



CONNECTICUT TAX PANEL

Volume 2

Statement of Final Recommendations
Accompanied by
Staff Study Papers on the Economic and Policy
Framework and Connecticut State Taxes

CONNECTICUT TAX PANEL

Contents of Volume 2

Preface

Statement of Final Recommendations

Staff & Consultant Papers on the Topics of
The Economic and Policy Framework and Connecticut State Taxes

Preface

The work of the Connecticut Tax Panel is published in three volumes. Volume 1 has two parts. The first is the *Connecticut Tax Panel Final Report* that includes the policy recommendations as transmitted to the Governor and the General Assembly on December 31, 2015. The second part of Volume 1 is a separate *Staff Report* designed to give context to the Panel's recommendations. The *Staff Report* draws on a series of eighteen consultant research papers that were presented to the Tax Panel during its policy deliberations, and as such does not necessarily represent the view of either the Tax Panel as a whole, or any member thereof. The only document that represents the Panel's views is the *Connecticut Tax Panel Final Report of Policy Recommendations*.

Volume 2 is also presented in two parts. For purpose of completeness and continuity, the first part of Volume 2 presents the full text of the Panel's *Final Report* Recommendations as transmitted on December 31, 2015. The second part is a compendium of consultant papers that provides background research on the Connecticut economy and its revenue system, and then proceeds to an analysis of the state's major state revenue sources.

Volume 3 again leads with the Tax Panel's *Final Report*. This *Final Report* section is followed by a set of consultant and staff papers on the topics relating to the local revenue system—the property tax and local revenue diversification. As with the other two volumes, the staff and consultant research papers represent only materials presented to the Tax Panel, and thus do not necessarily represent the view of either the Tax Panel as a whole, or any member thereof.

In making its recommendations, the Tax Panel adopted a strict rule of *revenue neutrality*. There are two facets to this rule. The first, pertains to the analysis of options for changing the structure of each type of state or local tax examined. Thus, when a tax policy option was identified that broadened (narrowed) the base of a specific tax, the rule required that the statutory tax be reduced (increased) in order to generate an equal-yield amount of tax collected. This allowed the Panel to make statements regarding how well a policy option for a given tax would meet the tests of *Guiding Guidelines and Criteria for Evaluating Changes to the Connecticut State and Local Revenue System* that the Panel adopted on May 12, 2015. This statement of the Panel's normative policy criteria is presented as the first paper in Volume 2.

Second, there is the principle of “revenue neutrality” as applied to the Panel's overall set of policy recommendations. Here the rule was applied that recommended changes in the state and local tax system as a whole must generate the same amount of revenue as the current system. Thus, in circumstances when there was a recommended change in a tax or taxes that led to an overall increase (decrease) of revenues to the state/local system, the Panel did not have the option to make recommendations for compensatory changes on the expenditure side of the budget. Rather, it set the rule that it must identify what other revenues might be decreased (increased) to maintain a tax system equal-yield of tax in the aggregate.

Tax Panel *Final Report* Transmittal of Final Recommendations
To the Governor and the Connecticut General Assembly

December 31, 2015

State of Connecticut
GENERAL ASSEMBLY



STATE TAX PANEL
ROOM 501 STATE CAPITOL
HARTFORD, CONNECTICUT 06106

December 31, 2015

Governor Dannel P. Malloy
State of Connecticut

The Honorable Brendan Sharkey
Speaker of the House

The Honorable Martin Looney
Senate President

The Honorable Joe Aresimowicz
House Majority Leader

The Honorable Bob Duff
Senate Majority Leader

The Honorable Len Fasano
Senate Republican Leader

The Honorable Themis Klarides
House Republican Leader

The Honorable John Fonfara
Senate Chair, Finance, Revenue and Bonding
Committee

The Honorable Jeff Berger
House Chair, Finance, Revenue and Bonding
Committee

The Honorable Scott Frantz
Senate Ranking Member, Finance, Revenue and
Bonding Committee

The Honorable Christopher Davis
House Ranking Member, Finance, Revenue and
Bonding Committee

Re: State Tax Panel

By this letter we transmit the condensed final report of the State Tax Panel as is required pursuant to PA 14-217 (Section 137). This report will be available in its entirety as of February 28, 2016.

The recommendations are the result of hearings and meetings over many months and represent the consensus reached on the major elements of the Connecticut tax code. In some cases there were dissenting votes, as noted.

We wish to thank the members of the Tax Panel for their invaluable service. We also wish to thank the Panel's staff leaders, Robert D. Ebel and Michael E. Bell, and the chief administrator Mary E. Finnegan.

Sincerely,

William H. Nickerson
Co-chair

William R. Dyson
Co- chair

TAX PANEL MEMBERSHIP & STAFF 2015

Co-chairs: William Dyson and William H. Nickerson

Voting Members:

1. Melinda Agsten, Partner, Wiggin and Dana LLP
2. Alfred Casella, Partner, Murtha Cullina, LLP
3. Alan Clavette, CPA, Clavette and Company, LLC
4. William Dyson, Co-Chair, Former O'Neill Endowed Chair, CCSU
5. John Elsesser, Town Manager, Town of Coventry
6. Marian Galbraith, Mayor, City of Groton
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11. William H. Nickerson, Co-Chair, CEO, Eugene A. Hoffman Management
12. David Nee, Board Member, CT Voices
13. Louis B. Schatz, Partner, Shipman and Goodwin, LLP
14. Robert Testo, Principal, RJ Testo and Associates

Ex-Officio Members:

1. Rep J. Brendan Sharkey, Speaker of the House
2. Sen. Marty Looney, President Pro Tempore of the Senate
3. Ben Barnes, Secretary, Office of Policy and Management
4. Kevin Sullivan, Commissioner, Department of Revenue Services
5. Sen. John Fonfara, Senate Chair, Finance, Revenue and Bonding Committee
6. Rep. Jeff Berger, House Chair, Finance, Revenue and Bonding Committee
7. Sen. Scott Frantz, Ranking Member, Finance, Revenue and Bonding Committee
8. Rep. Chris Davis, Ranking Member, Finance, Revenue and Bonding Committee

Other: Patricia Widlitz, Former House Chair, Finance Committee (2014)
Sean Williams, Former House Ranking Member, Finance Committee (2014)

Staff: Robert D. Ebel, Executive Director
Michael E. Bell, Director, Intergovernmental and Local Finance
Mary E. Finnegan, Administrator

Recommendations of the Connecticut Tax Panel
December 2015

1. Connecticut Personal Income Tax
2. Connecticut General Retail Sales Tax
3. Connecticut General Business Taxation
4. Connecticut Estate and Gift Taxation and Probate Fees
5. Property Tax and Local Revenue Diversification
6. Memoranda of Panel Member Comment

1. The Connecticut Personal Income Tax December 2015

Recommendation 1. Taxation of Retirement Income

Other than federally excluded income, tax all retirement income including military and teacher retirement income similar to the state's treatment of social security income.

- Revenue Implications: Base broadening will allow for a reduction in statutory tax rates due to the long run capture of the trend of a growing segment of the Connecticut population that is of retirement age (Age 65 and older increasing from 18.6% in 2015, to 20.7% in 2020, to 23.5% in 2025).
- Adopted with Panel Members Galbraith, Schatz, and Testo dissenting

The following three draft options do not have a significant revenue impact that differs from the current set of revenue projections.

Recommendation 2. Connecticut Definition of Adjusted Gross Income

- Retain the Connecticut definition of Adjusted Gross Income as the starting point for calculating the Connecticut Personal Income Tax.
- Adopted without dissent.

Recommendation 3. The Earned Income Tax Credit (EITC)

- Retain the Earned Income Tax Credit. Increase the credit from an amount equal to 27.5% to 30% of the federal earned income tax credit (Current Connecticut law phases in this increase by FY 2017).
- Adopted without dissent

Recommendation 4. Net Capital Gains Income

- Retain the tax treatment of taxing net capital gains income at the same rate as all other income in the Connecticut income tax.
- Adopted without dissent

2. The Connecticut General Retail Sales Tax December 2015

Recommendation 1. Remote Sales Transactions

Connecticut should remain aggressive in the taxation of remote purchases (e-commerce, mail order, cross-border shopping) destined for Connecticut residents by pursuing opportunities to expand the definition of *nexus* through administrative procedures and, if needed, through legislation. As part of its enforcement the state should require sellers to collect and remit the tax.

- Revenue Implication: Systematic and uniform capturing of such transactions will exert a downward pressure on statutory tax rates.
- Adopted without dissent

Recommendation 2. Digital Downloads

Tax retail consumption of digitized versions of goods at the same standard retail sales tax rate as other goods. As part of the enforcement strategy the state should look to use sellers, wherever they are located, to collect and remit the sales tax.

- Revenue implication: Base broadening overtime to allow for lower statutory tax rates.
- Adopted without dissent

Recommendation 3. Shared Economy

Ensure that the sharing economy is taxed similarly to the traditional economy. Recognizing that the sharing economy is still in its early stages of development, the General Assembly should provide legislative support to the Department of Revenue Services in its efforts to identify the size of the tax base as well as to capture the tax due at retail by requiring the sharing economy organizing business entity to collect and remit tax due.

- Revenue Implication: Base broadening overtime to allow for lower statutory tax rates.
- Adopted without dissent

Recommendation 4. General Application of Sales and Use Tax

Adopt the presumption that the Connecticut sales tax on final consumption be broadly applied to all goods and services sold at retail. If exclusions, exemptions or credits are to be allowed, the General Assembly must be explicit in its rationale for such treatment.

- Revenue Implication: Base broadening to allow for lower statutory tax rates.
- Adopted with Panel Members Clavette, Marchand and Schatz dissenting

Recommendation 5. Eliminate Sales Tax Holidays

Eliminate the practice of a sales tax holiday

- Revenue Implication: An increase of \$5.2 m in retail sales tax yield would result in a less than 0.2% reduction in the standard statutory rate (FY 2014)
- Adopted without dissent

3. Connecticut General Business Taxation The Corporate Net Income (Profits) Tax and Its Alternatives December 2015

Analysis of Replacing the Corporate Net Income (Profits) Tax with a Broad Based/Low Rate General Business Tax Alternative

Recommendation 1. Alternatives to the Corporate Net Income Tax and Business Taxes

The Tax Panel finds that the taxation of the current corporate net income tax base violates many its adopted criteria for a high quality tax system. Therefore, the state shall undertake, through the Department of Revenue Services, a study of the structural impacts and tradeoffs of replacing the corporate net income tax with a broad based/low general business tax to be imposed uniformly on corporate and non-corporate businesses alike. In carrying out this study, which will include an examination of both a gross receipts tax and a value added tax, the state shall also examine how the adoption of a broader base and lower rate tax can become a vehicle for a single-business-tax strategy for further modernizing and stabilizing the current business tax system. This single-business tax analysis will include (i) eliminating the capital base system; (ii) phasing-out the proliferation of tax credits that can now be applied against the corporate net income tax; and (iii) phasing-in the exemption of business-to business transactions from the retail sales tax, and (iv) applying a less stringent ownership rule for business-to-business purchases when services are sold between a parent and a subsidiary.

- Revenue implications: The analysis is to be carried out on an equal-yield/revenue neutral basis of the alternatives *vis-à-vis* the current tax treatment of corporate and non-corporate entities alike.
- Adopted without dissent.

Relating to the Existing Corporate Net Income Tax

Recommendation 2. Capital Base System

Eliminate the capital base (stock) tax that serves as an alternative method of calculating taxpayer corporate income tax liability.

- Revenue implications: since, at present, the corporate taxpayer is required to pay the higher of the two tax liability calculations -- capital base and net income -- any revenue losses would be made up by raising the corporate net income tax rate and/or placing limits on the issuance of new credits against the net income tax.
- Adopted without dissent.

Recommendation 3: Proliferation of Tax Credits

Discontinue the practice of issuing new tax credits that erode the base of the corporate net income tax, and also evaluate existing credits as to whether they are achieving their intended objectives. If credits are intended to provide general tax reduction, then phase out the credits and lower the statutory rate. If credits are intended to promote economic development, then efforts are to be made to identify alternative and transparent policies that can promote economic growth at lower revenue costs to the state.

- o Revenue Implications: Elimination of credits paid in 2012 would have reduced the corporate statutory rate by 1.9 percent. The elimination of credits and credit carry forwards will put long term downward pressure on corporate income tax rates.
- Adopted without dissent

Recommendation 4. Mandatory Unitary Reporting

Maintain mandatory combined reporting for business entities that are part of a unitary business; require that unitary groups be broadly inclusive.

- o Connecticut requires unitary reporting commencing with the 2016 tax year. Only a modest revenue gain is anticipated from adopting mandatory reporting.
- Adopted with Panel Member Galbraith dissenting.

Recommendation 5. Apportionment of Multi-state Income.

Broadly adopt single sales apportionment factor based on market (destination) sourcing for the taxation of corporate and non-corporate business activities alike.

- o Revenue Implications: The adoption of market sourcing is not projected to result in a significant change in revenue yield
- Adopted without dissent

Recommendation 6: Claiming of Net Operating Loss

Reinstate full use of Net Operating Losses.

- o Revenue implications: With an estimated annual revenue loss of \$90.1 million in FY 2016. Revenue neutrality will require raising the standard corporate tax rate of 7.5% to 8.2%. These numbers do not address the treatment the current unfunded contingent liability of claimable net operating losses totaling \$78 billion.
- Adopted without dissent

4. The Connecticut Estate and Gift Tax and Probate Fees December 2015

- All Recommendations Approved Without Dissent

Recommendation 1. Basic Structure and Effect on Taxpayer Migration Effect

For the present retain the current estate tax exemption level of \$2 million of the adjusted estate. The State should then (i) further examine the option of phasing in the level of tax exemption in conformity with federal law and (ii) continue to monitor data for tax induced taxpayer migration flows.

Recommendation 2. Portability

Provide “portability” of the Connecticut estate tax exemption between spouses such that the unused exemption of the first to die may be claimed by the second-to-die’s estate as permitted for federal estate tax purposes.

Recommendation 3. Qualified Terminable Interest Property

Review current practice to ensure the full implementation of a Connecticut Qualified Terminable Interest Property (QTIP) election regardless of whether a federal QTIP election is made and independent from a federal QTIP election such that married couples can defer state estate taxes until the second death.

Recommendation 4. Gift Tax

Repeal the Gift tax; continue to apply a rule that gifts made in contemplation of death are included in the value of the estate.

- Revenue Implications: Taken together, portability, QTIP, and elimination of the Gift Tax reduce E&G revenues by about 50% of current yields (\$207m to \$106m in FY 2014).

Recommendation 5. Estate Filing Dates to Conform to Federal Law

Replace the Connecticut deadline for filing an estate return from the current practice of six (6) months following the decedent’s death to conform to the federal practice of nine (9) months.

- Revenue Implications: A delay in Estate and Gift tax revenues in the fiscal year of implementation. For the Probate Court, a reduction in \$7.4 million in probate fees is anticipated for the year in which the transition occurs (FY 2016 estimate). In addition, there is an ongoing annual loss of interest revenue to the Probate Court. For FY 2016 the interest loss is estimated to be \$200,000.

Recommendation 6. Probate Fee Structure

Revise the current formula of the probate fee for decedents’ estates so that it reflects an appropriate level as a direct user fee for estate settlement rather than a vehicle for paying for essential judicial services unrelated to decedents’ estates.

- Revenue Implications. The present treatment whereby probate fees are designed to fully cover the cost of Probate Court Administration results in a highly unstable revenue source to the Probate Court. This revenue instability reflects the uncertainty of the length of time an estate may be in probate. In some years the Court may largely cover its operating costs; in others it may be required to cover net operating losses through temporary borrowing from other state agency funds.

5. Property Tax and Local Revenue Diversification

December 2015

Administrative Issues

Recommendation 1: Fractional Assessment.

Eliminate the 70 percent fractional assessment and define assessed value as 100 percent of estimated market value. When this transition is made, all municipalities must lower their property tax mill rate to raise the same amount of revenue as they raise currently.

- Revenue Implications: Revenue Neutral.
- Adopted without dissent

Recommendation 2: Assessment Cycle

Eliminate the 5-year reassessment cycle and institute annual reassessment. To ensure an accurate description of each property retain the 10-year physical inspection requirement. This recommendation should be implemented over a five-year period. The Tax Study Panel recognizes there may be some cost implications for municipalities and recommends ways to mitigate increased costs resulting from moving toward annual reassessments should be explored. For example, 13 municipalities have already joined together for regional revaluations.

- Revenue Implications: During the five-year transition revenue neutrality can be accomplished by reduced mill rates to accompany base broadening as properties reassessed to reflect current market value.
- Adopted without dissent

Recommendation 3: Local Fiscal Disparities

The Tax Study Panel's mandate is to review the state's overall state and local tax structure. The Panel affirmed at its May 2015 meeting it would not look at state and local expenditure policy. Accordingly, addressing the magnitude and design of state grants to local governments in Connecticut is beyond the Panel's scope of work. However, in view of evidence presented to the Panel that there are significant differences in property tax capacity of municipalities (fiscal disparities) across municipalities, the Panel concludes that state grant policies should be re-examined in an effort to further relieve pressure on the property tax and to equalize fiscal disparities.

1. Property taxes are regressive.
 2. The property tax fails to meet requirements of horizontal and vertical equity.
 3. The property tax system is detrimental to Connecticut's economic competitiveness
 4. State grant policies should be re-examined in an effort to further relieve pressure on the property tax to address fiscal disparities across municipalities.
 5. The State needs to look at the distribution formula which addresses closing the "need-capacity gap."
- Revenue Implications: Revenue Neutral
 - Adopted without dissent

Tax Exempt Properties

Recommendation 4: Payments in Lieu of Taxes (PILOT)

The Panel recommends retention of Connecticut’s existing statutory scheme for *payment-in-lieu-of-taxes* (PILOT) grants from the state to municipalities that is designed to recognize that state properties, hospitals, and colleges and universities serve regional and statewide communities. The Panel acknowledges that funding of this existing program is outside the scope of the Panel’s charge, and it consequently makes no recommendation as to the funding of this program.

The Panel notes that municipalities in Connecticut are free under existing law to develop voluntary traditional PILOT programs. These programs can generate revenues from tax exempt properties to help finance the delivery of local public services benefiting those properties. A municipality considering development of such a voluntary program could model its program on the Boston model or develop a model that better reflects its community and its exempt organizations. A municipality could use the portion of its budget that finances goods and services that benefit all properties as a starting place for conversations with exempt organizations about voluntary PILOT payments, and the Panel recommends that the Office of Policy and Management develop estimates of the value of locally provided services to provide a framework for informing such a discussion. A municipality that develops a traditional PILOT program should consider exempting organizations with real property valuations below some threshold amount to protect small nonprofits.

- o Revenue Implications: Revenue Neutral.
- Adopted without dissent

Direct Property Tax Relief

Recommendation 5: Low Income Tax Credit “Circuit Breaker”

Eliminate the more than 100 state and local option partial property tax exemptions and replace them with a single unified state circuit breaker mechanism that provides property tax relief targeted to homeowners and renters whose property taxes are high relative to their household income. Such a circuit breaker would be a single threshold type circuit breaker implemented as a refundable credit through the Connecticut state income tax to provide targeted relief, replacing the current property tax credit. The circuit breaker could be designed so that this recommendation is revenue neutral.

- o Revenue Implications: Implement this replacement on a revenue neutral basis.
- Adopted without dissent

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Agricultural Land Use Valuation

Recommendation 6: Agricultural Land

Tighten up the implementation of the PA490 use value assessment program so the program is more aligned with the intended purpose of the program by

1. Implementing an objective test of agricultural use in order to qualify for participation in the program (e.g., establish a *de minimis* level of gross income from agricultural production)
2. Rationalizing use value assessment computation methods using more accurate income measures and more realistic capitalization rates
3. Requiring forest land participating in the program to be adjacent parcels
4. Allowing towns to remove land from the program if it has been rezoned for subdivision
5. Expanding the time period which land must remain undeveloped from 10 to 15 years
6. Increasing the penalties for early withdrawal from the program
7. Moving away from general tax relief for agriculture broadly and move toward strategic use of use value assessment to protect and preserve land that provides ecosystem services that are a form of public good or generates positive externalities.
 - o Revenue Implications: Base broadening will increase revenues over time and allow property tax rates to be reduced.
 - Adopted without dissent

Revenue Diversification

Recommendation 7: Local Non-Property Taxation.

Allow for a local sales tax of 1 percent to be implemented on a statewide basis with the revenue to be collected by the Department of Revenue Services (DRS), which will act as the collection agent for all local governments. The local tax will be piggybacked to the standard state sales tax rate. The funds shall be deposited in the Municipal Revenue Sharing Account and then distributed to municipalities in a manner that is fiscally equalizing (e.g., on the basis of fiscal needs such as documented by the Federal Reserve Bank of Boston, 2015)

- o Revenue Implications: An increase of approximately \$600 million is intended to be applied to a reduction in property tax rates. Under this arrangement the local sales tax will lead statewide property tax reduction of 6 to 7 percent.
- Adopted with Panel Members Clavette, Nickerson, and Schatz dissenting

Personal Property Taxes

Recommendation 8: Taxation of Business Tangible Property

Exempt the first \$10,000 of personal property from taxation thereby eliminating 56 percent of personal property accounts. The Panel recognizes that for zero tax due accounts there must be a mechanism put in place so that each municipality will continue to be able to identify individual businesses located in their jurisdiction.

- Revenue Implications: Reduces administrative costs for taxpayers and local governments and would result in reduced revenues by \$19 million, or three (3) percent of personal property tax total collections. Revenue neutrality can be accomplished by a small increase on the remaining taxable tangible property tax base or through revenue diversification.
- Adopted without dissent

Recommendation 9: Personal Property Tax Revenue Administration/Implementation

The Office of Policy and Management or other research agency should revisit the implementation of the personal property tax by

1. Periodically examining depreciation schedules and the 30 percent residual value
 2. Improving audit procedures and practices
 3. Strengthening the role of OPM in overseeing uniformity of assessment administration
 4. Requiring all municipalities to use the same OPM standard form for filing information
 5. Periodically estimating economic and functional obsolescence in at least chemical products manufacturing and other industries where standard depreciation schedules are inadequate.
- Revenue Implications: Revenue Neutral.
 - Adopted without dissent

Motor Vehicle Tax

Recommendation 10: Motor Vehicles (“Car Tax”)

The Panel supports the changes in the motor vehicle tax made in 2015 and recommends that the impact of these changes on the equity, efficiency and administration costs of the motor vehicle tax should be evaluated after they have been in place for a period of no more than three years. This will also provide time to see how the Municipal Revenue Sharing Account works to hold harmless those municipalities that experience a decline in motor vehicle tax revenues because of the ceiling placed on the mill rate applied to motor vehicles.

- Revenue Implications: Revenue Neutral.
- Adopted without dissent

Recommendation 11: Antique Vehicles

The assessed value of antique vehicles should be set at current market value rather than the current assessment limit of \$500, but shall not exceed a valuation of \$50,000.

- Revenue Implications: Broadening the property tax base over time will lower statutory tax rates.
- Adopted without dissent

Conveyance and Controlling Interest Taxes***Recommendation 12. Conveyance and Controlling Interest Taxes***

To assure inter-community equity the local real estate conveyance (REC) tax rate shall be set at the same rate statewide as the targeted community rate (0.5 percent). The state rate shall remain unchanged.

- Revenue Implications: Will raise approximately \$40 million in additional revenues for local governments.
- Adopted without dissent

6. Memoranda of Panel Member Comment

- *Memorandum of Comment* submitted by Panel Members Elsesser, Lemar, Galbraith, and Nee relating to the Local Revenue System.
- *Memorandum of Comment* Submitted by Senator Scott Frantz Relating to the Connecticut Estate and Gift Tax and Scope of the Panel's Activity
- *Memorandum of Comment* submitted by Panel Member Marchand relating to (i) claim of refund for overpayment of income taxes: to enable a taxpayer to secure a refund 2 years from the date of payment, in addition to 3 years from the due date of the return, and (ii) sales tax refunds and deficiency assessments: to change the standard of proof borne by a taxpayer in tax litigation from "clear and convincing" to "preponderance of the evidence."
- *Memorandum of Comment* submitted by Panel Member Schatz Relating to the Connecticut Personal Income Tax: Taxation of Retirement Income and the Connecticut Retail Sales Tax, the General Application of the Sales and Use Tax, and the Local Sales Tax Revenue Diversification
- *Memorandum of Comment* submitted by Revenue Commissioner Kevin Sullivan

Memorandum of Comment

Submitted by Panel Members Elsesser, Lemar, Galbraith, and Nee

Relating to the Local Revenue System

We have repeatedly opined that the Tax Panel, of which we are all members, failed its statutory charge “to review the state’s overall state and local tax structure” because it refused to consider the structure of the property tax. This Memorandum sets forth some major concerns with our current property tax system and urges the Connecticut General Assembly to undertake a major overhaul of that system in the interest of improving the economic prospects of our state.

Expert after expert told the Tax Panel that Connecticut is singular in regard to (a) the degree to which our towns rely on the property tax to fund all local functions and (b) the sheer number of towns in the state. The latter singularity creates massive inefficiencies that increase local property tax burdens. The former distorts local policymaking, as towns seek to maximize property tax revenue while limiting local expenditures. The primary local expenditure is public education. As any reader of our local newspapers knows, towns regularly make land use decisions intended to prohibit any influx of school-age children and, by extension, their parents. By over-regulating housing production, these towns intentionally make housing more expensive thus driving recent college graduates and young families, our emerging workforce, to urban centers in neighboring states.

But young families and recent college graduates are our state’s future. They pay a disproportionate percentage of the sales tax. They provide workers for Connecticut’s employers and pay their fair share of income taxes. And their children represent Connecticut’s long-term prospects. The young adults most likely to settle in Connecticut are those who grew up here. Artificially inflating property values through zoning, thus making it harder for young families and college graduates to find housing in the state, is bad economic policy. In fact, in his presentation to the Tax Panel on economic competitiveness, Professor Michael Wasylenko concluded that while changing tax policy cannot significantly improve Connecticut’s economic competitiveness, changing our housing policy can. He specifically recommended that Connecticut increase housing production and decrease housing costs by easing zoning restrictions in order to compete economically with our neighboring states. Unfortunately, our towns will never allow this so long as their fiscal interests lie in inflating property values and decreasing education costs. As a result of our dysfunctional property tax structure, the towns work against the state’s economic interests.

Our cities, on the other hand, have worked to increase zoning density and housing production. They are striving to create the kind of economic environment that contemporary employers seek: dense innovation districts with a concentration of high-technology companies and highly-educated employees. But state taxation policy handicaps local policy. Because Connecticut, with its 169 small municipalities, is the most economically-segregated state in the country, our cities have exorbitant property tax rates. By way of example, Bridgeport’s property tax rate is nearly twice that of neighboring Fairfield and nearly three times that of nearby Darien. And even Darien’s rate is higher than Boston’s residential rate. These high rates severely limit the ability of our cities to compete with cities in our neighboring states. In today’s competitive environment, our property tax system ties our hands behind our backs. It is well past time to do something about it.

Memorandum of Comment
Submitted by Senator Scott Frantz, *Ex Officio Panel Member*
Relating to the Connecticut Estate and Gift Tax and Scope of the Panel's Activity

As a non-voting, Ex officio member of the State Tax Panel, I would like to make the following suggestions to the Panel:

1) Immediately Raise the Estate and Gift Tax Exemption to the Federal Level and Consider Their Repeal

Although the Tax Panel recommendations include a provision to repeal the gift tax, I would like to further emphasize that the gift tax should be eliminated this coming legislative session. Connecticut currently has an exemption level of \$2,000,000 that should be raised to the 2016 federal level of \$5,450,000 if the estate and gift taxes are not done away with completely. An argument can be made that the estate tax along with an onerous probate fee (tax) that applies to all estate assets, including those that do not have to go through the probate court, is driving tax payers out of the state and that we are losing a greater amount of value in lost economic development contributions, future income tax payments to the state and philanthropy than amounts raised by taxing estates. With respect to the gift tax, Connecticut is the only state in the country to have one. It is one more significant tax that wealthy individuals see as a deterrent to remaining in the state or moving to the state, and it should be repealed. As income tax revenue to the state continues to fall significantly short of projections, it is imperative that Connecticut preserve as much of its tax base as it can in order to stay solvent.

2) Encourage Any Future Panels or Commissions Analyzing the Tax Code to Review All Taxes to Determine if They Pay for Themselves

One of the original intentions of the legislator who suggested we create a tax panel was to look at all 387 taxes and fees that the state imposes on taxpayers to see if they all were feasible and economical. Fully recognizing the Tax Panel only had so much time to complete its work, I think it would be a valuable exercise to scrutinize each one of these taxes in the future.

Memorandum of Comment
Submitted by Panel Member Marchand
Relating to refund for overpayment of income taxes and sales tax refunds and deficiency
assessments

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February 1, 2016

MEMORANDUM

To: Robert D. Ebel and Members of Connecticut State Tax Panel

Re: **Two Inequities in Administration of Connecticut Taxes**

The direction given to the State Tax Panel in § 137 of P.A. 14-217 was to "consider and evaluate options to modernize tax policy, structure and administration with respect to ... (3) equity,... (12) overall public policy." There are two practices imposed by statute or judicial decision that are highly inequitable in the administration of the Connecticut Tax System and are bad public policy:

- (1) The limitation under §12-732 for a claim of refund for overpayment of Connecticut income taxes, now three years from the due date of the return, should provide at alternate period of two years from the date of payment, the limitation governing refunds in neighboring states and for federal income taxes. The change would enable Connecticut taxpayers to secure a refund when taxes are determined not to be due during negotiations with the Department of Revenue Services after the three year period from the date of assessment has expired.

A similar problem should be corrected with respect to refunds of sales and use taxes under §12-425 which now mandates a refund claim must be filed within six months of the assessment. An alternate period of two years from the date of payment should be provided for the filing of claim for a refund of Connecticut sales and use taxes.

- (2) The burden of proof for a Connecticut taxpayer to prevail on a refund claim should be changed from "clear and convincing evidence" to "the preponderance of evidence," the standard for tax cases in neighboring states and in the federal tax system.

Donat C. Marchand
Member
State Tax Panel

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Memorandum of Comment

Submitted by Panel Member Louis B. Schatz

Relating to the Connecticut Personal Income Tax, the Connecticut Retail Sales Tax and the Local Sales Tax Revenue Diversification

At our meeting on December 15, 2015, I voted against three of the recommendations that were ultimately adopted by the State Tax Panel. This Comment Memorandum sets forth my reasons for dissenting.

1. Connecticut Personal Income Tax. Recommendation 1: Taxation of Retirement Income.

The adoption of this recommendation would expand Connecticut's taxation of retirement income to include, among other items, the taxation of military retirement income. The taxation of retirement income that is currently exempt from taxation in Connecticut will lead to the unwelcome result of encouraging retirees to relocate to States that do not tax similar types of income. Specifically, it is my understanding that most of Connecticut's neighboring States do not tax military retirement pension income.

2. The Connecticut Retail Sale Tax. Recommendation 4: General Application of Sales and Use Tax.

Historically, services in Connecticut have been presumed to be exempt from sales tax unless they are specifically identified as taxable in the statute. This is the approach that is followed by virtually all other states that have a sales tax on services. Even with such presumption, Connecticut's sales tax on enumerated services is viewed as one of the broadest (and least business friendly) in the country. By expanding the sales tax to all services (subject to enumerated exceptions) Connecticut will become a much less desirable business location relative to other states. Such an extension of the service tax will also penalize headquarter companies in Connecticut by taxing services entirely in Connecticut that may benefit multiple locations.

3. Property Tax. Recommendation 7: Local Non-Property Taxation.

An increase by 1% in the State sales tax rate would mean that since 2011 the sales tax rate will have increased from 6% to 7.35%, an increase of almost 23%. In light of Connecticut's other business taxes, a rate increase such as this will increase the perception that Connecticut is an anti-business competitive State and will have the effect of discouraging out of state companies from relocating to Connecticut and discouraging businesses in general from expanding their investment in Connecticut.



