United States by 59.4 percentage points. During the most recent decade, Connecticut's personal income growth has been weak at only 2.5%, a likely result of two economic bubbles bursting (technology and housing) and the Great Recession of the last two years of the decade. Even though job growth in the state has lagged that of the nation, Connecticut residents' income growth has out-performed that of the nation's over the long-term.

## Cost of Living Index

Statistics regarding inflation and the cost of living for Connecticut are frequently requested by the public. The two indicators are not the same. An inflation index such as the CPI-U is used to measure purchasing power relative to its historical performance, while the cost of living index is used to measure purchasing power relative to one's geographical peers. In other words, the cost of living index is produced to measure the price level of consumer goods and services for a specific area relative to other jurisdictions at a given time.

A widely used index to measure cost of living differences among urban areas is *ACCRA Cost of Living Index,* which is produced by The Council for Community and Economic Research (C2ER). This report includes indices for approximately 320 Metropolitan Statistical Areas (MSAs), Metropolitan Statistical Divisions, and Micropolitan Statistical Areas as defined by the U.S. Office of Management and Budget. In Connecticut, the C2ER survey includes the three urban areas from the following MSAs: Stamford in the Bridgeport-Stamford-Norwalk MSA, Hartford in the Hartford-West Hartford-East Hartford MSA, and New Haven in the New Haven-Milford MSA.

The following table shows the cost of living comparison for three neighboring cities: Boston in the Boston-Quincy MTD, Hartford in the Hartford-West Hartford-East Hartford MTA, and New York (Manhattan) in the New York-White Plains-Wayne NY-NJ MTD based on 2016 third quarter data.

**TABLE 63**
**COMPARISON OF COST OF LIVING**

| 2016 Third Quarter Data MTA/MTD | Composite Index | Grocery Items | Housing | Utilities | Trans-portation | Health Care | Misc.* |
|---|---|---|---|---|---|---|---|
| Hartford, CT | 119.0 | 111.4 | 131.0 | 102.6 | 111.8 | 116.9 | 119.8 |
| Boston, MA | 146.4 | 107.9 | 203.2 | 150.2 | 113.3 | 132.7 | 125.3 |
| New York**, NY | 232.0 | 127.4 | 482.3 | 123.1 | 122.5 | 114.7 | 147.6 |
| Index Weights | 100% | 13.24% | 28.04% | 10.31% | 11.16% | 4.36% | 32.89% |

Note: * Denotes miscellaneous goods and services
** Manhattan

Source: The Council for Community and Economic Research (C2ER), *"ACCRA Cost of Living Index"*, Data for Third Quarter 2016

The Cost of Living Composite Index is weighted by a "market basket" of approximately 60 goods and services for the typical professional and executive household. It is further broken down into six categories including grocery items, housing, utilities, transportation, health care, and miscellaneous goods and services to reflect the different categories of consumer expenditures. The index for the Hartford area, for example, was 119.0 in the third quarter of 2016. Compared to the national index of 100, this shows that the overall living cost in the Hartford area was higher than the national average by 19.0% in the third quarter of 2016. Among the six categories, the cost of housing in the Hartford area was the most expensive item at 31.0% higher than the national average, followed by miscellaneous items at 19.8%, healthcare at 16.9%, transportation at 11.8%, grocery items at 11.4%, and utilities 2.6% higher than the national average. The index, updated quarterly with an annual report published in January of the succeeding year, does not include differences in state and local government taxes.

In the third quarter of 2016, many cities had a relatively higher cost of living than the Hartford area. These include, for example, New York City (Manhattan) at 232.0; San Francisco, California at 181.9; and Washington, D.C. at 151.6. Living costs in most cities in the southern and mountain west states are relatively low; for example, Twin Falls, Idaho at 92.2; Jackson, Mississippi at 87.4; and San Antonio, Texas at 85.4. The cost of living in the Hartford area was comparable to other cities in the northeast such as Philadelphia, Pennsylvania; Providence, Rhode Island; and Newark, New Jersey, which registered at 115.9, 120.7, and 123.1, respectively. The cost of living index can provide useful information for relocation decisions. Individuals contemplating a job offer in a certain area may use this index as a guide to evaluate the financial merits of the move. For example, Hartford residents considering a move to New York City (Manhattan) would need a 95.0% increase in after-tax income to maintain their current lifestyle. On the other hand, New York City residents contemplating a move to Hartford could have a 48.7% reduction in after-tax income and still maintain their current standard of living.

The cost of living for metropolitan statistical areas within Connecticut also varies. In the third quarter of 2016, the ACCRA cost of living index was 142.8 in the Stamford area, 119.0 in the Hartford area, and 121.2 in the New Haven area. These three statistical areas accounted for more than 80% of the state's total population. The following table demonstrates the relative index of the components for these three Connecticut regions.

**TABLE 64**
**COMPARISON OF COST OF LIVING IN CONNECTICUT**
**Hartford, New Haven, and Stamford MTAs**

| 2016 Third quarter Data MSA | Composite Index | Grocery Items | Housing | Utilities | Trans-portation | Health Care | Misc. |
|---|---|---|---|---|---|---|---|
| Hartford | 119.0 | 111.4 | 131.0 | 102.6 | 111.8 | 116.9 | 119.8 |
| New Haven | 121.2 | 122.4 | 133.7 | 102.6 | 101.3 | 116.8 | 123.3 |
| Stamford | 142.8 | 127.5 | 203.1 | 118.9 | 102.8 | 113.3 | 122.5 |

Source: The Council for Community and Economic Research (C2ER), "*ACCRA Cost of Living Index"*, Data for Third quarter 2016

## THE MAJOR REVENUE RAISING TAXES IN THE STATE OF CONNECTICUT

In FY 2016, Connecticut's General Fund derived 85 percent of its revenue from the collection of taxes. To provide an analysis of the overall tax burden on the individuals of each state, the following table was prepared for federal FY 2015. The table shows overall state tax collections as a percentage of personal income. In the table, note that Connecticut ranks 16th, signifying that in fifteen other states, a greater percentage of an individual's income is collected in state taxes than in Connecticut.

**TABLE 65**
**STATE TAX COLLECTIONS AS A PERCENTAGE OF PERSONAL INCOME**
**FY 2015***

| State | Percentage | Rank | State | Percentage | Rank |
|---|---|---|---|---|---|
| North Dakota | 13.43% | 1 | Rhode Island | 6.11% | 26 |
| Vermont | 10.06% | 2 | Oregon | 6.08% | 27 |
| Hawaii | 9.49% | 3 | Maryland | 5.96% | 28 |
| Minnesota | 8.83% | 4 | New Jersey | 5.93% | 29 |
| West Virginia | 8.24% | 5 | Utah | 5.77% | 30 |
| Arkansas | 8.10% | 6 | Kansas | 5.76% | 31 |
| Delaware | 7.91% | 7 | Pennsylvania | 5.72% | 32 |
| New Mexico | 7.63% | 8 | Ohio | 5.64% | 33 |
| Mississippi | 7.63% | 9 | Washington | 5.60% | 34 |
| California | 7.29% | 10 | Nebraska | 5.53% | 35 |
| Maine | 7.20% | 11 | Arizona | 5.32% | 36 |
| Wyoming | 7.12% | 12 | Alabama | 5.32% | 37 |
| Kentucky | 6.87% | 13 | Oklahoma | 5.28% | 38 |
| New York | 6.79% | 14 | South Carolina | 5.20% | 39 |
| Montana | 6.63% | 15 | Louisiana | 4.88% | 40 |
| **Connecticut** | **6.62%** | **16** | Georgia | 4.84% | 41 |
| Wisconsin | 6.48% | 17 | Virginia | 4.76% | 42 |
| Iowa | 6.47% | 18 | Missouri | 4.68% | 43 |
| Massachusetts | 6.43% | 19 | Colorado | 4.65% | 44 |
| Michigan | 6.42% | 20 | Tennessee | 4.63% | 45 |
| Indiana | 6.33% | 21 | Texas | 4.30% | 46 |
| Idaho | 6.31% | 22 | Florida | 4.18% | 47 |
| Nevada | 6.29% | 23 | South Dakota | 4.13% | 48 |
| North Carolina | 6.19% | 24 | New Hampshire | 3.38% | 49 |
| Illinois | 6.13% | 25 | Alaska | 2.09% | 50 |
| U.S. Weighted Average | 5.99% | | | | |

*Based on federal fiscal year from October 2014 through September 2015.
Source: U.S. Census Bureau, "Annual Survey of State Government Tax Collections, 2015"; IHS Economics

Following is a discussion of the major taxes in the State of Connecticut.

**Personal Income Tax**

For income years commencing on or after January 1, 1991, a personal income tax has been imposed upon income of residents of the state (including resident trusts and estates), part-year residents and certain non-residents who have taxable income derived from or connected with sources within Connecticut. For tax years commencing on or after January 1, 1991, and prior to January 1, 1992, the tax was imposed at the rate of 1.5% on Connecticut taxable income. For tax years commencing on or after January 1, 1992, the separate tax on capital gains, dividends and interest was repealed, and the tax was imposed at the rate of 4.5% of Connecticut taxable income. Beginning with tax years commencing on or after January 1, 1996, a second, lower tax rate of 3% was introduced for a certain portion of taxable income. Beginning with tax years commencing January 1, 2003 the 4.5% rate was increased to 5.0%. Beginning with tax years commencing January 1, 2009, a third higher bracket of 6.5% was introduced on incomes in excess of $500,000 for single filers and $1,000,000 for joint filers. Beginning with tax years commencing January 1, 2011, five new tax brackets replaced all previous brackets greater than the lowest rate. The lowest bracket remained unchanged while the highest bracket imposes a 6.7% tax on incomes in excess of $250,000 for single filers and $500,000 for joint filers. Beginning with tax year commencing January 1, 2015, the 6.7% rate was increased to 6.9% and a new seventh tax bracket was added at a 6.99% rate for incomes in excess of $500,000 for single filers and $1,000,000 for joint filers. The amount of taxable income subject to the lower tax rate has been expanded as set forth in the table below. Depending on federal income tax filing status and Connecticut adjusted gross income, personal exemptions ranging from $15,000 to $24,000 are available to taxpayers, with such exemptions phased out at certain higher income levels. Legislation enacted in 1999 increased the exemption amount for single filers over a certain number of years from $12,000 to $15,000. In addition, tax credits ranging from 75% to 1% of a taxpayer's Connecticut tax liability are also available, again dependent upon federal income tax filing status and Connecticut adjusted gross income (See Table 68 for more details). Neither the personal exemption nor the tax credit is available to a trust or an estate. Also commencing in income year 1996, personal income taxpayers have been eligible for up to a $100 credit for property taxes paid on their primary residence or on their motor vehicle. This credit has been modified over the years and for income year 2017 will be $200.

The personal income tax generated $9,181.6 million in FY 2016, $9,151.0 million in FY 2015, and $8,718.7 million in FY 2014. In FY 2016, this tax accounted for 51.6% of total General Fund revenue.

**TABLE 66**
**TAXABLE INCOME AMOUNTS SUBJECT TO THE LOWER RATE**
**WITH THE REMAINDER SUBJECT TO THE HIGHER RATE**

| | | | Amount At Low Rate By Filing Status | | |
|---|---|---|---|---|---|
| Income Year | Low Rate | High Rate | Single | Joint | Head of Household |
| 1996 | 3.0% | 4.5% | $ 2,250 | $ 4,500 | $ 3,500 |
| 1997 | 3.0% | 4.5% | $ 6,250 | $12,500 | $10,000 |
| 1998 | 3.0% | 4.5% | $ 7,500 | $15,000 | $12,000 |
| 1999 - 2002 | 3.0% | 4.5% | $10,000 | $20,000 | $16,000 |
| 2003 - 2008 | 3.0% | 5.0% | $10,000 | $20,000 | $16,000 |
| 2009-2010 | 3.0% | 5.0%-6.5% | $10,000 | $20,000 | $16,000 |
| 2011-2014 | 3.0% | 5.0%-6.7% | $10,000 | $20,000 | $16,000 |
| 2015-Present | 3.0% | 5.0%-6.99% | $10,000 | $20,000 | $16,000 |

The following table compares personal income tax collections as a percentage of personal income for the fifty states for FY 2015.

**TABLE 67**
**STATE INCOME TAX COLLECTIONS AS A PERCENTAGE OF PERSONAL INCOME**
**FY 2015***

| State | Percentage | Rank | State | Percentage | Rank |
|---|---|---|---|---|---|
| Oregon | 4.56% | 1 | Vermont | 2.72% | 23 |
| Minnesota | 4.28% | 2 | Idaho | 2.69% | 24 |
| New York | 4.23% | 3 | Rhode Island | 2.66% | 25 |
| California | 4.19% | 4 | Georgia | 2.62% | 26 |
| Massachusetts | 3.98% | 5 | Colorado | 2.56% | 27 |
| **Connecticut** | **3.62%** | **6** | Missouri | 2.46% | 28 |
| Delaware | 3.47% | 7 | Michigan | 2.38% | 29 |
| Montana | 3.15% | 8 | Mississippi | 2.24% | 30 |
| West Virginia | 3.14% | 9 | Indiana | 2.23% | 31 |
| Illinois | 3.11% | 10 | South Carolina | 2.22% | 32 |
| North Carolina | 3.09% | 11 | Pennsylvania | 2.22% | 33 |
| Wisconsin | 3.08% | 12 | Alabama | 2.11% | 34 |
| Utah | 3.04% | 13 | New Mexico | 2.07% | 35 |
| Maine | 3.02% | 14 | Oklahoma | 2.04% | 36 |
| Hawaii | 3.01% | 15 | Kansas | 1.99% | 37 |
| New Jersey | 2.97% | 16 | Ohio | 1.77% | 38 |
| Virginia | 2.95% | 17 | North Dakota | 1.69% | 39 |
| Kentucky | 2.86% | 18 | Arizona | 1.68% | 40 |
| Nebraska | 2.81% | 19 | Louisiana | 1.62% | 41 |
| Maryland | 2.81% | 20 | New Hampshire | 0.91% | 42 |
| Iowa | 2.77% | 21 | Tennessee | 0.62% | 43 |
| Arkansas | 2.77% | 22 | | | |
| | | | | | |
| U.S. Average** | 2.53% | | | | |

Notes:
* Based on federal fiscal year from October 2014 through September 2015.
** The following states do not levy an income tax and are not included in the U.S. Average: Alaska, Florida, Nevada, South Dakota, Texas, Washington, and Wyoming.

Source: IHS Economics: Bureau of Economic Analysis; U.S. Census Bureau, "2015 Annual Survey of State Government Tax Collections"

The following table shows: A) Connecticut personal income tax exemptions; B) phase out of those exemptions; and C) tax credits available depending on adjusted gross income.

**TABLE 68**
**CONNECTICUT PERSONAL INCOME TAX EXEMPTIONS & CREDITS**
**Income Year 2017**

| Single | | | Married Filing Jointly | | | Head of Household | | |
|---|---|---|---|---|---|---|---|---|
| Exemption: $15,000 | | | Exemption: $24,000 | | | Exemption: $19,000 | | |
| Phase Out: $1K of exemption for each $1K from $30.0K to $45.0K | | | Phase Out: $1K of exemption for each $1K from $48K to $72K | | | Phase Out: $1K of exemption for each $1K from $38K to $57K | | |
| AGI From | AGI To | % of Tax | AGI From | AGI To | % of Tax | AGI From | AGI To | % of Tax |
| $15,000 | $18,800 | 75% | $24,000 | $30,000 | 75% | $19,000 | $24,000 | 75% |
| $18,800 | $19,300 | 70% | $30,000 | $30,500 | 70% | $24,000 | $24,500 | 70% |
| $19,300 | $19,800 | 65% | $30,500 | $31,000 | 65% | $24,500 | $25,000 | 65% |
| $19,800 | $20,300 | 60% | $31,000 | $31,500 | 60% | $25,000 | $25,500 | 60% |
| $20,300 | $20,800 | 55% | $31,500 | $32,000 | 55% | $25,500 | $26,000 | 55% |
| $20,800 | $21,300 | 50% | $32,000 | $32,500 | 50% | $26,000 | $26,500 | 50% |
| $21,300 | $21,800 | 45% | $32,500 | $33,000 | 45% | $26,500 | $27,000 | 45% |
| $21,800 | $22,300 | 40% | $33,000 | $33,500 | 40% | $27,000 | $27,500 | 40% |
| $22,300 | $25,000 | 35% | $33,500 | $40,000 | 35% | $27,500 | $34,000 | 35% |
| $25,000 | $25,500 | 30% | $40,000 | $40,500 | 30% | $34,000 | $34,500 | 30% |
| $25,500 | $26,000 | 25% | $40,500 | $41,000 | 25% | $34,500 | $35,000 | 25% |
| $26,000 | $26,500 | 20% | $41,000 | $41,500 | 20% | $35,000 | $35,500 | 20% |
| $26,500 | $31,300 | 15% | $41,500 | $50,000 | 15% | $35,500 | $44,000 | 15% |
| $31,300 | $31,800 | 14% | $50,000 | $50,500 | 14% | $44,000 | $44,500 | 14% |
| $31,800 | $32,300 | 13% | $50,500 | $51,000 | 13% | $44,500 | $45,000 | 13% |
| $32,300 | $32,800 | 12% | $51,000 | $51,500 | 12% | $45,000 | $45,500 | 12% |
| $32,800 | $33,300 | 11% | $51,500 | $52,000 | 11% | $45,500 | $46,000 | 11% |
| $33,300 | $60,000 | 10% | $52,000 | $96,000 | 10% | $46,000 | $74,000 | 10% |
| $60,000 | $60,500 | 9% | $96,000 | $96,500 | 9% | $74,000 | $74,500 | 9% |
| $60,500 | $61,000 | 8% | $96,500 | $97,000 | 8% | $74,500 | $75,000 | 8% |
| $61,000 | $61,500 | 7% | $97,000 | $97,500 | 7% | $75,000 | $75,500 | 7% |
| $61,500 | $62,000 | 6% | $97,500 | $98,000 | 6% | $75,500 | $76,000 | 6% |
| $62,000 | $62,500 | 5% | $98,000 | $98,500 | 5% | $76,000 | $76,500 | 5% |
| $62,500 | $63,000 | 4% | $98,500 | $99,000 | 4% | $76,500 | $77,000 | 4% |
| $63,000 | $63,500 | 3% | $99,000 | $99,500 | 3% | $77,000 | $77,500 | 3% |
| $63,500 | $64,000 | 2% | $99,500 | $100,000 | 2% | $77,500 | $78,000 | 2% |
| $64,000 | $64,500 | 1% | $100,000 | $100,500 | 1% | $78,000 | $78,500 | 1% |

Source: General Statutes of the State of Connecticut

The following table shows whether state and local governmental obligations are included in the definition of state income for tax purposes.

**TABLE 69**
**STATE AND LOCAL GOVERNMENT OBLIGATIONS EXEMPTIONS**
**FOR DETERMINING INDIVIDUAL'S STATE INCOME**

| State | Own Securities | Other State's Securities | State | Own Securities | Other State's Securities |
|---|---|---|---|---|---|
| Alabama | E | T | Montana | E | T |
| Alaska (no tax) | | | Nebraska | E | T |
| Arizona | E | T | Nevada (no tax) | | |
| Arkansas | E | T | New Hampshire | E | T |
| California | E | T | New Jersey | E | T |
| Colorado | E | T | New Mexico | E | T |
| Connecticut | E | T | New York | E | T |
| Delaware | E | T | North Carolina | E | T |
| Florida (no tax) | | | North Dakota | E | T |
| Georgia | E | T | Ohio | E | T |
| Hawaii | E | T | Oklahoma | T (1) | T |
| Idaho | E | T | Oregon | E | T |
| Illinois | T (1) | T | Pennsylvania | E | T |
| Indiana | E | T (2) | Rhode Island | E | T |
| Iowa | T (1) | T | South Carolina | E | T |
| Kansas | E | T | South Dakota (no tax) | | |
| Kentucky | E | T | Tennessee | E | T |
| Louisiana | E | T | Texas (no tax) | | |
| Maine | E | T | Utah | T (1) | T(3) |
| Maryland | E | T | Vermont | E | T |
| Massachusetts | E | T | Virginia | E | T |
| Michigan | E | T | Washington (no tax) | | |
| Minnesota | E | T | West Virginia | E | T |
| Mississippi | E | T | Wisconsin | T (1) | T |
| Missouri | E | T | Wyoming (no tax) | | |

T = Taxable / E = Exempt

(1) Interest earned from some qualified obligations is exempt from the tax.
(2) Taxable for bonds acquired after 2011, bonds acquired before 2012 are exempt.
(3) Taxable for bonds acquired after 2002 if the other state or locality imposes an income-based tax on Utah bonds.

Source: Commerce Clearing House, Inc.; State Taxation of Municipal Bonds for Individuals

The following table compares the personal income tax rates and bases for the fifty states and the District of Columbia.

**TABLE 70**
**PERSONAL INCOME TAX BY STATE**

| | Low Bracket | | High Bracket | | | Low Bracket | | High Bracket | |
|---|---|---|---|---|---|---|---|---|---|
| State | % Rate | To Net Income | % Rate | From Net Income $ | State | % Rate | To Net Income $ | % Rate | From Net Income $ |
| Alabama (3) | 2.00 | 1,000 | 5.00 | 6,001 | Missouri (1) | 1.5 | 1,000 | 6.0 | 9,001 |
| Arizona (1) | 2.59 | 20,000 | 4.54 | 300,001 | Montana (1,c) | 1.0 | 2,800 | 6.9 | 17,101 |
| Arkansas (3,c) | 0.90 | 4,299 | 7.00 | 35,100 | Nebraska (1) | 2.46 | 6,090 | 6.84 | 58,921 |
| California (1,c) | 1.00 | 15,700 | 12.30 | 1,052,886 | New Hampshire | (b) | | | |
| Colorado (2) | 4.63 | All | | | New Jersey (3) | 1.4 | 20,000 | 8.97 | 500,001 |
| **Connecticut** | **3.00** | **20,000** | **6.99** | **1,000,000** | New Mexico (1) | 1.7 | 8,000 | 4.9 | 24,001 |
| Delaware (1) | 2.20 | 5,000 | 6.60 | 60,001 | New York (1,c) | 4.0 | 16,700 | 8.82 | 2,092,801 |
| Georgia (1) | 1.00 | 1,000 | 6.00 | 10,001 | N. Carolina (1) | 6.0 | 21,250 | 7.75 | 100,001 |
| Hawaii (1) | 1.40 | 3,600 | 8.25 | 96,001 | N. Dakota (2,c) | 1.10 | 62,600 | 2.90 | 411,501 |
| Idaho (1,c) | 1.60 | 2,904 | 7.40 | 21,780 | Ohio (1) | 0.495 | 5,000 | 4.997 | 200,001 |
| Illinois (1,d) | 3.75 | All | | | Oklahoma (1) | 0.5 | 2,000 | 5.25 | 15,001 |
| Indiana (1) | 3.23 | All | | | Oregon (2,c) | 5.0 | 6,600 | 9.9 | 250,001 |
| Iowa (1,c) | 0.36 | 1,539 | 8.98 | 69,256 | Pennsylvania (3) | 3.07 | All | | |
| Kansas (1) | 2.70 | 30,000 | 4.60 | 30,001 | Rhode Island(1,c) | 3.75 | 60,550 | 5.99 | 137,651 |
| Kentucky (1) | 2.00 | 3,000 | 6.00 | 75,001 | S. Carolina (2,c) | 0.0 | 2,910 | 7.0 | 14,551 |
| Louisiana (1) | 2.00 | 25,000 | 6.00 | 100,001 | Tennessee | (b) | | | |
| Maine (1,c) | 0.00 | 10,449 | 7.95 | 41,850 | Utah (1) | 5.0 | All | | |
| Maryland (1) | 2.00 | 1,000 | 5.75 | 300,001 | Vermont (2,c) | 3.55 | 61,600 | 8.95 | 405,101 |
| Massachusetts | 5.25 | All | (a) | | Virginia (1) | 2.0 | 3,000 | 5.75 | 17,001 |
| Michigan (1) | 4.25 | All | | | W. Virginia (1) | 3.0 | 10,000 | 6.5 | 60,001 |
| Minnesota (2,c) | 5.35 | 36,650 | 9.85 | 258,262 | Wisconsin (1,c) | 4.0 | 14,790 | 7.65 | 325,701 |
| Mississippi (3) | 3.00 | 5,000 | 5.00 | 10,001 | Dist. of Col. (2) | 4.0 | 10,000 | 8.95 | 350,001 |

The following states do not levy an income tax: Alaska, Florida, Nevada, South Dakota, Texas, Washington & Wyoming.

Note: Tax rates are for married filers filing joint returns and do not include income taxes levied at the local level.

Base: (1) – Modified Federal Adjusted Gross Income
(2) – Modified Federal Taxable Income
(3) – State's Individual Definition of Taxable Income

(a) The rate is 12% for short-term capital gains and 5.25% for interests and dividends.
(b) Income taxes are limited to interest and dividends: 5.0% in NH and 6.0% in Tenn.
(c) Brackets are indexed for inflation annually. Oregon brackets $125,000 and over are not indexed for inflation.
(d) Flat rate in Illinois is scheduled to decrease to 3.25% in income year 2024.
Source: Commerce Clearing House, Inc.

## Sales and Use Tax

The sales tax is imposed, subject to certain limitations, on the gross receipts from certain transactions within the state of persons engaged in business in the state including: 1) retail sales of tangible personal property; 2) the sale of certain services; 3) the leasing or rental of tangible personal property; 4) the producing, fabricating, processing, printing, or imprinting of tangible personal property to special order or with material furnished by the consumer; 5) the furnishing, preparing or serving of food, meals or drinks; and 6) the occupancy of hotels or lodging house rooms for a period not exceeding thirty consecutive calendar days.

The use tax is imposed on the consideration paid for certain services, purchases or rentals of tangible personal property used within the state and not subject to the sales tax.

Both the sales and use taxes are levied at a rate of 6.35%. Various exemptions from the tax are provided, based on the nature, use, or price of the property or services involved or the identity of the purchaser. Certain items are taxed at reduced rates. Hotel rooms are taxed at 15%.

The sales and use tax is an important source of revenue for the State of Connecticut. The tax generated $4,181.9 million in FY2016, $4,205.1 million in FY 2015, and $4,100.6 million in FY 2014. In FY 2016, sales and use taxes accounted for 27.6% of the total revenue, compared to 24.3% in 2015 and 24.1% in FY 2014.

When analyzing sales taxes, a simple comparison of rates is not an effective way to measure the tax burden imposed. An analysis of the tax base must be undertaken to provide a more meaningful comparison.

To provide a relevant comparison of sales tax burden, two studies are presented. The first study shows sales tax collections as a percentage of personal income. The larger the percentage of personal income going to sales tax collections, the heavier the burden of that tax. The table on the following page shows sales tax collections as a percentage of personal income and the corresponding ranking of the states. Note that Connecticut's tax burden is less than 28 other states. The comparison is based on FY 2015 data. From FY 1991 to FY 2015, Connecticut's sales tax collections as a percentage of personal income dropped from 3.15% with a rank of ninth to 2.68% with a rank of 29th, and compared to the national average of 3.11%. This change was primarily due to the reduction in Connecticut's sales tax rate from 8% to 6.35% and an expansion of the exemptions on certain services and goods.

The second study provides an analysis of major sales tax exemptions by state. Connecticut excludes from its sales tax such major items as food products for human consumption, drugs and medicines used by humans, machinery, professional services, residential utilities and motor fuels. Table 72 shows the comparison for major sales tax exemptions.

**TABLE 71**
**SALES TAX COLLECTIONS AS A PERCENTAGE OF PERSONAL INCOME**
**FY 2015***

| State | Tax Rate (%) | Percentage Personal Income | Rank | State | Tax Rate (%) | Percentage Personal Income | Rank |
|---|---|---|---|---|---|---|---|
| Hawaii | 4.000** | 5.97% | 1 | Iowa | 6.000** | 3.00% | 24 |
| Nevada | 6.850** | 5.05% | 2 | Pennsylvania | 6.000** | 2.91% | 25 |
| Mississippi | 7.000** | 4.70% | 3 | Wisconsin | 5.000** | 2.91% | 26 |
| North Dakota | 5.000** | 4.54% | 4 | Kansas | 6.500** | 2.91% | 27 |
| Washington | 6.500** | 4.40% | 5 | Alabama | 4.000** | 2.69% | 28 |
| Arkansas | 6.500 | 3.89% | 6 | **Connecticut** | **6.350** | **2.68%** | **29** |
| West Virginia | 6.000** | 3.88% | 7 | Louisiana | 5.000** | 2.66% | 30 |
| Indiana | 7.000** | 3.85% | 8 | North Carolina | 4.750** | 2.65% | 31 |
| New Mexico | 5.125** | 3.80% | 9 | South Carolina | 6.000** | 2.64% | 32 |
| Texas | 6.250** | 3.72% | 10 | California | 7.500 | 2.52% | 33 |
| Minnesota | 6.875** | 3.60% | 11 | Nebraska | 5.500** | 2.52% | 34 |
| Maine | 5.500 | 3.54% | 12 | Illinois | 6.250 | 2.51% | 35 |
| Ohio | 5.750 | 3.43% | 13 | Maryland | 6.000 | 2.49% | 36 |
| Florida | 6.000** | 3.41% | 14 | New Jersey | 7.000** | 2.43% | 37 |
| Vermont | 6.000** | 3.39% | 15 | Utah | 4.700 | 2.38% | 38 |
| South Dakota | 4.500** | 3.38% | 16 | Oklahoma | 4.500** | 2.32% | 39 |
| Tennessee | 7.000** | 3.36% | 17 | New York | 4.000** | 2.08% | 40 |
| Kentucky | 6.000** | 3.23% | 18 | Missouri | 4.225** | 1.99% | 41 |
| Michigan | 6.000** | 3.13% | 19 | Massachusetts | 6.250** | 1.97% | 42 |
| Arizona | 5.600** | 3.12% | 20 | Georgia | 4.000** | 1.86% | 43 |
| Rhode Island | 7.000** | 3.10% | 21 | Colorado | 2.900** | 1.74% | 44 |
| Idaho | 6.000** | 3.08% | 22 | Virginia | 6.000** | 1.50% | 45 |
| Wyoming | 4.000** | 3.01% | 23 | | | | |
| U.S. Average*** | | 3.11% | | | | | |

Notes:
* Based on federal fiscal year from October 2014 through September 2015.
** Local tax rates are additional
*** The following states do not levy a sales tax and are not included in the U.S. Average: Alaska, Delaware, Montana, New Hampshire, and Oregon
- Tax rates are effective as of January 1, 2016
Source: Bureau of Economic Analysis, U.S. Census Bureau, "Annual Survey of State Government Tax Collections, 2015"; IHS Economics

## TABLE 72
## MAJOR SALES TAX EXEMPTIONS BY STATE

| State | Food | Prescription Drugs | Motor Fuels | Clothes |
|---|---|---|---|---|
| Alabama | T | E | E | T |
| Arizona | E | E | E | T |
| Arkansas | T (1) | E | E | T |
| California | E | E | T | T |
| Colorado | E | E | E | T |
| Connecticut | E | E | E | T |
| Florida | E | E | E (6) | T |
| Georgia | E | E | T (1) | T |
| Hawaii | T | E | T | T |
| Idaho | T | E | E | T |
| Illinois | T (1) | T (1) | T (5) | T |
| Indiana | E | E | T | T |
| Iowa | E | E | E | T |
| Kansas | T | E | E | T |
| Kentucky | E | E | E | T |
| Louisiana | E | E | E | T |
| Maine | E | E | E | T |
| Maryland | E | E | E | T |
| Massachusetts | E | E | E | E (2) |
| Michigan | E | E | T | T |
| Minnesota | E | E | E | E |
| Mississippi | T | E | E | T |
| Missouri | T (1) | E | E | T |
| Nebraska | E | E | E | T |
| Nevada | E | E | E | T |
| New Jersey | E | E | E | E |
| New Mexico | E | E | E | T |
| New York | E | E | T | E (3) |
| North Carolina | E | E | E | T |
| North Dakota | E | E | E | T |
| Ohio | E | E | E | T |
| Oklahoma | T | E | E | T |
| Pennsylvania | E | E | E | E |
| Rhode Island | E | E | E | E (4) |
| South Carolina | E | E | E | T |
| South Dakota | T | E | E | T |
| Tennessee | T (1) | E | E | T |
| Texas | E | E | E | T |
| Utah | T (1) | E | E | T |
| Vermont | E | E | E | E |
| Virginia | T (1) | E | E | T |
| Washington | E | E | E | T |
| West Virginia | E | E | T | T |
| Wisconsin | E | E | E | T |
| Wyoming | E | E | E | T |
| Total Taxable | 13 | 1 | 8 | 38 |

Note: These states do not levy a sales tax: Alaska, Delaware, Montana, New Hampshire & Oregon.
T = Taxable under the sales tax, E = Exempt from the sales tax (1) Taxed at a reduced rate. (2) Up to a sales price of $175 per item. (3) Up to a sales price of $110 per item. (4) Up to a sales price of $250 per item. (5) Sales of majority blended ethanol fuel are exempt. (6) Unless used by railroad locomotives or vessels to transport persons or property in interstate or foreign commerce.
Source: Commerce Clearing House, Inc., Federation of Tax Administrators

## Corporation Business Tax

The Corporation Business Tax is imposed on any corporation, joint stock company or association or fiduciary of any of the foregoing which carries on or has the right to carry on business within the state or owns or leases property or maintains an office within the state. The Corporation Business Tax consists of three components, and the taxpayer's liability is the greatest amount computed under any of the three components. The first is a tax measured by the net income of a taxpayer (the "Income-Base Tax"). Net income means federal gross income (with limited variations) less certain deductions, most of which correspond to the deductions allowed under the Internal Revenue Code of 1986, as amended from time to time. The corporation business tax generated $880.4 million in FY 2016, $814.8 million in FY 2015, and $782.2 million in FY 2014. In FY 2016, this tax accounted for 5.0% of total General Fund revenue, compared to 4.7% in FY 2015.