Memorandum of Comment

Submitted by

Kevin B. Sullivan, *Ex Officio Panel Member*

Commissioner of Revenue Services

As an ex-officio member of the State Tax Panel, I did not participate in the vote on any of the recommendations. I do, however, appreciate the work of the Panel members, the information provided by our consultants and the opportunity to engage in a wide-ranging discussion of state tax policy. As was pointed out in the final Report of Governor Malloy's Business Tax Task Force a few years ago, Connecticut needs to see taxes not as the means to spending but as a matter of sustainable fiscal and economic policy.

Staff from DRS and OPM have already met to review and consider the Panel's recommendations for appropriate action.

Before commenting on specific recommendations, let me offer an observation on our process. The scope of review, established in the enabling legislation, was simply too broad for the time available. As a consequence, the Panel (now disbanded) never actually reviewed or approved any narrative or summary other than the recommendations submitted as our "final report." Hopefully, a narrative will be produced by the consultants that includes all of the topical papers as an appendix. While there is no opportunity for the Panel to issue such a report, all the background information would thus be captured, transmitted and available as the consultant's final report to the Panel. Since the Panel did not actually review and approve any of the consultant reports and working papers in final form, these cannot be represented as the action of the Panel. But it would be a shame to lose all of that content and context for the final recommendations already submitted on behalf of the Panel.

I also cannot help but note with some amusement, the inordinately deep dive that the Panel took with respect to Connecticut's Uniform Gift and Estate Tax. In terms of both the time taken up and the detail of the recommendations, we would have done better to focus a bit more on the bigger tax picture. After all, the UGE (not "huge") tax is actually a relatively minor and highly concentrated part of Connecticut's general tax burden.

As to the specific recommendations, I offer only the few following comments:

Connecticut General Retail Sales Tax – Recommendation 5: Eliminate Sales Tax Holidays. Had I been a voting member of the Panel, I would have dissented on this recommendation at this time. Recent changes in the Corporate Income Tax will fairly but significantly impact out-of-state retailers. We should allow time to absorb those changes. At the very least, it does appear that Connecticut's modest "sales tax holiday" pays for itself and serves as an important retail marketing tool.

Connecticut General Business Taxation – Recommendation 1: Alternatives to the Corporate Net Income Tax and Business Taxes. Given the significant Corporate Income Tax reforms enacted this year, it is important that those changes be given an opportunity to settle in as the state economy continues to improve. So, in the very near term, this is not the time for a new debate over the direction of business taxation. In the longer term, it makes sense to consider moving away from taxation based on choice of business formation. But that should be based on sufficient prior understanding of the consequences of any proposals and prior engagement with Connecticut's business community.

Connecticut General Business Taxation – Recommendation 5: Apportionment of Multi-State Income. Moving to market (destination) sourcing makes sense for Connecticut and for Connecticut businesses. Perhaps we should endeavor to prove this assumption first perhaps by collecting real financials on the basis of an informational filing. In any event, DRS does intend to continue the work of an informal, external working group that is already advising on implementation of unitary reporting and the topic of sourcing is part of the groups agenda.

Connecticut Estate and Gift Tax and Probate Fees. Recommendation 1: Basic Structure and Effect on Taxpayer Migration. For every complex issue, there is a simple solution – and it’s usually wrong. There may be many good reasons to reform Connecticut’s Uniform Gift and Estate Tax. However, Connecticut estate taxation is at least regionally competitive as indicated by no lessening of net taxpayer and income out-migration from the state of New York to our state. Indeed, based on the most recent available federal census data, only one of the states among the top net outmigration destinations (in terms of taxpayers and federal AGI) does not have an income tax or an estate tax. In fact, a quick profile of taxpayer net outmigration among the states suggests only one strong correlation: Sunshine. This is clearly an area where assumptions and anecdotes need to be tested by unbiased factual analysis.

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Staff Study Papers on the Economic and Policy Framework and Connecticut State Taxes

The Economic and Policy Framework

Chapter 1. *Guiding Principles and Criteria for Evaluating Changes to the Connecticut State and Local Tax System.* Connecticut Tax Panel

Chapter 2. *The Connecticut Economy,* Manisha Srivastava

Chapter 3. *Overview of the Connecticut State Revenue System,* Matthew Pellowski

Chapter 4. *Measuring Municipal Fiscal Disparities in Connecticut,* Bo Zhao

Chapter 5. *Connecticut Fiscal Comparisons,* Carolyn Bourdeaux and Mels de Zeeuw

Chapter 6. *Competitiveness: Factors that Contribute to Economic Growth in States with Special Reference to State and Local Spending and Taxes,* Michael J. Wasylenko

Chapter 7. *Fiscal Architecture of Connecticut,* Sally Wallace

Connecticut State Taxes

Chapter 8. *The Connecticut Personal Income Tax,* Joseph Cordes

Chapter 9. *Sales and Use Taxation in Connecticut,* William F. Fox

Chapter 10. *General Business Taxation: Evaluation of Connecticut's Corporate Income Tax and its Alternatives,* LeAnn Luna and Matthew N. Murray

Chapter 11. *The Connecticut Estate and Gift Tax,* Karen Smith Conway and Jonathan C. Rork

Chapter 12. *Probate Fees,* Paul Knierim and Vincent Russo

Chapter 1

Guiding Principles and Criteria for Evaluating Changes to the Connecticut State & Local Revenue System

Statement as Adopted by the Connecticut State Tax Panel
May 21, 2015

Introductory Comment: Purpose & Scope

An important early action that Connecticut Tax Study Panel has taken is to reach agreement on a complementary (i) set of *Guiding Principles* that frame a high-quality Connecticut state and local revenue system and a (ii) statement on its *Criteria for Evaluating Changes to the Connecticut Revenue System*.

There are three closely related reasons for taking this action:

The “Why” the Legislature Created the Connecticut Tax Study Panel. A feature typical of the revenue policy process in all state and local governments is that as Legislators convene session after session they often must take *ad hoc* actions in response to addressing immediate needs. Overtime, such actions can lead to an intricately-constructed patch-work of unwieldy and contradictory collection of rules and regulations that have unintended and harmful results. Accordingly, as the 2014 Legislature concluded, it is important to periodically establish a mechanism such as the Tax Study Panel in order to “step back” from the session-to-session demands and examine whether the state and revenue system conforms to a set of policy goals to guide Connecticut revenue policy-making.

What Makes “Fiscal Sense” for Connecticut as it Approaches the 2020s? Connecticut’s economic structure, demographics, and institutional arrangements undergo continuing change. Moreover, these economic, demographic, institutional trends are largely beyond the control of state and local policymakers. The reality of this changing “fiscal architecture” requires that the Panel address the fundamental question of “what type of revenue system does Connecticut need to be able to capture the fiscal benefits of these trends?” In short, what makes “fiscal sense” given the macro trends? A Panel-agreed upon set of policy objectives can help serve as framework for getting right the answer to “what makes fiscal sense”.

Connecticut Cohesion. By adopting an explicit set of Principles and Criteria that will guide its recommendations, the Panel will be making a statement that the Connecticut state and local revenue system is more than a compendium of dry tax law and arcane economic data, but rather, an expression of community relationships—between individuals and between the people and their government.

Principles for Guiding Connecticut Revenue Policy: Statements of the Panel's Overarching Philosophical Framework

Principle	Discussion
Avoid Fiscal Obsolescence	A state/local revenue system should be designed to make “fiscal sense” over the long term so as to minimize reliance on revenue sources that will become obsolete due to a failure to capture the fiscal benefits (and minimize the fiscal downside) of changes in medium and long term trends in the state’s economic structure, demographic, and institutional arrangements—trends that are largely beyond the control of state and local policymakers.
Revenue policy understood as a part of an intergovernmental system.	Connecticut revenue policy should be composed of elements that function together as a system of state and local government finance. Although the State is ultimately responsible for determining the functions of local governments and the taxes localities they levy, it should minimize actions that limit local fiscal autonomy. The State should also recognize that because it often has inherent access to more productive revenue sources than its localities, there is a necessary and important role for a well- designed and fiscally certain system of intergovernmental aid.
Revenue Diversification & Tax Mix	All taxes have inherent structural inefficiencies and inequities, which if relied upon too intensively, will make such defects intolerable. Accordingly, a revenue system should rely on a mix revenue bases so as to not lead to an overreliance on one or a few tax sources. If transparent and coordinated for simplicity, the overlapping of local with state revenues sources need not be competing or contradictory.
Broad Bases, Low Rates	In order to minimize distortions in economic decision making for individuals and business entities alike, policymakers should begin their tax policy deliberations with a presumption in favor of broad bases and low statutory rates.
Public values built into the tax law should be explicit.	In adopting a presumption in favor of broad bases and low statutory rates, the Panel also recognizes that giving tax relief to classes of taxpayers is not inherently wrong if such treatment can be shown to satisfy an agreed upon and explicit set of policy goals and there is full disclosure in the granting of such preferential treatment.
Transparency	Revenue legislation should be based on sound legislative procedures and careful analysis and taxpayers should be informed (and make themselves become informed) regarding how tax assessment, collection, and compliance works.
Public Accountability	There should be an explicit linking of state and local legislative decisions to the decision makers so that the citizens of Connecticut understand the relationship between the governmental unit that provides public services and the unit of government that levies taxes to pay for those services.
Uniformity	A revenue systems should be administered professionally and uniformly throughout the State.

Criteria for Evaluating Changes in the Connecticut Revenue System

The Panel adopts the following set of criteria of evaluating the quality of the Connecticut state and local revenue system and recommends their use in future revenue policy discussions.

Certainty and Reliability. *The Connecticut system should produce revenues with a high degree of reliability and certainty.*

The primary role of a state/local revenue system is to produce revenues in a manner that balances the tradeoff between a mix of sources that allows the system to automatically capture the fiscal benefits of economic growth (an “elastic” revenue) and those that provide a degree of stability (“inelasticity”) in the flow of revenue collections. A relatively elastic revenue system helps one avoid frequent rate and/or tax base changes during periods of economic expansion; but during an economic downturn will tend to cause a drop in revenue collections thereby likely leading to unplanned cutbacks public services, the costs of which tend to be rigid in a downward direction in the short term. In turn, a system that is highly revenue inelastic may require discretionary upward adjustments to revenues as the economy grows in order to maintain the scope and quality of a current expenditure program structure. Even though the Panel has adopted a rule of “revenue neutrality” in making its recommendations, and, thus, will not be making judgments as to the expenditure side of the public budget, the Panel nevertheless recognizes that for any given level of public spending, the Connecticut revenue system must have a mix of elastic (relatively responsive to economic base changes) and inelastic (relatively unresponsive to economic base changes) revenue tools. A system that balances the mix of elastic and inelastic revenue sources meets the tests of reliability and certainty.

Economic Efficiency (Neutrality). *Taxes should be designed to avoid unintended interference with private (consumer, worker, producer) decisions.*

Efficiency or “neutrality” in taxation requires that taxes accomplish their intended objectives, but beyond this should minimize interference with –be neutral with respect to–the working of the private market system. This criterion applies to individuals/households and businesses alike. In technical terms, “distortions” to the economy are to be avoided. In adopting this criterion, special attention should be placed on the word “intended”. In some circumstances an “efficient” solution will be one whereby a government explicitly uses tax policy to discourage or encourage a specific activity by raising or lowering the “tax price” of an activity. In all such circumstances, the nature of the “intent” should be made explicit and transparent.

Equity (Fairness). *The structure of the tax system should treat taxpayers in similar circumstances similarly as well as achieve an overall proportional to progressive distribution of the tax payment among residents.*

The question of Equity or Fairness in taxation is a proper concern for revenue policy. There are two facets of the fairness (who should pay?) criterion. *Horizontal Equity* requires that taxpayers in similar circumstances be taxed similarly (“equal treatment of equals”). With respect to the taxation of persons, horizontal equity requires that if the accepted tax base standard is income, consumption or wealth, then it follows that those taxpayers with the same amounts of income, consumption, or wealth should be taxed the same. Horizontal equity is also achieved by the application “benefits received” principle (also referred to as the “matching principle”). Here the logic argues that revenue policy should be designed such that it is the beneficiaries of a flow of services who are required to pay for those services. If well designed, the benefits approach is both horizontally equitable and economically efficient. Moreover, with the benefits standard, it is recognized that some who benefit from public services may not reside in the tax

or fee levying jurisdiction. If it is the case that non-residents are benefiting from Connecticut public services, there is a corresponding case for some degree of “tax exporting”. Note that the tests of “similar circumstances” and, thus that of horizontal equity, may be applied to the taxation of business enterprises as well as to persons.

The second facet, *Vertical Equity*, addresses the “fairness” of the distribution of the payments among persons who are not in similar circumstances. Here the most common index of equality is that of income, and thus discussions of vertical equity typically focus on whether the tax system is “progressive” (the effective tax rate increases with income), “regressive” (effective tax rates and income are inversely related), or “proportional” (no change in effective tax rate as income changes). As this criterion applies to only to the tax treatment of people in their role of consumers, factor suppliers and/or earners of income, vertical equity is associated with the fairness concept of “ability to pay”.

Competitiveness. The Revenue System should be evaluated for their effects on growth of the economic and employment base and on residential mobility.

“Competitiveness” refers to the interplay between Connecticut’s fiscal structure and decisions that impact income and employment growth and residential location. State fiscal policy can contribute to a growing economy in a number of ways: raising the public sector’s revenues in a manner that is broadly accepted and therefore likely to achieve a high degree of voluntary compliance; a system that implements tax law consistently; and is a revenue regime that is evidence based and transparent. Connecticut’s competitiveness will also take into account the level and quality of services that the State finances through its revenue system.

Within this context, it is often argued that if a state and its localities (a) levy taxes that are “too high” relative to other jurisdictions and/or relative to the level and quality of services that are provided; (b) structure certain taxes or a package of revenues so as to unduly distort private economic transactions in an unintended manner; and/or (c) create a revenue system that is characterized by a high degree of uncertainty, the result is to discourage private investment and job development within the state. If it is determined that for one (or more) of these reasons the Connecticut revenue structure unintentionally hinders or distorts job development that residents care about, then the revenue system would not be competitive.

Simplicity. *The revenue system should be easy to understand by the taxpayer so as to minimize the costs of both taxpayer compliance and of revenue administration.*

As a tax or set of taxes increases in its complexity, the cost borne by taxpayers in keeping records, filing returns, and undergoing audits increases. Another result of complexity is that taxpayer understanding of and trust in, the government decreases, which is a matter of serious concern in a democracy. In a similar manner the more complex a revenue system, the greater is the cost of revenue administration. However, it is also true that while avoiding reliance on a complex maze of taxes, forms and filing requirements is clearly desirable, some level of complexity is inevitable. Thus, the principle of simplicity will sometimes conflict with other principles discussed in this Panel statement and thereby force policymakers to make difficult tradeoffs. However, when all other things are the same, it makes tax sense to be tax simple.

Recognizing the need to make policy tradeoffs.

It is important to recognize that in selecting or modifying one tax or set of taxes over its alternatives, policy tradeoffs will have to be made—and balanced—among the criteria. There is no single revenue source that will satisfy all the of the Panel’s criteria.

Chapter 2

THE CONNECTICUT ECONOMY

A Report Prepared for the Connecticut Tax Panel
Presented September 16, 2015

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I wish to acknowledge my colleagues Robert D. Ebel, Sally Wallace, Thomas Fiore, Patrick Flaherty, Daniel W. Kennedy, and Steven Lanza for many discussions about and guidance on the research presented here. I also thank Patrick Spauster for research support during his internship at the Connecticut Office of Policy and Management.

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LIST OF DEFINITIONS OF TERMS

Source: Investopedia.com and Bureau of Economic Analysis

Gross Domestic Product (GDP) and Gross State Product (GSP):

- The monetary value of all the finished goods and services produced within a country's borders in a specific time period.
- $\text{GDP} = \text{private and public consumption} + \text{government outlays} + \text{investments} + \text{exports} - \text{imports}$ that occur within a defined territory.
- Put simply, GDP is a broad measurement of a territory's overall economic activity.

Personal Income (PI):

- Total compensation received by an individual.
- $\text{Personal income} = \text{salaries} + \text{wages and bonuses received from employment or self-employment} + \text{dividends and distributions received from investments} + \text{rental receipts from real estate investments} + \text{profit-sharing from a business} + \text{transfer income, etc.}$
- Capital Gains is not included in Personal Income.
- Personal income is generally computed on a pre-tax basis.

Per Capita:

- Average per person.
- Used in any number of statistical observations.

Introduction

Connecticut, settled in 1633, became the fifth state to ratify the United States Constitution in 1788. The state is the most southern of the New England states, located on the northeast coast and bordered by Long Island Sound, New York, Massachusetts and Rhode Island. Connecticut enjoys a favorable location within New England and the rest of the Eastern seaboard as rail, truck, air transport and ports in the region provide easy access to local and regional markets in this country, Canada, and even Europe and South America. More than one-quarter of the total population of the United States (US) and more than 50% of the Canadian population live within a 500-mile radius of Connecticut.

With a total resident population of 3.6 million (2014), Connecticut ranks 29th among the states (New York is 19.8 million, New Jersey 8.9 million, Massachusetts 6.8 million, New Hampshire 1.3 million, Rhode Island 1.1 million, Vermont 0.6 million; the US is 319 million). If Connecticut were ranked by population among the nations of the world, it would be about 132 out of 214 countries (World Bank Development Indicators, 2015).

Though ranked 29th in total population, Connecticut is among the most highly urbanized states (the 4th just behind Rhode Island, New Jersey, and Massachusetts) with a population density of 743 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) (US Census Bureau, 2014).

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. Hartford, the capital, is a center for the insurance industry and a major service center for business and commerce. The southwestern portion of the state, with its easy access to New York City, makes up the core of financial activity in the stateⁱ.

In terms of Gross Domestic Product (\$253.0 billion in 2014), Connecticut is 23rd among the US states. When ranked per capita it is 6th behind the District of Columbia, Alaska, Wyoming, North Dakota, and New York, and larger than any other country other than Luxembourg, Norway, Qatar, and Switzerland (International Monetary Fund, 2015).

Educational attainment data show 89.2% of Connecticut residents 25 years and older are high school graduates or higher, compared to 86.0% nationally (US Census Bureau, QuickFacts, 2015). Connecticut ranks 5th in percent of 25 year olds and older with at minimum a bachelor's degree (36.5%), behind the District of Columbia, Massachusetts, Colorado, and Maryland (US Census Bureau, American Community Survey 2009 – 2013, 2015).

Connecticut's Employment Profile (1950 – 2014)

A look back at employment over the last few decades helps broadly define the factors that shaped Connecticut into its current form today.

Table 1: United States and Connecticut Employment (1950 – 2014)

<u>Connecticut (Thousands)</u>	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2010</u>	<u>2014</u>
Total Non-Farm Employment	766.1	915.4	1,197.5	1,426.8	1,623.5	1,693.1	1,608.0	1,666.1
Growth	26.7%	19.5%	30.8%	19.1%	13.8%	4.3%	-5.0%	3.6%
Share of Total Non-Farm Employment								
Construction & Mining	4.9%	4.9%	5.0%	3.5%	3.9%	3.9%	3.1%	3.4%
Manufacturing	49.6%	44.5%	36.9%	30.9%	21.0%	15.5%	12.2%	11.5%
Transp. And Public Utilities	5.5%	4.9%	4.6%	4.3%	4.5%	4.7%	3.0%	3.2%
Trade	16.5%	17.5%	18.8%	21.0%	22.2%	21.5%	21.8%	22.4%
Fin., Ins., And Real Estate	4.8%	5.8%	6.2%	7.4%	9.3%	8.4%	8.4%	7.7%
Services	10.1%	12.3%	15.4%	20.0%	26.2%	31.7%	36.2%	37.6%
Total Government	8.6%	10.2%	13.2%	13.0%	13.0%	14.3%	15.2%	14.3%

<u>United States (Thousands)</u>	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2010</u>	<u>2014</u>
Total Non-Farm Employment	45,197	54,189	70,880	90,406	109,403	131,720	130,275	139,042
Growth	39.7%	19.9%	30.8%	27.5%	21.0%	20.4%	-1.1%	6.7%
Share of Total Non-Farm Employment								
Construction & Mining	7.2%	6.7%	5.9%	5.9%	5.3%	5.5%	4.8%	5.1%
Manufacturing	33.7%	31.0%	27.3%	22.4%	17.4%	14.0%	10.9%	10.7%
Transp. And Public Utilities	8.9%	7.4%	6.4%	5.7%	5.3%	5.3%	3.6%	3.7%
Trade	20.8%	21.0%	21.2%	22.5%	23.6%	23.0%	23.8%	24.3%
Fin., Ins., And Real Estate	4.2%	4.8%	5.1%	5.7%	6.1%	5.8%	5.9%	5.7%
Services	11.9%	13.6%	16.3%	19.8%	25.5%	30.7%	33.7%	34.7%
Total Government	13.3%	15.4%	17.7%	18.0%	16.7%	15.7%	17.3%	15.7%

Source: Bureau of Labor Statistics, Not Seasonally Adjusted

1950 to 2000 data is based on the Standard Industrial Classification (SIC) system.

2010 data was modified from the North American Industry Classification System (NAICS) to SIC.

By the 1950's manufacturing made up 50% of Connecticut's employment, compared to 34% nationwide. Manufacturing employment peaked in Connecticut in 1967 at 479.5 thousand jobs, and has been falling ever since. However, as a share of total employment, manufacturing has been falling since the 1950's; as of 2014, Connecticut's share in manufacturing was only slightly higher than the US (11.5% in Connecticut compared to 10.7% for the US).

Delving into the subsectors of the manufacturing industry shows the underlying variability. Transportation Equipment manufacturing made up about 24,000 jobs in 1950, and rose to just under 90,000 jobs by the 1980's and 1990's. As of 2010, there were 42,200 jobs in Transportation Equipment. Conversely, Textile Mills, which made up 33,600 jobs in 1950, fell to 2,600 jobs by 1990. In aggregate, manufacturing employment in durable goods has ranged from 65% to 75% of total manufacturing jobs from the 1950's onwards, with the remainder made up by employment in manufacturing of non-durable goods.

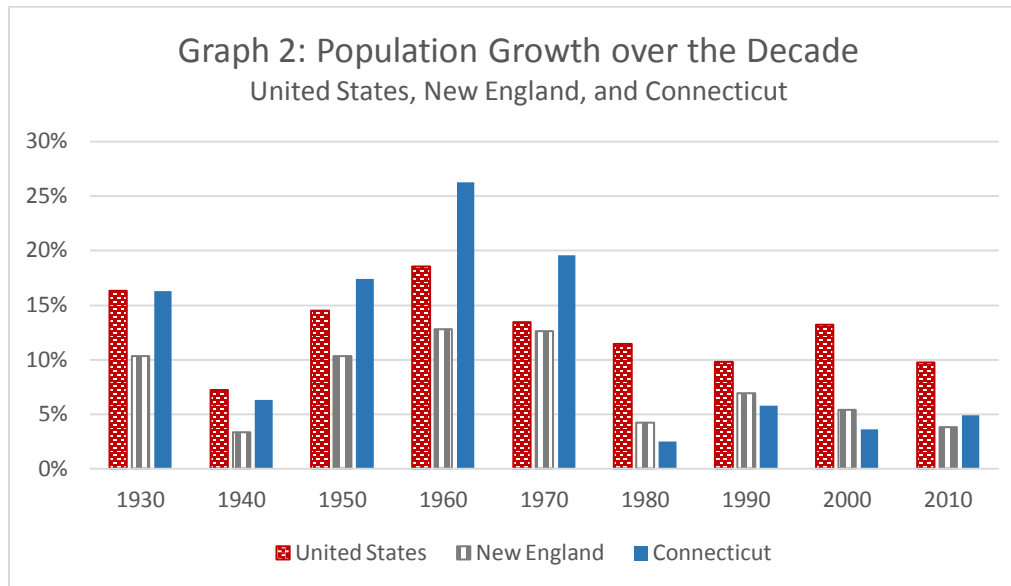
Connecticut's share of employment in Finance, Insurance and Real Estate was on par with the nation in the 1950's, and since has steadily outpaced the US's growth, most dramatically between 1980 to 1990. However, Connecticut lost employment in the Finance & Insurance industry between 1990 to 2000, primarily due to restructuring within the industry in the early part of the decade.

From 1950 to 2014, the share of employment in Services tripled for the US and almost quadrupled for Connecticut. Connecticut's share of Government employment was about 5 percentage points below the nation in 1950, by 2014 Connecticut was 1.4 percentage points below the US.

Total non-farm employment growth in Connecticut slowed compared to the US by 1980, when it fell to about two-thirds of the nation as a whole. From 1990 to 2000, Connecticut's total employment only grew a quarter of the rate in the nation. Connecticut and the nation were working their way out of a recession in 2010, resulting in negative employment growth for both over the decade. Between 2010 and 2014, the US has gained jobs at almost double the rate as Connecticut.

Population Trends

Graph 2 shows total population growth over the decades for the United States, New England, and Connecticut.



Source: 2015 Economic Report of the Governor

Between 1930 to 1970, population growth in Connecticut was on pace with or exceeded national growth. But by 1980 growth in Connecticut fell to less than a fourth of the national rate, and to the present continues to lag national growth, as well as growth in New England.

On top of a decline in overall population growth, Connecticut is older compared to the United States, as shown in Table 3. This has workforce implications as well as implications on health and social services in the state, which will be examined by Sally Wallace forthcoming in this series (Fiscal Architecture of Connecticut, 2015).

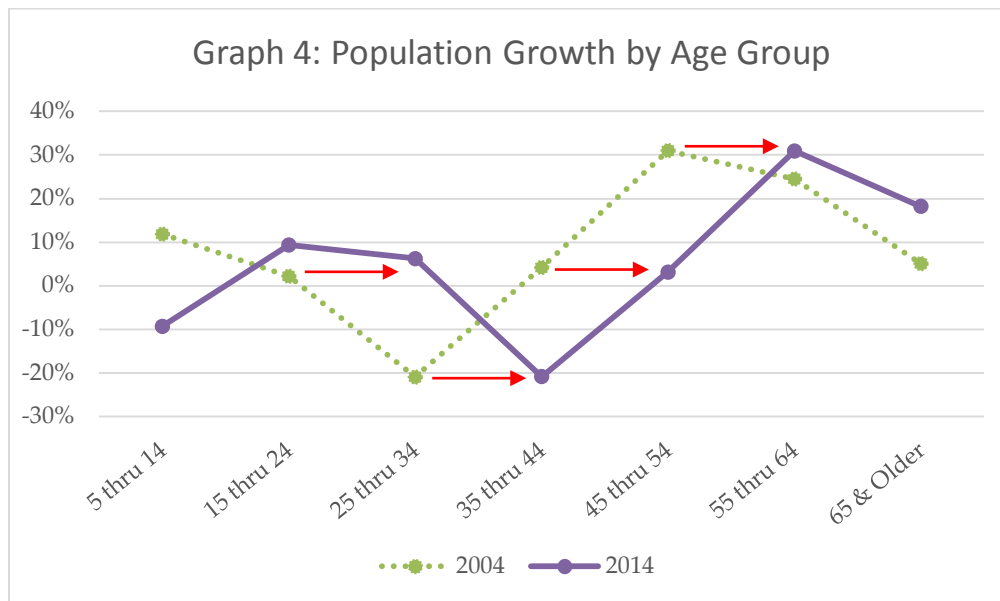
Table 3: Share of Population by Age Group

Age Groups	Percentage Points difference between Connecticut and the United States					
	1994	2004	2014	1994	2004	2014
0 thru 4	-0.4	-0.6	-1.0	0.1	0.2	0.0
5 thru 14	-1.2	-0.1	-0.7	0.0	0.6	0.7
15 thru 24	-1.2	-1.5	-0.1	-0.8	-0.8	-0.1
25 thru 34	-0.1	-1.5	-1.3	-0.3	-0.5	-0.5
35 thru 44	0.7	1.0	-0.4	0.1	0.2	0.1
45 thru 54	0.7	0.9	1.5	0.4	0.0	0.3
55 thru 64	0.5	0.6	1.0	0.3	0.0	-0.2
65 & Older	1.2	1.2	1.0	0.2	0.2	-0.2

Source: IHS

An aging workforce is an issue endemic to New England. Table 3 shows Connecticut's demographics are more in line with New England than the nation. Connecticut does, however, compare slightly favorably to New England in number of 5-14 year olds, and less favorably in 25-34 year olds.

Some of the trends exhibited in Connecticut are caused by natural demographic changes introduced from the baby boom phenomenon. The dashed line in Graph 4 shows population growth between 1994 and 2004 by age group. Similarly, the solid line shows population growth from 2004 to 2014 by age group. Graph 4 emphasizes how population growth in each age category between 2004-2014 (the solid line) closely matches its trajectory from the prior decade (the dashed line).



Source: IHS

Economic Prosperity of the 1980's

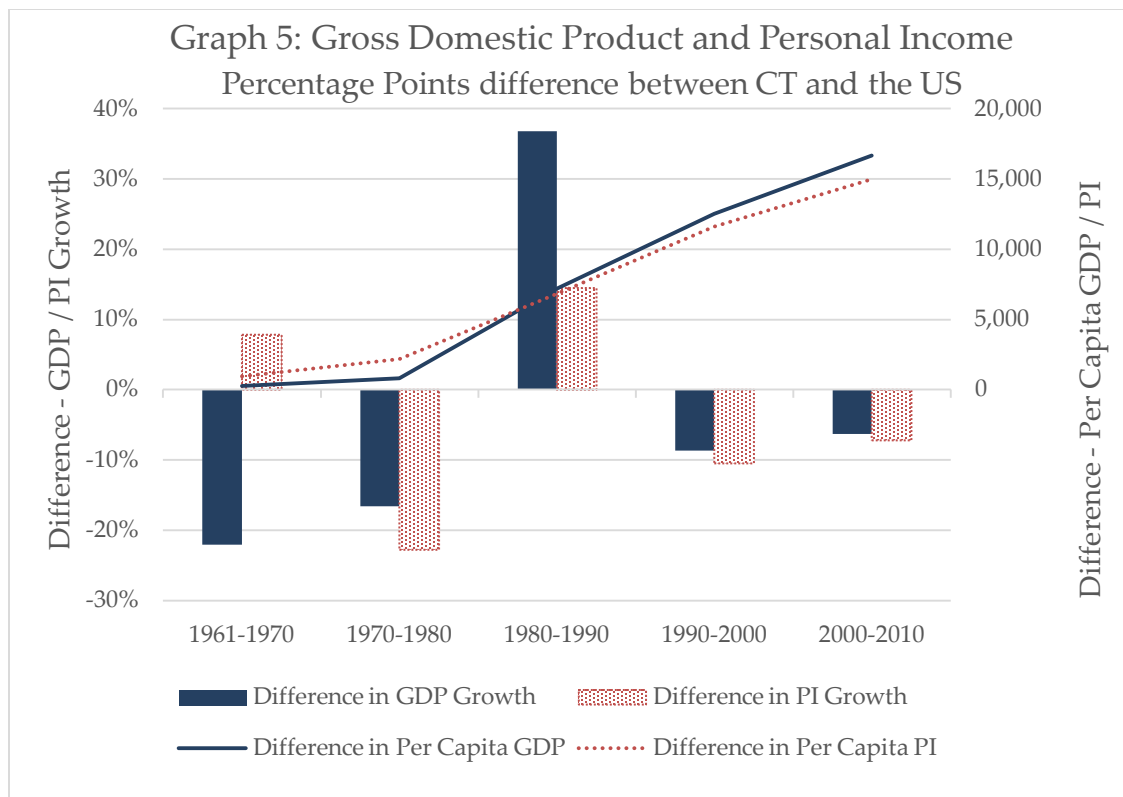
Employment Growth

The decade of 1980's until February 1989, which marked the start of the early 1990's recession for Connecticut, was a period of rapid economic growth and prosperity in Connecticut. Between pre-recession peaks, July 1981 to February 1989, Connecticut gained 234,100 jobs, or 16.2% of employment. About 60% of the job growth over this period was in the Services sector, followed by about 30% from Trade, and 20% from Finance, Insurance, and Real Estate. Government accounted for approximately 11% growth over this period. Manufacturing was the only industry to lose employment during the 1980's. However, the Transportation Equipment subsector of Manufacturing, which provides defense related goods, held steady over the decade.

The 1980's decade also drove growth in Connecticut's Gross State Product (GSP) and Personal Income (PI), impacts which have lasted to today (see List of Definitions of Terms). Ranked against the other states and the District of Columbia, as of 2014 Connecticut is currently second in per capita PI, right behind DC, and sixth in per capita GSPⁱⁱ. Since the 1990's, Connecticut has ranked second in per capita PI and between third and fourth in per capita GSP.

Gross Domestic Product and Personal Income Trends

Graph 5 compares Connecticut's GDP and PI to the national average. The bars in Graph 5 represent the difference in growth between Connecticut and the US, and the lines in Graph 5 represent the difference in per capita between Connecticut and the US. The solid line and bar represent GDP and the dashed line and bar represent PI. In summary, the bars in Graph 5 show how much more or less Connecticut grew in total GDP and PI compared to the nation. And the lines in Graph 5 represent how much greater Connecticut is than the nation in per capita GDP and PI.



Source: IHS, Bureau of Economic Analysis

The lines in Graph 5 remain in positive territory throughout, showing Connecticut has historically and consistently outpaced the national average in both per capita GDP and per capita PI. Moreover, not only does Connecticut rank higher, but the positive difference between Connecticut and the nation in both per capita GDP and PI has grown over time. However, as the bars in Graph 5 show, except for the 1980-1990 decade, overall growth in the state's total GDP and PI has been lower than the nation's growth (there is one other time frame, 1961-1970, when Connecticut's PI grew faster than the nation).

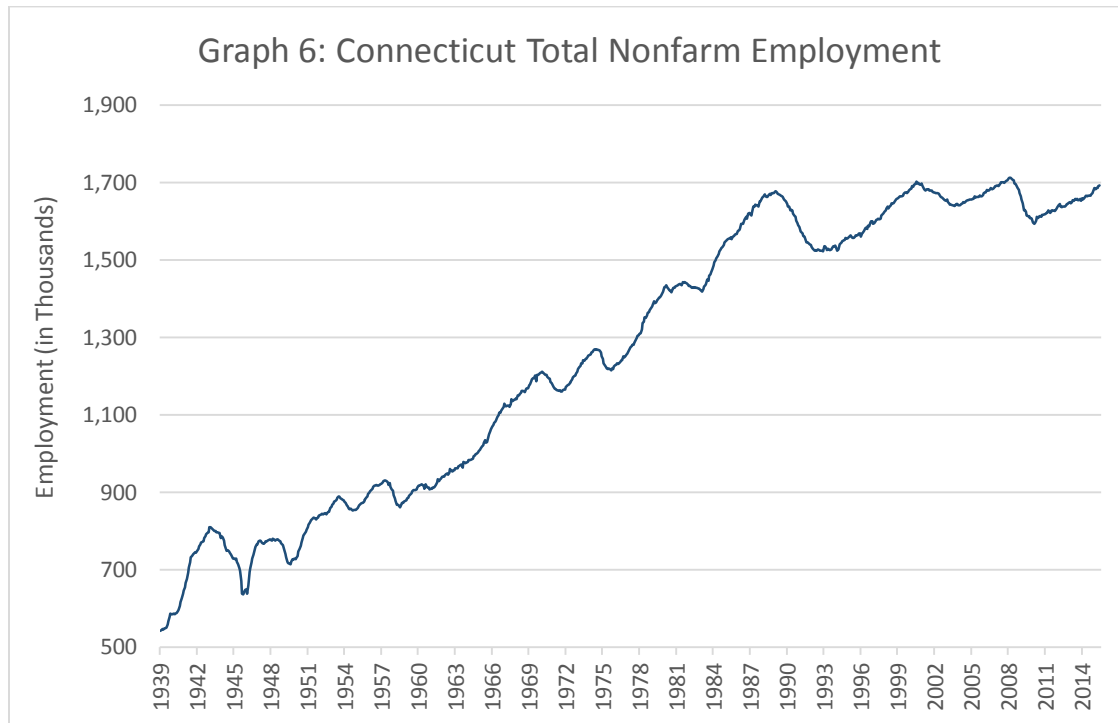
The reason both Connecticut's per capita GDP and PI continue to climb and outpace the nation despite slow total growth is due to Connecticut's slow population growth. Essentially, in the per capita formula the numerator (GSP or PI) is growing slowly, but the denominator (population) is growing even more slowlyⁱⁱⁱ.

Sectorial Contributions to GDP

To recognize which industries contributed to Connecticut's prosperity of the 1980's, GSP growth by industry is analyzed over the decade. Connecticut's GSP growth in the 1980's was driven by Finance, Insurance, and Real Estate, which accounted for 30% of the growth in GSP between 1980 and 1990. Services accounted for the next largest share of GSP growth at 22%. During the decade, manufacturing's contribution to Connecticut's GSP actually fell compared to the nation. In 1980, the share of GSP from manufacturing accounted for 28.3% of Connecticut's total GSP, compared to 21.3% for the nation. By 1990, Connecticut was on par with the US, with manufacturing accounting for 19.3% of total GSP compared to 18.1% for the nation.

The Era of Slow Growth

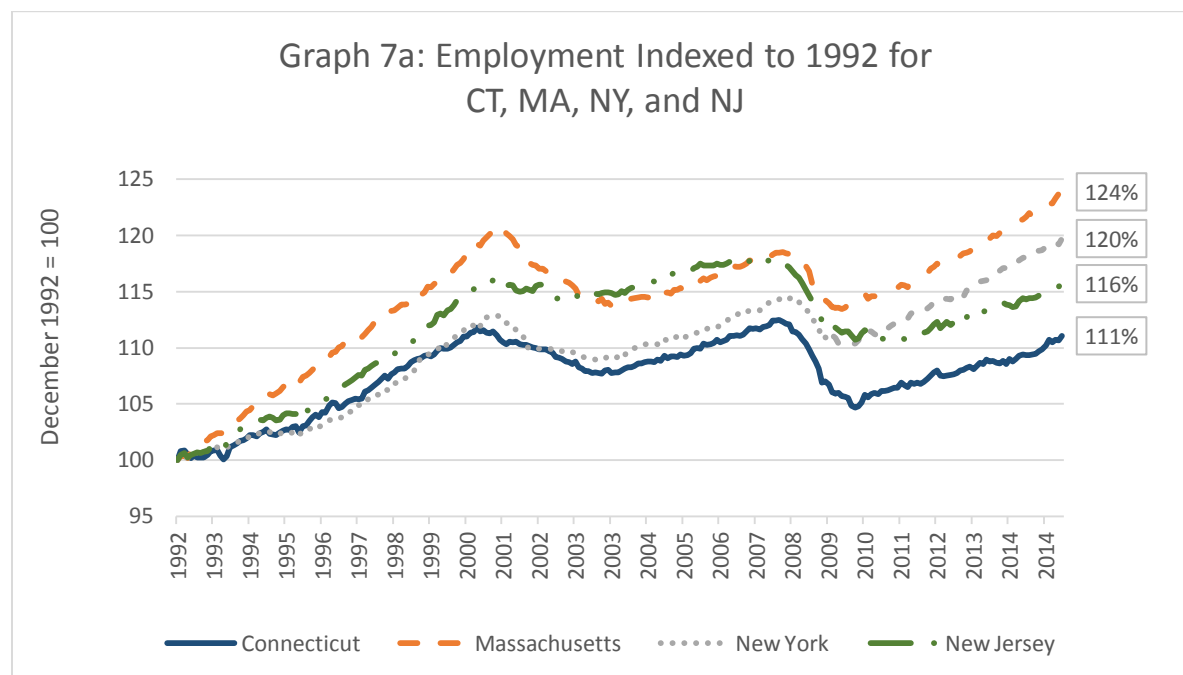
Graph 6 shows Connecticut's total nonfarm employment from 1939 to 2015. Employment in Connecticut steadily increased, save for recession related downturns, until the late 1980's. Connecticut has had slow job growth since the economic boom of the 1980's, or slow job growth in over a quarter of a century.



Source: Moody's Economy.com, Bureau of Labor Statistics

A series of events since 1989 led to Connecticut's slow job growth over the quarter of a century. Defense cutbacks that followed the fall of the Berlin Wall in 1989 and the end of the Cold War hit Connecticut particularly hard, as many of the manufacturing industries in the region were related to national defense. The real estate market started to bottom out and this, coupled with the completion of regional projects, led to layoffs in the construction industry. The finance industry was impacted by bank failures leading to the elimination of many jobs (Slepski, Regional Economic Retrospective, 2001). A \$15 billion hurricane related claim in 1992 against the insurance industry led to massive restructuring of major multi-line insurers. This reorganization caused downsizing within the industry just as Connecticut was emerging from the recession of 1989-1992 (Dyer, Keep Connecticut's Home FIRE Burning, 2000). The latter part of the 1990's was dominated by the tech bubble, or dot-com boom. Between 1997 and 2000, the NASDAQ gained approximately 80% (Kane and Motsonelidze, NASDAQ: the bubble returns?, 2015). After the dot-com related recession of 2000-2003, the nation and Connecticut along with it entered a housing bubble; US housing prices increased by 135% in inflation-adjusted terms between 1997-2006 (Levitin and Wachter, Explaining the Housing Bubble, 2012). A crash in the housing market led to the Great Recession, which lasted from March 2008-February 2010 in Connecticut. Connecticut currently continues its recovery from the last recession.

Graph 7a indexes employment over this period of slow growth for Connecticut and its neighbors.

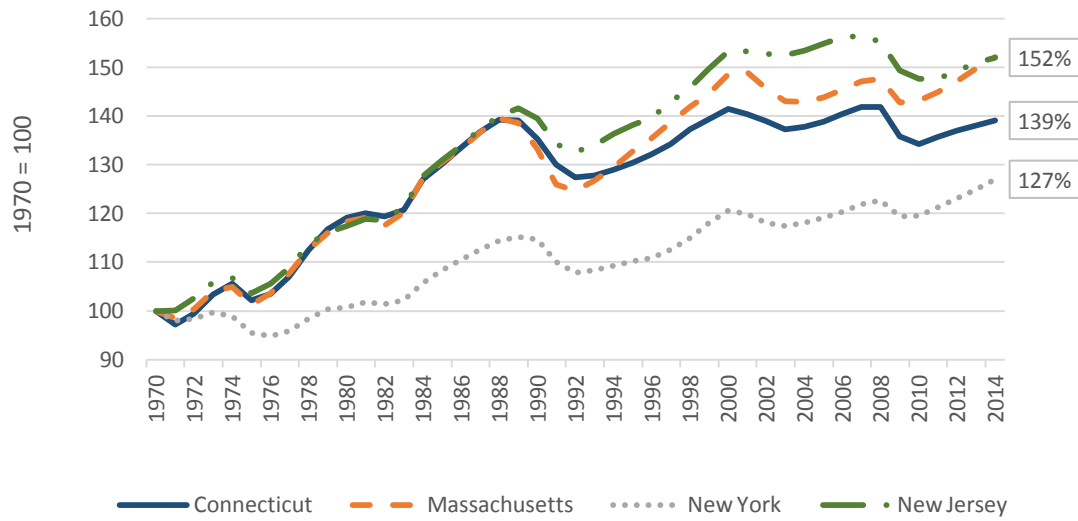


Source: Bureau of Labor Statistics

Connecticut's job growth closely paralleled New York State until the late 1990's, and then only slightly fell behind New York up until 2007. Employment in Massachusetts, on the other hand, grew strongly during the 1990's but then slowed during the 2000's. In fact, Massachusetts' employment peak in 2008 did not surpass its prior peak set back in 2001. Connecticut's recovery from the 2008-2010 Great Recession, however, has significantly lagged both New York and Massachusetts. Connecticut's recovery from the recent recession is more closely aligned with New Jersey.

Similar analysis starting from an earlier period results in dramatically different findings. Instead of indexing from Connecticut's employment trough in 1992 (Graph 7a), Graph 7b indexes employment for Connecticut and its neighbors from 1970. Over this period Connecticut's employment grew 39%, 12 percentage points higher than New York's 27%. Even in this analysis, however, Connecticut does continue to lag Massachusetts and New Jersey by 13 percentage points.

Graph 7b: Employment Indexed to 1970 for
CT, MA, NY, and NJ



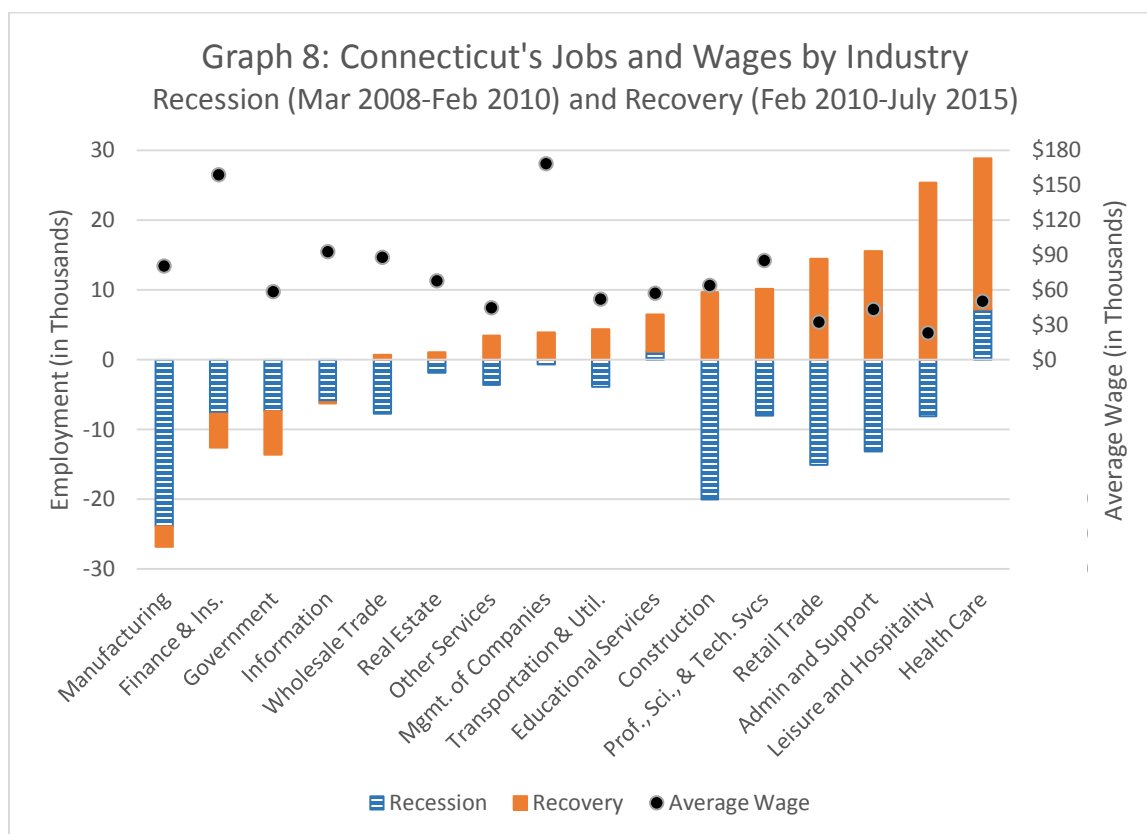
Source: IHS

The Great Recession

Jobs and Wages

Connecticut lost 119,000 seasonally adjusted jobs, or 6.9% of the workforce, during the Great Recession which lasted from March 2008 to February 2010 in Connecticut. The unemployment rate rose from 5.1% in March 2008 to 9.2% at its highest (between October 2010 to February 2011). Since the recovery began in February 2010, Connecticut has gained back 101,700 jobs (85.5% of the jobs lost to the recession) and returned to an unemployment rate of 5.4% (based on July 2015 employment data). In comparison, the nation recovered its number of jobs lost as a result of the Great Recession by early 2014.

In addition to lagging the nation in recovery from the Great Recession, the composition of Connecticut's labor market has changed since the recession. Graph 8 shows how the number of Connecticut jobs by industry changed both during the recession (stripped bars) and after the recession during the recovery phase (solid bars). The dots on the graph represent the 2014 average annual wage for the industry.



Source: IHS, Bureau of Labor Statistics

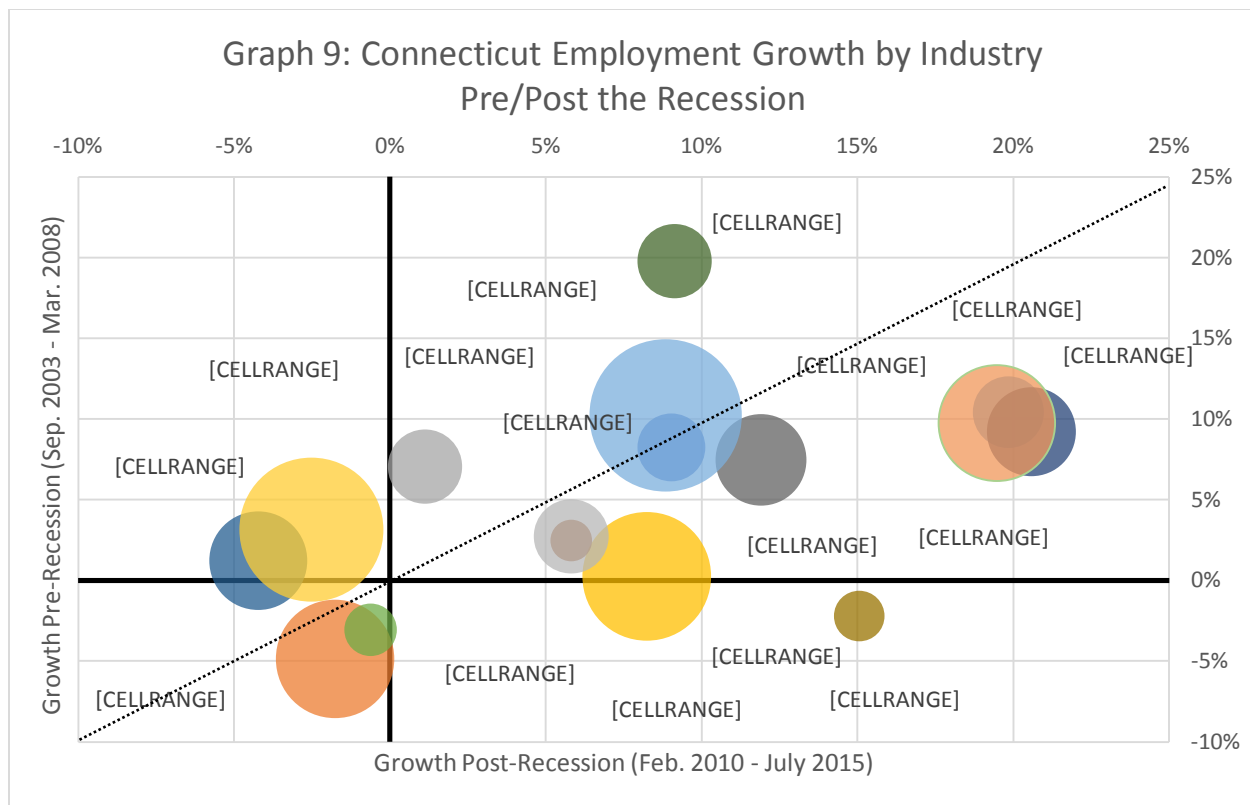
As displayed in Graph 8, some sectors of the economy continued to gain jobs even during the recession, including Health Services and Educational Services. On the other hand, four industries continued to lose jobs even after the recession ended and recovery phase began, including: Manufacturing (which has been a multi decade decline), Finance & Insurance, Government, and Information. On a positive note, these sectors have started to show job gains based on recent employment reports.

Both the Construction and Wholesale Trade industries, though they are growing since the recession ended, are still more than 10% below their pre-recession peak. Conversely, employment in Leisure & Hospitality, Educational Services, and Health Services are over 10% greater than their pre-recession peak. Though Management of Companies represents a smaller share of the total jobs gained during the recovery, this high-wage industry has grown by 12.0% from its pre-recession peak.

Taking into consideration the (2014) average wage by sector displayed by the bullets in Graph 8 show a clear trend, lower wage industries have been driving Connecticut's job growth in this recovery. Four out of the five lowest wage industries have gained the most in employment since the recession ended (Leisure & Hospitality, Health Care, Administration & Support, and Retail Trade). Moreover, three out of the six highest wage sectors have lost jobs even during the recovery phase (Finance & Insurance, Manufacturing, and Information). However, the high-wage Management of Companies and Professional Scientific, & Technical industries have grown by 12% and 2.3%, respectively, over their pre-recession peak.

Employment Change by Industry (Pre versus Post-Recession)

In total, Connecticut's employment grew 6.4% (as of July 2015) since the trough of the Great Recession in February 2010. In comparison, Connecticut's employment grew 4.5% from September 2003 to March 2008 – the period just prior to the Great Recession. Graph 9 investigates how employment growth by industry differed over these two periods, by plotting each industry's employment growth both pre- and post-recession. The vertical axis represents employment growth by industry pre-recession (September 2003 to March 2008), the horizontal axis represents growth post-recession (February 2010 to July 2015), and the size of bubble represents each industry's July 2015 share of total nonfarm employment. Industries to the right of the 45 degree line in Graph 9 are growing faster post-recession than pre-recession, and vice versa.



Industries growing faster post-recession:

The high-wage Management of Companies, which declined pre-recession, has picked up steam and grew 15% post-recession (as of July 2015). Similarly, Retail Trade, which barely exhibited positive growth pre-recession, grew over 8% since the recovery began. Construction, which suffered a 29.0% decline in employment during the recession, has grown by 19.8% post-recession. Construction is growing at a faster pace than pre-recession, though off a lower base. Growth in low-wage jobs under the Administration & Support and Leisure & Hospitality sectors have also picked up post-recession, growing almost double of their pace from pre-recession. Pre-recession high-wage jobs in Professional, Scientific, & Technical Services grew 7.5%, post-recession this sector has grown close to 12%.

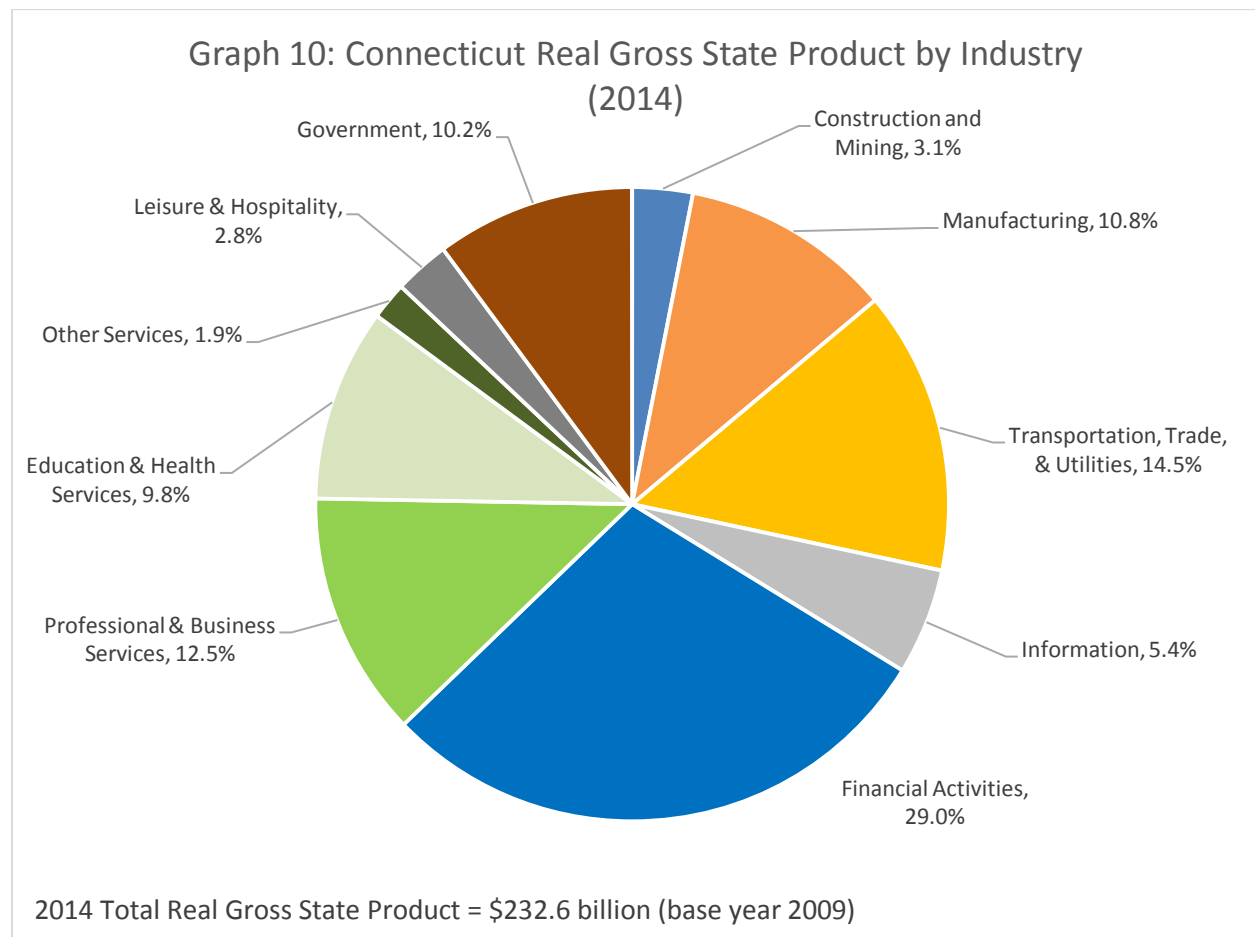
Industries growing slower post-recession:

The high wage Finance & Insurance industry has seen a significant decline in jobs during the recession (-6.2%) as well as post-recession (-4.2%). Before the recession Finance & Insurance, a traditionally strong sector for Connecticut, was seeing modest job growth at 1.2%. Similarly, Government grew a modest 3.1% pre-recession, but has fallen to -2.5% growth post-recession. The only two sectors which gained jobs throughout the recession, Education and Healthcare Services, continued their positive growth post-recession – though at almost half the rate as pre-recession for Educational Services. As previously noted, employment in Wholesale Trade remains 10% below its pre-recession peak, primarily due its slow 1.1% growth post-recession compared to 7.0% pre-recession.

Finally, Manufacturing continues to lose jobs post-recession as it did pre-recession. However, job losses in Manufacturing slowed post-recession (-1.8%) compared to pre-recession (-4.9%).

Gross State Product by Industry

Turning from employment to GSP, Graph 10 shows each sector's contribution to Connecticut's 2014 real GSP (base year 2009). Financial Activities is the largest contributor at 29%. Transportation, Trade, & Utilities was the next largest at 14.5%. Professional & Business Services was the third largest at 12.5%; this sector includes Administration & Support and Management of Companies.



Source: IHS

Gross State Product - Pre versus Post-Recession

Table 11a shows change in real GSP by industry pre-recession (2003-2007) and post-recession (2010-2014) for Connecticut and the US. For comparative purposes, the data are stated in “real” dollars (base year 2009). Real GSP growth in Connecticut slowed from 16% pre-recession to 1% post-recession. Over this same period GSP growth for the nation also slowed, though not as dramatically as in Connecticut. Real GDP in the US grew 12.1% between 2003-2007 (less than Connecticut), and by 8.0% between 2010-2014. As of the latest data, Connecticut’s real GSP growth between 2013-2014 was one of the slowest in the nation at 0.6%.

Table 11a also provides growth in real personal income for Connecticut and the US. Connecticut’s total real personal income grew 16.2% pre-recession (2003-2007), and fell to 7.0% post-recession (2010-

2014). For the US, real personal income grew slightly less than Connecticut pre-recession at 14.0%, but only declined to 9.7% post-recession.

Table 11a: Real GSP and PI Growth in Connecticut and the US Pre/Post Recession

	Pre-Recession		Post-Recession	
	2003	2007	2010	2014
Connecticut Real GSP (Millions of 2009 \$)				
Total	\$211,900	\$245,764	\$230,268	\$232,620
Change		\$33,864		\$2,352
Growth		16.0%		1.0%
Connecticut Real PI (Millions of 2009 \$)				
Total	\$157,606	\$183,065	\$178,044	\$190,557
Change		\$25,460		\$12,514
Growth		16.2%		7.0%
United States	2003	2007	2010	2014
Real GDP Growth		12.1%		8.0%
Real PI Growth		14.0%		9.7%

Source: IHS

Table 11b shows the actual numerical change in Connecticut GSP over the same two periods as in Table 11a, but at the industrial sector level. Table 11b shows real GSP from the Manufacturing and Finance & Insurance industries declined post-recession. Moreover, the level of decline in each of these two industries, individually, is greater in magnitude than Connecticut's total real GDP growth post-recession. As previously noted, Finance & Insurance has been losing employment post-recession; however pre-recession, even with a modest 1.2% employment growth, Finance & Insurance contributed 23.7% to Connecticut's total growth in real GSP. Manufacturing has also been declining in employment, both pre- and post-recession. However, even with declining employment pre-recession, Manufacturing contributed 33.6% to Connecticut's growth in real GSP.

The top drivers of real GSP growth in Connecticut post-recession are Management of Companies, Information, and Professional, Scientific, & Technical Services. The contribution of Management of Companies and Professional, Scientific, & Technical Services to growth in real GSP is especially significant considering both were essentially flat or declining pre-recession.

Table 11b: Real GSP Growth in Connecticut by Industry

Real GSP (Millions of 2009 \$)	Pre-Recession (2003 - 2007)		Post-Recession (2010 - 2014)	
	Growth	% of Growth	Growth	% of Growth
Manufacturing	\$11,101	33.6%	-\$3,371	-128.0%
Finance & Insurance	\$7,816	23.7%	-\$2,604	-98.9%
Government	\$1,336	4.0%	-\$274	-10.4%
Other Services	\$264	0.8%	-\$25	-0.9%
Construction and Mining	-\$50	-0.2%	\$27	1.0%
Educational Services	\$210	0.6%	\$155	5.9%
Wholesale Trade	\$2,919	8.8%	\$213	8.1%
Transportation & Utilities	\$1,459	4.4%	\$438	16.6%
Administrative & Support	\$1,139	3.5%	\$555	21.1%
Health Care	\$1,211	3.7%	\$636	24.1%
Leisure & Hospitality	\$77	0.2%	\$691	26.2%
Retail Trade	-\$525	-1.6%	\$775	29.4%
Real Estate	\$2,647	8.0%	\$856	32.5%
Prof., Sci., and Tech. Services	\$50	0.2%	\$1,185	45.0%
Information	\$3,741	11.3%	\$1,512	57.4%
Management of Companies	-\$394	-1.2%	\$1,865	70.8%
Total Real GSP Growth	\$33,864	100.0%	\$2,352	100.0%

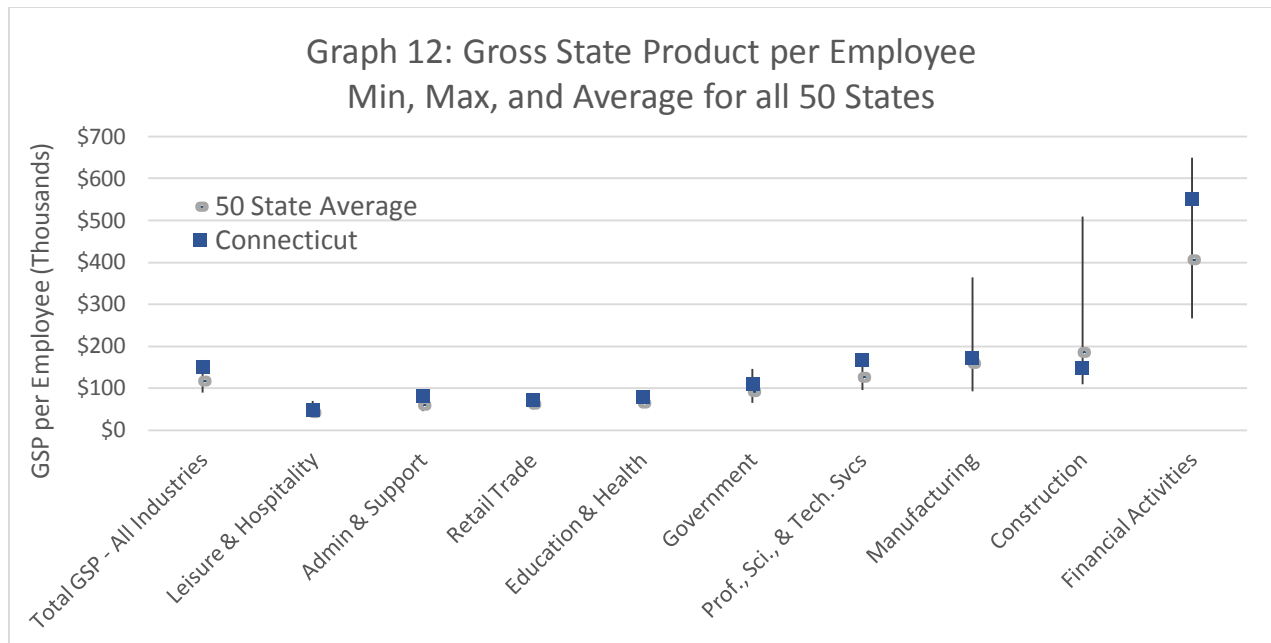
Note: Industries do not add to total

Source: IHS

Gross State Product – A 50-State Comparison

As previously stated, Connecticut has generally ranked third and fourth in the nation in GSP per capita since the 1990's. For this reason, Connecticut's workers are known as "highly productive". Graph 12 shows a 50-state comparison of GSP per employee by industry sector. The vertical lines in Graph 12 show the range in GSP per employee across all 50 states. In addition, the average GSP per employee for all 50 states is designated, as is where Connecticut falls in GSP per employee.