If a taxpayer is taxable solely within the state, the Income-Base Tax is measured by, and based upon, its entire net income. If a taxpayer is taxable in another state in which it conducts business, the base against which the Income-Base Tax is measured is the portion of the taxpayer's entire net income assigned to the state, pursuant to a statutory formula designed to identify the proportion of the taxpayer's trade or business conducted within the state based upon the proportion of sales within the state. Public Act 15-244 maintained an existing 20% surcharge for income year 2016 and 2017, declining to 10% in income year 2018 and eliminating the surcharge in income year 2019 and beyond. Currently, the Income-Base Tax is levied at the rate of 7.5%. The surcharge does not apply to companies with less than $100 million in annual gross revenue or whose tax liability does not exceed the minimum tax of $250. The surcharge is calculated prior to the application of any credits.

The second part of the Corporation Business Tax is an additional tax on capital (the "Additional Tax"). The additional tax base is determined either as a specific maximum dollar amount or at a flat rate on a defined base, usually related in whole or part to its capital stock and balance sheet surplus, profit and deficit. If a taxpayer is also taxable in another state in which it conducts business, the defined base is apportioned most often to the value of certain assets having tax status within the state. The third component of the Corporation Business Tax is the Minimum Tax, which is $250. Corporations must compute their tax under all three bases and then pay the tax under the highest computation.

Numerous tax credits are also available to corporations including, but not limited to, research and development credits of 1% to 6%, credits for property taxes paid on electronic and data processing equipment, and a 5% credit for investments in fixed and human capital.

The table on the following page provides a comparison of the assessed rates for the corporation business tax for the fifty states and the District of Columbia.

## TABLE 73
## CORPORATION TAX BY STATE
## FOR TAX YEAR 2016

| | Low Bracket | | High Bracket | | | Low Bracket | | High Bracket | |
|---|---|---|---|---|---|---|---|---|---|
| State | % Rate | To Net Income $ | % Rate | From Net Income $ | State | % Rate | To Net Income | % Rate | From Net Income $ |
| Alabama | 6.50 | All | | | Missouri | 6.25 | All | | |
| Alaska | 0.00 | 25,000 | 9.4 | 222,000 | Montana | 6.75 | All | | |
| Arizona | 5.50 | All | | | Nebraska | 5.58 | 100,000 | 7.81 | 100,001 |
| Arkansas | 1.00 | 3,000 | 6.5 | 100,001 | Nevada (6) | | | | |
| California (1) | 8.84 | All | | | New Hampshire | 8.50 | All | | |
| Colorado | 4.63 | All | | | New Jersey | 9.00 | All | | |
| **Connecticut (2)** | **7.50** | **All** | | | New Mexico | 4.80 | 500,000 | 6.6 | 1.0M+ |
| Delaware | 8.70 | All | | | New York | 7.10 | All | | |
| Florida (3) | 5.50 | All | | | N. Carolina | 5.00 | All | | |
| Georgia | 6.00 | All | | | N. Dakota | 1.41 | 25,000 | 4.31 | 50,001 |
| Hawaii | 4.40 | 25,000 | 6.4 | 100,001 | Ohio (7) | | | | |
| Idaho | 7.40 | All | | | Oklahoma | 6.00 | All | | |
| Illinois (4) | 7.75 | All | | | Oregon | 6.60 | 1.0M | 7.6 | 1.0M+ |
| Indiana | 6.50 | All | | | Pennsylvania | 9.99 | All | | |
| Iowa | 6.00 | 25,000 | 12.0 | 250,001 | Rhode Island | 7.00 | All | | |
| Kansas (5) | 4.00 | All | | | S. Carolina | 5.00 | All | | |
| Kentucky | 4.00 | 50,000 | 6.0 | 100,001 | Tennessee | 6.50 | All | | |
| Louisiana | 4.00 | 25,000 | 8.0 | 200,001 | Texas (8) | | | | |
| Maine | 3.50 | 25,000 | 8.93 | 250,000 | Utah | 5.00 | All | | |
| Maryland | 8.25 | All | | | Vermont | 6.00 | 10,000 | 8.5 | 25,001 |
| Massachusetts | 8.00 | All | | | Virginia | 6.00 | All | | |
| Michigan | 6.00 | All | | | West Virginia | 6.50 | All | | |
| Minnesota | 9.80 | All | | | Wisconsin | 7.90 | All | | |
| Mississippi | 3.00 | 5,000 | 5.0 | 10,001 | District of Col. | 9.40 | All | | |

Note: The table does not include corporate income taxes levied at the local level. These states do not levy a corporate income tax: South Dakota, Washington & Wyoming. The following states require a minimum tax: AZ $50; CA $800; CT $250; ID $20; MA $456; MT $50; NJ $500; NY $25; OR $150; RI $500; UT $100; VT $250; District of Columbia $250

(1) Banks and financial corporations (except financial S-corporations) are subject to a 10.84% tax.

(2) A 20% surcharge is imposed for tax years 2012 - 2017 on companies with more than $100 million in annual gross revenue.

(3) An alternative minimum tax imposed 3.3%, an exemption of $50,000 is allowed.

(4) Sum of corporation income tax rate of 5.25% and a replacement tax of 2.5%.

(5) A surtax of 3.0% is imposed on income over $50,000.

(6) Commerce Tax based on gross receipts. Rates vary from 0.051%-0.331%, depending on industry.

(7) Commercial Activity Tax-based on a tiered Annual Minimum Tax and 0.26% on gross receipts over $1 million

(8) A franchise tax of 0.975% is imposed on entities with more than $1,080,000 of total revenues.

Source: Commerce Clearing House. Rates as of December 2016.

## Motor Fuels Tax

The state imposes a tax, subject to certain limitations, (1) on gasoline and certain other liquids which are prepared, advertised, offered for sale, sold for use as, or commonly and commercially used as, a fuel in internal combustion engines ("gasoline" or "gasohol"), and (2) on all combustible gases and liquids which are suitable and used for generation of power to propel motor vehicles ("special fuels"). The distributors liable for these taxes are those entities which distribute fuel within the state, import fuel into the state for distribution within the state, or produce or refine fuels within the state.

The Gasoline Tax is imposed on each gallon of gasoline or gasohol sold (other than to another distributor) or used within the state by a distributor. The tax on special fuels (the "Special Fuel Tax") is assessed on each gallon of special fuels used within the state in a motor vehicle licensed, or required to be licensed, to operate upon the public highways of the state.

The Special Fuels Tax is paid by vehicle users, and is generally collected by retail dealers of special fuels (primarily diesel fuel). Various exemptions from both taxes are provided, among which are sales to, or use by, the United States, the state or its municipalities.

The Motor Carrier Road Tax is imposed upon gallons of fuel (primarily diesel fuel) used by business entities ("motor carriers") which operate any of the following vehicles in the state: (1) passenger vehicles seating more than nine persons; (2) road tractors or tractor trucks; or (3) trucks having a registered gross weight in excess of eighteen thousand pounds. Such motor carriers pay the tax on the gallons of fuel which they use while operating such vehicles in the state. The number of gallons subject to the tax is determined by multiplying the total number of gallons of fuel used by the motor carrier during each year by a fraction, the numerator of which is the total number of miles traveled by the motor carrier's vehicles within the state during the year, and the denominator of which is the total number of miles traveled by the motor carrier's vehicles both within and outside the state during the year.

The Gasoline Tax is 25 cents per gallon. Effective July 1, 2014, the Special Fuels and Motor Carrier Taxes were reduced by 0.4 cents per gallon, from 54.9 cents per gallon to 54.5 cents per gallon. The 1983 session of the General Assembly enacted a Special Transportation Fund for highway construction and maintenance and 1 cent per gallon of the motor fuels tax was dedicated to this fund. Beginning July 1, 1984, the Special Transportation Fund was expanded to include all collections from the motor fuels tax.

The table on the following page shows the comparative rates for Motor Fuel Taxes for the 50 states.

**TABLE 74**
**MOTOR FUEL TAXES BY STATE**

| State | Excise Tax | Sales Tax Rate % | Total Tax* | State | Excise Tax | Sales Tax Rate % | Total Tax* |
|---|---|---|---|---|---|---|---|
| Alabama | 18.0¢ | - | 18.0¢ | Montana | 27.0¢ | - | 27.0¢ |
| Alaska | 8.0 | - | 8.0 | Nebraska | 25.6 | - | 25.6 |
| Arizona | 18.0 | - | 18.0 | Nevada | 24.0 | - | 24.0 |
| Arkansas | 21.5 | - | 21.5 | New Hampshire | 22.2 | - | 22.2 |
| California | 30.0 | 2.3 | 35.3 | New Jersey | 10.5 | - | 10.5 |
| Colorado | 22.0 | - | 22.0 | New Mexico | 17.0 | - | 17.0 |
| **Connecticut (a)** | **25.0** | **-** | **25.0** | New York | 8.0 | 4.0 | 16.6 |
| Delaware | 23.0 | - | 23.0 | North Carolina (f) | 37.5 | - | 37.5 |
| Florida | 17.3 | - | 17.3 | North Dakota | 23.0 | - | 23.0 |
| Georgia (b) | 7.5 | - | 19.3 | Ohio | 28.0 | - | 28.0 |
| Hawaii (c) | 17.0 | 4.0 | 25.9 | Oklahoma | 16.0 | - | 16.0 |
| Idaho | 32.0 | - | 32.0 | Oregon | 30.0 | - | 30.0 |
| Illinois | 19.0 | 6.3 | 33.2 | Pennsylvania | 50.5 | - | 50.5 |
| Indiana (d) | 18.0 | 7.0 | 33.7 | Rhode Island | 32.0 | - | 32.0 |
| Iowa | 30.8 | - | 30.8 | South Carolina | 16.0 | - | 16.0 |
| Kansas | 24.0 | - | 24.0 | South Dakota | 22.0 | - | 22.0 |
| Kentucky (e) | 26.0 | - | 26.0 | Tennessee | 20.0 | - | 20.0 |
| Louisiana | 20.0 | - | 20.0 | Texas | 20.0 | - | 20.0 |
| Maine | 30.0 | - | 30.0 | Utah | 24.5 | - | 24.5 |
| Maryland | 30.3 | - | 30.3 | Vermont | 12.1 | - | 12.1 |
| Massachusetts | 24.0 | - | 24.0 | Virginia | 11.1 | - | 11.1 |
| Michigan | 19.0 | 6.0 | 32.5 | Washington | 37.5 | - | 37.5 |
| Minnesota | 28.5 | - | 28.5 | West Virginia (g) | 20.5 | - | 35.7 |
| Mississippi | 18.0 | - | 18.0 | Wisconsin | 30.9 | - | 30.9 |
| Missouri | 17.0 | - | 17.0 | Wyoming | 24.0 | - | 24.0 |

* The total column in the above table is the sum of per gallon state tax and sales taxes or additional taxes where applicable. The price used to estimate the effect of the sales tax, which excludes state taxes, was $2.06 per gallon.

(a) Plus a petroleum gross receipts tax of 8.1% of wholesale price.
(b) Includes a pre-paid sales tax converted to a cents per gallon rate of 11.8¢
(c) County taxes between 8.8¢ and 16.5¢ per gallon are levied in addition to the state tax of 17¢ per gallon. An average of 15.1¢ was used in calculating the total tax.
(d) Plus an 11¢ surcharge tax effective January 1, 2014.
(e) KY: Rate is variable, adjusted quarterly. MA: Rate is variable, adjusted annually
(f) Includes an additional tax based on the average wholesale price of motor fuel.
(g) Plus additional variable wholesale tax rate of 14.1¢ per gallon effective January 1, 2015.

Source: Commerce Clearing House, Inc.; National Conference of State Legislatures

**Other Sources**

The following tables show the most recent comparative rates or exemptions for some of the other taxes and fees collected by the states.

**TABLE 75**
**CIGARETTE TAXES BY STATE**

| State | Rate | State | Rate |
|---|---|---|---|
| Alabama | $0.675 | Montana | $1.70 |
| Alaska | $2.00 | Nebraska | $0.64 |
| Arizona | $2.00 | Nevada | $1.80 |
| Arkansas | $1.15 | New Hampshire | $1.78 |
| California | $0.87 | New Jersey | $2.70 |
| Colorado | $0.84 | New M3exico | $1.66 |
| **Connecticut** | **$3.90** | New York | $4.35 |
| Delaware | $1.60 | North Carolina | $0.45 |
| Florida | $1.339 | North Dakota | $0.44 |
| Georgia | $0.37 | Ohio | $1.60 |
| Hawaii | $3.20 | Oklahoma | $1.03 |
| Idaho | $0.57 | Oregon | $1.31 |
| Illinois | $1.98 | Pennsylvania | $2.60 |
| Indiana | $0.995 | Rhode Island | $3.75 |
| Iowa | $1.36 | South Carolina | $0.57 |
| Kansas | $1.29 | South Dakota | $1.53 |
| Kentucky | $0.60 | Tennessee | $0.62 |
| Louisiana | $1.08 | Texas | $1.41 |
| Maine | $2.00 | Utah | $1.70 |
| Maryland | $2.00 | Vermont | $3.08 |
| Massachusetts | $3.51 | Virginia | $0.30 |
| Michigan | $2.00 | Washington | $3.025 |
| Minnesota | $3.00 | West Virginia | $0.55 |
| Mississippi | $0.68 | Wisconsin | $2.52 |
| Missouri | $0.17 | Wyoming | $0.60 |

Note: The tax is based on a pack of 20 cigarettes.

Source: Commerce Clearing House, Inc., Federation of Tax Administrators. Rates as of October 2016.

**TABLE 76**
**INSURANCE COMPANIES TAX BY STATE**

| State | Domestic Tax Rate % (1) | Foreign Tax Rate % (1) | State | Domestic Tax Rate % (1) | Foreign Tax Rate % (1) |
|---|---|---|---|---|---|
| Alabama | 0.50-4.00 | 0.50-4.00 | Montana | 2.75 | 2.75 |
| Alaska | 0.75-6.00 | 0.75-6.00 | Nebraska (4) | 0.375-3.00 | 0.50-3.00 |
| Arizona (3) | 0.66-3.00 | 2.00-3.00 | Nevada | 2.00-3.50 | 2.00-3.50 |
| Arkansas | 0.75-3.00 | 0.75-3.00 | New Hampshire (5) | 1.25-4.00 | 3.00 |
| California | 0.50-5.00 | 0.50-5.00 | New Jersey | 1.05-5.00 | 1.05-5.00 |
| Colorado (2) | 1.00-2.25 | 0.50-2.25 | New Mexico | 3.003-4.003 | 3.003-4.003 |
| **Connecticut** | **1.75-4.00** | **1.75-4.00** | New York | 1.75-7.10 | 1.75-7.10 |
| Delaware (3) | 1.75-5.00 | 1.75-5.00 | North Carolina | 1.90-2.50 | 1.90-2.50 |
| Florida (4) | 0.75-1.75 | 0.75-1.75 | North Dakota | 1.75-2.00 | 1.75-2.00 |
| Georgia (2,4) | 0.50-4.00 | 0.50-4.00 | Ohio (4) | 1.00-5.00 | 1.00-5.00 |
| Hawaii | 0.88-4.27 | 0.88-4.27 | Oklahoma (4) | 2.25-6.00 | 2.25-6.00 |
| Idaho (2) | 1.40 | 1.50 | Oregon | (6) | (6) |
| Illinois (4) | 0.40-3.50 | 0.40-3.50 | Pennsylvania | 1.25-5.00 | 1.25-5.00 |
| Indiana (4) | 1.30 | 1.30 | Rhode Island | 2.00 | 2.00 |
| Iowa | 1.00 – 6.50 | 1.00 | South Carolina | 0.75-2.35 | 0.75-2.35 |
| Kansas (4) | 2.00-6.00 | 2.00-6.00 | South Dakota (4) | 1.25-2.50 | 1.25-2.50 |
| Kentucky (4) | 1.50-2.00 | 1.50-2.00 | Tennessee (2,4,5) | 1.75-5.50 | 1.75-5.50 |
| Louisiana (4) | (6) | (6) | Texas | 0.88-4.85 | 0.88-4.85 |
| Maine | 1.00-2.55 | 1.00-2.55 | Utah (3) | 0.45-4.25 | 0.45-4.25 |
| Maryland | 2.00-3.00 | 2.00-3.00 | Vermont | 2.00 | 2.00 |
| Massachusetts (3) | 2.00-5.70 | 2.00-5.70 | Virginia | 1.00-2.50 | 1.00-2.50 |
| Michigan | 1.25-2.00 | 1.25-2.00 | Washington | 0.95-2.00 | 0.95-2.00 |
| Minnesota (4) | 1.00-2.00 | 1.00-2.00 | W. Virginia (1,4,5) | 2.00 | 2.00 |
| Mississippi (4) | 3.00 | 3.00 | Wisconsin | 2.00-3.50 | 0.50-2.375 |
| Missouri (1) | 1.00-2.00 | 1.00-2.00 | Wyoming | 0.75-1.00 | 0.75-1.00 |

Note: The tax is based on the net premiums of authorized insurers, excludes surplus line rates, captive rates, and marine underwriting profits.