Graph 12 shows that in most industries there is little variation amongst states in GSP per employee, with the exception of Manufacturing, Construction, and Financial Activities. Connecticut generally ranks higher than the national average in GSP per employee for the majority of industries shown, most clearly in Financial Activities. However, Connecticut's job growth post-recession has been lacking in sectors that produce some of the highest GSP per employee. This provides another explanation for Connecticut's slowing GDP growth post-recession, compared to the nation.



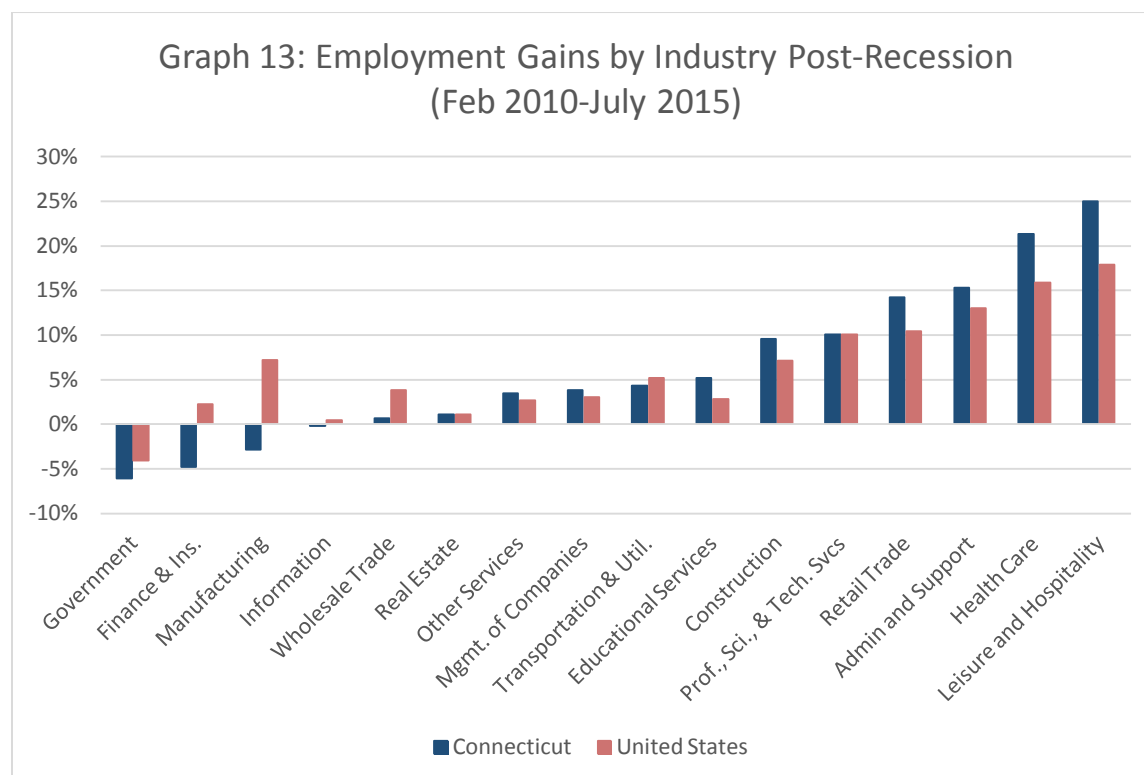
Source: IHS

Note: Based on 2014 GSP and employment data for selected industries.

Post-Recession: Connecticut Compared to the United States

Employment

Graph 13 shows many of the employment trends in Connecticut are similar to what the nation is facing. The bars in Graph 13 represent percent of jobs created by industry, of the total jobs created since the trough of the Great Recession. Connecticut closely follows the direction and magnitude for most industries as the nation, though with greater growth in Leisure & Hospitality and Health Care. Unlike Connecticut, however, the nation on average is gaining employment in the high-wage Finance & Insurance and Manufacturing sectors.



Source: Bureau of Labor Statistics

Employment and Gross Domestic Product

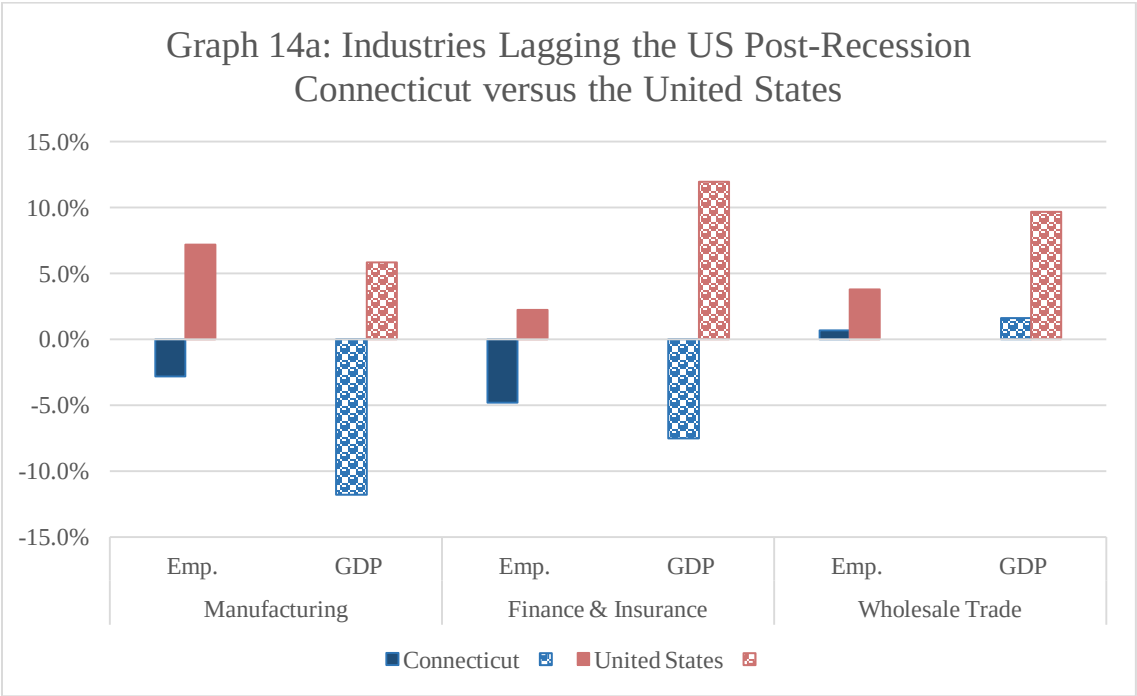
Connecticut Industries Lagging the US

Graph 14a takes a closer look at the top industries in which Connecticut's employment growth is lagging the US, along with real GDP growth within the sector post-recession. Manufacturing employment, which has declined 2.9% post-recession, is 10.0 percentage points behind the nation's post-recession employment growth in this sector of 7.2%. Furthermore, Connecticut's real GDP growth in manufacturing post-recession is almost 18 percentage points behind the US.

Connecticut's employment growth in Finance & Insurance lags the nation by 7.1 percentage points, and by almost 20 percentage points in real GDP growth post-recession. Declining real GDP within this sector is especially concerning considering the importance of Finance & Insurance to Connecticut's economy.

Finance & Insurance, along with Real Estate, drove Connecticut’s economic growth during the 1980’s. And even after the declines post-recession, in calendar year 2014 Connecticut’s share of GDP from Finance & Insurance was 6.9 percentage points greater than the nation (while Connecticut’s 2014 share of employment in this sector was 4.6 percentage points greater than the nation).

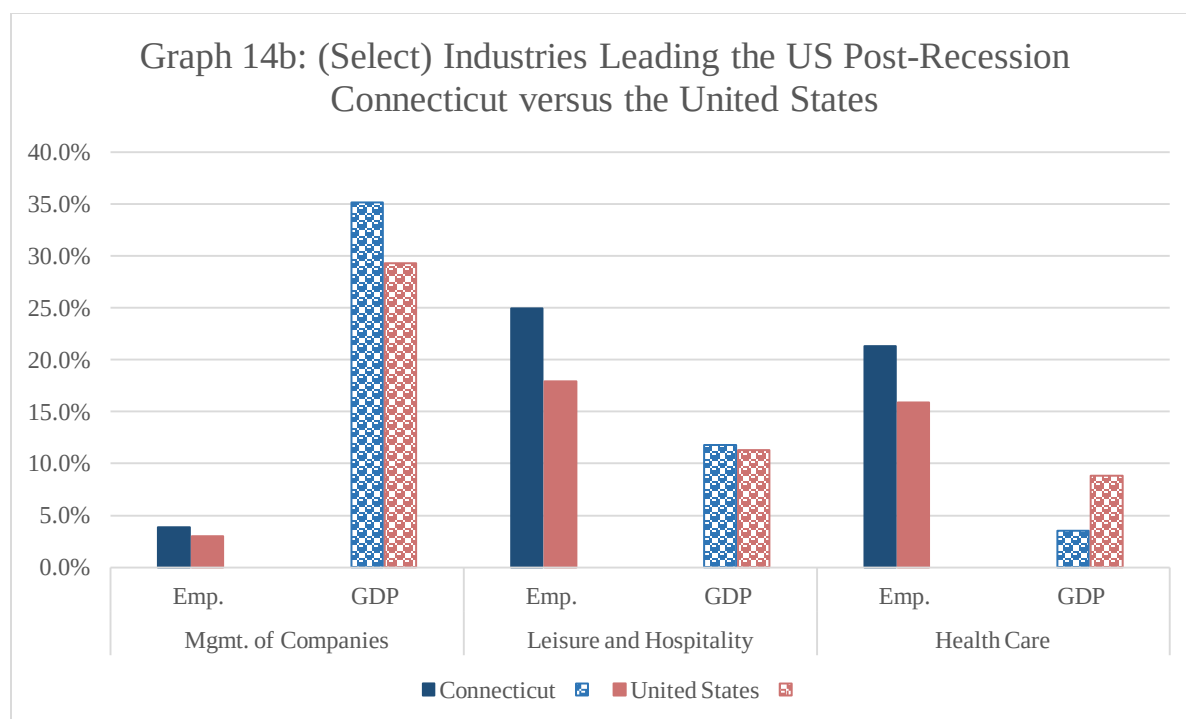
Connecticut’s employment growth in Wholesale Trade is slightly positive post-recession, though 3.1 percentage points behind the nation. Similarly, real GDP growth is positive but 8.0 percentage points behind the US.



Source: Bureau of Labor Statistics, Bureau of Economic Analysis
 Note: Post-Recession is defined as 2010-2014 for GDP and February 2010 to July 2015 for Employment.

Connecticut Industries Leading the US

Graph 14b displays industries in which Connecticut is leading the nation. Connecticut’s 25% employment growth in Leisure & Hospitality surpasses the nation by 7.1 percentage points. Similarly, Connecticut ranks stronger in employment growth in Health Care and Retail Trade by 5.5 and 3.8 percentage points, respectively. Of interest is the high-wage Management of Companies, which not only exceeds the nation in employment growth by 0.8 percentage points, but also in real GDP growth by almost 6 percentage points. Moreover, real GDP growth in Management of Companies actually fell pre-recession; post-recession this sector is leading Connecticut’s real GDP growth (Table 11b).

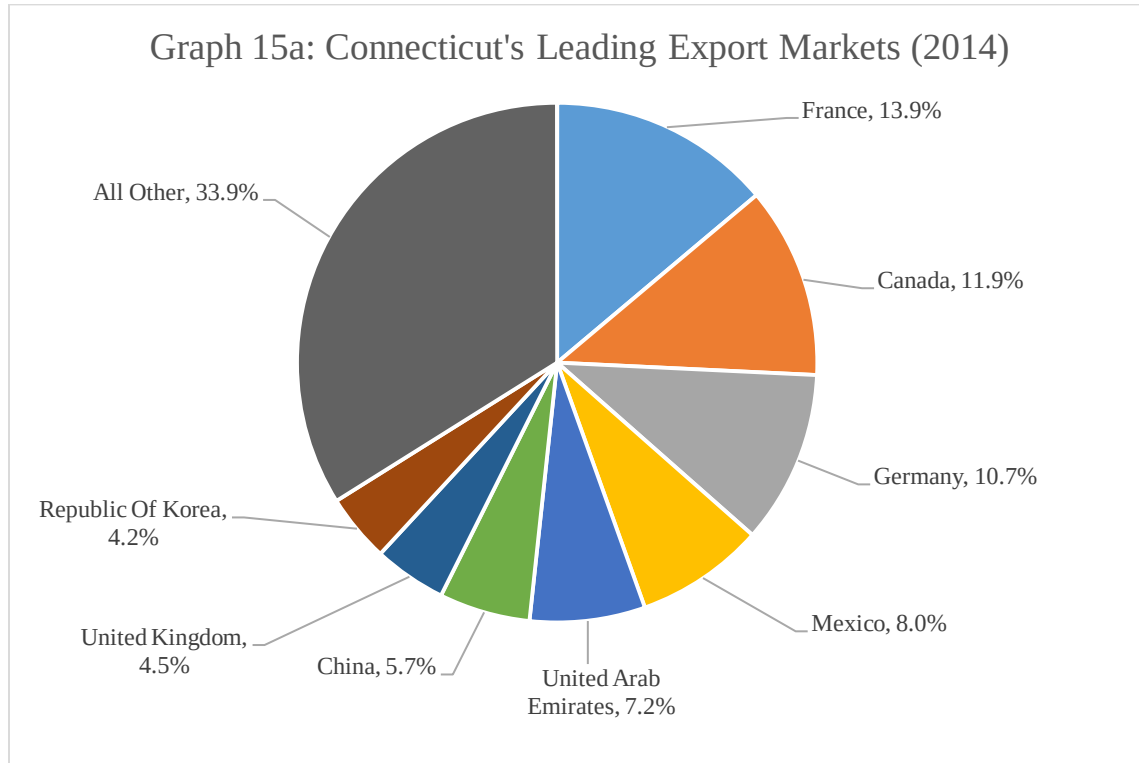


Source: Bureau of Labor Statistics, Bureau of Economic Analysis

Note: Post-Recession is defined as 2010-2014 for GDP and February 2010 to July 2015 for Employment.

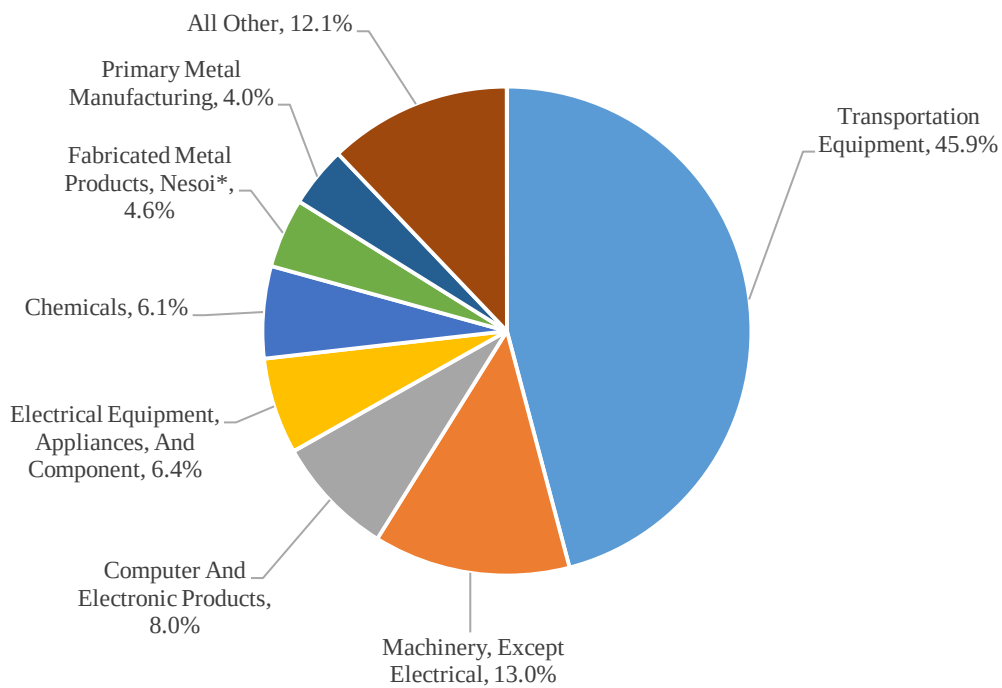
Connecticut's Exports

In 2014, Connecticut exported a total of \$15.9 billion in goods. Graph 15a shows Connecticut's top export markets and Graph 15b shows Connecticut's leading export industries in 2014.



Source: WISERTrade

Graph 15b: Connecticut's Leading Export Industries (2014)



* Not Elsewhere Specified or Included

Source: WISERTrade

Exports from the Transportation Equipment sector, which includes Aerospace manufacturing, accounts for more than three times the exports from the next largest sector (Machinery). The Transportation Equipment sector is driven by Connecticut's strength in defense. In Federal Fiscal Year 2013, Connecticut based firms received \$10.0 billion in prime contract awards, or 3.7% of total national awards. Connecticut ranks eighth in total defense dollars awarded, or second in per capita dollars awarded among the 50 states (United States Department of Defense).

Connecticut by Region

The three most populous counties in Connecticut contain the state's largest urban centers. Fairfield, Hartford, and New Haven counties all have populations nearing one million persons. The remaining five counties make up about one quarter of the state's population (3.6 million in 2014). The combined GSP for Fairfield, Hartford, and New Haven counties represent about 90% of Connecticut's total.

Table 16: Connecticut and Regional Indicators (2014)

	CT	Fairfield	Hartford	Litchfield	Middlesex	New Haven	New London	Tolland	Windham
Population	3,596.7	945.4	898.0	185.0	164.9	861.3	273.7	151.4	117.0
High School (%)	89.2	89	88.1	91.3	93.8	88.3	90.5	93	86.8
Bachelors (%)	36.5	44.8	34.9	36.5	39.1	32.9	31.3	36.9	22.3
Median Household Income (\$)	69,461	82,283	64,967	69,461	76,994	61,996	69,461	80,529	59,333
GSP (\$M)	253,036	93,502*	86,609			44,165			

*Bridgeport-Stamford Metropolitan Statistical Area (MSA)

Fairfield County has seen the fastest population growth in the state, as well as the highest income. Fifteen percent of Fairfield County residents work in New York State compared to 6.8% of all Connecticut workers that work out of state (US Census Bureau, OnTheMap Application, 2015). Fairfield County is home to much of the state's Finance industry.

Hartford County is home to Connecticut's Insurance industry, including companies such as Travelers and Aetna. The aerospace manufacturer Pratt and Whitney has also been based out of Hartford County since the 1920's. The other populous county, New Haven County, is home to Yale University, a center for research.

The economy in New London, the fourth largest county in Connecticut, is built around its submarine base, Electric Boat (a manufacturer of submarines), the Coast Guard Academy, and the pharmaceutical giant Pfizer. A majority of Pfizer's research and development operations were recently moved out of Connecticut to Cambridge, Massachusetts, but a portion of manufacturing operations remain in New London County. This southeastern county is also home to a thriving tourism industry and the world's largest casinos, built on tribal lands. Regardless, New London County remains in recession from the recent 2008-2010 recession; this county has continued to lose jobs since 2008.

Connecticut's smaller counties have historically been manufacturing centers, especially along the Naugatuck Valley. Litchfield County is known as the destination for second homes and Windham County for its farmland.

Regardless of the different industries and geographies that characterize each county, Connecticut overall is one of the nation's best educated states and is home to several of the nation's best universities. Further, Connecticut is overall wealthy; if Connecticut's counties were ranked as states, six of the eight counties would rank within the top ten in terms of per capita personal income.

ⁱ Based on the 2014 Quarterly Census of Employment and Wages, 74.2% of Securities, Commodity Contracts, and Investments employment was in the Bridgeport-Stamford Labor Market Area.

ⁱⁱ

2014 Rank of Per Capita Personal Income and Gross State Product					
Rank	Geography	Per Capita Personal Income	Rank	Geography	Per Capita Gross State Product
1	District of Columbia	\$69,708	1	District of Columbia	\$174,925
2	Connecticut	\$64,862	2	Alaska	\$77,449
3	Massachusetts	\$58,694	3	Wyoming	\$75,616
4	New Jersey	\$57,594	4	North Dakota	\$74,401
5	North Dakota	\$55,683	5	New York	\$71,108
6	New York	\$55,595	6	Connecticut	\$70,351
7	Wyoming	\$54,560	7	Massachusetts	\$68,136
8	Maryland	\$54,131	8	Delaware	\$66,981
9	Alaska	\$53,993	9	New Jersey	\$61,405
10	New Hampshire	\$52,746	10	Texas	\$61,005

Source: IHS

ⁱⁱⁱ Between 1990 to 2014, Connecticut's population growth has averaged 0.4%. In comparison, over this same period, Personal Income growth has averaged 4.0% and Gross State Product has averaged 3.9%.

Chapter 3

Overview of the Connecticut State Revenue System

A Report Prepared for the Connecticut Tax Panel
Presented September 16, 2015

Matthew Pellowski
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Connecticut Office of Policy and Management

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Section I – Overview of Connecticut’s State Revenue System

General Fund

General Fund revenues are derived primarily from the collection of State taxes, including the personal income tax, the sales and use tax and the corporation business tax. See appendix A, attached, for a historical summary of revenue raised by each General Fund source.

Personal Income Tax

Since 1991, Connecticut has imposed a personal income tax on the 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. The current tax, as amended during the 2015 legislative session, is imposed on a progressive scale with a maximum rate of 6.99% on adjusted gross income. Prior to recent legislation, the top marginal rate was 6.7%. Connecticut uses Federal adjusted gross income (AGI) as the starting point to calculate the state income tax. The following table summarizes current tax rates for single and joint filers.

Personal Income Tax
Tax Rates – Effective Income Year 2015

Single Filers			Joint Filers		
Taxable Income			Taxable Income		
<u>From</u>	<u>To</u>	<u>Rate</u>	<u>From</u>	<u>To</u>	<u>Rate</u>
\$0	\$10,000	3.0%	\$0	\$20,000	3.0%
\$10,000	\$50,000	5.0%	\$20,000	\$100,000	5.0%
\$50,000	\$100,000	5.5%	\$100,000	\$200,000	5.5%
\$100,000	\$200,000	6.0%	\$200,000	\$400,000	6.0%
\$200,000	\$250,000	6.5%	\$400,000	\$500,000	6.5%
\$250,000	\$500,000	6.9%	\$500,000	\$1,000,000	6.9%
\$500,000	& Over	6.99%	\$1,000,000	& Over	6.99%

Depending on federal income tax filing status, the taxable year and Connecticut adjusted gross income, personal exemptions are available to taxpayers, ranging from \$12,000 to \$24,000. The singles exemption has increased annually and is scheduled to reach \$15,000 by taxable year 2016. In addition, tax credits ranging from 1% to 75% of a taxpayer’s Connecticut tax liability are also available depending upon federal income tax filing status, the taxable year and Connecticut adjusted gross income. Such

exemptions and tax credits are phased out at higher income levels. In addition, lower tax rates are phased out or “recaptured” for high income earners. There is also an income tax credit for property tax paid. The value of the credit has changed several times; the credit is currently valued at \$300 per filer. Legislation passed during the 2015 legislative session will decrease the credit to \$200 per filer beginning in income year 2016. This credit is phased-out for higher income earners. Taxpayers are also subject to a Connecticut minimum tax, based on their liability, if any, for payment of the federal alternative minimum tax. Neither the personal exemption nor the tax credits described above are available to trusts or estates.

Sales and Use Tax

A 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 (a) retail sales of tangible personal property, (b) the rendering of certain services, (c) the leasing or rental of tangible personal property, (d) the production, fabrication, processing, printing, or imprinting of tangible personal property to special order or with materials furnished by the consumer, (e) the furnishing, preparation or serving of food, meals, or drinks, and (f) hotel or lodging house rooms for a period not exceeding thirty consecutive calendar days. A use tax is imposed, with certain exceptions, on the consideration paid for certain services or purchases or rentals of tangible personal property used within the state pursuant to a transaction not subject to the sales tax. The tax rate for the sales and use tax is 6.35%. A separate rate of 15% is charged on the occupancy of hotel rooms. Various exemptions from the sales and use taxes are provided, based on the nature, use or price of the property or services involved or the identity of the purchaser.

Legislation passed during the 2015 legislative session would direct a portion of sales and use tax to the Special Transportation Fund and the Municipal Revenue Sharing Account beginning October 1, 2015 for the Special Transportation Fund and January 1, 2016 for the Municipal Revenue Sharing Account.

Corporate Business Tax

A Corporation Business Tax is imposed on any corporation, joint stock company or association, any dissolved corporation that continues to conduct business, any electric distribution company or fiduciary of any of the foregoing that carries on or has the right to carry on business within the state, owns or leases property, maintains an office within the state, or is a general partner in a partnership or a limited partner in a limited

partnership, except an investment partnership, which does business, owns or leases property or maintains an office within the state. Certain financial services companies and domestic insurance companies are exempt from this tax. Corporations compute their tax liability under three methods, determine which calculation produces the greatest tax, and pay that amount to the state.

- The first method of computing the Corporation Business Tax 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. The Income-Base Tax is at a rate of 7.5% for taxable years commencing on and after January 1, 2000 (exclusive of a surcharge described later.)
- The second method of computing the Corporation Business Tax is a tax on capital. This tax is determined either as a specific maximum dollar amount or at a flat rate on a defined base, usually related in whole or in part to the corporation’s capital stock and balance sheet surplus, profit and deficit.
- The third method of computing the Corporation Business Tax is a minimum tax in the amount of \$250.

The state requires multi-state and multi-national firms to pay the corporation business tax on the amount of economic activity apportionable to Connecticut. Companies are required to calculate the portion of their profits attributable to Connecticut using a three factor formula: property, payroll, and sales. The sales factor is double weighted. Broadcasting, manufacturing, financial services, and credit card firms use a single-factor receipts formula.

The state limits corporation credits from reducing tax liability by more than 70%. Legislation passed during the 2015 legislative session lowered the amount corporations may reduce their liability using tax credits to 50.01%. Connecticut permits groups of corporations to file a “combined” return if they are permitted to file a federal consolidated return. Corporation groups filing combined returns are also liable for the preference tax; they must also calculate their liability as separate entities and are not entitled to the first \$500,000 of tax savings over what they would pay if they filed separately. During the 2015 legislative session, the General Assembly passed, as part of the FY 2016-FY 2017 biennium budget, mandatory unitary reporting beginning in income year 2016. This change would require businesses with multiple majority-owned

companies to report those companies as part of a unitary group for purposes of apportioning income to the State of Connecticut.

The state imposed a corporation business tax surcharge of 10% for income years 2009, 2010 and 2011 for businesses with over \$100 million in federal adjusted gross income, and increased it to 20% for tax years 2012 through 2015. Legislation passed during the 2015 legislative session would extend the 20% surcharge through tax years 2016 and 2017, lower it to 10% in tax year 2018, and completely phase it out beginning in tax year 2019.

Limited liability corporations (LLCs), limited liability partnerships (LLPs), and S corporations are not subject to the state corporation tax. Rather, a flat \$250 charge is levied on these entities. The tax extends to single-member LLCs that are not considered entities separate from their owners for federal tax purposes. Beginning with taxable year 2013, this tax is due biennially.

Other Taxes

Other tax revenues are derived from gift and estate taxes; taxes on gross receipts of public service corporations, on net direct premiums of insurance companies, on gross receipts from the sale of petroleum products, on cigarettes and alcoholic beverages, on real estate transfers, on admissions and dues, on healthcare providers; and other miscellaneous taxes.

Other Non-Tax Revenues

The largest source of non-tax revenue to the General Fund is federal grants. Depending upon the program being funded, federal grants-in-aid are normally conditioned, to some degree, on resources provided by the state. Most unrestricted federal grant revenue is based on expenditures. The state also receives certain restricted federal grants that are not reflected in annual appropriations but that nonetheless are accounted for in the General Fund.

Other non-tax revenues are derived from special revenue transfers (lottery); Indian gaming payments; licenses, permits and fees; sales of commodities and services; rents, fines and escheats; investment income; other miscellaneous revenue sources; and designated Tobacco Settlement Revenues.

Special Transportation Fund

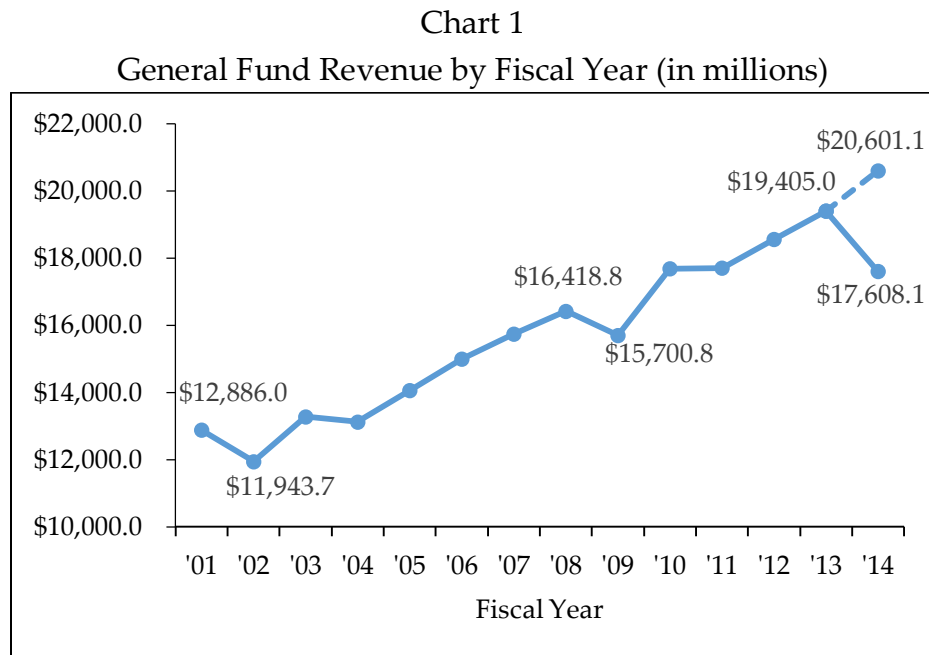
The state has established the Special Transportation Fund for the purpose of budgeting and accounting for all transportation-related taxes, fees and revenues credited to such Fund. Motor fuel taxes, motor vehicle receipts, motor vehicle related licenses, permits and fees, the oil companies tax, and portions of the sales tax are deposited to the fund. Please see appendix B, attached, for a historical summary of revenue raised by each Special Transportation Fund source.

Motor Fuels Tax

The largest source of tax revenue to the Special Transportation Fund is the state excise tax on motor fuels. The Gasoline Tax is imposed on each gallon of gasoline or gasohol sold or used within the state by a distributor and is currently levied at 25¢ per gallon. The tax on special fuels (diesel fuel) 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 diesel fuel tax rate is adjusted annually and for fiscal year 2016 has been set at 50.3¢ per gallon.

Section II - Revenue Performance

Over the long run, General Fund revenue has grown in conjunction with the state economy, increasing during expansionary periods and decreasing during recessions. Revenue peaked in FY 2001 prior to the early 2000's recession. According to the National Bureau of Economic Research (NBER), the recession's trough occurred in November 2001, during FY 2002. Revenue increased following that recession and hit another peak in FY 2008 before entering into the Great Recession. Since that time, revenue has been growing, albeit at an uneven pace. The graph below shows historical General Fund revenue as reported in the Annual Report of the State Comptroller.



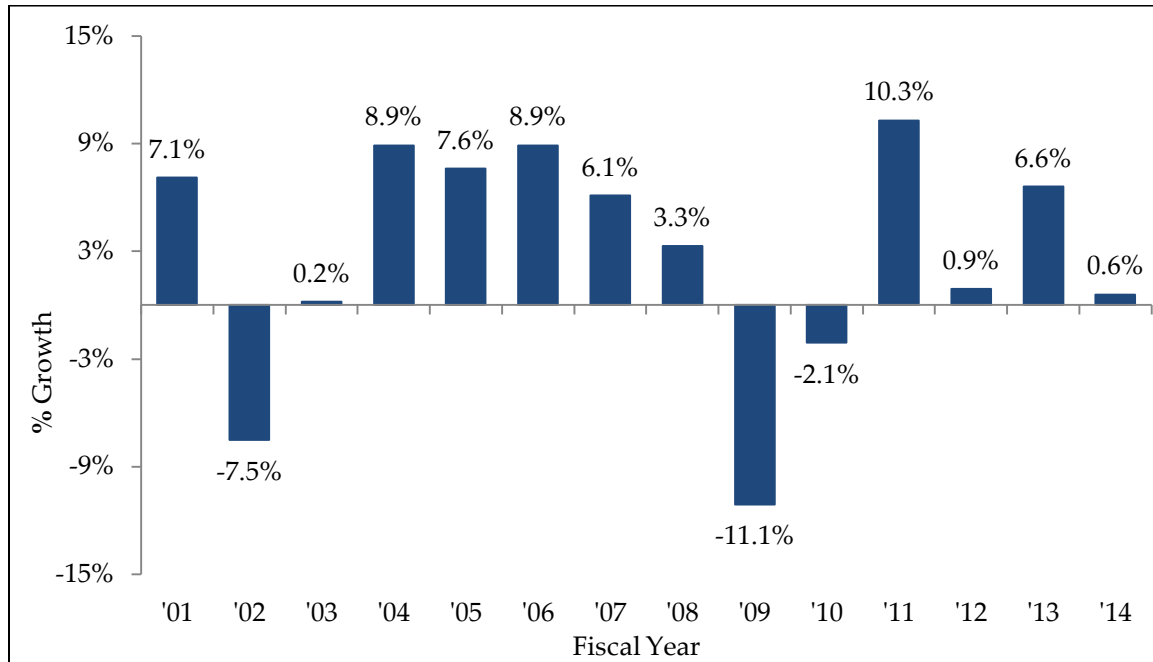
Source: Office of the State Comptroller

Please note that in FY 2014 the state moved to net budgeting of Medicaid; prior to that year, the state counted matching federal reimbursements for Medicaid as General Fund revenue. The change to net budgeting resulted in nearly \$3 billion less general fund revenue in FY 2014. The dashed line in Chart 1 represents the revenue that would have been recorded as General Fund revenue in the absence of this change.

While Chart 1 represents nominal growth in General Fund revenue, there have been many tax policy changes over that period of time which have had a fundamental impact on revenue collections. OPM has estimated the “economic growth rate,” or baseline

growth rate, of the General Fund by controlling for the estimated impact of policy changes. Please note that this method is limited by its reliance on fiscal estimates of policy changes produced prior to implementation of those changes.

Chart 2
General Fund Economic Growth Rates



As shown in this graph, The Great Recession resulted in two years of underlying revenue decline in fiscal years 2009 and 2010. Following the recession, Federal stimulus, rebounding equity markets, and the expectation that the Bush-era tax cuts were going to expire at the end of 2010 led to a 10.3% jump in FY 2011 followed by only a 0.9% increase in FY 2012. Similar to the pattern exhibited in FY 2011 and FY 2012, the partial expiration of the Bush tax cuts at the end of 2012 led to a 6.6% increase in FY 2013 followed by a weakened 0.6% growth in FY 2014.

Over the past decade Connecticut's income tax revenue has fluctuated dramatically. Volatility was primarily driven by estimates and finals collections of the personal income tax. This was due to the performance of the stock market and two recessions. Performance in the financial markets significantly influences the growth in this revenue source. The following two graphs show the economic growth rates, as calculated by OPM, for 1.) withholding and 2.) estimates and finals collections of the personal income tax. Chart 4 also includes data on the growth in capital gains realization from the prior year, demonstrating the outsized impact this source of income has on collections.

Chart 3
Withholding Economic Growth Rates

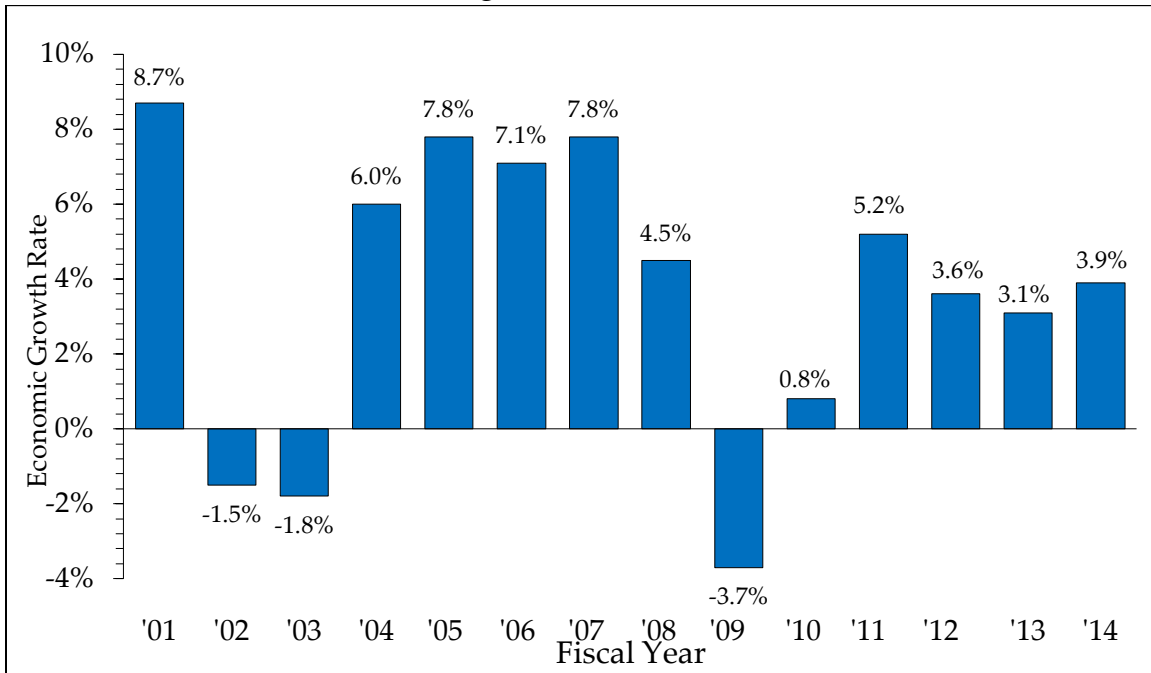
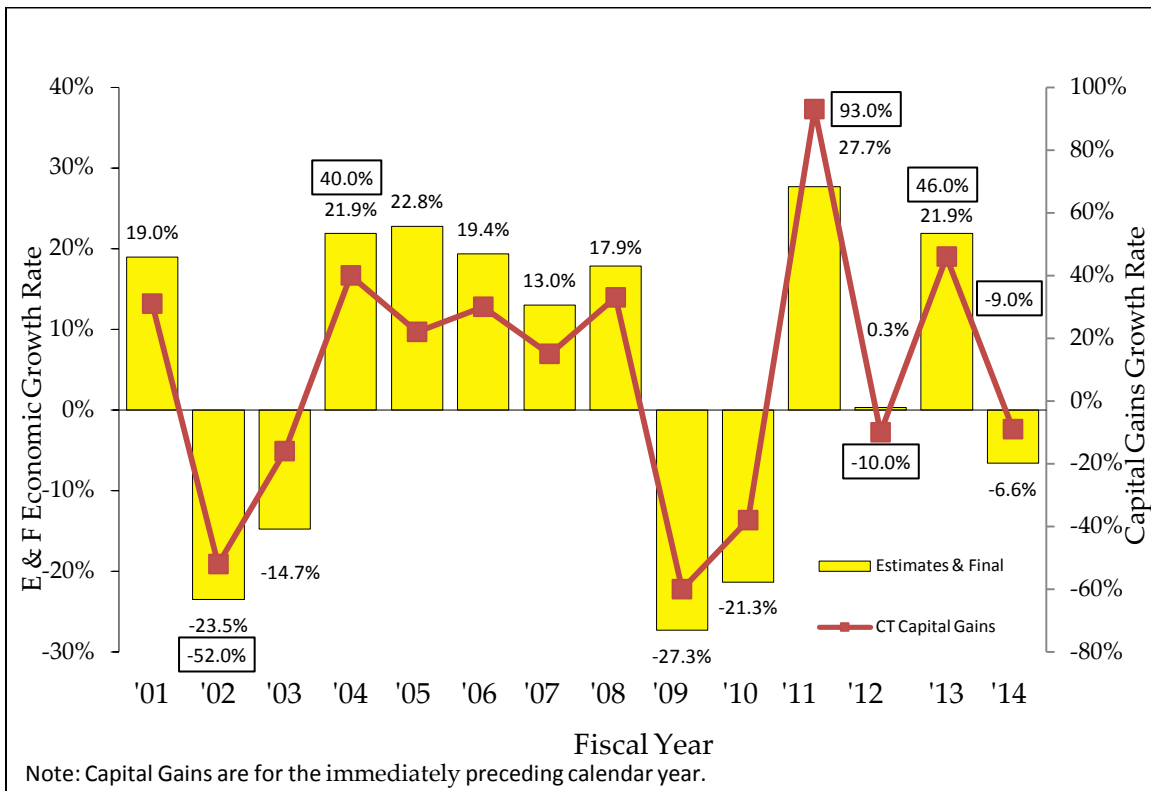
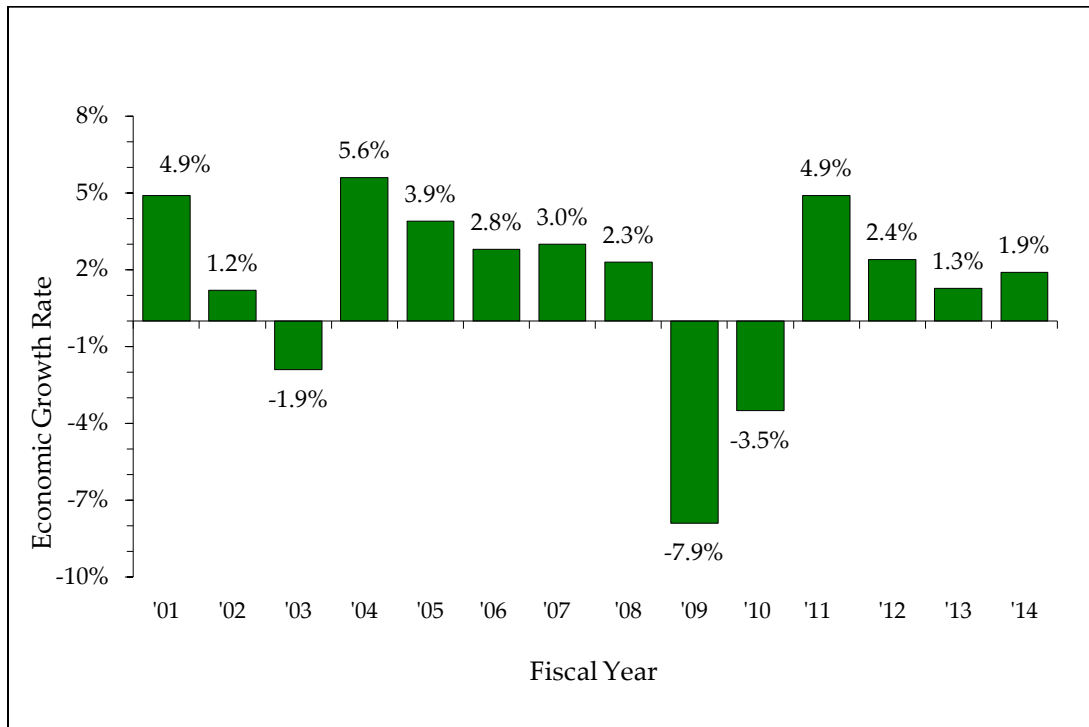


Chart 4
Estimates and Finals Economic Growth Rate



After the personal income tax, the sales and use tax is the second largest source of income to the General Fund. In the aftermath of the Great Recession, the sales tax dropped in two consecutive years, FY 2009 and FY 2010, due to chaos in the financial markets and the worst economic downturn since WWII. Collections in late FY 2011 improved markedly as employment and personal income increased. Weak economic growth and the expiration of the federal payroll tax cut that was a component of the federal government's stimulus measures, effective January 2013, led to only 1.3% growth in FY 2013. Chart 5 show the economic growth rates, as calculated by OPM, for the sales and use tax.

Chart 5
Sales and Use Tax Growth Rates



The recovery of General Fund revenues following the Great Recession has been weaker than prior recoveries. The following graphs compare the recoveries in Personal Income Tax and Sales Tax collections following the prior two recessions. By setting peak years to an index value of 100 and removing the impact of tax changes, ready comparisons can be made about subsequent performance. For the two most recent recession and recovery periods, revenue peaked in FY 2001 and FY 2008, respectively, before entering into recession.

Chart 6

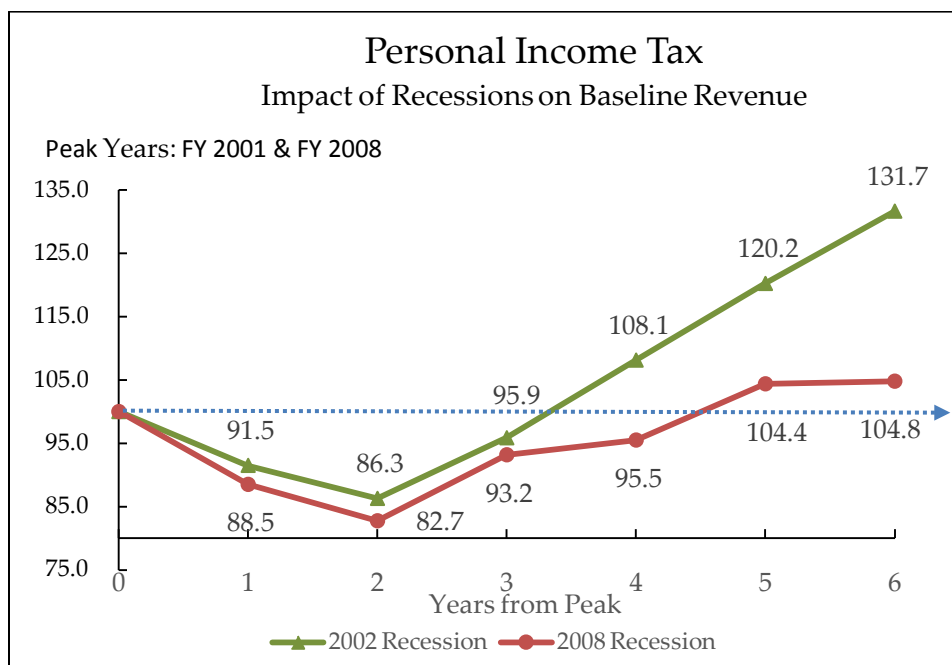
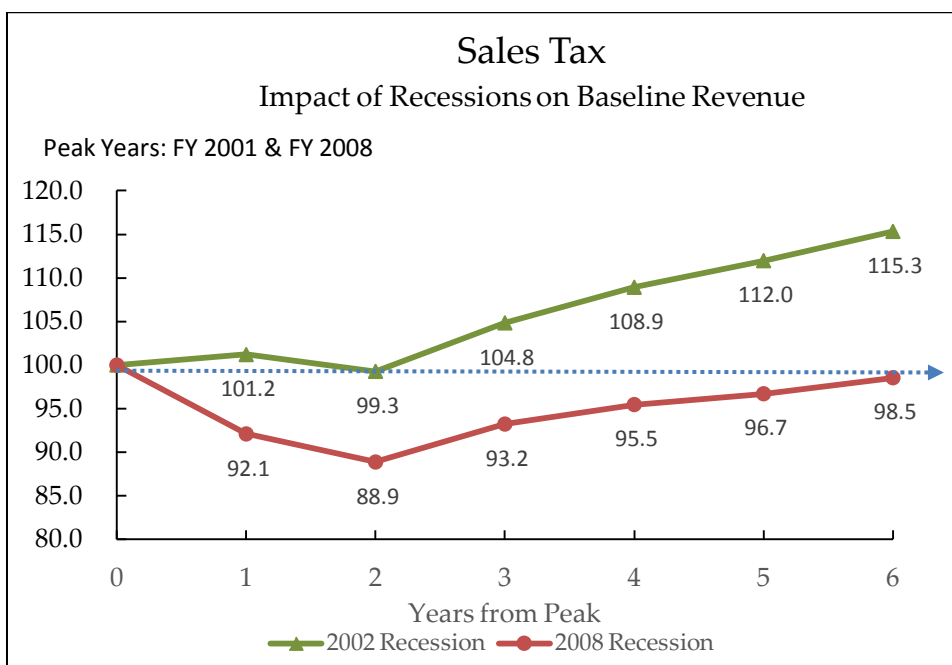


Chart 7



As the graphs above show, as of FY 2014, income tax revenues had exceeded their pre-recession peak for the last two fiscal years. Controlling for tax changes, revenue was 4.8% above pre-recession levels. If this recovery had been similar to the 2003 recovery, income tax revenue would have been \$2.0 billion higher in FY 2014. Unlike the income

tax, the state's sales tax had not exceeded its pre-recession peak as of FY 2014; the tax was down 1.5% from FY 2008 levels. Had the sales tax recovered at the same pace as in 2003, revenues would have been \$601 million higher in FY 2014. It is important to note that, while personal income tax had a deeper trough than sales and use tax, it also recovered more quickly than sales and use tax when controlling for policy changes.

Section III – Revenue Volatility

Connecticut’s General Fund and Special Transportation Fund revenue portfolios are comprised of several different revenue sources. Each source has a different base and is subject to different economic and behavioral phenomena. As a result, some revenue sources are more volatile than others. Greater volatility implies more difficulty forecasting future receipts and less reliability as changes occur in the economy.

Buoyancy Analysis

Two common measures of tax volatility are tax buoyancy and tax elasticity. Tax buoyancy measures a revenue source’s response to economic growth by comparing changes in tax receipts to changes in gross state product (GSP). Tax elasticity measures the same phenomena while controlling for changes in tax policy. Buoyancy models do not control for changes in tax policy – a major limitation to these types of models. However, tax buoyancy is still commonly used as a measure of tax volatility due to the complexity and uncertainty of estimating the impacts of policy changes.

The Office of Policy and Management has conducted tax buoyancy analyses of General Fund, personal income tax, sales and use tax, and corporation tax revenue. These models were conducted using the following model:

$$\text{Log TAX}_i = \beta_0 + \beta_1 \text{Log GSP} + \varepsilon$$

Where TAX is the source of revenue, GSP is Connecticut gross state product, and ε is an error term. Ordinary least squares regression analysis techniques are used to estimate the coefficients. Logarithmic values of TAX and GSP are used to compare a percentage change in GSP to a percentage change in TAX, rather than a unit change. In such a model, the coefficient β_1 is an estimate of the percentage change of a tax type associated with a one percent change in gross state product.

The models were conducted using data found in the Annual Report of the State Comptroller for fiscal years 2001 to 2014. This “peak-to-peak” measurement attempts to control for the impact of economic cycles. In addition, the amount of federal grant money that would have been deposited to the General Fund in the absence of “net-budgeting” of Medicaid is added back to the General Fund for purposes of this analysis. The following table contains the buoyancy of each tax type and the adjusted r-square for each model. The adjusted r-square indicates how much of the variation in each tax

type is explained by the model, with values closer to 1.0 fully explaining the change, and weaker explanatory power as the value declines from 1.0:

	Buoyancy	Adjusted R-Square
General Fund	1.18	0.86
Personal Income Tax	1.80	0.92
Sales and Use Tax	0.60	0.66
Corporation Tax	1.43	0.66

This indicates that a 1% change in Connecticut gross state product resulted in a 1.8% change in personal income tax, a 0.6% change in sales and use tax, a 1.4% change in corporation tax, and a 1.2% change in General Fund revenue during the period from fiscal year 2001 to 2014. This finding affirms that personal income tax, the largest source of revenue to the General Fund, is the most volatile and susceptible to changes in the economy of the three largest General Fund taxes. The corporation tax is also volatile relative to the overall General Fund, while sales and use tax has been relatively inelastic.

Budget Reserve Fund Reform

Public Act 15-244, the FY 2016-2017 biennium budget, included several reforms to the Budget Reserve Fund (BRF). The intent of these changes is to mitigate the revenue volatility which has led to budget uncertainty in the state in recent years. In addition, the bill raises the cap on BRF balance from 10% to 15% of General Fund Appropriations.

The bill requires that growth in “combined revenue” above a threshold be deposited to the Budget Reserve Fund beginning in FY 2021. “Combined revenue” means tax revenue from the estimated and final payments of the personal income tax and the corporation business tax. As discussed, estimates and finals payments and the corporation business tax are two of the largest and most volatile sources of General Fund revenue. The threshold is a dollar amount that is derived by taking the ten year average of combined revenue and multiplying that average by the ten year average growth in the ten year moving average of combined revenue. The Comptroller is responsible for determining the threshold for deposits.

If tax changes are enacted that affect combined revenue by 1% or more the Office of Fiscal Analysis (OFA) and the Office of Policy and Management (OPM) are responsible to determine the threshold. The growth should be adjusted for any policy changes.

Adjustments shall be made for a period of ten fiscal years. If revisions in the January or April consensus revenue estimate impact combined reporting in the current year, OFA and OPM may recalculate the threshold level and shall report such revisions along with consensus revenue.

The Act creates a Restricted Grants Fund as a temporary holding account of surplus funds in excess of the threshold within a fiscal year. Amounts above the threshold level are deposited to the Restricted Grants Fund on January 31 and May 15 following consensus revenue estimates. If forecasted combined revenue declines after January 31, revenue within the restricted grants fund can be transferred back to the General Fund based upon a formula. If the consensus revenue estimate of January 15 or April 30 projects a deficit, no transfers will be made to the Restricted Grants Fund. Amounts held in the Restricted Grants Fund will be transferred to Budget Reserve Fund at the close of the fiscal year.

Section IV – Tax Incidence

One of the most common and significant questions regarding state tax revenues is how they impact Connecticut households and businesses. In particular, there is frequent discussion as to whether certain tax types are regressive, progressive, or proportional:

- A tax is “progressive” if higher income earners pay more than lower income earners as a percentage of their income.
- A tax is “proportional” if higher income earners and lower income earners pay a similar amount as a percentage of their income.
- A tax is “regressive” if higher income earners pay less than lower income earners as a percentage of their income.

Department of Revenue Services Study

In order to assess the equity of Connecticut’s tax system, the Department of Revenue Services published the Connecticut Tax Incidence study in December 2014. The study utilizes tax year 2011 data, the most recent year for which DRS was able to obtain federal income tax data to match with state income tax data.

The study analyzed the tax incidence for Connecticut taxpayers. Tax incidence differs from tax liability, which is the legal obligation to pay a tax. The study assumes households tend to bear the full impact of their tax liabilities, while businesses distribute their tax impact to individuals and households through consumer pricing, or workforce-related practices. The incidence refers to the ultimate impact of a tax after shifting.

Suits Index

The study utilized the Suits Index to gauge the progressivity of each tax and Connecticut’s taxes overall. The Suits Index is a statistical, nonbinary measure of progressivity ranging from negative one to positive one where regressive taxes have negative values, progressive taxes have positive values and a proportional tax would be equal to zero. The degree of a tax’s progressive or regressive nature increases the further it is from zero.

The most progressive tax with a Suits Index of 1.0 would have the single Connecticut household with the highest Connecticut AGI paying all of the taxes. Likewise, the most regressive tax would have a Suits Index of -1.0 and have the single Connecticut household with the lowest Connecticut AGI paying all of the taxes. In reality, neither of those scenarios would exist and the Suits Index indicators for Connecticut’s taxes will lie somewhere on the spectrum between 1.0 and -1.0.

The DRS model uses a full sample of returns from all taxpayers within a specific tax type to compute the Suits Index that accounts for each Connecticut income tax filer in the model. The full-sample Suits Index provides a more robust and targeted analysis as it takes into account all points of data, as opposed to other levels of analysis which may only compute the Suits Index based on aggregated population or income decile data.

Results

The Suits Index can be used to compare relative progressivity between taxes within Connecticut. The following table summarizes the Suits Index for the taxes studied in the report.

Tax Type	Suits Index
Gift and Estate	0.76
Personal Income	0.11
Corporation Business	-0.02
Real Estate Conveyance	-0.14
Insurance	-0.35
Gross Earnings	-0.38
Local Property Taxes	-0.39
Sales and Use	-0.39
Excise	-0.67
Total	-0.22

- Excise taxes include taxes on alcoholic beverages, cigarettes, tobacco, and motor fuels
- Gross Earnings taxes include taxes on community antenna TV, certified competitive video service providers, satellite TV, railroad companies, gas companies, gas sales to residential customers, and electric distribution companies

The Personal Income Tax (0.11) and the Gift and Estate Tax (0.76) are the only two taxes classified as progressive. Some of the many items that contribute to the progressivity of the Personal Income Tax are its graduated rates that increase with Connecticut AGI, tax recapture at higher AGI levels, the Earned Income Tax Credit, and the automatic credits based on AGI that phase out at higher income levels. The Gift and Estate Tax is the most progressive tax due to its \$2 million exemption threshold. The incidence of the Gift and Estate Tax is borne entirely by the highest decile of taxpayers.

Excise Taxes (-0.67), which include alcohol, cigarettes and tobacco and motor fuels, are the most regressive. Like the Sales and Use Tax (-0.39), Excise Taxes have a regressive nature since the taxes are levied at the same rate for every consumer regardless of income. Households with lower Connecticut AGIs spend a larger share of their income on Excise and Sales and Use Taxes than households with larger Connecticut AGIs. The overall Suits Index for taxes included in the study was -0.22.

For more information, DRS' full report is available at:
<http://www.ct.gov/drs/lib/drs/research/drstaxincidencereport2014.pdf>

Section V – Tax Credits

In order to incentivize certain private sector behavior, Connecticut offers taxpayers various tax credits. These credits reduce a taxpayer's liability, and therefore reduce General Fund revenue. Lost revenue may be "made up" by either increases in taxes or decreases in appropriations. The amount that taxpayers may reduce their liability using tax credits is currently capped at certain levels for the corporation business tax, insurance premiums tax, and hospital net revenue tax. The Department of Economic and Community Development (DECD) produces a report on the efficacy of these credits every three years. In their 2014 report, they found that the biggest economic impact results from those tax credits that are tied to job creation.

Connecticut's Department of Revenue Services (DRS) provides annual data on the amount of tax credits claimed against the corporation business tax and the insurance premiums tax by income year. The following table summarizes the amounts claimed during income year 2012, the latest data available, as well as during the five year period from income year 2008 to 2012. The data reveal that, on average, tax credits resulted in over \$200 million in foregone revenue per income year during this time period.

Tax Credits Claimed Against Corporation Business and Insurance Premiums Taxes

Type of Credit	Tax Credits Claimed	
	2012	2008-2012
Fixed Capital	\$63,125,737	\$358,236,881
Film Production*	\$76,567,036	\$298,633,051
Electronic Data Processing	\$19,421,533	\$118,537,600
Research and Experimental Expenditures	\$20,681,089	\$86,239,102
Urban and Industrial Site Reinvestment	\$16,598,275	\$54,045,821
Research and Development	\$5,516,301	\$25,715,841
All Other	\$16,147,798	\$88,532,982
TOTAL	\$218,057,769	\$1,029,941,278

**Includes film production infrastructure and digital animation credits.*

Source: DRS Annual Statement

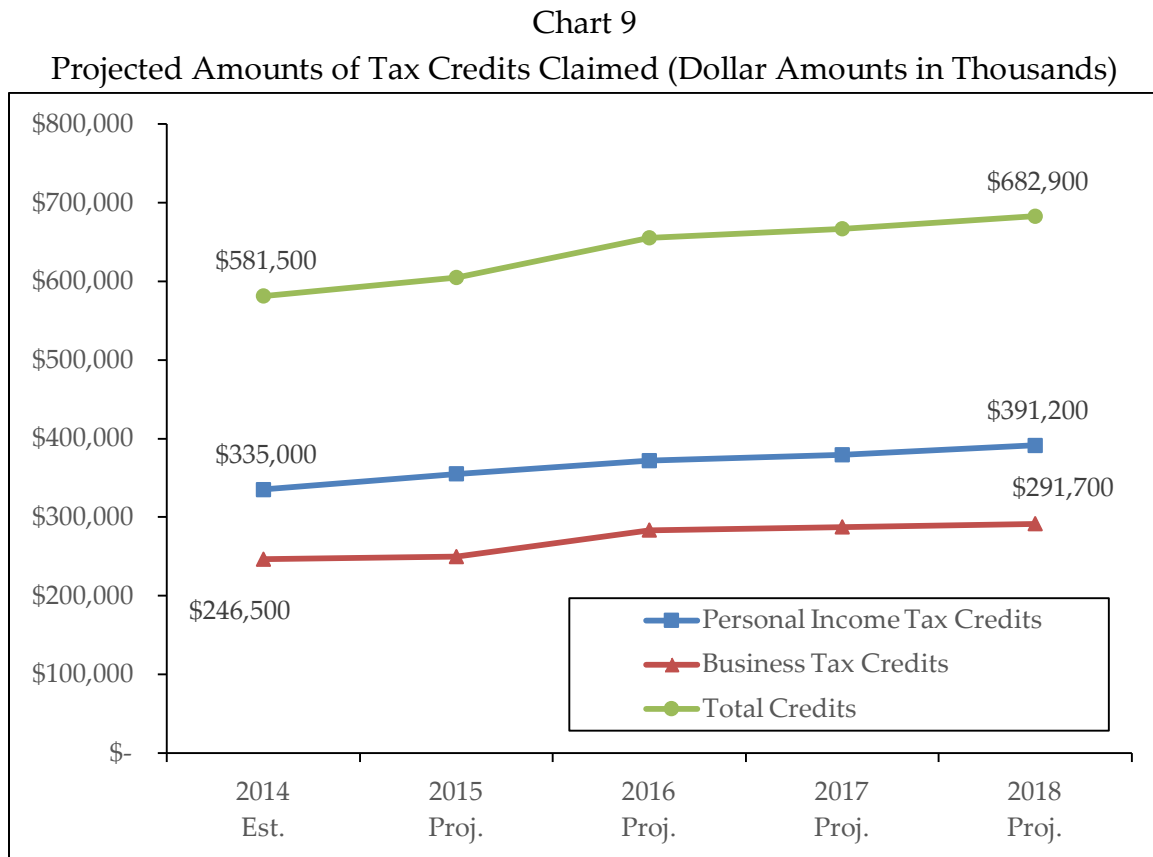
The table also shows several of the most prevalent business tax credits offered by the state. During the period from 2008-2012, a few tax credit types constituted the majority of tax credits claimed.