(1) Depending upon the type of insurance issued or the type of organization formed.
(2) Rate is reduced depending upon the percentage of premiums or assets invested in the State or the State's securities.
(3) Plus a surtax of 0.4312% on vehicles in Arizona and 0.25% in Delaware.
(4) Plus a fire marshal's tax not to exceed 1%; 0.375% in Oklahoma; 0.50% in Indiana and South Dakota; 0.50% in West Virginia; 0.65% in Minnesota; 0.75% in Kentucky, Nebraska, Ohio, Tennessee, 0.80% in Kansas; 1.25% in Louisiana; 1.4% in Maine, and 1.15% in Oregon.
(5) With minimum tax of $200 in New Hampshire, North Dakota, & West Virginia, $150 in Tennessee and $250 in New York and Ohio.
(6) After 2001, foreign and alien insurers are no longer subject to gross premium tax, but are subject to the corporate excise tax.

Source: Commerce Clearing House, Inc.

## TABLE 77
## ALCOHOLIC BEVERAGE EXCISE TAXES BY STATE
## (Dollars per Gallon)

| State | Distilled Spirits | Wines 14% or Less | Wines 14% to 21% | Bee | State | Distilled Spirits | Wines 14% or Less | Wines 14% to 21% | |
|---|---|---|---|---|---|---|---|---|---|
| Alabama (2) | (1) | 1.70 | 9.16 | .53 | Montana | (1) | 1.06 | 1.06 | .14 |
| Alaska | 12.80 | 2.50 | 2.50 | 1.07 | Nebraska | 3.75 | .95 | .95 | .31 |
| Arizona | 3.00 | .84 | .84 | .16 | Nevada | 3.60 | .70 | 1.30 | .16 |
| Arkansas | 2.50 | .75 | .75 | .24 | New Hampshire | (1) | (1) | (1) | .30 |
| California | 3.30 | .20 | .20 | .20 | New Jersey | 5.50 | .88 | .88 | .12 |
| Colorado | 2.28 | .28 | .28 | .08 | New Mexico | 6.06 | 1.70 | 1.70 | .41 |
| **Connecticut** | **5.40** | **.72** | **.72** | **.24** | New York | 6.44 | .30 | .30 | .14 |
| Delaware | 3.75 | .97 | .97 | .16 | N. Carolina | (1) | 1.00 | 1.11 | .62 |
| Florida | 6.50 | 2.25 | 3.00 | .48 | N. Dakota | 2.50 | .50 | .60 | .16 |
| Georgia (2) | 3.79 | 1.51 | 2.54 | .32 | Ohio | (1) | .30 | .98 | .18 |
| Hawaii | 5.98 | 1.38 | 1.38 | .93 | Oklahoma | 5.56 | .72 | .72 | .40 |
| Idaho | (1) | .45 | .45 | .15 | Oregon | (1) | .65 | .65 | .08 |
| Illinois (2) | 8.55 | 1.39 | 1.39 | .23 | Pennsylvania | (1) | (1) | (1) | .08 |
| Indiana | 2.68 | .47 | .47 | .12 | Rhode Island | 5.40 | 1.40 | 1.40 | .11 |
| Iowa | (1) | 1.75 | 1.75 | .19 | S. Carolina (3) | 2.72 | 1.08 | 1.08 | .77 |
| Kansas | 2.50 | .30 | .75 | .18 | S. Dakota | 3.93 | .93 | 1.45 | .27 |
| Kentucky | 1.92 | .50 | .50 | .08 | Tennessee (4) | 4.40 | 1.21 | 1.21 | 1.15 |
| Louisiana | 3.03 | .76 | 1.32 | .40 | Texas | 2.40 | 2.04 | 4.08 | .19 |
| Maine | (1) | .60 | 1.25 | .35 | Utah | (1) | (1) | (1) | .41 |
| Maryland (2) | 1.50 | .40 | .40 | .09 | Vermont | (1) | .55 | .55 | .27 |
| Massachusetts | 4.05 | .55 | .55 | .11 | Virginia | (1) | 1.51 | 1.51 | .26 |
| Michigan | (1) | .51 | .76 | .20 | Washington | 14.27 | .87 | .87 | .26 |
| Minnesota | 5.03 | .30 | .95 | .15 | W. Virginia | (1) | 1.00 | 1.00 | .18 |
| Mississippi | (1) | .35 | .35 | .43 | Wisconsin (5) | 3.25 | .25 | .45 | .06 |
| Missouri | 2.00 | .30 | .30 | .06 | Wyoming | (1) | (1) | (1) | .02 |

(1) Government directly controls sale, revenue generated through markup, store profits, and additional taxes and fees.
(2) Additional excise taxes on beer at the local level. Additional local taxes in NYC.
(3) Additional surtaxes of 9% on alcoholic beverages and 18¢ per gallon for wine are applied.
(4) Tennessee levies a 17% surcharge on the wholesale price of malt beverages.
(5) An administration fee of 3¢ per gallon is imposed on intoxicating liquors.
(6) Over 20%-$8.55/gallon

Source: Commerce Clearing House, Inc., Federation of Tax Administrators. Rates as of November 2016.

# TABLE 78
# GENERAL FUND REVENUES

| TAXES ($K) | FY 2012 | FY 2013 | FY 2014[a] | FY 2015 | FY 2016 |
|---|---|---|---|---|---|
| Personal Income | $8,310,820 | $8,719,245 | $8,718,659 | $9,151,037 | $9,181,648 |
| Sales and Use | 3,830,117 | 3,896,998 | 4,100,564 | 4,205,051 | 4,181,852 |
| Corporation | 716,522 | 742,515 | 782,239 | 814,805 | 880,449 |
| Public Service Corporation | 250,397 | 266,647 | 293,303 | 276,833 | 289,894 |
| Inheritance & Estate | 191,699 | 439,519 | 168,075 | 176,750 | 221,821 |
| Insurance Companies | 237,609 | 260,858 | 240,666 | 220,629 | 238,843 |
| Cigarettes | 421,005 | 399,822 | 376,835 | 358,704 | 373,518 |
| Real Estate Conveyance | 107,531 | 113,830 | 180,511 | 185,955 | 196,498 |
| Oil Companies | 146,067 | 175,526 | 35,580 | - | 170 |
| Electric Generation | 69,532 | 66,823 | 15,315 | 7 | - |
| Alcoholic Beverages | 60,595 | 60,406 | 60,644 | 61,651 | 63,113 |
| Admissions, Dues, Cabaret | 34,398 | 36,544 | 39,935 | 38,436 | 39,331 |
| Miscellaneous | 536,810 | 523,028 | 498,260 | 474,009 | 718,850 |
| Total - Taxes | $14,913,103 | $15,701,763 | $15,510,588 | $15,963,866 | $16,385,988 |
| Less Refunds of Taxes | (1,105,171) | (1,144,993) | (1,182,397) | (1,163,639) | 1,223,198 |
| Less Refunds of R&D Credit | (3,563) | (4,086) | (5,055) | (7,878) | 7,623 |
| Total - Taxes Less Refunds | $13,804,369 | $14,552,684 | $14,323,136 | $14,792,350 | $15,155,166 |
| OTHER REVENUE | | | | | |
| Transfer-Special Revenue | $313,757 | $315,452 | $323,219 | $323,315 | $339,961 |
| Indian Gaming Payments | 344,645 | 296,396 | 279,873 | 267,986 | 265,907 |
| Licenses, Permits & Fees | 283,414 | 262,068 | 314,722 | 257,444 | 296,502 |
| Sales of Commodities & Services | 35,007 | 36,298 | 40,523 | 35,813 | 43,454 |
| Rents, Fines & Escheats | 123,424 | 144,141 | 130,875 | 168,679 | 141,741 |
| Investment Income | 964 | (792) | (336) | 943 | 910 |
| Miscellaneous | 191,965 | 163,818 | 206,782 | 185,014 | 179,820 |
| Less Refunds of Payments | (85,377) | (74,016) | (66,625) | (64,281) | (60,336) |
| Total - Other Revenue | $1,207,780 | $1,143,366 | $1,229,032 | $1,174,912 | $1,207,958 |
| OTHER SOURCES | | | | | |
| Federal Grants | $3,607,163 | $3,733,910 | $1,243,861 | $1,241,244 | $1,301,532 |
| Transfer from Tobacco Fund | 96,100 | 103,100 | 107,000 | 97,367 | 110,600 |
| Transfer From/(To) Other Funds | (153,799) | (128,028) | 106,528 | (23,834) | 5,565 |
| Total - Other Sources | $3,549,464 | $3,708,982 | $1,457,389 | $1,314,777 | $1,417,697 |
| **GRAND TOTAL** | $18,561,633 | $19,405,031 | $17,009,556 | $17,282,038 | $17,780,822 |
| TAXES | % of Total | % of Total | % of Total | % of Total | % of Total |
| Personal Income | 44.77 | 44.93 | 51.26 | 52.95 | 51.64 |
| Sales and Use | 20.63 | 20.08 | 24.11 | 24.33 | 23.52 |
| Corporation | 3.86 | 3.83 | 4.60 | 4.71 | 4.95 |
| Public Service Corporation | 1.35 | 1.37 | 1.72 | 1.60 | 1.63 |
| Inheritance & Estate | 1.03 | 2.26 | 0.99 | 1.02 | 1.25 |
| Insurance Companies | 1.28 | 1.34 | 1.41 | 1.28 | 1.34 |
| Cigarettes | 2.27 | 2.06 | 2.22 | 2.08 | 2.10 |
| Real Estate Conveyance | 0.58 | 0.59 | 1.06 | 1.08 | 1.11 |
| Oil Companies | 0.79 | 0.90 | 0.21 | - | - |
| Electric Generation | 0.37 | 0.34 | 0.09 | - | - |
| Alcoholic Beverages | 0.33 | 0.31 | 0.36 | 0.36 | 0.35 |
| Admissions, Dues, Cabaret | 0.19 | 0.19 | 0.23 | 0.22 | 0.22 |
| Miscellaneous | 2.89 | 2.70 | 2.93 | 2.74 | 4.04 |
| Total - Taxes | 80.34 | 80.92 | 91.19 | 92.37 | 92.16 |
| Less Refunds of Taxes | (5.95) | (5.90) | (6.95) | (6.73) | (6.88) |
| Less Refunds of R&D Credit | (0.02) | (0.02) | (0.03) | (0.05) | (0.04) |
| Total – Taxes Less Refunds | 74.37 | 74.99 | 84.21 | 85.59 | 85.23 |
| OTHER REVENUE | | | | | |
| Transfer-Special Revenue | 1.69 | 1.63 | 1.90 | 1.87 | 1.91 |
| Indian Gaming Payments | 1.86 | 1.53 | 1.65 | 1.55 | 1.50 |
| Licenses, Permits & Fees | 1.53 | 1.35 | 1.85 | 1.49 | 1.67 |
| Sales of Commodities & Services | 0.19 | 0.19 | 0.24 | 0.21 | 0.24 |
| Rents, Fines & Escheats | 0.67 | 0.74 | 0.77 | 0.98 | 0.80 |
| Investment Income | 0.01 | - | - | 0.01 | 0.01 |
| Miscellaneous | 1.01 | 0.84 | 1.22 | 1.07 | 1.01 |
| Less Refunds of Payments | (0.01) | (0.38) | (0.39) | (0.37) | -0.36 |
| Total - Other Revenue | 6.51 | 5.89 | 7.23 | 6.80 | 6.79 |
| OTHER SOURCES | | | | | |
| Federal Grants | 19.43 | 19.24 | 7.31 | 7.18 | 7.32 |
| Transfer from Tobacco Fund | 0.52 | 0.53 | 0.63 | 0.56 | 0.62 |
| Transfer From/(To) Other Funds | (0.82) | (0.66) | 0.63 | (0.14) | 0.03 |
| Total - Other Sources | 19.12 | 19.11 | 8.57 | 7.61 | 7.97 |
| **GRAND TOTAL** | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

## TABLE 79
## SPECIAL TRANSPORTATION FUND REVENUES

| TAXES ($K) | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|---|---|
| Motor Fuels | $492,795 | $501,269 | $508,058 | $516,581 | 518,230 |
| Oil Companies | 226,900 | 199,400 | 380,700 | 337,903 | 250,000 |
| Sales and Use Tax | - | - | - | - | 109,002 |
| DMV Sales | 76,618 | 79,000 | 82,216 | 83,868 | 87,161 |
| Less Refunds of Taxes | (7,006) | (6,094) | (6,993) | (7,236) | (17,409) |
| Total – Taxes Less Refunds | $789,306 | $773,576 | $963,981 | $931,116 | $946,984 |
| OTHER REVENUE | | | | | |
| Motor Vehicle Receipts | $235,446 | $234,484 | $236,063 | $249,479 | $251,506 |
| Licenses, Permits & Fees | 135,974 | 137,284 | 138,390 | 145,429 | 143,867 |
| Interest Income | 2,208 | 4,138 | 6,771 | 6,946 | 8,159 |
| Federal Grants | 12,915 | 12,416 | 12,100 | 12,115 | 12,181 |
| Transfer from Other Funds | 81,550 | 95,245 | (76,500) | 41,197 | - |
| Transfer to Other Funds | (6,500) | (6,500) | (6,500) | (6,500) | (6,500) |
| Transfer to TSB | (15,000) | (15,000) | (15,000) | (15,000) | - |
| Less Refunds of Payments | (2,979) | (3,154) | (3,614) | (3,871) | (3,384) |
| Total – Other Revenue | $443,614 | $458,912 | $291,710 | $429,795 | $405,828 |
| **GRAND TOTAL** | $1,232,921 | $1,232,487 | $1,255,690 | $1,360,911 | $1,352,812 |
| TAXES | % of Total | % of Total | % of Total | % of Total | % of Total |
| Motor Fuels | 39.97 | 40.67 | 40.46 | 37.96 | 38.31 |
| Oil Companies | 18.40 | 16.18 | 30.32 | 24.83 | 18.48 |
| Sales and Use Tax | - | - | - | - | 8.06 |
| DMV Sales | 6.21 | 6.41 | 6.55 | 6.16 | 6.44 |
| Less Refunds of Taxes | (0.57) | (0.49) | (0.56) | (0.53) | (1.29) |
| Total – Taxes Less Refunds | 64.02 | 62.77 | 76.77 | 68.42 | 70.00 |
| OTHER REVENUE | | | | | |
| Motor Vehicle Receipts | 19.10 | 19.03 | 18.80 | 18.33 | 18.59 |
| Licenses, Permits & Fees | 11.03 | 11.14 | 11.02 | 10.69 | 10.63 |
| Interest Income | 0.18 | 0.34 | 0.54 | 0.51 | 0.60 |
| Federal Grants | 1.05 | 1.01 | 0.96 | 0.89 | 0.90 |
| Transfer from Other Funds | 6.61 | 7.73 | (6.09) | 3.03 | - |
| Transfer to Other Funds | (0.53) | (0.53) | (0.52) | (0.48) | (0.48) |
| Transfer to TSB | (1.22) | (1.22) | (1.19) | (1.10) | (1.11) |
| Less Refunds of Payments | (0.24) | (0.26) | (0.29) | (0.28) | (0.25) |
| Total - Other Revenue | 35.98 | 37.23 | 23.23 | 31.58 | 31.77 |
| **GRAND TOTAL** | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

(1) Beginning in FY 2014, Federal Grants within the General Fund reflect the conversion to net budgeting of the Medicaid account. In addition, in reporting FY 2014 results the Comptroller included $598.5 million from the proceeds of GAAP Conversion Bonds within the revenue schedule. Since these proceeds were reserved for use in mitigating the cumulative GAAP deficit, the Office of Policy and Management has not included the $598.5 million within the General Fund revenue schedule.

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# APPENDIX

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## Connecticut Resident Population Census Counts

| | Population 2000 | Rank | Population 2010 | Rank | 2000-2010 Change | % Chg. | 2015 DPH* Est |
|---|---|---|---|---|---|---|---|
| Total | 3,405,565 | | 3,574,097 | | 168,532 | 4.9 | 3,590,886 |
| Andover | 3,036 | 147 | 3,303 | 147 | 267 | 8.8 | 3,262 |
| Ansonia | 18,554 | 57 | 19,249 | 60 | 695 | 3.7 | 18,854 |
| Ashford | 4,098 | 135 | 4,317 | 136 | 219 | 5.3 | 4,251 |
| Avon | 15,832 | 68 | 18,098 | 65 | 2,266 | 14.3 | 18,414 |
| Barkhamsted | 3,494 | 143 | 3,799 | 141 | 305 | 8.7 | 3,685 |
| Beacon Falls | 5,246 | 125 | 6,049 | 123 | 803 | 15.3 | 6,081 |
| Berlin | 18,215 | 59 | 19,866 | 54 | 1,651 | 9.1 | 20,560 |
| Bethany | 5,040 | 126 | 5,563 | 126 | 523 | 10.4 | 5,510 |
| Bethel | 18,067 | 61 | 18,584 | 62 | 517 | 2.9 | 19,529 |
| Bethlehem | 3,422 | 144 | 3,607 | 143 | 185 | 5.4 | 3,473 |
| Bloomfield | 19,587 | 52 | 20,486 | 52 | 899 | 4.6 | 20,749 |
| Bolton | 5,017 | 127 | 4,980 | 131 | -37 | -0.7 | 4,947 |
| Bozrah | 2,357 | 153 | 2,627 | 152 | 270 | 11.5 | 2,603 |
| Branford | 28,683 | 32 | 28,026 | 37 | -657 | -2.3 | 28,145 |
| Bridgeport | 139,529 | 1 | 144,229 | 1 | 4,700 | 3.4 | 147,629 |
| Bridgewater | 1,824 | 160 | 1,727 | 162 | -97 | -5.3 | 1,659 |
| Bristol | 60,062 | 11 | 60,477 | 13 | 415 | 0.7 | 60,452 |
| Brookfield | 15,664 | 69 | 16,452 | 71 | 788 | 5.0 | 17,143 |
| Brooklyn | 7,173 | 113 | 8,210 | 110 | 1,037 | 14.5 | 8,259 |
| Burlington | 8,190 | 108 | 9,301 | 104 | 1,111 | 13.6 | 9,623 |
| Canaan | 1,081 | 168 | 1,234 | 168 | 153 | 14.2 | 1,185 |
| Canterbury | 4,692 | 131 | 5,132 | 130 | 440 | 9.4 | 5,089 |
| Canton | 8,840 | 101 | 10,292 | 95 | 1,452 | 16.4 | 10,330 |
| Chaplin | 2,250 | 155 | 2,305 | 156 | 55 | 2.4 | 2,255 |
| Cheshire | 28,543 | 33 | 29,261 | 32 | 718 | 2.5 | 29,262 |
| Chester | 3,743 | 141 | 3,994 | 139 | 251 | 6.7 | 4,277 |
| Clinton | 13,094 | 81 | 13,260 | 82 | 166 | 1.3 | 13,047 |
| Colchester | 14,551 | 74 | 16,068 | 72 | 1,517 | 10.4 | 16,130 |
| Colebrook | 1,471 | 165 | 1,485 | 165 | 14 | 1.0 | 1,436 |
| Columbia | 4,971 | 129 | 5,485 | 127 | 514 | 10.3 | 5,434 |
| Cornwall | 1,434 | 166 | 1,420 | 167 | -14 | -1.0 | 1,387 |
| Coventry | 11,504 | 87 | 12,435 | 87 | 931 | 8.1 | 12,438 |
| Cromwell | 12,871 | 83 | 14,005 | 79 | 1,134 | 8.8 | 14,034 |
| Danbury | 74,848 | 7 | 80,893 | 7 | 6,045 | 8.1 | 84,657 |
| Darien | 19,607 | 51 | 20,732 | 51 | 1,125 | 5.7 | 21,787 |
| Deep River | 4,610 | 133 | 4,629 | 133 | 19 | 0.4 | 4,516 |
| Derby | 12,391 | 84 | 12,902 | 84 | 511 | 4.1 | 12,700 |
| Durham | 6,627 | 116 | 7,388 | 116 | 761 | 11.5 | 7,301 |
| East Granby | 4,745 | 130 | 5,148 | 129 | 403 | 8.5 | 5,199 |
| East Haddam | 8,333 | 105 | 9,126 | 106 | 793 | 9.5 | 9,081 |
| East Hampton | 13,352 | 78 | 12,959 | 83 | -393 | -2.9 | 12,858 |
| East Hartford | 49,575 | 19 | 51,252 | 19 | 1,677 | 3.4 | 50,821 |
| East Haven | 28,189 | 35 | 29,257 | 33 | 1,068 | 3.8 | 28,935 |

## Connecticut Resident Population Census Counts

| | Population 2000 | Rank | Population 2010 | Rank | 2000-2010 Change | % Chg. | 2015 DPH* Est |
|---|---|---|---|---|---|---|---|
| East Lyme | 18,118 | 60 | 19,159 | 61 | 1,041 | 5.7 | 19,343 |
| East Windsor | 9,818 | 96 | 11,162 | 94 | 1,344 | 13.7 | 11,400 |
| Eastford | 1,618 | 163 | 1,749 | 161 | 131 | 8.1 | 1,750 |
| Easton | 7,272 | 111 | 7,490 | 115 | 218 | 3.0 | 7,625 |
| Ellington | 12,921 | 82 | 15,602 | 74 | 2,681 | 20.7 | 15,916 |
| Enfield | 45,212 | 20 | 44,654 | 22 | -558 | -1.2 | 44,323 |
| Essex | 6,505 | 117 | 6,683 | 120 | 178 | 2.7 | 6,586 |
| Fairfield | 57,340 | 13 | 59,404 | 14 | 2,064 | 3.6 | 61,523 |
| Farmington | 23,641 | 44 | 25,340 | 44 | 1,699 | 7.2 | 25,629 |
| Franklin | 1,835 | 159 | 1,922 | 159 | 87 | 4.7 | 1,975 |
| Glastonbury | 31,876 | 29 | 34,427 | 29 | 2,551 | 8.0 | 34,678 |
| Goshen | 2,697 | 151 | 2,976 | 150 | 279 | 10.3 | 2,904 |
| Granby | 10,347 | 93 | 11,282 | 92 | 935 | 9.0 | 11,298 |
| Greenwich | 61,101 | 10 | 61,171 | 10 | 70 | 0.1 | 62,695 |
| Griswold | 10,807 | 89 | 11,951 | 90 | 1,144 | 10.6 | 11,830 |
| Groton | 39,907 | 23 | 40,115 | 25 | 208 | 0.5 | 39,692 |
| Guilford | 21,398 | 49 | 22,375 | 50 | 977 | 4.6 | 22,350 |
| Haddam | 7,157 | 114 | 8,346 | 109 | 1,189 | 16.6 | 8,292 |
| Hamden | 56,913 | 14 | 60,960 | 11 | 4,047 | 7.1 | 61,218 |
| Hampton | 1,758 | 161 | 1,863 | 160 | 105 | 6.0 | 1,849 |
| Hartford | 121,578 | 3 | 124,775 | 3 | 3,197 | 2.6 | 124,006 |
| Hartland | 2,012 | 158 | 2,114 | 158 | 102 | 5.1 | 2,127 |
| Harwinton | 5,283 | 124 | 5,642 | 125 | 359 | 6.8 | 5,493 |
| Hebron | 8,610 | 104 | 9,686 | 99 | 1,076 | 12.5 | 9,552 |
| Kent | 2,858 | 150 | 2,979 | 149 | 121 | 4.2 | 2,869 |
| Killingly | 16,472 | 67 | 17,370 | 68 | 898 | 5.5 | 17,131 |
| Killingworth | 6,018 | 121 | 6,525 | 121 | 507 | 8.4 | 6,455 |
| Lebanon | 6,907 | 115 | 7,308 | 117 | 401 | 5.8 | 7,259 |
| Ledyard | 14,687 | 72 | 15,051 | 77 | 364 | 2.5 | 15,025 |
| Lisbon | 4,069 | 136 | 4,338 | 135 | 269 | 6.6 | 4,310 |
| Litchfield | 8,316 | 106 | 8,466 | 108 | 150 | 1.8 | 8,212 |
| Lyme | 2,016 | 157 | 2,406 | 154 | 390 | 19.3 | 2,374 |
| Madison | 17,858 | 64 | 18,269 | 64 | 411 | 2.3 | 18,223 |
| Manchester | 54,740 | 15 | 58,241 | 15 | 3,501 | 6.4 | 58,007 |
| Mansfield | 20,720 | 50 | 26,543 | 41 | 5,823 | 28.1 | 26,043 |
| Marlborough | 5,709 | 123 | 6,404 | 122 | 695 | 12.2 | 6,430 |
| Meriden | 58,244 | 12 | 60,868 | 12 | 2,624 | 4.5 | 59,988 |
| Middlebury | 6,451 | 118 | 7,575 | 114 | 1,124 | 17.4 | 7,634 |
| Middlefield | 4,203 | 134 | 4,425 | 134 | 222 | 5.3 | 4,407 |
| Middletown | 43,167 | 21 | 47,648 | 20 | 4,481 | 10.4 | 46,756 |
| Milford | 52,305 | 17 | 52,759 | 17 | 454 | 0.9 | 53,592 |
| Monroe | 19,247 | 54 | 19,479 | 59 | 232 | 1.2 | 19,833 |
| Montville | 18,546 | 58 | 19,571 | 57 | 1,025 | 5.5 | 19,396 |
| Morris | 2,301 | 154 | 2,388 | 155 | 87 | 3.8 | 2,293 |

## Connecticut Resident Population Census Counts

| | Population 2000 | Rank | Population 2010 | Rank | 2000-2010 Change | % Chg. | 2015 DPH* Est. |
|---|---|---|---|---|---|---|---|
| Naugatuck | 30,989 | 30 | 31,862 | 30 | 873 | 2.8 | 31,538 |
| New Britain | 71,538 | 8 | 73,206 | 8 | 1,668 | 2.3 | 72,808 |
| New Canaan | 19,395 | 53 | 19,738 | 55 | 343 | 1.8 | 20,387 |
| New Fairfield | 13,953 | 75 | 13,881 | 81 | -72 | -0.5 | 14,126 |
| New Hartford | 6,088 | 120 | 6,970 | 118 | 882 | 14.5 | 6,764 |
| New Haven | 123,626 | 2 | 129,779 | 2 | 6,153 | 5.0 | 130,322 |
| New London | 25,671 | 40 | 27,620 | 38 | 1,949 | 7.6 | 27,179 |
| New Milford | 27,121 | 37 | 28,142 | 36 | 1,021 | 3.8 | 27,276 |
| Newington | 29,306 | 31 | 30,562 | 31 | 1,256 | 4.3 | 30,604 |
| Newtown | 25,031 | 41 | 27,560 | 39 | 2,529 | 10.1 | 28,022 |
| Norfolk | 1,660 | 162 | 1,709 | 164 | 49 | 3.0 | 1,643 |
| North Branford | 13,906 | 76 | 14,407 | 78 | 501 | 3.6 | 14,263 |
| North Canaan | 3,350 | 145 | 3,315 | 146 | -35 | -1.0 | 3,194 |
| North Haven | 23,035 | 46 | 24,093 | 47 | 1,058 | 4.6 | 23,828 |
| North Stonington | 4,991 | 128 | 5,297 | 128 | 306 | 6.1 | 5,256 |
| Norwalk | 82,951 | 6 | 85,603 | 6 | 2,652 | 3.2 | 88,485 |
| Norwich | 36,117 | 26 | 40,493 | 24 | 4,376 | 12.1 | 39,899 |
| Old Lyme | 7,406 | 110 | 7,603 | 113 | 197 | 2.7 | 7,521 |
| Old Saybrook | 10,367 | 92 | 10,242 | 96 | -125 | -1.2 | 10,160 |
| Orange | 13,233 | 79 | 13,956 | 80 | 723 | 5.5 | 13,944 |
| Oxford | 9,821 | 95 | 12,683 | 85 | 2,862 | 29.1 | 13,013 |
| Plainfield | 14,619 | 73 | 15,405 | 75 | 786 | 5.4 | 15,077 |
| Plainville | 17,328 | 66 | 17,716 | 67 | 388 | 2.2 | 17,773 |
| Plymouth | 11,634 | 86 | 12,243 | 88 | 609 | 5.2 | 11,813 |
| Pomfret | 3,798 | 140 | 4,247 | 137 | 449 | 11.8 | 4,163 |
| Portland | 8,732 | 102 | 9,508 | 101 | 776 | 8.9 | 9,391 |
| Preston | 4,688 | 132 | 4,726 | 132 | 38 | 0.8 | 4,707 |
| Prospect | 8,707 | 103 | 9,405 | 103 | 698 | 8.0 | 9,739 |
| Putnam | 9,002 | 98 | 9,584 | 100 | 582 | 6.5 | 9,372 |
| Redding | 8,270 | 107 | 9,158 | 105 | 888 | 10.7 | 9,293 |
| Ridgefield | 23,643 | 43 | 24,638 | 46 | 995 | 4.2 | 25,244 |
| Rocky Hill | 17,966 | 62 | 19,709 | 56 | 1,743 | 9.7 | 20,021 |
| Roxbury | 2,136 | 156 | 2,262 | 157 | 126 | 5.9 | 2,187 |
| Salem | 3,858 | 138 | 4,151 | 138 | 293 | 7.6 | 4,183 |
| Salisbury | 3,977 | 137 | 3,741 | 142 | -236 | -5.9 | 3,638 |
| Scotland | 1,556 | 164 | 1,726 | 163 | 170 | 10.9 | 1,686 |
| Seymour | 15,454 | 70 | 16,540 | 70 | 1,086 | 7.0 | 16,475 |
| Sharon | 2,968 | 149 | 2,782 | 151 | -186 | -6.3 | 2,706 |
| Shelton | 38,101 | 25 | 39,559 | 26 | 1,458 | 3.8 | 41,296 |
| Sherman | 3,827 | 139 | 3,581 | 144 | -246 | -6.4 | 3,668 |
| Simsbury | 23,234 | 45 | 23,511 | 48 | 277 | 1.2 | 24,348 |
| Somers | 10,417 | 91 | 11,444 | 91 | 1,027 | 9.9 | 11,432 |
| South Windsor | 24,412 | 42 | 25,709 | 43 | 1,297 | 5.3 | 25,789 |
| Southbury | 18,567 | 56 | 19,904 | 53 | 1,337 | 7.2 | 19,675 |