- The largest of these was the fixed capital credit. These credits are worth 5% of the amount paid for any new capital property to be held and used in Connecticut.
- The second largest are the film production tax credits, inclusive of the film production infrastructure and digital animation credits. These credits are available for qualifying media productions. There is currently a moratorium on providing film production credits for major motion picture productions without substantial investment in the state, effective through fiscal year 2017.
- Electronic Data Processing credits provide a 100% credit for property tax owed and paid on electronic data processing equipment.
- Research and Experimental Expenditures credits are based on the incremental increase in expenditures for research and experiments conducted in Connecticut. The amount of the credit equals 20%.
- Urban and Industrial Site Reinvestment Credits are awarded for investments in eligible urban reinvestment projects and industrial site investment projects under the Urban and Industrial Site Reinvestment Act.
- Research and Development credits are based on expenses for research and development conducted in Connecticut. The amount allowed varies from 1% to 6% of R&D expenses.
- All other tax credits accounted for less than 10% of credits claimed against the corporation business tax and insurance premiums tax during the period from 2008-2012.

Relative to corporation tax credits, the State of Connecticut offers few credits against the personal income tax. However, two major credits are:

- The Property Tax Credit. Connecticut residents are eligible for an income tax credit for property taxes paid to a Connecticut political subdivision. Effective for taxable years commencing on or after January 1, 2016, the maximum credit is reduced from \$300 to \$200 per return. Approximately \$209 million in property tax credits were claimed in income year 2013.
- The Earned Income Tax Credit. Connecticut taxpayers may claim an earned income tax credit worth a percentage of any federal earned income credit claimed and allowed. In income year 2013, the rate was 25% of the federal EITC claimed. In income year 2014, the rate was 27.5% of the federal EITC. Approximately \$96 million in earned income tax credits were claimed in income year 2013.

In addition, the Office of Policy and Management is required to include a forecast for tax credits claimed as part of the annual Fiscal Accountability Report published in November of each year. The following graph shows OPM's projections for personal income tax credits, business tax credits, and total credits claimed. Business tax projections include credits claimed under the corporation tax, insurance premiums tax, hospital net revenue tax, and the public service companies tax.



Source: OPM Fiscal Accountability Report, Nov. 2014

Please note that these projections are based on analysis conducted by the Office of Policy and Management in November 2014 and are not reflective of policy changes in the 2015 legislative session or the most recent data available. OPM will produce an updated forecast for the November 2015 Fiscal Accountability Report.

Section VI – Policy Changes 2000-2015

Tax rates in 2000 were significantly different from where they stand today. The impact of two significant recessions, changes in the composition of state's economy, and rising costs for healthcare, education, and unfunded pension liabilities, resulted in numerous tax and revenue policy changes for the state. Some of the more significant changes that have been enacted over the past 15 years include:

Personal Income Tax

In 2000, Connecticut's personal income tax contained two brackets – 3.0% and 4.5%. During the 2003 legislative session the upper 4.5% bracket was raised to 5.0%. During the 2009 legislative session a third bracket was added at a maximum 6.5% rate. During the 2011 legislative session three new tax brackets were added and the maximum rate was increased from 6.5% to 6.7%. Moreover, lower rate recapture provisions were added that eliminated the benefit of various lower rates once a taxpayer reached a certain income level. Finally, during the 2015 legislative session, a seventh tax bracket was added and the maximum upper rate was set at 6.99%.

The property tax credit under the income tax which stood at \$500 in 2000 was lowered in the mid-2000s, then increased back to \$500 in the later 2000s, only to be reduced again to \$300 beginning in 2011. It is scheduled to fall to \$200 in income year 2016. Additionally, a more aggressive phase-out of the property tax credit has been enacted over the years.

One area of tax relief which Connecticut has adopted in recent years is a state Earned Income Tax Credit (EITC), which mirrors the federal credit. Originally adopted during the 2011 legislative session, the current value of the state credit is 27.5% of the federal credit. The EITC is currently scheduled to increase to 30.0% of the federal credit beginning in income year 2017.

Sales and Use Tax

In 2000, Connecticut's sales and use tax rate was at 6.0%. Today it stands at 6.35%. In 2000, the clothing exemption was \$75.00 whereas today it has been eliminated. Moreover, in the intervening years, the sales tax was extended to more items. Some items were exempted from the tax during the same time period, but the net effect was a broadening of the base and an overall increase in revenue raised.

Corporation Tax

In 2000, Connecticut's corporation tax rate was at 7.5%, with no surtax. Over the intervening years the rate has remained the same, but in ten of the 15 years covered by this report there was a surtax imposed which ranged from 10% to 25% depending upon the income year. In the most recent legislative session, Connecticut will be converting to a unitary form of corporation tax beginning with income year 2016. The 2015 legislative session also capped at 50% the amount that prior year net operating losses could serve to reduce a firm's net income.

Tax credits

One area where tax relief was provided was in the area of business tax credits. The most significant tax credits that were enacted over that time period include film tax credits (including infrastructure and digital media) and job creation tax credits. In addition, the state facilitated increased use of previously earned research and development tax credits for qualifying companies through the aerospace reinvestment act.

Offsetting this benefit to some extent has been the enactment of overall limitations on the use of tax credits. During the 2002 legislative session a cap of 70% was placed on the overall amount tax credits could reduce tax liability. During the 2015 legislative session this cap was tightened further to 50.01%.

Apportionment

Another area where tax relief was provided was in the area of apportionment. Multi-state businesses typically apportion their income to Connecticut based upon a three factor formula – sales, property, and payroll, with the sales factor double-weighted. During the 2000 legislative session a favorable single factor apportionment based solely on sales was enacted for manufacturers and broadcasters.

Cigarette Taxes

In 2000, the cigarette tax was at 50 cents per pack. Over the intervening years the tax was increased and today stands at \$3.65 per pack. It is scheduled to rise to \$3.90 per pack on July 1, 2016.

Oil Companies Tax

In 2000 the tax rate on petroleum products gross receipts was 5.0%. Today the rate is 8.1%.

Motor Fuels Tax

In 2000 the excise tax rate on motor fuels was 32 cents per gallon. Today the rate is 25 cents per gallon.

Succession/Estate Tax

During the 2005 legislative session, the state's Succession Tax was repealed and in its place a unified Gift and Estate Tax was enacted with a lifetime \$2 million exemption.

Other Revenue Changes

Over the past fifteen years, other major policy changes have included transfers from various funds to the General Fund. Several DRS related initiatives, including amnesty programs, have been instituted in order to raise additional revenue. Taxes have also been enacted on health services providers as part of an overall plan to garner additional federal matching dollars under the Medicaid program.

Appendix A
GENERAL FUND REVENUES

<u>TAXES (\$K)</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>
Personal Income	\$6,586,099	\$7,246,431	\$8,310,820	\$8,719,245	\$8,718,659
Sales and Use	3,203,988	3,353,230	3,830,117	3,896,998	4,100,564
Corporation	667,132	794,473	716,522	742,515	782,239
Public Service Corporation	267,945	269,806	250,397	266,647	293,303
Insurance Companies	226,550	220,626	237,609	260,858	240,666
Inheritance & Estate	177,601	237,573	191,699	439,519	168,075
Cigarettes	387,435	404,111	421,005	399,822	376,835
Oil Companies	123,018	169,163	146,067	175,526	35,580
Electric Generation	-	-	69,532	66,823	15,315
Real Estate Conveyance	100,267	94,822	107,531	113,830	180,511
Alcoholic Beverages	48,196	48,923	60,595	60,406	60,644
Admissions, Dues, Cabaret	34,379	34,456	34,398	36,544	39,935
Miscellaneous	141,892	140,506	536,810	523,028	498,260
Total - Taxes	\$11,964,502	\$13,014,119	\$14,913,103	\$15,701,763	\$15,510,588
Less Refunds of Taxes	(1,061,433)	(956,054)	(1,105,171)	(1,144,993)	(1,182,397)
Less Refunds of R&D Credit	(8,937)	(8,599)	(3,563)	(4,086)	(5,055)
Total - Taxes Less Refunds	\$10,894,132	\$12,049,467	\$13,804,369	\$14,552,684	\$14,323,136
<u>OTHER REVENUE</u>					
Transfer-Special Revenue	\$289,314	\$293,108	\$313,757	\$315,452	\$323,219
Indian Gaming Payments	384,248	359,582	344,645	296,396	279,873
Licenses, Permits & Fees	257,569	250,442	283,414	262,068	314,722
Sales of Commodities & Services	33,678	35,506	35,007	36,298	40,523
Investment Income	4,062	29	964	(792)	(336)
Rents, Fines & Escheats	252,792	157,771	123,424	144,141	130,875
Miscellaneous	142,910	178,728	191,965	163,818	206,782
Less Refunds of Payments	(1,189)	(1,875)	(85,377)	(74,016)	(66,625)
Total - Other Revenue	\$1,363,384	\$1,273,291	\$1,207,780	\$1,143,366	\$1,229,032
<u>OTHER SOURCES</u>					
Federal Grants	\$4,066,314	\$4,235,178	\$3,607,163	\$3,733,910	\$1,243,861
Transfer from Tobacco Fund	102,898	95,304	96,100	103,100	107,000
Transfer From/(To) Other Funds	1,261,800	54,215	(153,799)	(128,028)	106,528
Total - Other Sources	\$5,431,012	\$4,384,697	\$3,549,464	\$3,708,982	\$1,457,389
GRAND TOTAL	\$17,688,529	\$17,707,454	\$18,561,633	\$19,405,031	\$17,009,556
<u>TAXES</u>	<u>% of Total</u>	<u>% of Total</u>	<u>% of Total</u>	<u>% of Total</u>	<u>% of Total</u>
Personal Income	37.23	40.92	44.77	44.93	51.26
Sales and Use	18.11	18.94	20.63	20.08	24.11
Corporation	3.77	4.49	3.86	3.83	4.60
Public Service Corporation	1.51	1.52	1.35	1.37	1.72
Insurance Companies	1.28	1.25	1.28	1.34	1.41
Inheritance & Estate	0.96	1.34	1.03	2.26	0.99
Cigarettes	2.19	2.28	2.27	2.06	2.22
Oil Companies	0.70	0.96	0.79	0.90	0.21
Electric Generation	-	-	0.37	0.34	0.09
Real Estate Conveyance	0.57	0.54	0.58	0.59	1.06
Alcoholic Beverages	0.27	0.28	0.33	0.31	0.36
Admissions, Dues, Cabaret	0.19	0.19	0.19	0.19	0.23
Miscellaneous	0.80	0.79	2.89	2.70	2.93
Total - Taxes	67.64	73.50	80.34	80.92	91.19
Less Refunds of Taxes	(6.00)	(5.40)	(5.95)	(5.90)	(6.95)
Less Refunds of R&D Credit	(0.05)	(0.05)	(0.02)	(0.02)	(0.03)
Total - Taxes Less Refunds	61.59	68.05	74.37	74.99	84.21
<u>OTHER REVENUE</u>					
Transfer-Special Revenue	1.64	1.66	1.69	1.63	1.90
Indian Gaming Payments	2.17	2.03	1.86	1.53	1.65
Licenses, Permits & Fees	1.46	1.41	1.53	1.35	1.85
Sales of Commodities & Services	0.19	0.20	0.19	0.19	0.24
Investment Income	0.02	-	0.01	(0.00)	(0.00)
Rents, Fines & Escheats	1.43	0.89	0.67	0.74	0.77
Miscellaneous	0.81	1.01	1.01	0.84	1.22
Less Refunds of Payments	(0.01)	(0.01)	(0.01)	(0.38)	(0.39)
Total - Other Revenue	7.71	7.19	6.51	5.89	7.23
<u>OTHER SOURCES</u>					
Federal Grants	22.99	23.92	19.43	19.24	7.31
Transfer from Tobacco Fund	0.58	0.54	0.52	0.53	0.63
Transfer From/(To) Other Funds	7.13	0.31	(0.82)	(0.66)	0.63
Total - Other Sources	30.70	24.76	19.12	19.11	8.57
GRAND TOTAL	100.00	100.00	100.00	100.00	100.00

Appendix B
SPECIAL TRANSPORTATION FUND REVENUES

<u>TAXES (\$K)</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>
Motor Fuels	\$503,635	\$438,526	\$492,795	\$501,269	\$508,058
Oil Companies	141,900	165,300	226,900	199,400	380,700
DMV Sales	67,784	71,943	76,618	79,000	82,216
Less Refunds of Taxes	<u>(7,315)</u>	<u>(6,769)</u>	<u>(7,006)</u>	<u>(6,094)</u>	<u>(6,993)</u>
Total - Taxes Less Refunds	\$706,004	\$713,999	\$789,306	\$773,576	\$963,981
<u>OTHER REVENUE</u>					
Motor Vehicle Receipts	\$220,703	\$220,144	\$235,446	\$234,484	\$236,063
Licenses, Permits & Fees	135,004	135,453	135,974	137,284	138,390
Interest Income	6,681	5,506	2,208	4,138	6,771
Federal Grants	3,002	9,360	12,915	12,416	12,100
Transfer from Other Funds	71,200	107,550	81,550	95,245	(76,500)
Transfer to Other Funds	(6,500)	(6,500)	(6,500)	(6,500)	(6,500)
Transfer to TSB	(15,300)	(15,300)	(15,000)	(15,000)	(15,000)
Less Refunds of Payments	<u>(2,906)</u>	<u>(3,005)</u>	<u>(2,979)</u>	<u>(3,154)</u>	<u>(3,614)</u>
Total - Other Revenue	\$411,884	\$453,208	\$443,614	\$458,912	\$291,710
GRAND TOTAL	\$1,117,888	\$1,167,208	\$1,232,921	\$1,232,487	\$1,255,690
<u>TAXES</u>	<u>% of Total</u>	<u>% of Total</u>	<u>% of Total</u>	<u>% of Total</u>	<u>% of Total</u>
Motor Fuels	45.05	37.57	39.97	40.67	40.46
Oil Companies	12.69	14.16	18.40	16.18	30.32
DMV Sales	6.06	6.16	6.21	6.41	6.55
Less Refunds of Taxes	<u>(0.65)</u>	<u>(0.58)</u>	<u>(0.57)</u>	<u>(0.49)</u>	<u>(0.56)</u>
Total - Taxes Less Refunds	63.15	61.17	64.02	62.77	76.77
<u>OTHER REVENUE</u>					
Motor Vehicle Receipts	19.74	18.86	19.10	19.03	18.80
Licenses, Permits & Fees	12.08	11.60	11.03	11.14	11.02
Interest Income	0.60	0.47	0.18	0.34	0.54
Federal Grants	0.27	0.80	1.05	1.01	0.96
Transfer from Other Funds	6.37	9.21	6.61	7.73	(6.09)
Transfer to Other Funds	(0.58)	(0.56)	(0.53)	(0.53)	(0.52)
Transfer to TSB	(1.37)	(1.31)	(1.22)	(1.22)	(1.19)
Less Refunds of Payments	<u>(0.26)</u>	<u>(0.26)</u>	<u>(0.24)</u>	<u>(0.26)</u>	<u>(0.29)</u>
Total - Other Revenue	36.85	38.83	35.98	37.23	23.23
GRAND TOTAL	100.00	100.00	100.00	100.00	100.00

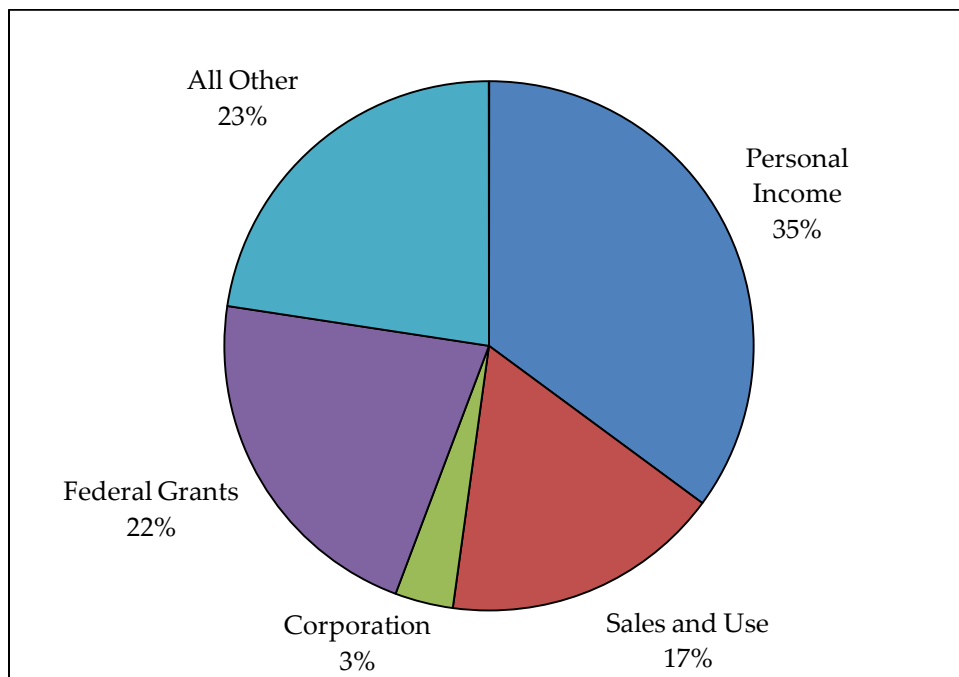
Appendix C

The following charts show the percentage of General Fund revenue derived from the following sources:

- Personal Income Tax;
- Sales and Use Tax;
- Corporation Tax;
- Federal Grants; and,
- All Other Sources

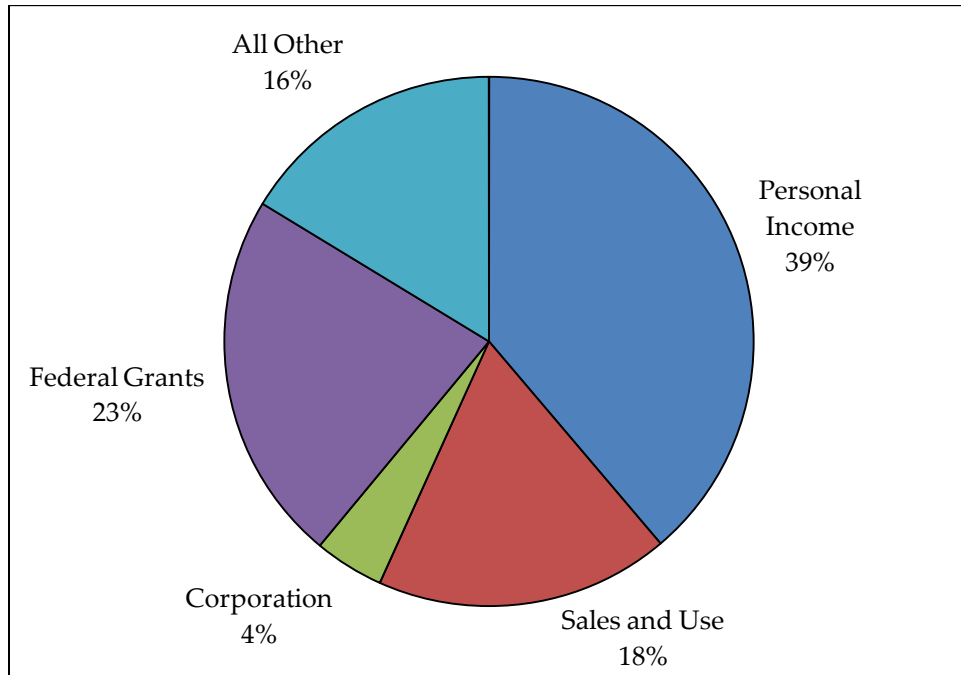
For fiscal years FY 2010 – FY 2014 as presented in Appendix A, revenues are shown as a percentage of collections prior to refunds and net transfers to other funds. For comparative purposes, FY 2014 has been adjusted for net budgeting of Medicaid. Beginning in that year, direct federal grants for Medicaid were applied directly to Medicaid expenditures, rather than being counted as a resource of the General Fund as in prior years.

Chart 10
FY 2010



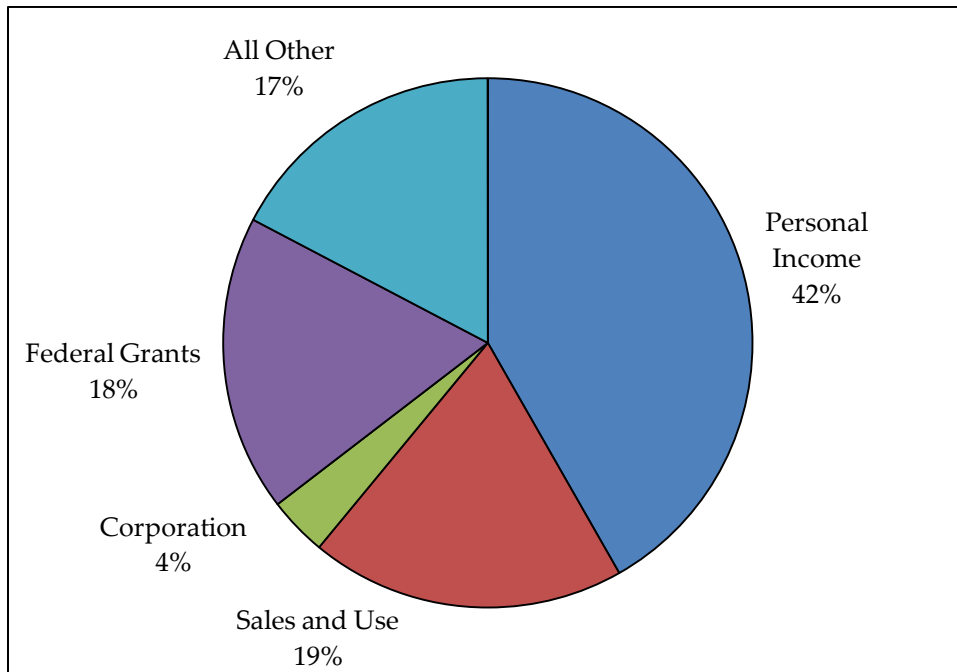
Refunds reduced collections by \$1,072 million.

Chart 11
FY 2011



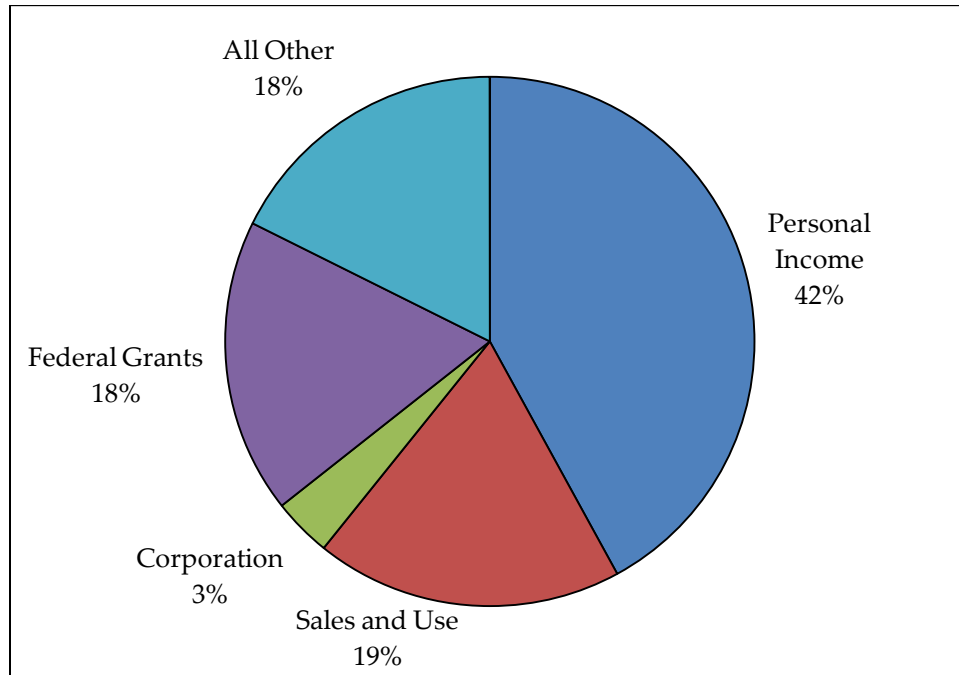
Refunds reduced collections by \$967 million.

Chart 12
FY 2012



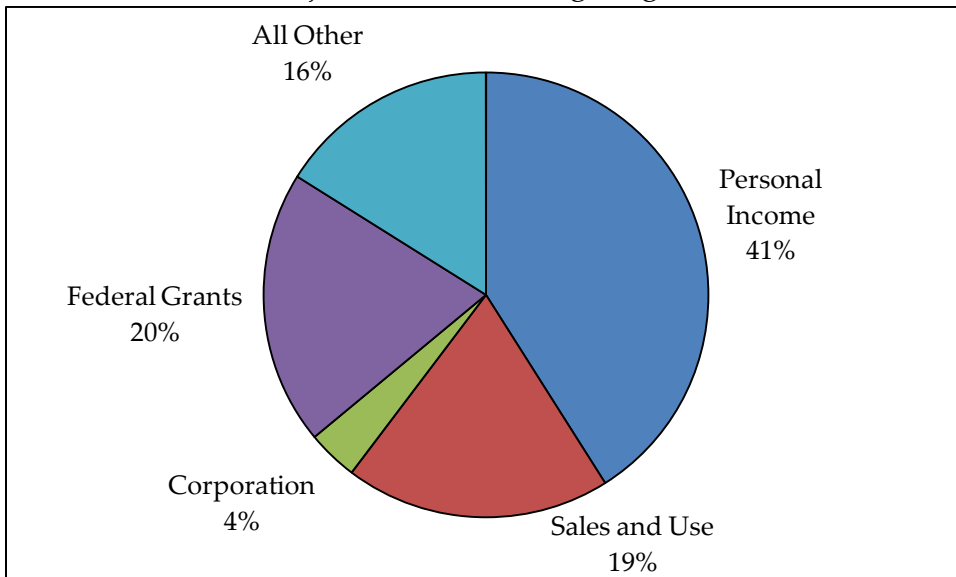
Refunds and transfers reduced collections by \$1,348 million.

Chart 13
FY 2013



Refunds and transfers reduced collections by \$1,351 million.

Chart 14
FY 2014 – Adjusted for Net Budgeting of Medicaid*



Refunds reduced collections by \$1,254 million.

**For purposes of this chart, \$2,993 million was added to Federal Grants in order to estimate what General Fund revenues would have been had the State of Connecticut not switched to net budgeting Medicaid in FY 2014.*

Research Report



Measuring Municipal Fiscal Disparities in Connecticut

By Bo Zhao and Jennifer Weiner



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This report and the appendix tables are available at the New England Public Policy Center website: www.bostonfed.org/neppc.

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Measuring Municipal Fiscal Disparities in Connecticut

I. Introduction

Fiscal disparities exist when some municipalities face higher costs for providing a given level of public services or fewer taxable resources to finance those services than others. A municipality's economic and social characteristics can affect both costs and resources. For example, communities with higher unemployment tend to see more crime, raising the costs of providing police protection. On the other hand, wealthier communities have more available resources to tap for revenue. The disparities that stem from these underlying factors, which fall largely outside the control of local officials, are widely regarded as inequitable.¹

The potential for fiscal disparities in Connecticut is particularly high given the vast socioeconomic differences observed across the state's 169 cities and towns. Stated one *Wall Street Journal* article, "With its coastal mansions and abandoned factories, Connecticut has long grappled with sharp contrasts, a place of soaring wealth on the one hand, and a shrinking middle class and stagnant wages on the other."²

One goal, among many, of the Connecticut General Assembly's Municipal Opportunities and Regional Efficiencies (M.O.R.E.) Commission is to develop recommendations to address fiscal disparities that exist among the state's municipalities. In 2014 the Commission's Municipal Tax Authority Sub-Committee asked the General Assembly's Legislative Program Review and Investigations Committee (PRI) to undertake a Municipal Needs Capacity study similar to an earlier work performed by the Federal Reserve Bank of Boston's New England Public Policy Center (NEPPC) around communities in Massachusetts. To this end, PRI asked the NEPPC to share its expertise in this area. This report provides baseline information for PRI, the M.O.R.E. Commission, and other state and local policymakers in Connecticut, to rely upon as they consider these challenges.

The main purpose of this study is to measure *nonschool* fiscal disparities in Connecticut and to identify their key driving factors. We also examine the extent to which existing nonschool municipal grant programs address existing disparities. In Connecticut, municipalities provide a range of services including education, public safety, public works, human services, and general government. While educational fiscal disparities—and the effectiveness of the state's Education Cost Sharing (ECS) grant in addressing them—have received considerable attention in Connecticut, less is known about how municipalities' underlying characteristics affect their ability to provide other vital public services and the degree to which state policies ameliorate differences. This research should help to fill this void.

To measure fiscal disparities we rely on a framework used previously in Massachusetts and other states, known as the "cost-capacity gap" or "municipal gap."³ Under this framework, we measure the difference (gap) between the costs of providing nonschool public services ("costs") and the economic resources available to cities and towns to pay for those services ("capacity"). A larger gap signifies a worse fiscal condition. Importantly, our measures of costs and capacity, and therefore gap, do not represent actual spending or revenues, but instead are based on factors that are outside the direct control of local officials. Thus, under this framework, a town that engages

1 Yinger (1986).

2 Paletta (2014).

3 Bradbury and Zhao (2009); Green and Reschovsky (1993); Ladd, Reschovsky, and Yinger (1991); Yinger (1988).

in wasteful spending would have higher actual expenditures but the same underlying costs as an otherwise identical town that is better managed. Likewise, two communities that have access to the same amount of economic resources have identical capacity, even if one chooses to levy a higher tax rate than the other.

Our results show large nonschool fiscal disparities across cities and towns in Connecticut. These disparities are driven primarily by differences in revenue-raising capacity. Because municipalities in Connecticut rely almost exclusively on property taxes for own-source revenue, this is directly tied to the uneven distribution of the property tax base. The most resource-rich towns in Connecticut had, on average, a per capita revenue capacity that was more than eight times the average of the most resource-poor communities' capacity.

We found less stark, but still important, differences in costs across municipalities. Our analysis found that municipal costs are driven by five key factors outside the control of local officials: the unemployment rate, population density, private-sector wages, miles of locally maintained roads ("town maintenance road mileage"), and the number of jobs located within a community relative to its resident population ("jobs per capita"). The highest-cost group of communities had average per capita municipal costs that were 1.3 times the average per capita costs of the lowest-cost group of cities and towns.

The most fiscally challenged communities face both high costs and low revenue capacity, with an average per capita gap of over \$1,000 between fiscal year (FY) 2007 and FY 2011. At the other extreme, towns with the greatest property wealth have an average *negative* gap of nearly \$3,600 per capita during the same period.⁴

A number of states use grants to localities as a means of addressing fiscal imbalances across communities. **Our analysis of gaps compared with current nonschool grants reveals that these programs have a limited effect in reducing nonschool fiscal disparities in Connecticut.** In general, these grants are relatively small and their allocation does not fully consider the factors that affect municipal gaps.

II. Capacity

Local revenue capacity is defined as the ability of municipalities to raise revenues from their own resources. It should reflect resources that local governments are authorized to tax, not actual revenues raised, since localities can choose to tax resources at different rates.

Approach

To measure capacity, we use the "representative tax system" (RTS) approach. This approach calculates how much revenue each locality could raise from its underlying tax base if all localities used the same standard tax rate.⁵ Thus, variation in measured capacity stems from differences in resources, not choices about tax rates. In Connecticut, real and personal property taxes are virtually the only source of revenue that cities and towns are authorized to levy.⁶ Therefore, we compute capacity by applying a standard tax rate to the value of taxable real and personal property in each community captured by the equalized net grand list (ENGL).⁷ The standard tax rate

4 For this exercise, the statewide average municipal gap is normalized to equal zero.

5 We also consider an alternative measure of capacity that accounts for the potential impact of education aid on the resources available for nonschool purposes. Use of this alternative measure, which is presented in Appendix 1, does not substantively alter the relative position of municipalities in terms of capacity and gap.