## Connecticut Resident Population Census Counts

| | Population 2000 | Rank | Population 2010 | Rank | 2000-2010 Change | % Chg. | 2015 DPH* Est. |
|---|---|---|---|---|---|---|---|
| Southington | 39,728 | 24 | 43,069 | 23 | 3,341 | 8.4 | 43,817 |
| Sprague | 2,971 | 148 | 2,984 | 148 | 13 | 0.4 | 2,951 |
| Stafford | 11,307 | 88 | 12,087 | 89 | 780 | 6.9 | 11,837 |
| Stamford | 117,083 | 4 | 122,643 | 4 | 5,560 | 4.7 | 128,874 |
| Sterling | 3,099 | 146 | 3,830 | 140 | 731 | 23.6 | 3,764 |
| Stonington | 17,906 | 63 | 18,545 | 63 | 639 | 3.6 | 18,370 |
| Stratford | 49,976 | 18 | 51,384 | 18 | 1,408 | 2.8 | 52,609 |
| Suffield | 13,552 | 77 | 15,735 | 73 | 2,183 | 16.1 | 15,662 |
| Thomaston | 7,503 | 109 | 7,887 | 112 | 384 | 5.1 | 7,621 |
| Thompson | 8,878 | 100 | 9,458 | 102 | 580 | 6.5 | 9,290 |
| Tolland | 13,146 | 80 | 15,052 | 76 | 1,906 | 14.5 | 14,849 |
| Torrington | 35,202 | 27 | 36,383 | 27 | 1,181 | 3.4 | 34,906 |
| Trumbull | 34,243 | 28 | 36,018 | 28 | 1,775 | 5.2 | 36,628 |
| Union | 693 | 169 | 854 | 169 | 161 | 23.2 | 843 |
| Vernon | 28,063 | 36 | 29,179 | 34 | 1,116 | 4.0 | 28,959 |
| Voluntown | 2,528 | 152 | 2,603 | 153 | 75 | 3.0 | 2,579 |
| Wallingford | 43,026 | 22 | 45,135 | 21 | 2,109 | 4.9 | 44,893 |
| Warren | 1,254 | 167 | 1,461 | 166 | 207 | 16.5 | 1,417 |
| Washington | 3,596 | 142 | 3,578 | 145 | -18 | -0.5 | 3,466 |
| Waterbury | 107,271 | 5 | 110,366 | 5 | 3,095 | 2.9 | 108,802 |
| Waterford | 19,152 | 55 | 19,517 | 58 | 365 | 1.9 | 19,281 |
| Watertown | 21,661 | 48 | 22,514 | 49 | 853 | 3.9 | 21,911 |
| West Hartford | 63,589 | 9 | 63,268 | 9 | -321 | -0.5 | 63,053 |
| West Haven | 52,360 | 16 | 55,564 | 16 | 3,204 | 6.1 | 54,927 |
| Westbrook | 6,292 | 119 | 6,938 | 119 | 646 | 10.3 | 6,902 |
| Weston | 10,037 | 94 | 10,179 | 97 | 142 | 1.4 | 10,387 |
| Westport | 25,749 | 39 | 26,391 | 42 | 642 | 2.5 | 27,899 |
| Wethersfield | 26,271 | 38 | 26,668 | 40 | 397 | 1.5 | 26,367 |
| Willington | 5,959 | 122 | 6,041 | 124 | 82 | 1.4 | 5,908 |
| Wilton | 17,633 | 65 | 18,062 | 66 | 429 | 2.4 | 18,714 |
| Winchester | 10,664 | 90 | 11,242 | 93 | 578 | 5.4 | 10,829 |
| Windham | 22,857 | 47 | 25,268 | 45 | 2,411 | 10.5 | 24,799 |
| Windsor | 28,237 | 34 | 29,044 | 35 | 807 | 2.9 | 29,016 |
| Windsor Locks | 12,043 | 85 | 12,498 | 86 | 455 | 3.8 | 12,537 |
| Wolcott | 15,215 | 71 | 16,680 | 69 | 1,465 | 9.6 | 16,673 |
| Woodbridge | 8,983 | 99 | 8,990 | 107 | 7 | 0.1 | 8,886 |
| Woodbury | 9,198 | 97 | 9,975 | 98 | 777 | 8.4 | 9,636 |
| Woodstock | 7,221 | 112 | 7,964 | 111 | 743 | 10.3 | 7,838 |

* Connecticut Department of Public Health

Source: U.S. Bureau of the Census, April 1, 2000 & 2010
Department of Public Health, "Est. Population in Connecticut as of July 1, 2015"

## MAJOR U.S. ECONOMIC INDICATORS - FISCAL YEAR BASIS

### TABLE 1
### U.S. ECONOMIC VARIABLES

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| Gross Domestic Product ($B) | 14,157.6 | 14,684.1 | 14,529.3 | 14,630.1 | 15,246.8 | 15,867.1 | 16,385.5 | 17,015.0 | 17,760.9 | 18,274.1 |
| Percent Change | 4.8% | 3.7% | -1.1% | 0.7% | 4.2% | 4.1% | 3.3% | 3.8% | 4.4% | 2.9% |
| Real GDP | 14,721.1 | 14,945.8 | 14,549.8 | 14,573.8 | 14,913.9 | 15,216.2 | 15,444.7 | 15,770.8 | 16,231.1 | 16,513.4 |
| Percent Change | 1.9% | 1.5% | -2.6% | 0.2% | 3.0% | 2.0% | 1.5% | 2.1% | 2.9% | 1.7% |
| GDP Deflator (2009=100) | 96.2 | 98.2 | 99.9 | 100.4 | 102.2 | 104.3 | 106.1 | 107.9 | 109.4 | 110.7 |
| Percent Change | 2.9% | 2.2% | 1.6% | 0.5% | 1.8% | 2.0% | 1.7% | 1.7% | 1.4% | 1.1% |
| Housing Starts (K) | 1,546.2 | 1,132.4 | 646.3 | 594.0 | 569.7 | 684.4 | 876.7 | 955.0 | 1,055.3 | 1,150.3 |
| Percent Change | -24.1% | -26.8% | -42.9% | -8.1% | -4.1% | 20.1% | 28.1% | 8.9% | 10.5% | 9.0% |
| Unemployment Rate | 4.5% | 5.0% | 7.6% | 9.8% | 9.3% | 8.5% | 7.8% | 6.8% | 5.7% | 5.0% |
| New Vehicle Sales (M) | 16.3 | 15.3 | 10.6 | 11.2 | 12.2 | 13.6 | 15.1 | 15.9 | 16.8 | 17.5 |
| Percent Change | -2.6% | -6.3% | -30.5% | 5.3% | 9.3% | 11.4% | 10.5% | 5.5% | 6.0% | 3.8% |
| Consumer Price Index ('82-'84=100) | 204.1 | 211.7 | 214.6 | 216.8 | 221.1 | 227.6 | 231.4 | 235.0 | 236.7 | 238.3 |
| Percent Change | 2.6% | 3.7% | 1.4% | 1.0% | 2.0% | 2.9% | 1.7% | 1.6% | 0.7% | 0.7% |
| Industrial Production Index ('07=100) | 103.7 | 104.9 | 93.7 | 91.6 | 96.1 | 98.8 | 100.9 | 103.1 | 105.6 | 104.5 |
| Percent Change | 2.5% | 1.2% | -10.7% | -2.3% | 5.0% | 2.8% | 2.1% | 2.2% | 2.4% | -1.0% |
| Personal Income ($B) | 11,701.1 | 12,329.8 | 12,275.3 | 12,212.0 | 12,883.2 | 13,555.6 | 14,026.4 | 14,394.7 | 15,155.4 | 15,729.0 |
| Percent Change | 6.1% | 5.4% | -0.4% | -0.5% | 5.5% | 5.2% | 3.5% | 2.6% | 5.3% | 3.8% |
| Real Personal Income ($B in 2009=100) | 10,724.1 | 10,941.5 | 10,960.8 | 10,935.6 | 11,220.8 | 11,475.4 | 11,627.3 | 11,692.9 | 12,150.9 | 12,523.3 |
| Percent Change | 3.1% | 2.0% | 0.2% | -0.2% | 2.6% | 2.3% | 1.3% | 0.6% | 3.9% | 3.1% |
| Disposable Personal Income ($B) | 10,273.8 | 10,804.0 | 10,953.8 | 11,041.3 | 11,529.1 | 12,078.2 | 12,424.7 | 12,671.6 | 13,283.5 | 13,780.7 |
| Percent Change | 5.5% | 5.2% | 1.4% | 0.8% | 4.4% | 4.8% | 2.9% | 2.0% | 4.8% | 3.7% |
| Disposable Personal Income ($B in 2009$) | 10,724.1 | 10,941.5 | 10,960.8 | 10,935.6 | 11,220.8 | 11,475.4 | 11,627.3 | 11,692.9 | 12,150.9 | 12,523.3 |
| Percent Change | 3.1% | 2.0% | 0.2% | -0.2% | 2.6% | 2.3% | 1.3% | 0.6% | 3.9% | 3.1% |

## MAJOR U.S. ECONOMIC INDICATORS - FISCAL YEAR BASIS

### TABLE 2
### U.S. PERSONAL INCOME
### (BILLIONS OF DOLLARS)

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| Personal Income | 11,701.1 | 12,329.8 | 12,275.3 | 12,212.0 | 12,883.2 | 13,555.6 | 14,026.4 | 14,394.7 | 15,155.4 | 15,729.0 |
| Percent Change | 6.1% | 5.4% | -0.4% | -0.5% | 5.5% | 5.2% | 3.5% | 2.6% | 5.3% | 3.8% |
| Wages & Salaries | 6,239.3 | 6,483.1 | 6,385.9 | 6,281.0 | 6,526.0 | 6,763.3 | 7,025.8 | 7,280.2 | 7,662.5 | 8,018.2 |
| Percent Change | 6.0% | 3.9% | -1.5% | -1.6% | 3.9% | 3.6% | 3.9% | 3.6% | 5.3% | 4.6% |
| Manufacturing Income | 745.7 | 749.0 | 699.7 | 658.4 | 696.1 | 720.3 | 739.5 | 761.0 | 793.2 | 817.0 |
| Percent Change | 2.7% | 0.5% | -6.6% | -5.9% | 5.7% | 3.5% | 2.7% | 2.9% | 4.2% | 3.0% |
| Nonmanufacturing Inc. | 5,493.6 | 5,734.1 | 5,686.2 | 5,622.5 | 5,830.0 | 6,043.0 | 6,286.4 | 6,519.3 | 6,869.4 | 7,201.2 |
| Percent Change | 6.5% | 4.4% | -0.8% | -1.1% | 3.7% | 3.7% | 4.0% | 3.7% | 5.4% | 4.8% |
| Other Labor Income | 1,472.9 | 1,529.2 | 1,541.8 | 1,555.0 | 1,612.9 | 1,654.6 | 1,702.8 | 1,750.5 | 1,805.4 | 1,874.7 |
| Percent Change | 3.6% | 3.8% | 0.8% | 0.9% | 3.7% | 2.6% | 2.9% | 2.8% | 3.1% | 3.8% |
| Proprietor's Income | 1,014.7 | 1,003.8 | 982.8 | 1,011.4 | 1,079.2 | 1,200.0 | 1,271.6 | 1,301.3 | 1,357.0 | 1,400.4 |
| Percent Change | -1.6% | -1.1% | -2.1% | 2.9% | 6.7% | 11.2% | 6.0% | 2.3% | 4.3% | 3.2% |
| Farm Income | 36.2 | 46.2 | 36.1 | 40.6 | 62.4 | 69.1 | 78.3 | 77.8 | 50.6 | 36.2 |
| Percent Change | -11.8% | 27.7% | -21.7% | 12.2% | 53.8% | 10.7% | 13.4% | -0.7% | -35.0% | -28.4% |
| Nonfarm Income | 978.6 | 957.7 | 946.7 | 970.9 | 1,016.8 | 1,130.9 | 1,193.3 | 1,223.5 | 1,306.4 | 1,364.2 |
| Percent Change | -1.1% | -2.1% | -1.2% | 2.6% | 4.7% | 11.2% | 5.5% | 2.5% | 6.8% | 4.4% |
| Rental Income | 190.6 | 216.4 | 302.3 | 369.2 | 442.9 | 510.8 | 543.5 | 586.4 | 631.9 | 684.7 |
| Percent Change | -15.3% | 13.5% | 39.7% | 22.2% | 19.9% | 15.3% | 6.4% | 7.9% | 7.8% | 8.4% |
| Personal Dividend Inc. | 773.4 | 839.6 | 689.6 | 503.8 | 612.0 | 743.3 | 835.2 | 855.8 | 959.6 | 941.7 |
| Percent Change | 19.4% | 8.6% | -17.9% | -26.9% | 21.5% | 21.5% | 12.4% | 2.5% | 12.1% | -1.9% |
| Personal Interest Income | 1,283.3 | 1,371.2 | 1,326.9 | 1,217.7 | 1,209.1 | 1,259.6 | 1,280.2 | 1,275.7 | 1,299.6 | 1,308.9 |
| Percent Change | 11.1% | 6.9% | -3.2% | -8.2% | -0.7% | 4.2% | 1.6% | -0.3% | 1.9% | 0.7% |
| Transfer Payments | 1,669.9 | 1,862.4 | 2,022.9 | 2,245.6 | 2,353.7 | 2,356.0 | 2,395.3 | 2,472.9 | 2,618.2 | 2,727.0 |
| Percent Change | 6.7% | 11.5% | 8.6% | 11.0% | 4.8% | 0.1% | 1.7% | 3.2% | 5.9% | 4.2% |

## MAJOR U.S. ECONOMIC INDICATORS - FISCAL YEAR BASIS

### TABLE 3
### U.S. PERSONAL INCOME AND ITS DISPOSITION
### (BILLIONS OF DOLLARS)

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| Less: | | | | | | | | | | |
| Contributions to | | | | | | | | | | |
| Social Insurance | 943.0 | 975.9 | 976.7 | 971.5 | 952.6 | 932.0 | 1,028.0 | 1,128.1 | 1,178.8 | 1,226.6 |
| Percent Change | 4.8% | 3.5% | 0.1% | -0.5% | -1.9% | -2.2% | 10.3% | 9.7% | 4.5% | 4.1% |
| Equals: | | | | | | | | | | |
| Personal Income | 11,701.1 | 12,329.8 | 12,275.3 | 12,212.0 | 12,883.2 | 13,555.6 | 14,026.4 | 14,394.7 | 15,155.4 | 15,729.0 |
| Percent Change | 6.1% | 5.4% | -0.4% | -0.5% | 5.5% | 5.2% | 3.5% | 2.6% | 5.3% | 3.8% |
| Less: | | | | | | | | | | |
| Personal Taxes | 1,427.3 | 1,525.7 | 1,321.4 | 1,170.7 | 1,354.1 | 1,477.4 | 1,601.7 | 1,723.0 | 1,871.9 | 1,948.3 |
| Percent Change | 10.8% | 6.9% | -13.4% | -11.4% | 15.7% | 9.1% | 8.4% | 7.6% | 8.6% | 4.1% |
| Equals: | | | | | | | | | | |
| Disposable Income ($B) | 10,273.8 | 10,804.0 | 10,953.8 | 11,041.3 | 11,529.1 | 12,078.2 | 12,424.7 | 12,671.6 | 13,283.5 | 13,780.7 |
| Percent Change | 5.5% | 5.2% | 1.4% | 0.8% | 4.4% | 4.8% | 2.9% | 2.0% | 4.8% | 3.7% |
| Less: | | | | | | | | | | |
| Personal Outlays | 9,955.8 | 10,400.2 | 10,314.1 | 10,425.6 | 10,851.3 | 11,291.6 | 11,604.2 | 12,006.1 | 12,532.8 | 12,957.3 |
| Percent Change | 5.4% | 4.5% | -0.8% | 1.1% | 4.1% | 4.1% | 2.8% | 3.5% | 4.4% | 3.4% |
| Equals: | | | | | | | | | | |
| Personal Savings | 318.0 | 403.8 | 639.8 | 615.7 | 677.8 | 786.6 | 820.5 | 665.5 | 750.7 | 823.4 |
| Percent Change | 8.0% | 27.0% | 58.4% | -3.8% | 10.1% | 16.1% | 4.3% | -18.9% | 12.8% | 9.7% |
| Personal Savings Rate | 3.1% | 3.7% | 5.8% | 5.6% | 5.9% | 6.5% | 6.6% | 5.3% | 5.7% | 6.0% |

## MAJOR U.S. ECONOMIC INDICATORS - FISCAL YEAR BASIS

### TABLE 4
### U.S. EMPLOYMENT AND THE LABOR FORCE
### (MILLIONS OF JOBS)

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| Establishment Employ. | 137.4 | 138.2 | 134.4 | 130.2 | 131.0 | 133.1 | 135.2 | 137.6 | 140.4 | 143.1 |
| Percent Change | 1.5% | 0.6% | -2.7% | -3.1% | 0.6% | 1.6% | 1.6% | 1.7% | 2.1% | 1.9% |
| Manufacturing | 14.0 | 13.7 | 12.7 | 11.5 | 11.6 | 11.8 | 12.0 | 12.1 | 12.3 | 12.3 |
| Percent Change | -1.2% | -2.3% | -7.7% | -8.9% | 0.9% | 1.8% | 1.2% | 0.9% | 1.6% | 0.3% |
| Nonmanufacturing | 123.3 | 124.4 | 121.7 | 118.6 | 119.4 | 121.3 | 123.2 | 125.5 | 128.2 | 130.8 |
| Percent Change | 1.8% | 0.9% | -2.2% | -2.5% | 0.6% | 1.6% | 1.6% | 1.8% | 2.1% | 2.1% |
| Construction & Mining | 8.4 | 8.2 | 7.4 | 6.3 | 6.2 | 6.4 | 6.6 | 6.9 | 7.2 | 7.3 |
| Percent Change | 2.2% | -2.3% | -10.3% | -14.0% | -1.5% | 3.2% | 2.5% | 4.1% | 4.7% | 1.8% |
| Information | 3.0 | 3.0 | 2.9 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.8 |
| Percent Change | -0.7% | -0.3% | -4.1% | -5.4% | -2.0% | -0.5% | 0.4% | 1.3% | 0.7% | 1.0% |
| Public Utility, Trade & Transportation | 26.5 | 26.6 | 25.6 | 24.6 | 24.8 | 25.3 | 25.6 | 26.1 | 26.7 | 27.1 |
| Percent Change | 1.2% | 0.6% | -3.9% | -3.8% | 0.9% | 1.9% | 1.3% | 1.9% | 2.1% | 1.8% |
| Finance, Insurance & Real Estate | 8.4 | 8.3 | 8.0 | 7.7 | 7.7 | 7.7 | 7.8 | 7.9 | 8.0 | 8.2 |
| Percent Change | 1.0% | -1.1% | -3.1% | -3.6% | -0.7% | 0.7% | 1.3% | 1.1% | 1.6% | 1.9% |
| Services | 54.9 | 55.9 | 55.3 | 54.6 | 55.7 | 57.2 | 58.6 | 60.0 | 61.6 | 63.3 |
| Percent Change | 2.6% | 1.8% | -1.2% | -1.1% | 1.9% | 2.7% | 2.5% | 2.4% | 2.6% | 2.9% |
| Professional & Business | 17.8 | 18.0 | 17.1 | 16.5 | 17.0 | 17.6 | 18.2 | 18.8 | 19.4 | 20.0 |
| Percent Change | 3.0% | 0.9% | -4.7% | -3.6% | 3.1% | 3.6% | 3.3% | 3.1% | 3.1% | 3.1% |
| Education & Health | 18.4 | 19.0 | 19.4 | 19.8 | 20.1 | 20.6 | 20.9 | 21.2 | 21.7 | 22.4 |
| Percent Change | 2.6% | 3.0% | 2.6% | 1.8% | 1.7% | 2.1% | 1.8% | 1.4% | 2.3% | 3.1% |
| Leisure & Hospitality | 13.3 | 13.5 | 13.2 | 13.0 | 13.2 | 13.6 | 14.0 | 14.5 | 14.9 | 15.3 |
| Percent Change | 2.6% | 1.6% | -1.9% | -1.9% | 1.5% | 2.9% | 3.2% | 3.4% | 2.9% | 2.9% |
| Other Services | 5.5 | 5.5 | 5.4 | 5.3 | 5.3 | 5.4 | 5.5 | 5.5 | 5.6 | 5.7 |
| Percent Change | 1.0% | 0.9% | -1.3% | -2.0% | 0.1% | 1.2% | 1.0% | 1.4% | 1.2% | 1.1% |
| Government | 22.1 | 22.4 | 22.6 | 22.6 | 22.3 | 22.0 | 21.9 | 21.8 | 21.9 | 22.1 |
| Percent Change | 1.0% | 1.2% | 0.9% | 0.0% | -1.3% | -1.4% | -0.4% | -0.2% | 0.5% | 0.5% |
| Civilian Labor Force | 152.4 | 153.7 | 154.6 | 153.9 | 153.6 | 154.3 | 155.3 | 155.5 | 156.6 | 158.0 |
| Percent Change | 1.4% | 0.8% | 0.6% | -0.4% | -0.2% | 0.4% | 0.7% | 0.1% | 0.7% | 0.9% |
| Unemployment Rate | 4.5% | 5.0% | 7.6% | 9.8% | 9.3% | 8.5% | 7.8% | 6.8% | 5.7% | 5.0% |

## MAJOR U.S. ECONOMIC INDICATORS - FISCAL YEAR BASIS

### TABLE 5
### PRICE INDICES FOR URBAN CONSUMERS
### (1982-1984 = 100)

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| All Items | 204.1 | 211.7 | 214.6 | 216.8 | 221.1 | 227.6 | 231.4 | 235.0 | 236.7 | 238.3 |
| Percent Change | 2.6% | 3.7% | 1.4% | 1.0% | 2.0% | 2.9% | 1.7% | 1.6% | 0.7% | 0.7% |
| Food & Beverages | 198.9 | 208.1 | 218.2 | 218.6 | 223.0 | 231.5 | 235.4 | 239.1 | 245.1 | 247.7 |
| Percent Change | 2.9% | 4.6% | 4.8% | 0.2% | 2.0% | 3.8% | 1.7% | 1.5% | 2.5% | 1.1% |
| Housing | 206.5 | 212.8 | 217.5 | 216.5 | 217.2 | 221.0 | 224.9 | 230.2 | 235.6 | 240.7 |
| Percent Change | 3.5% | 3.1% | 2.2% | -0.5% | 0.3% | 1.7% | 1.8% | 2.4% | 2.3% | 2.1% |
| Energy | 198.6 | 226.6 | 208.2 | 206.4 | 227.9 | 245.9 | 245.8 | 246.6 | 221.2 | 192.5 |
| Percent Change | 2.3% | 14.1% | -8.1% | -0.9% | 10.4% | 7.9% | 0.0% | 0.3% | -10.3% | -12.9% |
| Commodities | 165.0 | 172.0 | 170.9 | 173.2 | 178.7 | 186.4 | 187.9 | 188.1 | 184.5 | 180.2 |
| Percent Change | 1.2% | 4.2% | -0.6% | 1.3% | 3.2% | 4.3% | 0.8% | 0.1% | -1.9% | -2.3% |
| Apparel | 119.6 | 118.6 | 119.4 | 120.1 | 119.8 | 124.9 | 127.0 | 127.6 | 126.8 | 125.9 |
| Percent Change | 0.4% | -0.8% | 0.7% | 0.6% | -0.3% | 4.3% | 1.7% | 0.5% | -0.6% | -0.7% |
| Transportation | 181.2 | 192.8 | 182.6 | 189.0 | 202.9 | 215.5 | 217.9 | 217.9 | 206.2 | 196.1 |
| Percent Change | 0.7% | 6.4% | -5.3% | 3.5% | 7.4% | 6.2% | 1.1% | 0.0% | -5.4% | -4.9% |
| Services | 242.9 | 251.0 | 258.1 | 260.1 | 263.2 | 268.6 | 274.6 | 281.5 | 288.3 | 295.6 |
| Percent Change | 3.6% | 3.3% | 2.8% | 0.8% | 1.2% | 2.0% | 2.3% | 2.5% | 2.4% | 2.5% |
| Medical Care | 343.0 | 358.6 | 369.4 | 382.2 | 394.0 | 407.4 | 420.6 | 430.2 | 440.9 | 453.9 |
| Percent Change | 4.0% | 4.6% | 3.0% | 3.5% | 3.1% | 3.4% | 3.2% | 2.3% | 2.5% | 2.9% |
| Other Goods & Services | 327.5 | 338.9 | 355.3 | 377.1 | 384.6 | 390.7 | 397.8 | 404.7 | 411.2 | 418.9 |
| Percent Change | 3.1% | 3.5% | 4.8% | 6.1% | 2.0% | 1.6% | 1.8% | 1.7% | 1.6% | 1.9% |

## MAJOR CONNECTICUT ECONOMIC INDICATORS - FISCAL YEAR BASIS

### TABLE 6
### PERSONAL INCOME
### (BILLIONS OF DOLLARS)

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| Personal Income | 197.70 | 211.98 | 214.91 | 218.63 | 226.36 | 230.65 | 232.70 | 234.45 | 243.41 | 250.40 |
| Percent Change | 7.6% | 7.2% | 1.4% | 1.7% | 3.5% | 1.9% | 0.9% | 0.8% | 3.8% | 2.9% |
| Disposable Personal Income | 165.18 | 177.45 | 185.15 | 191.81 | 196.44 | 198.41 | 197.89 | 197.23 | 204.13 | 209.65 |
| Percent Change | 6.7% | 7.4% | 4.3% | 3.6% | 2.4% | 1.0% | -0.3% | -0.3% | 3.5% | 2.7% |
| Total Wages | 97.77 | 101.24 | 98.61 | 96.47 | 100.72 | 102.23 | 104.84 | 107.21 | 110.57 | 113.82 |
| Percent Change | 5.7% | 3.5% | -2.6% | -2.2% | 4.4% | 1.5% | 2.6% | 2.3% | 3.1% | 2.9% |
| Manufacturing Wages | 12.96 | 13.32 | 12.64 | 11.88 | 12.74 | 12.90 | 13.20 | 13.21 | 12.89 | 12.63 |
| Percent Change | 3.6% | 2.8% | -5.1% | -6.0% | 7.2% | 1.3% | 2.3% | 0.1% | -2.4% | -2.0% |
| Nonmanufacturing Wages | 84.81 | 87.92 | 85.97 | 84.59 | 87.98 | 89.33 | 91.65 | 94.00 | 97.68 | 101.18 |
| Percent Change | 6.0% | 3.7% | -2.2% | -1.6% | 4.0% | 1.5% | 2.6% | 2.6% | 3.9% | 3.6% |
| Other Labor Income | 21.38 | 22.53 | 22.68 | 22.66 | 23.54 | 23.52 | 23.71 | 24.03 | 24.44 | 25.08 |
| Percent Change | 1.5% | 5.4% | 0.7% | -0.1% | 3.9% | -0.1% | 0.8% | 1.3% | 1.7% | 2.6% |
| Proprietor's Income | 20.60 | 24.44 | 30.59 | 36.45 | 33.54 | 31.10 | 27.17 | 26.38 | 27.70 | 28.73 |
| Percent Change | 3.4% | 18.6% | 25.2% | 19.1% | -8.0% | -7.3% | -12.6% | -2.9% | 5.0% | 3.7% |
| Property Income | 50.68 | 54.69 | 51.39 | 48.80 | 52.92 | 57.59 | 61.60 | 62.48 | 65.63 | 67.16 |
| Percent Change | 15.7% | 7.9% | -6.0% | -5.0% | 8.4% | 8.8% | 7.0% | 1.4% | 5.0% | 2.3% |
| Transfer Payments Less Social Insurance | 7.26 | 9.09 | 11.64 | 14.25 | 15.65 | 16.21 | 15.37 | 14.36 | 15.07 | 15.61 |
| Percent Change | 12.8% | 25.1% | 28.1% | 22.5% | 9.8% | 3.6% | -5.2% | -6.6% | 5.0% | 3.6% |
| Transfer Payments | 20.79 | 23.13 | 25.77 | 28.20 | 29.25 | 29.27 | 29.76 | 30.06 | 31.22 | 32.20 |
| Percent Change | 6.6% | 11.3% | 11.4% | 9.4% | 3.8% | 0.0% | 1.7% | 1.0% | 3.8% | 3.2% |
| Social Insurance | 13.52 | 14.04 | 14.13 | 13.94 | 13.60 | 13.06 | 14.39 | 15.71 | 16.15 | 16.59 |
| Percent Change | 3.5% | 3.8% | 0.6% | -1.3% | -2.4% | -4.0% | 10.2% | 9.2% | 2.8% | 2.8% |

## MAJOR CONNECTICUT ECONOMIC INDICATORS - FISCAL YEAR BASIS

### TABLE 7
### DEFLATED PERSONAL INCOME
### (BILLIONS OF DOLLARS)

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| Personal Income | 206.37 | 214.70 | 215.04 | 216.54 | 220.32 | 219.14 | 217.76 | 216.35 | 222.65 | 227.55 |
| Percent Change | 5.2% | 4.0% | 0.2% | 0.7% | 1.7% | -0.5% | -0.6% | -0.6% | 2.9% | 2.2% |
| Disposable Personal Income | 172.42 | 179.72 | 185.27 | 189.97 | 191.20 | 188.51 | 185.18 | 182.00 | 186.72 | 190.52 |
| Percent Change | 4.3% | 4.2% | 3.1% | 2.5% | 0.6% | -1.4% | -1.8% | -1.7% | 2.6% | 2.0% |
| Total Wages | 102.05 | 102.53 | 98.67 | 95.54 | 98.03 | 97.13 | 98.11 | 98.94 | 101.14 | 103.43 |
| Percent Change | 3.4% | 0.5% | -3.8% | -3.2% | 2.6% | -0.9% | 1.0% | 0.8% | 2.2% | 2.3% |
| Manufacturing Wages | 13.53 | 13.49 | 12.64 | 11.77 | 12.40 | 12.26 | 12.35 | 12.19 | 11.79 | 11.48 |
| Percent Change | 1.3% | -0.3% | -6.3% | -6.9% | 5.3% | -1.1% | 0.8% | -1.3% | -3.3% | -2.6% |
| Nonmanufacturing Wages | 88.53 | 89.04 | 86.02 | 83.78 | 85.63 | 84.88 | 85.76 | 86.75 | 89.35 | 91.95 |
| Percent Change | 3.7% | 0.6% | -3.4% | -2.6% | 2.2% | -0.9% | 1.0% | 1.1% | 3.0% | 2.9% |
| Other Labor Income | 22.32 | 22.82 | 22.70 | 22.44 | 22.91 | 22.35 | 22.19 | 22.17 | 22.36 | 22.79 |
| Percent Change | -0.7% | 2.2% | -0.6% | -1.1% | 2.1% | -2.5% | -0.7% | -0.1% | 0.8% | 1.9% |
| Proprietor's Income | 21.51 | 24.75 | 30.61 | 36.10 | 32.64 | 29.55 | 25.43 | 24.34 | 25.33 | 26.11 |
| Percent Change | 1.1% | 15.1% | 23.7% | 17.9% | -9.6% | -9.5% | -13.9% | -4.3% | 4.1% | 3.1% |
| Property Income | 52.91 | 55.39 | 51.42 | 48.34 | 51.50 | 54.71 | 57.65 | 57.66 | 60.03 | 61.03 |
| Percent Change | 13.1% | 4.7% | -7.2% | -6.0% | 6.5% | 6.2% | 5.4% | 0.0% | 4.1% | 1.7% |
| Transfer Payments Less Social Insurance | 7.58 | 9.20 | 11.65 | 14.12 | 15.23 | 15.40 | 14.38 | 13.25 | 13.79 | 14.19 |
| Percent Change | 10.3% | 21.4% | 26.5% | 21.2% | 7.9% | 1.1% | -6.6% | -7.9% | 4.1% | 2.9% |
| Transfer Payments | 21.70 | 23.43 | 25.78 | 27.93 | 28.47 | 27.81 | 27.85 | 27.74 | 28.55 | 29.26 |
| Percent Change | 4.2% | 8.0% | 10.1% | 8.3% | 2.0% | -2.3% | 0.1% | -0.4% | 2.9% | 2.5% |
| Social Insurance | 14.12 | 14.22 | 14.14 | 13.81 | 13.24 | 12.40 | 13.46 | 14.49 | 14.77 | 15.08 |
| Percent Change | 1.2% | 0.8% | -0.6% | -2.3% | -4.1% | -6.3% | 8.5% | 7.7% | 1.9% | 2.1% |