6 In aggregate, property taxes accounted for about 94.4 percent of own-source revenue for Connecticut cities and towns in FY 2011, with the remaining 5.6 percent coming from real estate transfer taxes, program fees, and other charges for services, licenses, permits, fines, and other miscellaneous sources. There have been various proposals for additional local revenue-raising mechanisms, including the authorization of local options taxes and the elimination of the property tax exemption for certain tax-exempt institutions. While such options could generate additional revenue from untapped sources, this additional revenue is unlikely to be distributed evenly across municipalities (see Zhao (2010)). Future capacity and gap estimates should incorporate any adopted changes to municipal revenue-raising authority.

7 Specifically, Connecticut state law authorizes the local taxation of real estate, motor vehicles, business-owned personal property

is the rate that would need to be applied to statewide ENGL in order to raise revenues exactly equal to statewide nonschool spending.⁸ The computation of municipal capacity for two sample communities—one urban (New Britain) and one rural (Morris)—is shown in Table 1. The table shows that Morris, which has much higher per capita property wealth than New Britain, also has higher capacity.⁹

Table 1. Illustration of Municipal Capacity Calculation for Two Sample Municipalities
(FY 2011, 2012 dollars)

State of Connecticut			New Britain		Morris	
State Nonschool Spending (\$ per capita)	State ENGL (\$000s per capita)	“Standard” Tax Rate	ENGL (\$000s per capita)	Municipal Capacity (\$ per capita)	ENGL (\$000s per capita)	Municipal Capacity (\$ per capita)
(1)	(2)	(3)=(1)/(2)	(4)	(5)=(3) × (4)	(6)	(7)=(3) × (6)
1,382	153	9	56	506	219	1,973

Source: Authors' calculations.

Note: For simplicity, some figures displayed are rounded up to the nearest integer.

Results

Our analysis shows wide variation in per capita revenue capacity across Connecticut municipalities. Figure 1 shows how capacity varies geographically across the state. The highest capacity areas (darkest shades on the map) are located in the southwestern and northwestern corners of the state, and along the shoreline. Connecticut's lowest-capacity municipalities (the lightest shades on the map) are mostly scattered through the central and eastern portions of the state. In general, communities in northeastern Connecticut also tend to have fairly low per capita revenue capacity.

To show how capacity, costs, and municipal gaps vary based on municipal characteristics, we also present average results for different “types” of municipalities: wealthy, rural, suburban, urban periphery, and urban core. These categories, and the municipalities assigned to them, reflect classifications used in a 2004 report by the Connecticut State Data Center (CSDC) on the basis of population density, median family income, and poverty.¹⁰ Given the differences we observe among rural towns, we chose to divide this group into two sub-types: those with per capita taxable property values above the statewide average and those with per capita taxable property values below the statewide average (see Table 2).¹¹

Unsurprisingly, the wealthy towns exhibit the highest average per capita revenue capacity—close to \$5,000, reflecting these areas' extreme property wealth. This is more than eight times the

(for example, fixtures, machinery, and equipment), and some personal property owned by individuals (for example, unregistered motor vehicles). A town's grand list represents the locally assessed value of the above types of property within the town. A town's ENGL, which is computed by the state, is the town's grand list net of any tax-exempt properties (for example, real estate owned by the state or private colleges or hospitals), adjusted or “equalized” to account for differences in local assessment practices across towns.

8 Appendix 2 provides a description of how we construct statewide nonschool spending in the absence of a uniform chart of accounts for municipalities.

9 FY 2011 capacity, cost, and gap estimates and other information for Connecticut's 169 cities and towns are provided in Appendix Tables 1 and 2 (available at <http://www.bostonfed.org/neppc>).

10 The CSDC assigned towns to groupings based on the values of these variables as of 2000. It is possible that some individual towns would be assigned to a different category based on more recent data; however, we do not expect this would alter our overall conclusions. See Levy, Rodriguez, and Villemz (2004).

11 Categorization of individual towns can be found in Appendix Tables 1 and 2 (available at <http://www.bostonfed.org/neppc>).

average capacity of the lowest-capacity group (urban core). The above-average-property rural group had the second-highest average per capita capacity—near \$2,000, considerably less than the wealthy average but still more than three times higher than that of the lowest-capacity group. Towns in this rural sub-category were mainly concentrated in the northwestern corner of the state and along the shore, areas known for featuring many second homes. The suburban, urban periphery, and below-average-property rural groups had the next highest average capacities, respectively.

The low average per capita revenue capacity observed in the urban core group likely reflects multiple factors, including low values of existing taxable property, large populations (which yield lower per capita estimates), and large amounts of tax-exempt property, which is not included in ENGL.

Table 2. Municipal Capacity by Municipality Type
(FY2007–FY2011 population-weighted average, 2012 dollars)

	Wealthy	Above-Average-Property Rural	Suburban	Urban Periphery	Below-Average-Property Rural	Urban Core
<i>Capacity factor:</i>						
Per capita equalized net grand list (000s)	611	242	192	145	118	73
Per capita municipal capacity	4,989	1,979	1,572	1,181	965	596
Number of municipalities	8	21	61	30	42	7
Share of state total population (%)	5	4	26	35	10	18

Source: Authors' calculations and Levy, Rodriguez, and Villemz (2004).

Note: Rural municipalities with five-year average per capita equalized net grand list above the state five-year average are labeled as "above-average-property rural"; the remaining rural municipalities are labeled as "below-average-property rural." For simplicity, some figures displayed are rounded up to the nearest integer.

III. Cost

Municipal cost refers to the amount that each municipality must spend in order to provide a common quality and quantity of nonschool public services, such as general government administration, public works, and public safety, given its underlying socioeconomic and physical characteristics. It does not refer to actual spending, which reflects not only these uncontrollable cost factors, but also the choices and actions of local officials.

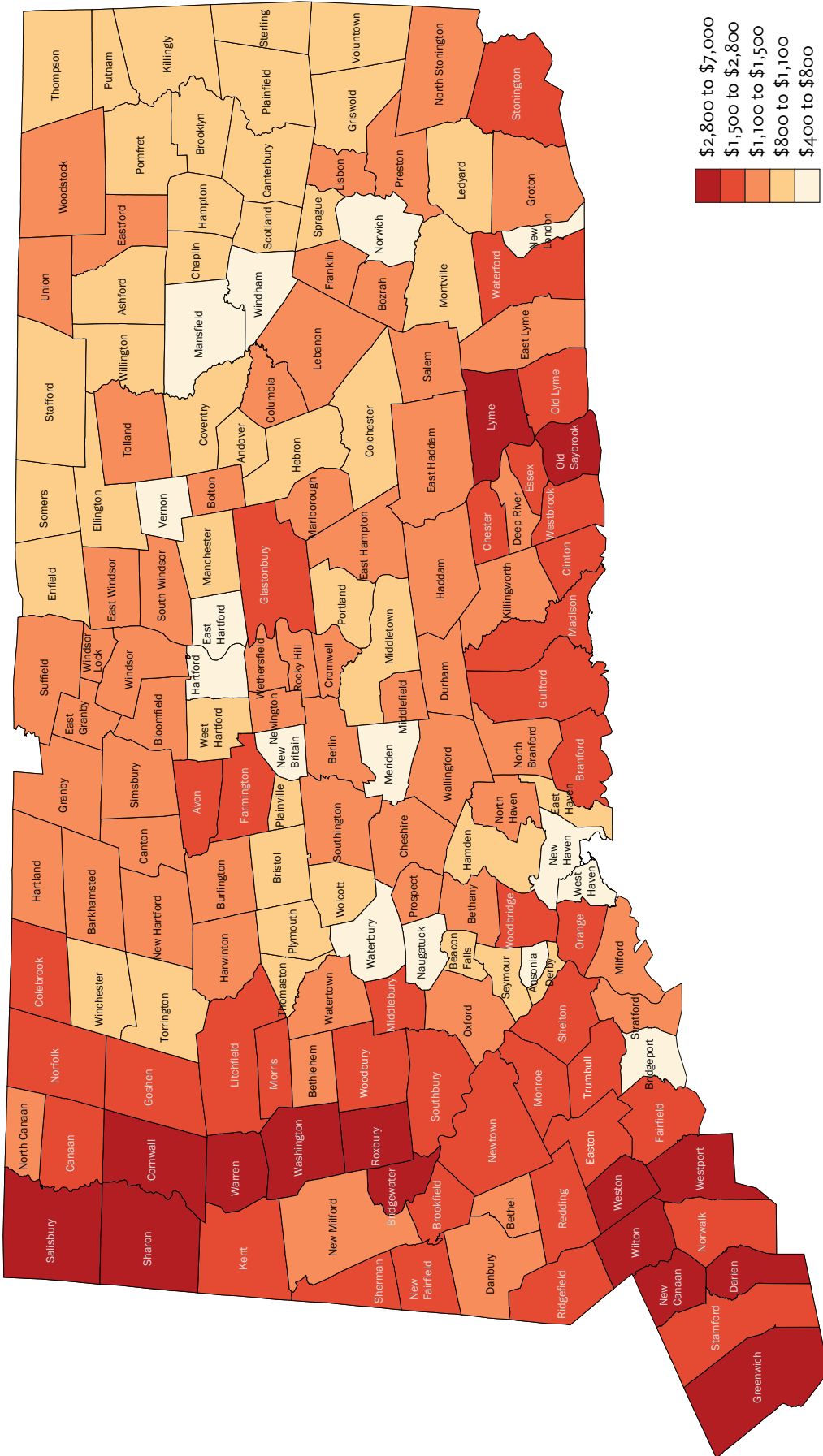
Approach

To estimate municipal costs, we use statistical analysis to identify cost factors that are strongly related to nonschool per capita spending levels. To isolate only factors that governments cannot control, we take into account and remove other factors that may lead to cross-community spending differences such as resources and preferences.¹² Our analysis identifies and assigns weights to five cost factors: the unemployment rate, population density, private-sector wage index, town maintenance road mileage, and jobs per capita.¹³

12 Specifically, the statistical analysis allows us to essentially hold the following constant across communities: economic resources (for example, ENGL, school and nonschool grants, income), other factors that may affect preferences (for example, demographic characteristics, political makeup of the electorate), factors that may affect operating efficiency (for example, form of government), as well as each town's arrangements regarding police (for example, paid town force, resident state trooper, or reliance on state police) and fire (for example, paid or volunteer) protection services. Results of the statistical analysis and a list of data sources used are provided in Appendix Tables 3 and 4 (available at <http://www.bostonfed.org/neppc>).

13 We also explored, as potential cost factors, the poverty rate, population size, percentage of the population that is foreign born, and percentage of housing units that are older rental units. These factors were not statistically significant in our analysis.

Figure 1. Municipal Capacity by Municipality
(FY2007–FY2011 average, 2012 dollars per capita)



Source: Authors' calculations.

Some additional examples help to illustrate how these factors can affect spending levels. For instance, higher population density tends to increase costs of fire protection, because housing that is closely packed creates a greater fire hazard than housing that is widely spaced. Local governments may need to pay more to attract and retain municipal employees in an area where private-sector workers receive higher wages than in an area where private-sector workers receive lower wages. The number of jobs per capita indicates cost pressures from employers and commuters who consume municipal services (including roads and public safety) along with local residents.

Table 3 illustrates how the cost measure is calculated for the same sample towns shown in Table 1, New Britain (urban core) and Morris (above-average-property rural).¹⁴ In these example communities, New Britain has a higher municipal cost per capita than Morris, and also differs in the contribution of the various cost factors to overall cost. For instance, the unemployment rate and population density are more important factors in New Britain, while road mileage plays a larger role in Morris.

Table 3. Illustration of Municipal Cost Calculation for Two Sample Municipalities
(FY 2011, 2012 dollars)

	Factor Weight (\$ per capita per cost factor unit)	New Britain		Morris	
		Factor Value	Contribution to Cost (\$ per capita)	Factor Value	Contribution to Cost (\$ per capita)
<i>Cost factors:</i>	(1)	(2)	(3)=(1) × (2)	(5)	(6)=(1) × (5)
Unemployment rate (%)	24.80	14.50	360	6.60	164
Population density (000s per square mile)	36.48	5.46	199	0.14	5
Private-sector wage index (%)	6.66	98.56	656	87.51	583
Town maintenance road mileage (per 000 population)	6.73	2.25	15	12.69	85
Per capita total jobs	217.92	0.35	76	0.17	37
Statewide constant	257	1.00	257	1.00	257
Municipal cost (\$ per capita) (total of above)			1,562		1,131

Source: Authors' calculations.

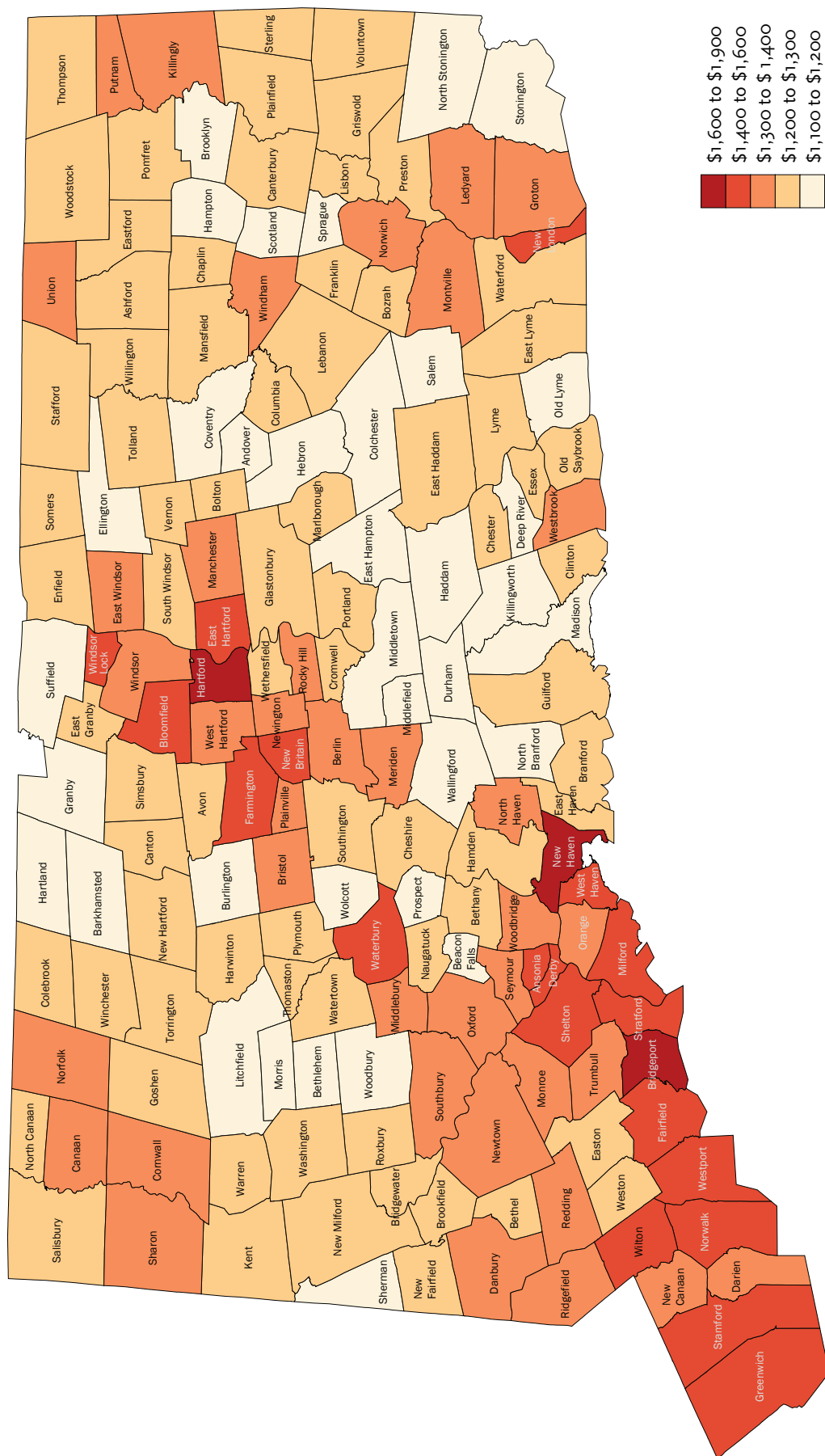
Note: The factor weight indicates how much per capita municipal cost would increase with a one-unit increase in each cost factor. For simplicity, some figures displayed are rounded up to the nearest integer.

Results

Our analysis shows that Connecticut municipalities do vary in the costs they face to provide a given level of public services. That said, the range of costs is much narrower than the range of revenue-raising capacity. Figure 2 shows the geographic distribution of per capita municipal costs. The highest-cost areas tend to be in southwestern Connecticut (including portions of Fairfield and New Haven counties) and in and around Hartford. The lowest-cost communities are somewhat more scattered geographically.

¹⁴ The statewide constant is calculated so as to ensure that statewide per capita municipal cost equals actual statewide per capita non-school spending. For an individual town, this constant can be interpreted as some minimum cost that all towns face, associated with maintaining a municipal government.

Figure 2. Municipal Cost by Municipality
(FY2007–FY2011 average, 2012 dollars per capita)



Source: Authors' calculations.

Looking at results by municipal type (see Table 4), we find that urban core municipalities, on average, have the highest per capita municipal cost (\$1,659). This is 1.3 times greater than the lowest-cost groups. The urban core communities have the highest unemployment rates, population densities, and number of jobs per capita. Wealthy towns have the second highest average cost (\$1,398), driven largely by high private-sector wages in their surrounding labor market areas. The two rural types have the lowest per capita costs. Although towns in this group tend to have higher road mileage relative to population, they tend to have lower values for all other cost factors.

Table 4. Municipal Cost by Municipality Type
(FY2007–FY2011 population-weighted average, 2012 dollars)

	Wealthy	Above-Average-Property Rural	Suburban	Urban Periphery	Below-Average-Property Rural	Urban Core
<i>Cost factors:</i>						
Unemployment rate (%)	5.89	5.95	6.11	8.37	7.36	13.78
Population density (000s per square mile)	1.07	0.38	0.82	2.21	0.34	6.48
Private-sector wage index (%)	115.29	92.42	98.79	13.100	92.34	98.33
Town maintenance road mileage (per 000 population)	5.64	10.23	6.51	3.44	8.43	2.03
Per capita total jobs	0.47	0.37	0.42	0.48	0.33	0.50
Per capita municipal cost	1,398	1,230	1,280	1,387	1,243	1,659
Number of municipalities	8	21	61	30	42	7
Share of state total population (%)	5	4	26	35	10	18

Source: Authors' calculations and Levy, Rodriguez, and Villemz (2004).

Note: Rural municipalities with five-year average per capita equalized net grand list above the state five-year average are labeled as "above-average-property rural"; the remaining rural municipalities are labeled as "below-average-property rural." For simplicity, some figures displayed are rounded up to the nearest integer.

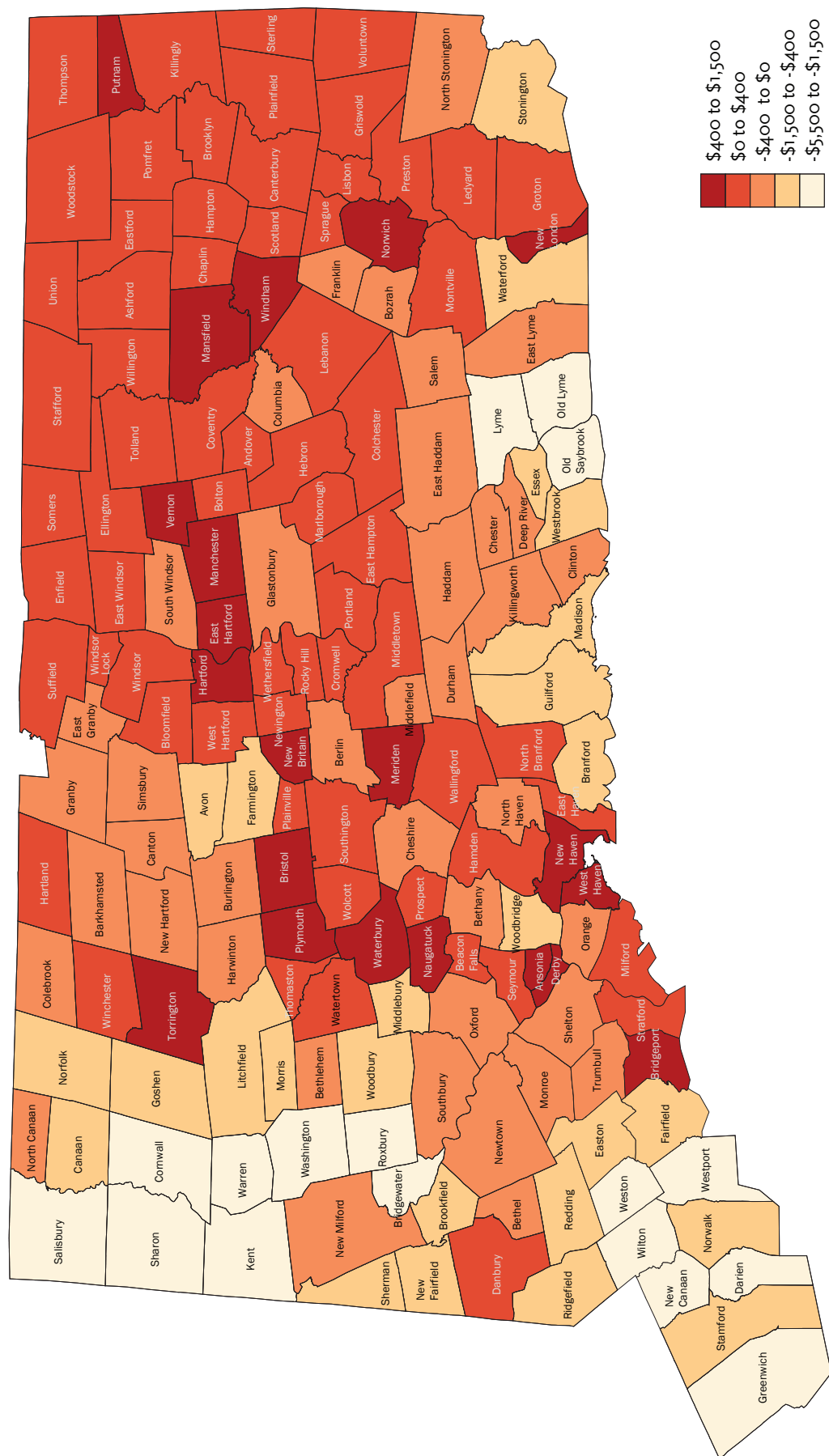
IV. Municipal Gaps

To calculate the per capita gap for each community, we subtract per capita revenue capacity from per capita cost. A positive gap indicates a municipality that lacks sufficient revenue-raising capacity to provide a given common level of municipal services, with larger gaps indicating a worse fiscal condition. By contrast, a negative gap represents a municipality that has more than enough revenue-raising capacity to provide this common level of municipal services. By design, the state-wide per capita gap is zero, which means that the 169 municipalities as a whole have just enough revenue-raising capacity to provide their nonschool public services.

Results

We find a wide range of municipal gaps among Connecticut's 169 communities, indicating significant fiscal disparities across the state. Although cost differences play a role, these gaps are largely driven by the uneven distribution of revenue capacity across the state. This, in turn, is the direct result of the uneven distribution of the property tax base.

Figure 3. Municipal Gap by Municipality
(FY2007–FY2011 average, 2012 dollars per capita)



Source: Authors' calculations.

A total of 78 Connecticut municipalities had a positive fiscal gap in FY 2011, representing 46 percent of the state's communities (and close to 60 percent of the state's population). Per capita fiscal gaps in these communities ranged from \$14 to over \$1,300. The state's remaining 91 communities had a negative fiscal gap in this year, ranging from just below zero to over \$5,100, in absolute terms.¹⁵

Figure 3 shows the geographic distribution of municipal gaps, with the darker shades representing larger gaps, or more challenging fiscal circumstances. The state's cities, with the notable exception of Stamford, tend to have the largest positive gaps. Most communities in northeastern Connecticut also have positive gaps. The largest negative gaps—representing communities with high revenue-raising capacity—are generally located in lower Fairfield County, the northwestern corner of the state, and certain communities along the shore in eastern Connecticut.

Table 5. Municipal Gap by Municipality Type
(FY2007–FY2011 population-weighted average, 2012 dollars)

	Wealthy	Above-Average-Property Rural	Suburban	Urban Periphery	Below-Average-Property Rural	Urban Core
Per capita municipal cost	1,398	1,230	1,280	1,387	1,243	1,659
Per capita municipal capacity	4,989	1,979	1,572	1,181	965	596
Per capita municipal gap	-3,591	-749	-291	206	278	1,063
Number of municipalities	8	21	61	30	42	7
Share of state total population (%)	5	4	26	35	10	18

Source: Authors' calculations and Levy, Rodriguez, and Villemz (2004).

Note: Rural municipalities with five-year average per capita equalized net grand list above the state five-year average are labeled as "above-average-property rural"; the remaining rural municipalities are labeled as "below-average-property rural." For simplicity, some figures displayed are rounded up to the nearest integer.

Looking at gaps by municipal type (Table 5) we see that the urban core group has the largest average positive gap (\$1,063), reflecting both high costs and low capacity. The urban periphery (\$206) and below-average-property rural (\$278) groups also feature positive municipal gaps. For the urban periphery communities, this is a result of both moderately high costs and moderately low capacity. By contrast, communities in this rural category have low average costs, but even lower capacity.

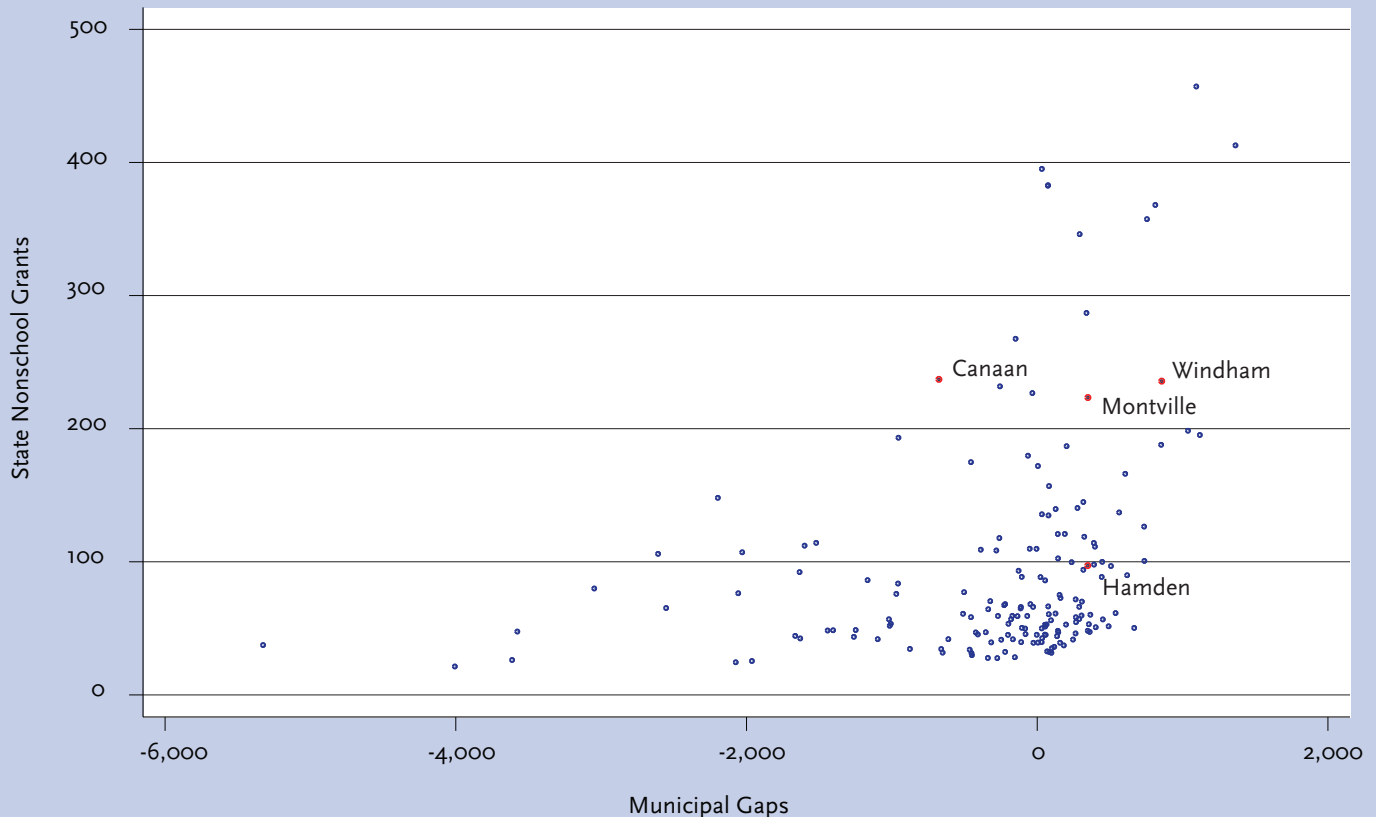
The remaining groups all have negative gaps. For the suburban category (-\$291), this reflects moderately low costs coupled with moderately high capacity. Communities in the above-average-property rural category (-\$749) have the lowest average per capita costs, but relatively high per capita capacity. However, neither group enjoys the same level of fiscal comfort as the wealthy category, with an average per capita gap of -\$3,591. Although communities in this group have relatively high per capita costs, these are substantially exceeded by their high revenue-raising capacity.

¹⁵ This extreme value belongs to Greenwich, which is an outlier even among the state's most fiscally advantaged communities.

V. Comparing Gaps to Nonschool Aid

State grants can be used to reduce fiscal disparities across localities. The state of Connecticut provides municipalities with a variety of grants that are not earmarked for education purposes, including the payment-in-lieu-of-taxes (PILOT) grants for state-owned property and private colleges and hospitals, Mashantucket Pequot-Mohegan Fund grants (“Pequot grants”), and the Town Aid Road program. In aggregate, however, these and other nonschool grants are considerably smaller than those dedicated to education.¹⁶

Figure 4. State Nonschool Grants Versus Municipal Gaps
(FY2007– FY2011 average, 2012 dollars per capita)



Source: Authors' calculations.