Note: All categories are deflated by consumer price index

## MAJOR CONNECTICUT ECONOMIC INDICATORS - FISCAL YEAR BASIS

### TABLE 8
### MANUFACTURING EMPLOYMENT
### (THOUSANDS -Seasonally Adjusted)

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| Manufacturing | 191.93 | 188.66 | 179.78 | 165.52 | 165.39 | 164.99 | 163.21 | 160.78 | 158.92 | 159.31 |
| Percent Change | -0.9% | -1.7% | -4.7% | -7.9% | -0.1% | -0.2% | -1.1% | -1.5% | -1.2% | 0.2% |
| Transportation Equip. | 43.52 | 43.93 | 43.94 | 42.41 | 42.11 | 42.31 | 41.75 | 40.62 | 40.18 | 41.32 |
| Percent Change | -0.2% | 1.0% | 0.0% | -3.5% | -0.7% | 0.5% | -1.3% | -2.7% | -1.1% | 2.8% |
| Fabricated Metals | 33.64 | 33.38 | 31.60 | 28.19 | 28.40 | 28.80 | 29.65 | 30.06 | 29.37 | 29.14 |
| Percent Change | -0.3% | -0.8% | -5.3% | -10.8% | 0.7% | 1.4% | 3.0% | 1.4% | -2.3% | -0.8% |
| Electrical Equip. & Appl. | 10.83 | 11.16 | 10.58 | 9.72 | 9.89 | 9.85 | 9.71 | 9.29 | 8.78 | 8.42 |
| Percent Change | 3.5% | 3.1% | -5.2% | -8.2% | 1.8% | -0.4% | -1.4% | -4.4% | -5.4% | -4.2% |
| Chemicals | 15.44 | 14.34 | 13.18 | 11.96 | 11.72 | 10.81 | 10.19 | 10.18 | 9.95 | 9.76 |
| Percent Change | -5.8% | -7.1% | -8.1% | -9.2% | -2.0% | -7.8% | -5.7% | -0.1% | -2.2% | -1.9% |
| Printing & Support | 7.81 | 7.49 | 6.63 | 5.82 | 5.67 | 5.59 | 5.27 | 5.10 | 5.12 | 5.20 |
| Percent Change | -2.3% | -4.0% | -11.5% | -12.2% | -2.5% | -1.5% | -5.7% | -3.1% | 0.3% | 1.7% |
| Industrial Machinery | 18.16 | 18.01 | 17.03 | 15.33 | 14.88 | 14.71 | 14.27 | 13.99 | 14.13 | 13.89 |
| Percent Change | 0.9% | -0.8% | -5.4% | -10.0% | -2.9% | -1.2% | -3.0% | -2.0% | 1.0% | -1.7% |
| All Other | 62.54 | 60.35 | 56.82 | 52.09 | 52.72 | 52.93 | 52.36 | 51.53 | 51.38 | 51.58 |
| Percent Change | -1.5% | -3.5% | -5.9% | -8.3% | 1.2% | 0.4% | -1.1% | -1.6% | -0.3% | 0.4% |

## MAJOR CONNECTICUT ECONOMIC INDICATORS - FISCAL YEAR BASIS

### TABLE 9
### NONMANUFACTURING EMPLOYMENT
### (THOUSANDS -Seasonally Adjusted)

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| Nonmanufacturing | 1,498.0 | 1,517.7 | 1,485.0 | 1,440.6 | 1,453.1 | 1,466.2 | 1,480.6 | 1,493.7 | 1,509.6 | 1,521.4 |
| Percent Change | 1.4% | 1.3% | -2.2% | -3.0% | 0.9% | 0.9% | 1.0% | 0.9% | 1.1% | 0.8% |
| Construction & Mining | 68.5 | 69.2 | 60.3 | 51.8 | 51.4 | 52.3 | 52.8 | 54.7 | 57.4 | 58.4 |
| Percent Change | 2.0% | 1.0% | -12.9% | -14.1% | -0.9% | 1.8% | 1.1% | 3.5% | 5.0% | 1.8% |
| Information | 38.1 | 38.5 | 36.4 | 32.5 | 31.6 | 31.1 | 31.7 | 32.0 | 32.3 | 33.2 |
| Percent Change | 0.6% | 1.1% | -5.5% | -10.7% | -2.7% | -1.5% | 1.8% | 1.1% | 0.7% | 3.0% |
| Utilities | 6.6 | 6.6 | 6.8 | 6.4 | 6.3 | 6.0 | 6.0 | 6.0 | 5.7 | 5.6 |
| Percent Change | -1.2% | -0.5% | 2.2% | -5.9% | -1.6% | -3.8% | -0.4% | 0.3% | -4.9% | -2.8% |
| Transportation | 41.8 | 41.8 | 40.6 | 38.5 | 39.3 | 40.0 | 41.3 | 42.3 | 43.5 | 45.4 |
| Percent Change | 0.2% | 0.1% | -2.8% | -5.4% | 2.2% | 1.7% | 3.4% | 2.3% | 2.9% | 4.4% |
| Wholesale Trade | 67.7 | 69.1 | 67.3 | 63.2 | 63.0 | 63.0 | 62.9 | 62.8 | 62.6 | 63.1 |
| Percent Change | 0.8% | 2.1% | -2.6% | -6.2% | -0.3% | 0.1% | -0.2% | -0.1% | -0.3% | 0.7% |
| Retail Trade | 191.1 | 190.9 | 182.6 | 177.4 | 179.6 | 180.9 | 182.0 | 183.9 | 184.3 | 183.9 |
| Percent Change | -0.2% | -0.1% | -4.4% | -2.8% | 1.3% | 0.7% | 0.6% | 1.1% | 0.2% | -0.2% |
| Finance & Insurance | 123.8 | 123.2 | 121.0 | 116.6 | 116.7 | 115.3 | 113.2 | 110.1 | 110.0 | 110.6 |
| Percent Change | 1.2% | -0.5% | -1.8% | -3.7% | 0.1% | -1.2% | -1.9% | -2.7% | -0.1% | 0.6% |
| Real Estate | 21.1 | 20.9 | 19.9 | 19.0 | 18.8 | 18.7 | 18.9 | 19.0 | 19.5 | 20.3 |
| Percent Change | 0.8% | -1.3% | -4.7% | -4.7% | -0.7% | -0.8% | 1.1% | 0.8% | 2.5% | 4.3% |
| Professional & Business | 207.5 | 209.9 | 199.3 | 190.2 | 195.5 | 201.8 | 205.4 | 210.1 | 214.7 | 217.1 |
| Percent Change | 1.4% | 1.2% | -5.1% | -4.5% | 2.8% | 3.2% | 1.8% | 2.3% | 2.2% | 1.1% |
| Education & Health | 283.8 | 292.2 | 299.9 | 304.1 | 310.8 | 314.8 | 318.8 | 321.9 | 325.9 | 327.5 |
| Percent Change | 2.8% | 3.0% | 2.6% | 1.4% | 2.2% | 1.3% | 1.3% | 1.0% | 1.2% | 0.5% |
| Leisure & Hospitality | 134.0 | 137.4 | 135.2 | 132.6 | 135.4 | 140.1 | 144.3 | 148.8 | 150.5 | 152.9 |
| Percent Change | 2.4% | 2.5% | -1.6% | -1.9% | 2.1% | 3.5% | 3.0% | 3.1% | 1.2% | 1.6% |
| Other Services | 64.3 | 63.8 | 62.1 | 60.6 | 60.6 | 60.6 | 62.0 | 62.2 | 63.5 | 64.8 |
| Percent Change | 1.9% | -0.7% | -2.8% | -2.4% | 0.0% | 0.0% | 2.3% | 0.4% | 2.1% | 2.0% |
| Federal Government | 19.6 | 19.6 | 19.5 | 19.8 | 18.3 | 17.9 | 17.5 | 17.3 | 17.6 | 17.7 |
| Percent Change | -0.7% | -0.1% | -0.6% | 1.3% | -7.2% | -2.5% | -2.1% | -0.9% | 1.5% | 0.4% |
| State & Local Gov't. | 230.1 | 234.5 | 234.4 | 228.1 | 226.0 | 223.8 | 223.8 | 222.6 | 222.1 | 220.7 |
| Percent Change | 1.1% | 1.9% | -0.1% | -2.7% | -0.9% | -1.0% | 0.0% | -0.6% | -0.2% | -0.6% |

## MAJOR CONNECTICUT ECONOMIC INDICATORS - FISCAL YEAR BASIS

### TABLE 10
### LABOR FORCE & OTHER ECONOMIC INDICATORS
### (THOUSANDS -Seasonally Adjusted)

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| Labor Force | 1,842.2 | 1,870.1 | 1,887.5 | 1,895.6 | 1,915.6 | 1,902.8 | 1,870.4 | 1,874.3 | 1,894.5 | 1,892.1 |
| Percent Change | 3.5% | 1.5% | 0.9% | 0.4% | 1.1% | -0.7% | -1.7% | 0.2% | 1.1% | -0.1% |
| Nonfarm Employment | 1,689.9 | 1,706.4 | 1,664.8 | 1,606.1 | 1,618.5 | 1,631.1 | 1,643.8 | 1,654.5 | 1,668.5 | 1,680.7 |
| Percent Change | 2.0% | 1.0% | -2.4% | -3.5% | 0.8% | 0.8% | 0.8% | 0.7% | 0.8% | 0.7% |
| Residential Employment | 1,762.6 | 1,777.7 | 1,757.3 | 1,728.8 | 1,740.9 | 1,742.9 | 1,718.4 | 1,741.0 | 1,779.7 | 1,787.8 |
| Percent Change | 4.1% | 0.9% | -1.1% | -1.6% | 0.7% | 0.1% | -1.4% | 1.3% | 2.2% | 0.5% |
| Unemployed | 79.6 | 92.4 | 130.1 | 166.9 | 174.6 | 159.9 | 152.0 | 133.3 | 114.7 | 104.2 |
| Percent Change | -8.7% | 16.0% | 40.8% | 28.2% | 4.7% | -8.4% | -5.0% | -12.3% | -13.9% | -9.2% |
| Unemployment Rate | 4.3% | 4.9% | 6.9% | 8.8% | 9.1% | 8.4% | 8.1% | 7.1% | 6.1% | 5.5% |
| Households | 1,351.7 | 1,359.6 | 1,365.3 | 1,369.7 | 1,366.1 | 1,367.2 | 1,358.3 | 1,361.5 | 1,359.9 | 1,359.3 |
| Percent Change | 0.7% | 0.6% | 0.4% | 0.3% | -0.3% | 0.1% | -0.7% | 0.2% | -0.1% | 0.0% |
| Housing Starts | 8,843.7 | 6,719.7 | 3,763.8 | 3,854.2 | 3,540.7 | 3,643.7 | 5,338.2 | 4,697.3 | 4,728.8 | 5,772.2 |
| Percent Change | -26.8% | -24.0% | -44.0% | 2.4% | -8.1% | 2.9% | 46.5% | -12.0% | 0.7% | 22.1% |
| Single Family | 7,207.2 | 4,922.2 | 2,479.1 | 2,848.2 | 2,469.8 | 2,387.3 | 3,036.2 | 2,786.5 | 2,411.6 | 2,775.4 |
| Percent Change | -28.1% | -31.7% | -49.6% | 14.9% | -13.3% | -3.3% | 27.2% | -8.2% | -13.5% | 15.1% |
| Multi Family | 1,636.5 | 1,797.5 | 1,284.8 | 1,006.0 | 1,070.9 | 1,256.3 | 2,302.0 | 1,910.8 | 2,317.2 | 2,996.8 |
| Percent Change | -20.1% | 9.8% | -28.5% | -21.7% | 6.4% | 17.3% | 83.2% | -17.0% | 21.3% | 29.3% |
| New Car Registrations | 189.6 | 183.8 | 128.9 | 133.3 | 148.0 | 152.1 | 161.7 | 174.9 | 176.1 | 182.2 |
| Percent Change | -12.2% | -3.0% | -29.9% | 3.4% | 11.0% | 2.7% | 6.4% | 8.2% | 0.7% | 3.5% |

Note: Housing starts are expressed in whole numbers, not thousands

## MAJOR CONNECTICUT ECONOMIC INDICATORS - FISCAL YEAR BASIS

### TABLE 11
### ANALYTICS

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| Wages/Total Income | 49.5% | 47.8% | 45.9% | 44.1% | 44.5% | 44.3% | 45.1% | 45.7% | 45.4% | 45.5% |
| Other Labor Income /Total Income | 10.8% | 10.6% | 10.6% | 10.4% | 10.4% | 10.2% | 10.2% | 10.2% | 10.0% | 10.0% |
| Social Insurance /Total Income | 6.8% | 6.6% | 6.6% | 6.4% | 6.0% | 5.7% | 6.2% | 6.7% | 6.6% | 6.6% |
| Transfer Payments /Total Income | 10.5% | 10.9% | 12.0% | 12.9% | 12.9% | 12.7% | 12.8% | 12.8% | 12.8% | 12.9% |
| Proprietor's Income /Total Income | 10.4% | 11.5% | 14.2% | 16.7% | 14.8% | 13.5% | 11.7% | 11.2% | 11.4% | 11.5% |
| Property Income /Total Income | 25.6% | 25.8% | 23.9% | 22.3% | 23.4% | 25.0% | 26.5% | 26.6% | 27.0% | 26.8% |
| Average Wages (Thousands) | 54.95 | 57.44 | 58.92 | 58.78 | 59.59 | 61.78 | 62.22 | 63.31 | 64.35 | 65.84 |
| Average Mfg. Wages (Thousands) | 64.59 | 67.53 | 70.61 | 70.27 | 71.78 | 77.01 | 78.19 | 80.87 | 82.16 | 81.10 |
| Manufacturing Share of Nonfarm Employment | 11.4% | 11.1% | 10.8% | 10.3% | 10.2% | 10.1% | 9.9% | 9.7% | 9.5% | 9.5% |
| Residential Employment /Total Nonfarm Employment | 1.043 | 1.042 | 1.056 | 1.076 | 1.076 | 1.068 | 1.045 | 1.052 | 1.067 | 1.064 |

## MAJOR CONNECTICUT REGIONAL ECONOMIC INDICATORS - CALENDAR YEAR BASIS

### TABLE 12
### PERSONAL INCOME (MILLIONS-Seasonally Adjusted Annual Rate)

#### BRIDGEPORT-STAMFORD-NORWALK

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|
| Personal Income | 74,809.2 | 82,136.0 | 89,877.8 | 91,263.4 | 96,823.7 | 98,238.8 | 97,904.5 | 93,495.1 | 98,828.7 | 100,856.2 |
| Percent Change | 11.0% | 9.8% | 9.4% | 1.5% | 6.1% | 1.5% | -0.3% | -4.5% | 5.7% | 2.1% |
| Total Wages | 33,290.5 | 36,063.6 | 35,749.9 | 32,768.1 | 33,941.9 | 35,522.7 | 36,225.6 | 36,289.3 | 37,393.7 | 38,547.7 |
| Percent Change | 6.9% | 8.3% | -0.9% | -8.3% | 3.6% | 4.7% | 2.0% | 0.2% | 3.0% | 3.1% |

#### HARTFORD-WEST HARTFORD-EAST HARTFORD

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|
| Personal Income | 55,136.1 | 58,599.4 | 61,073.8 | 59,967.3 | 60,860.8 | 63,516.2 | 65,890.6 | 66,645.2 | 68,908.3 | 71,227.2 |
| Percent Change | 7.2% | 6.3% | 4.2% | -1.8% | 1.5% | 4.4% | 3.7% | 1.1% | 3.4% | 3.4% |
| Total Wages | 33,154.2 | 35,331.6 | 35,701.2 | 34,410.0 | 34,804.3 | 36,281.2 | 37,487.3 | 38,238.0 | 39,852.4 | 41,145.5 |
| Percent Change | 4.6% | 6.6% | 1.0% | -3.6% | 1.1% | 4.2% | 3.3% | 2.0% | 4.2% | 3.2% |

#### NEW HAVEN-MILFORD

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|
| Personal Income | 36,094.4 | 37,913.0 | 39,321.9 | 37,868.2 | 38,416.2 | 40,065.6 | 41,457.5 | 42,005.0 | 43,071.5 | 44,550.7 |
| Percent Change | 6.0% | 5.0% | 3.7% | -3.7% | 1.4% | 4.3% | 3.5% | 1.3% | 2.5% | 3.4% |
| Total Wages | 17,639.2 | 18,478.7 | 18,919.7 | 18,230.8 | 18,372.1 | 18,855.8 | 19,466.2 | 19,822.3 | 20,389.8 | 20,989.5 |
| Percent Change | 4.1% | 4.8% | 2.4% | -3.6% | 0.8% | 2.6% | 3.2% | 1.8% | 2.9% | 2.9% |

#### NEW LONDON-NORWICH, CT-RI

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|
| Personal Income | 11,582.0 | 12,085.2 | 12,720.0 | 12,528.2 | 12,576.3 | 13,076.4 | 13,476.4 | 13,476.2 | 13,790.2 | 14,272.2 |
| Percent Change | 4.6% | 4.3% | 5.3% | -1.5% | 0.4% | 4.0% | 3.1% | 0.0% | 2.3% | 3.5% |
| Total Wages | 6,295.0 | 6,605.2 | 6,855.5 | 6,710.3 | 6,659.2 | 6,745.4 | 6,799.2 | 6,762.0 | 6,894.3 | 6,984.7 |
| Percent Change | 4.0% | 4.9% | 3.8% | -2.1% | -0.8% | 1.3% | 0.8% | -0.5% | 2.0% | 1.3% |