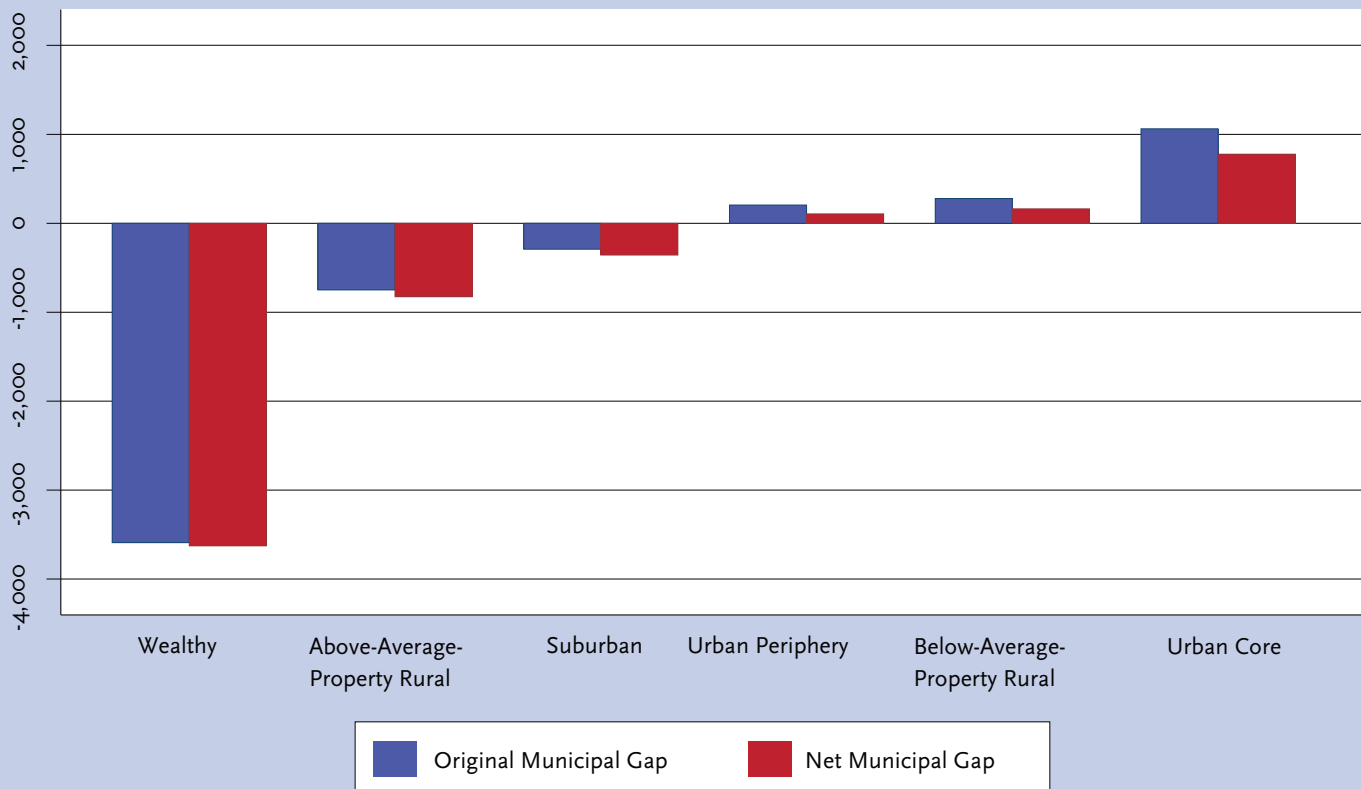
To assess how well—or not—existing aid programs address the fiscal disparities measured in our analysis, we first examine the distribution of nonschool grants in Connecticut by municipal gap.¹⁷ This distribution, shown in Figure 4, reveals that nonschool grants, while generally positively related to municipal gaps, do not always correspond directly to municipalities' fiscal health. Communities receiving similar aid payments often face different municipal gaps. For instance,

¹⁶ Total ECS grants per capita are more than five times total nonschool grants per capita for FY 2011. In aggregate, ECS grants accounted for nearly 26 percent of local education expenditures statewide, while aggregate state nonschool grants accounted for only 8 percent of local nonschool expenditures statewide.

¹⁷ We specifically included the following grants in our calculation: state-owned property PILOT, colleges and hospitals PILOT, Pequot grants, Town Aid Road, Local Capital Improvement Program (LOCIP), elderly tax relief circuit breaker program, property tax relief for veterans, DECD PILOT, DECD tax abatement, property tax relief for the disabled, and the property tax relief elderly freeze program.

between FY 2007 and FY 2011 the towns of Canaan and Windham both received average per capita grants of around \$235, although Canaan had an average gap of -\$676 and Windham an average gap of \$856. Furthermore, many communities with the same municipal gap also receive different amounts of nonschool grants. For example, Montville, with an average per capita gap of around \$350 received, on average, \$223 in per capita grants whereas Hamden, with a similar size gap, received only \$97.

Figure 5. Original Municipal Gap versus Net Gap by Municipality Type
(FY2007–FY2011 population-weighted average, 2012 dollars per capita)



Source: Authors' calculations and Levy, Rodriguez, and Villemz (2004).

Note: State nonschool grants include Veterans' Exemption, Elderly Circuit Breaker, Elderly Freeze, Disability Exemption, State Property PILOT, Colleges & Hospitals PILOT, LoCIP, Pequot Grants, Town Aid Road, DECD PILOT Grant, and DECD Tax Abatement.

We also calculate the so-called “net gap” for each community by subtracting each town’s per capita grant amount from its measured municipal gap. If grants played an equalizing role, we would expect to see larger grant amounts allocated to higher-gap communities and the differences between the gaps of different towns to narrow. When looking the impact of grants by municipality type, we do observe that municipalities with larger average gaps tend to receive larger average grant awards.¹⁸ For example, the urban core group received an average grant of \$286 while the average grant for the wealthy group was only \$36. This suggests that existing grants have a somewhat equalizing effect. However the effect appears to be modest, as illustrated by Figure 5, which

¹⁸ One exception is that the above-average-property rural category had a higher average grant than the suburban category, despite being more fiscally healthy, on average. This is mostly because the above-average-property rural towns receive more Town Aid Road grants, in per capita terms, than the suburban cities and towns.

compares original with net gap estimates for the six municipality types. Although differences are observed between the two measures, these are relatively small and the overall picture remains largely the same whether or not grants are taken into consideration.

The fact that existing nonschool grant programs do not substantially reduce the state's fiscal disparities is not a surprising result, as most nonschool grants in Connecticut do not have a direct equalization goal. The two largest grants (in terms of total dollars) are the colleges and hospitals and state-owned property PILOTs. The objective of both of these grants is to provide partial (or in some cases full) reimbursement to municipalities for property taxes they would have collected if the properties had not been exempt from taxation. In some respects, these grants represent an attempt to "level the playing field" between communities that host tax-exempt property and those that do not. However, their allocation does not take into account other factors that may affect revenue capacity or uncontrollable costs that vary across communities. Other nonschool aid programs, such as the Pequot grants and Town Aid Road, rely on distribution formulas that consider some, but not all, factors that influence municipal gaps.¹⁹

VI. Conclusions

In summary, there are significant nonschool fiscal disparities among Connecticut municipalities. These are mostly driven by the uneven distribution of the property tax base across the state, although cost differences also play a role. These imbalances persist after accounting for existing state nonschool grant programs.

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19 Specifically, state statute calls for a portion of the Pequot grants to be allocated based on a formula that considers population, ENGL, and income. Town Aid Road is allocated based on population and road mileage.

Appendix 1: Alternative Capacity Measure

In this alternative measure of capacity, we explicitly account for the locally generated resources that municipalities are required to devote to education. By doing so, we aim to address the perception that the large ECS grants flowing to certain communities free up significant capacity in those communities, making it available for nonschool services.

Approach

First, we need to measure the amount of revenue capacity required to be devoted to schools. It is the estimated portion of each municipality's minimum budget requirement (MBR) that must come from locally generated revenues (that is, property taxes), as opposed to coming from selected state or federal grants. The MBR requires towns to budget at least a minimum amount for education in each fiscal year. Failure to meet the MBR can result in penalties reducing the town's ECS grant.

Data on the portion of MBR that must come from locally generated revenues is not readily available and therefore must be estimated by subtracting appropriations supported by state or federal grants that are allowed to count towards this requirement. The Connecticut State Department of Education (SDE) provided the following guidance to municipalities in 2014 regarding the reporting of prior year appropriations used to determine MBRs for each town (emphasis in original):

The appropriations **must** be from local revenues, which may include state grants such as Education Cost Sharing and Transportation that are paid to the town and are not subject to pass through to the board of education and any federal or other sources of unrestricted revenue to the town. Examples include Federal Public Law 874 (Pupil Impact) Funds, non-progress school construction reimbursement payments and any fees and other revenues collected by the town. Do not include state or federal grants awarded directly to the board of education.

Based on this guidance, we estimate the local portion of MBR for a given municipality for a given year as the municipality's reported MBR minus the sum of the municipality's ECS grant, any transportation grants for public schools, and federal impact aid. The ECS grant is generally significantly larger than either of the two other grants. Communities receiving larger ECS grants are thus generally required to devote fewer locally generated revenues to meet the same MBR.

Second, we calculate total property tax capacity for both school and nonschool purposes for each municipality by multiplying the ENGL by a new standard tax rate. We compute the new standard tax rate by first adding statewide local nonschool spending to the statewide local portion of MBR and then dividing the sum by the statewide ENGL. The tax rate derived from this calculation will be larger than the tax rate computed in our original approach to measuring capacity, because the numerator is larger.

Finally, for the third step, we subtract a municipality's local portion of MBR from its total property tax capacity to compute the alternative municipal capacity measure.

We suggest employing a degree of caution when reviewing the results from the above-described approach. Based on our review of the MBR and grant data, the imprecise nature of the SDE guidance, and conversations with state officials and policy practitioners, we believe that some municipalities' MBR may include additional state or federal grants (possibly the result of historical legacy). Furthermore, we believe that there may be reporting inconsistencies across municipalities. For these reasons, it is very likely that we have overestimated the local portion of MBR for at least some municipalities and thus underestimated their capacity to fund non-school services.²⁰

20 For example, our calculated local portion of MBR for some communities is larger than the actual property tax levy for those communities.

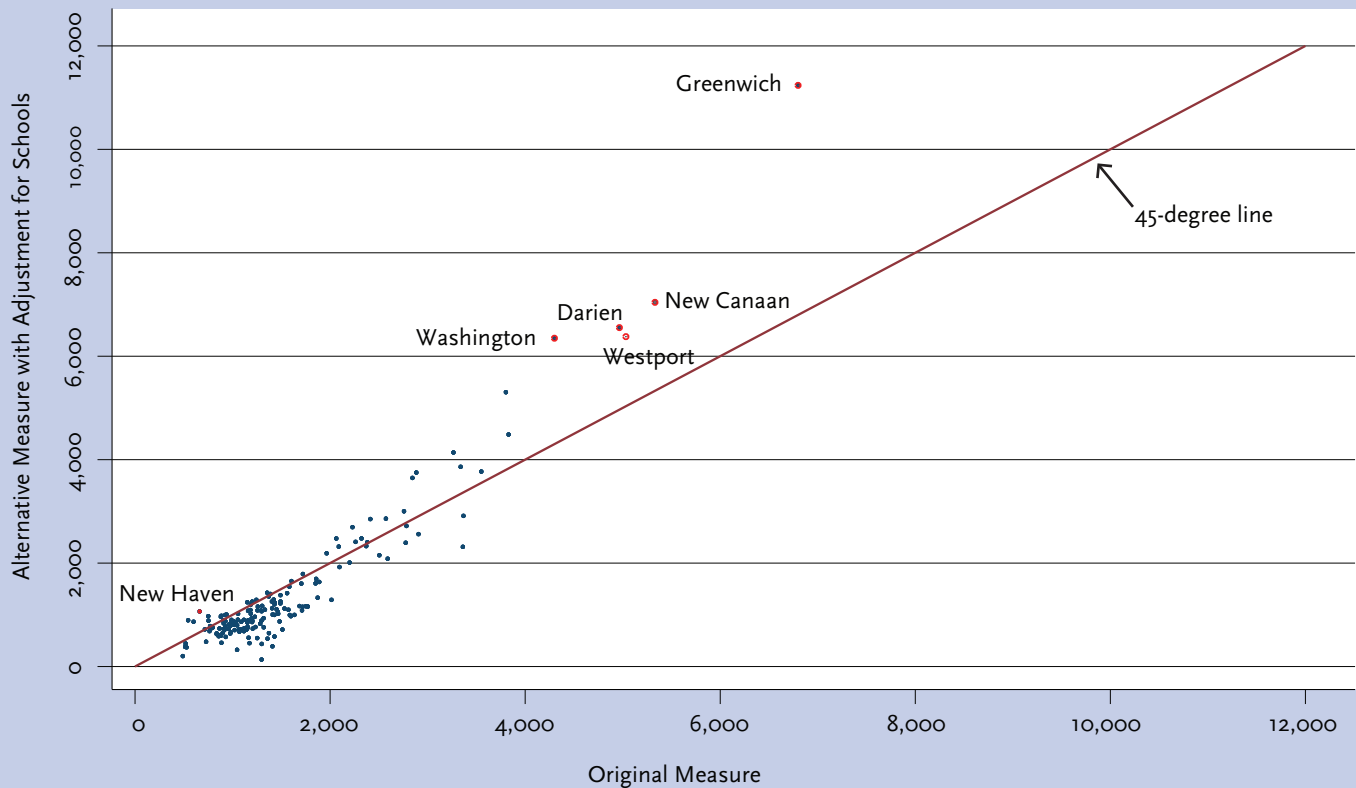
Results

Appendix Figure 1 compares this alternative measure of municipal capacity with the original measure. As the chart shows, there is a strong positive relationship between the two measures. In other words, low-capacity communities tend to remain low-capacity communities and high-capacity communities tend to remain high-capacity communities under either measure. Furthermore, most communities are clustered near the 45-degree line, suggesting that their revenue capacity changes very little between measures.

The largest differences, in absolute dollar terms, are observed for the state's wealthiest communities, which have higher measured capacity under this alternative approach. Although these communities are required to cover a high share of their MBRs from locally generated sources, these amounts are easily outweighed by the additional revenues they could raise from the higher standard tax rates employed in this alternative measure.

Appendix Figure 1. Comparison of Two Municipal Capacity Measures

(FY2007–FY2011 average, 2012 dollars per capita)



Source: Authors' calculations.

Other communities have fairly small absolute differences between the two measures, but fairly large percentage differences. For example, New Haven's measured capacity increases by roughly two-thirds under this alternative measure partly because the city's local portion of MBR is relatively low. Even so, the city still remains one of the state's lowest-capacity municipalities in per capita terms.

In summary, while use of this alternative capacity measure changes the absolute capacity and thus the fiscal gaps calculated for individual communities, most of these changes are relatively small and, importantly, the relative positions of different communities change very little. In other words, large fiscal disparities and their distributional pattern persist even when explicitly accounting for the role of schools in our nonschool capacity measure.

Appendix 2: Calculating Nonschool Spending

In the absence of a uniform chart of accounts for Connecticut municipalities, we computed a measure of nonschool spending that is relatively comparable across municipalities, using data from three sources: the Office of Policy and Management's (OPM) Municipal Fiscal Indicators report, the Comprehensive Annual Financial Reports (CAFRs) from individual Connecticut municipalities, and the U.S. Census Bureau's 2007 Census of Governments.

For each town and each year (FY 2007 to FY 2011), we started with operating expenditures as reported in the Municipal Fiscal Indicators report, compiled by OPM from individual town CAFRs. This figure represents total general fund expenditures minus expenditures for education. We then made three adjustments to this base measure of operating expenditures to improve comparability across towns.

First, we subtracted from operating expenditures any town general fund expenditures associated with water, sewer, or solid waste services, as estimated from individual town CAFRs.²¹ Towns vary significantly in the degree to which they provide these "utility" services and in the way they are accounted for in financial reports. Some towns, for example, offer water services, whereas in other (often rural) communities residents rely on private wells. Among towns that do provide water services, some may fund these services through their general fund (which would be included in the operating expenditures figure reported in the Municipal Fiscal Indicators reports), whereas others use a separate special revenue or enterprise fund for this purpose (which would not be included in operating expenditures).

Second, we added back to operating expenditures any public works spending reported in separate Town Aid Road and Local Capital Improvement Program (LoCIP) funds, as estimated from individual town CAFRs.²² Most Connecticut municipalities report Town Aid Road and LoCIP grants received from the state in their general funds, but about a third have separate special revenues funds for one or both of these programs, meaning that the expenditures of the funds are not included in the operating expenditures figure reported in the Municipal Fiscal Indicators report.

Third, we added back any expenditures associated with boroughs and certain special taxing districts that overlap with individual towns, as estimated from the 2007 Census of Governments data.²³ This adjustment was made to account for that fact that some towns fund fire or other municipal services through their general funds, whereas others rely on a special taxing district or borough. The 2007 Census of Governments provides the most recent and comprehensive fiscal information of special taxing districts and boroughs in Connecticut, since these entities are not required to report to the state.

After making these adjustments, as needed, for each individual town, we summed the adjusted operating expenditures across all towns to obtain total state nonschool spending.

21 We collected each town's general fund expenditures associated with water, sewer, and solid waste services from its FY 2012 CAFR. For 15 towns that had not made available to OPM electronic versions of their FY 2012 CAFRs, we collected the information from FY 2013 CAFRs. We then multiplied the ratio of general fund water, sewer, and solid waste expenditures to total operating expenditures in FY 2012 (or FY 2013) by FY 2007–FY 2011 operating expenditures to estimate general fund spending associated with these services in other years, assuming that the ratio remains constant over time.

22 We used an approach similar to the one described in the previous footnote for estimating Town Aid Road and LoCIP spending falling outside of the general fund in each year.

23 Here we estimated borough and special taxing district spending for each town in each year, based on the ratio of FY 2007 borough and special taxing district spending to FY 2007 operating expenditures of their home towns. We excluded homeowner associations, beach and lake association districts, and any special districts associated with water, sewer, or solid waste.

Acknowledgments

The authors thank Carrie Vibert, Catherine Conlin, and Scott Simoneau of the Staff Office of the Legislative Program Review and Investigations Committee for their assistance with data collection and for helping the authors to understand state and local government responsibilities, funding, and policy issues in Connecticut. They also thank New England Public Policy Center colleagues Yolanda Kodrzycki and Darcy Saas for discussions and support throughout the course of the project and Jingyi Huang for excellent research assistance, and Research Department colleagues Kathy Bradbury, Bob Triest, and Suzanne Lorant for helpful comments and editorial services.

The authors would also like to acknowledge the individuals listed below who provided data and technical assistance and shared institutional knowledge:

- Blum Shapiro: Joseph Kask, Managing Partner; James Harper, Director
- Capital Region Council of Governments: Lyle Wray, Executive Director
- Connecticut Association of Boards of Education: Patrice McCarthy, Deputy Director and General Counsel
- Connecticut Business and Industry Association: Pete Goia, Economist; Judy Resnick, Director, CBIA Education Foundation
- Connecticut Conference of Municipalities: Ronald Thomas, Director of Public Policy; George Rafael, Government Relations Manager; Robert Labanara, State Relations Manager
- Connecticut Council of Small Towns: Betsy Gara, Director; Kathryn Dube, Membership & Legislative Services
- Connecticut Economic Resource Center: Robert Santy, Executive Director; Alissa DeJonge, Research Director
- Connecticut Office of Fiscal Analysis: Alan Calandro, Director; Chris Perillo, Section Chief; Dan Dilworth, Associate Analyst
- Connecticut Office of Policy and Management: Benjamin Barnes, Secretary; Jaime Mills, Senior Advisor for Policy Analysis; Thomas Fiore, Fiscal and Program Policy Section Director; Dan Morley, Assistant Division Director, Intergovernmental Policy Division; William Plummer, Local Government Program Manager
- Connecticut Partnership for Strong Communities: David Fink, Policy Director; Katy Shafer, Policy Analyst
- Connecticut State Department of Education: Kevin Chambers, Education Consultant, Bureau of Grants Management; Bonne Pathman, Education Consultant, Bureau of Grants Management
- Connecticut Voices for Children: Wade Gibson, Director, Fiscal Policy Center; Kenneth Feder, Policy Analyst
- University of Connecticut Libraries: Michael Howser, Head of Digital Scholarship & Data Curation, Connecticut State Data Center Director
- Valley Council of Governments: Rick Dunne, Executive Director
- 1000 Friends of Connecticut: Bill Cibes, Co-Chair, Property Tax Work Group



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Chapter 5

Connecticut Fiscal Comparisons

A Report Prepared for the Connecticut Tax Panel
Presented September 30, 2015

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The views expressed here are those of the authors and not of the Georgia State University

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Executive Summary

This report contains two parts. The first section examines Connecticut's state and local revenue and expenditure portfolio, comparing Connecticut to neighboring states, as well as to selected other states around the country for fiscal years 2002, 2005, 2009 and 2012. The analysis uses U.S. Census Bureau data to compare revenues and expenditures on a per capita basis, and as a share of personal income. The second part of the report assesses Connecticut's rank on several key business climate and tax indices produced by national non-profit and advocacy organizations.

Part I

Key takeaways from the first part of the analysis: Depending on whether per capita or personal income measures are used, Connecticut is either a high- or low-spending and revenue state compared to others. The state has the highest personal income per capita in the country, which affects its rank when using personal income metrics. The state ranked 6th (highest) when measuring general revenues per capita but 45th (a low rank) when measuring general revenues as a percentage of personal income.

Even with its high wealth, the state was 8th in *tax revenue* as a percentage of personal income. The difference between the *general revenue* and *tax revenue* ranking can be explained by the state's relatively limited receipt of federal funds (48th in federal funds as a percentage of personal income), and the state's limited reliance on charges and other forms of non-tax revenues (50th in charges and miscellaneous general revenue as a percentage of personal income). Many states increasingly rely on user fees and charges, and this may be an area that warrants further investigation.

Connecticut's state and local revenue portfolio is dominated by the property tax and the individual income tax, which make up 46.5 percent of the state's total governmental revenues. In contrast, nationally, these two revenue sources make up around 30 percent of overall state and local government revenues. Connecticut ranks in the top ten states when considering these taxes on a per capita basis and also ranks in the top ten when considering these two tax types as a percentage of personal income. While almost all of Connecticut's neighboring states also derive significant revenues per capita from property taxes, there is substantially more variation in income tax receipts.

In terms of expenditures, a national concern is the pressure that health care, debt and long-term liabilities are placing on state budgets, potentially crowding out investment in physical and human capital. Based on the U.S. Census data, public welfare, a category dominated by Medicaid, does appear to be putting pressure on Connecticut's overall state and local expenditures; it grew by 45 percent on a real per capita basis between 2002 and 2012. At the same time, the state has continued to make significant investments in education and to some degree in infrastructure. Education expenditures grew by 22 percent (real per capita), and highway spending grew by eight percent on a real per capita basis, with a noticeable jump in investment between 2009 and 2012. Meanwhile, a number of other smaller segments of the state and local expenditure portfolio have seen declines in real per capita terms. Connecticut is also notable for carrying some of the

largest per capita unfunded long-term liabilities in the country – an issue that is not fully captured in the U.S. Census’ survey numbers.

Part II

Part II examines five tax and economic competitiveness indices, four of which are efforts to measure and compare states’ business climates, and one of which compares tax fairness across the income distribution. While the tax and economic competitiveness rankings often receive considerable media attention, to date, there is no research-based evidence that these indices actually predict economic growth in a state.

The Ernst & Young partnership with the Council on State Taxation (EY/COST) produces several metrics that measure tax revenues collected from businesses relative to the state’s private-industry gross state product or business tax base. The EY/COST report also looks at the services provided to businesses relative to the taxes paid. In general, Connecticut ranks quite low on their total effective business tax rate – 49th.

The state has a low effective tax rate in part because of its high private sector gross state product, which is highly correlated with the state’s overall wealth. The state also has a low effective tax rate because it collects a small share of tax revenues from businesses relative to individuals or households. This is particularly notable with respect to property taxes, where the EY/COST report finds that only 30 percent of the state’s property tax revenues come directly from businesses. By way of contrast, 40 percent of Massachusetts’ and 38 percent of New York’s property tax revenues come from businesses.

The Tax Foundation’s State Business Tax Climate Index (SBTCI) focuses on specific features of a state’s tax structure rather than aggregate taxes paid. In many respects, the index is heavily concerned with distortions in behavior that might be caused by a tax system. Recognizing that tax-induced distortions are inevitable, the authors propose a tax system that minimizes instances where (private) economic decisions are influenced, micromanaged, or even dictated by the tax system. The authors state that the “more riddled a tax system is with politically motivated preferences, the less likely it is that business decisions will be made in response to market forces.”¹ Such a principle is consistent with the Panel’s adopted principle of broad based, low rate taxation.

However, the SBTCI index is not without controversy. This controversy is particularly evident in the way the Tax Foundation constructs its personal income tax measure. Here, the SBTCI identifies three aspects as likely to be distortionary: the top marginal tax rate, a graduated statutory rate structure, and standard exemptions, which are treated as a zero percent bracket. Whether or not these are distortionary is the subject of some debate in the research literature. Additionally, under this approach, states that do not impose an individual income tax will have a perfect income tax score, and states with a flat, low rate tax with no deductions and exemptions will also receive a “high” score. This perfect score on a particular tax applies to other tax components that make up the final index score. With respect to the personal income tax, Connecticut’s rank is 32nd, which is well ahead of New York and New Jersey at 48th and 49th respectively, but also well below the

non-income tax states such as Alaska, Florida, Nevada, South Dakota, Texas, Washington, and Wyoming.

When the income tax score is combined with the other tax components (corporate income, sales, property, and unemployment insurance), Connecticut is in the bottom 10 of the SBTCI rankings, meaning the state has a less favorable business tax climate. The individual income, corporate income and sales tax component rankings place the state in the bottom 20, and the state's very low score on the property tax component causes Connecticut to drop into the bottom ten. The property tax component incorporates property taxes as a percentage of personal income and per capita, and unlike EY/COST it does not distinguish between the tax revenue collected from businesses versus individuals.

The Small Business and Entrepreneurship Council produces a small business tax index and Connecticut typically scores in the bottom ten states on this index as well. A low rank indicates a state that is less supportive of small business compared to other states. This score is heavily influenced by the top marginal personal (and corporate) income tax rates, regardless of the income level at which it is levied. This feature of the tax system makes up 63 percent of Connecticut's overall score.

The Beacon Hill Institute State Competitiveness Index (SCI) measures substantially more than tax competitiveness, capturing government and fiscal policy, as well as security, infrastructure, human resources, technology, business incubation, openness, and environmental policy. Connecticut was 40th lowest (a low rank means the state is less competitive) on this index in 2014. However, in other years, going back to at least 2006, the state was in the middle of the pack, scoring 24th in 2006 and 27th in 2013. Connecticut has very bifurcated rankings across the sub-indices. The state scores in the top ten states in terms of openness (5th), technology (8th) and security (6th), and in the upper ranks in human resources (15th). The state has a low rank on government and fiscal policy (47th), business incubation capacity (50th), infrastructure (41st), and environmental policy (42nd). The recent decline in rank appears to be driven in part by a change in the state's infrastructure rank.

Last, the Institute for Tax and Economic Policy's Tax Inequality Index ranks the distributional impact of Connecticut's tax structure – or the extent to which income inequality has narrowed or grown after the application of the state and local tax system. Here, some of the features that count against the state in the Tax Foundation's SBTCI index and the small business tax index, now count as positives. Connecticut is in the middle of the pack based on this index, ranking 26th. The state's progressive income tax structure helps offset the regressivity of its sales and property taxes.

Introduction

This report reviews a series of fiscal comparisons for the state of Connecticut. Specifically, this report examines:

- 1) Connecticut's state and local revenue and expenditure portfolio, as measured by the U.S. Census survey of state and local government finances. These fiscal measures are presented in per capita terms, as a percentage of personal income, relative to national averages, relative to other selected states, as well as across time.
- 2) The report then goes on to examine some commonly referenced tax-related indices, particularly the Ernst & Young/Council on State Taxation (EY/COST) report on total state and local business taxes, the State Business Climate Tax Index (SBCTI) developed by the Tax Foundation, and the Institute on Taxation and Economic Policy Tax Inequality Index (TII).

State policy-makers often express concern about a state's rank on a particular index; however, these metrics are typically only one part of a much bigger story. The very features that may cause a state to rank poorly on one index may cause it to rank highly on another. In general, this type of analysis can raise questions and indicate areas for further investigation but does not provide any definitive answers about a state's tax competitiveness.

Part I: Connecticut's Expenditure and Revenue Portfolio

Background

The analysis in this section reviews basic dimensions of Connecticut's expenditure and revenue portfolio using data collected annually by the U.S. Census Bureau in their *Survey of State and Local Finances*. Data on state and local expenditures and revenues are provided for Connecticut, the national average, and a selected number of other states. These comparison states include seven neighboring or northeastern "peers" such as Massachusetts and New York, three southern states, two natural resource-rich states, and a mid-Atlantic and mid-western industrial state.

Most tables provide information for a selected set of fiscal years (FY): 2002, 2005, 2009 and 2012, to display trends over time. These years reflect some key national shifts in state and local fiscal health since 2000. 2002 reflects the impact of the 2001 economic recession, which lasted from March through November of 2001. 2005 represents a period of economic growth for most states, while FY2009 captures the impact of the Great Recession. Finally, FY2012 is the most recent U.S. Census Bureau fiscal data available for state and local governments at the time research for this report was completed. To some extent, 2012 reflects a period of recovery from the recession; however, a confounding factor is that most states faced a fiscal shortfall in 2012 as the last of the federal funds administered through the American Recovery and Reinvestment Act of

2009 evaporated. The loss of federal funds might affect both the expenditure and revenue analysis as states made a series of policy adjustments to replace these funds.

Importantly, this analysis reviews the state *and local* expenditure and revenue portfolio. Because states often divide responsibilities differently between state and local governments, and states may have a variety of revenue sharing or redistributive policies, it is important to consider state and local spending and revenues together. That being said, local spending and revenues may vary significantly in different regions of a state with extremely wealthy or poor areas often skewing the statewide averages. An obvious regional example is the impact of New York City on New York state averages. Average state and local rankings thus need to be interpreted with caution.

Last, this section of the analysis is grounded in metrics of taxes per capita, as well as taxes as percentage of personal income. These metrics are important for different reasons. Personal income reflects the general wealth of a state and thus the resources available to support governmental services.² Wealth is also associated with increased *demand* for public services. For instance, wealthy neighborhoods tend to demand better schools and may want more public amenities, such as parks. Wealth, however, is not evenly distributed, and most state and local tax systems in this country are not particularly progressive.³ Looking at taxes per capita can give another snapshot of the impact of taxes as experienced by citizens in one state versus another, setting aside the overall wealth of a state. A weakness of both of these metrics is that they do not indicate the extent to which the impact of state and local taxes is exported to other states through mechanisms such as resource taxation or taxes on tourists.

Overall

Table 1 and 2 provide an overview of Connecticut's real direct expenditures and general revenue in 2002 and 2012. Table 1 examines the per capita numbers while table 2 assesses the measures as a percentage of personal income. Both tables include Connecticut's rank among the 50 states and the comparable average national numbers.⁴ Direct expenditures in these tables include all public sector expenditures, including utilities, liquor stores, and insurance trust expenditures, as well as debt financed activities. General revenues include all revenues except public enterprise revenues and debt.

Table 1 shows that on a real (inflation adjusted) per capita basis, Connecticut appears to be a high spending and high revenue state, and has been throughout the time period covered in this analysis. The state is 6th in per capita revenues and expenditures. On the revenue side, this rank is driven by the state's per capita taxes, which are ranked 4th highest in the nation, 57 percent above the national average. The state ranks 32nd in terms of receipt of federal grant-in-aid per capita, which likely reflects the somewhat redistributive nature of federal funds and the relative wealth of the state. The state ranks 50th in charges and miscellaneous general revenue per capita, an item worthy of some further exploration, given that many state and local governments increasingly rely on these kinds of revenues.

Table 1. Summary of State and Local General Revenue and Expenditure per Capita (2012 dollars)

State and Local (Real Per Capita)	CT per capita FY2002	Rank	National Average in FY2002	% Below/Above National Average in FY2002	CT per capita FY2012	Rank	National Average in FY2012	% Below/Above National Average in FY2012	% Change CT 2002- 2012	% Change National 2002-2012
Direct Expenditure	\$9,865	7	\$8,802	12%	\$11,560	6	\$10,027	15%	17%	14%
General Revenue	\$8,154	6	\$7,245	13%	\$10,059	6	\$8,276	22%	23%	14%
from Federal	\$1,444	32	\$1,550	-7%	\$1,782	32	\$1,862	-4%	23%	20%
from Own-Source	\$6,710	5	\$5,694	18%	\$8,277	5	\$6,414	29%	23%	13%
Taxes	\$5,408	2	\$3,892	39%	\$6,953	4	\$4,422	57%	29%	14%
Charges and Misc. Revenues	\$1,302	49	\$1,803	-28%	\$1,323	50	\$1,992	-34%	2%	11%

Sources: U.S. Census Bureau Annual Surveys of State and Local Government Finances and U.S. Census Bureau annual population estimates for applicable fiscal years.

Table 2. Summary of State and Local General Revenue and Expenditure as a Percentage of Personal Income

State and Local (As Percent of Personal Income)	Connecticut FY2002	Rank	National Average in FY2002	Connecticut FY2012	Rank	National Average in FY2012
Direct Expenditure	18%	47	22%	19%	47	23%
General Revenue	15%	49	18%	17%	45	19%
from Federal	3%	46	4%	3%	48	4%
from Own-Source	13%	48	14%	14%	36	15%
Taxes	10%	13	10%	12%	8	10%
Charges and Misc. Revenues	2%	50	5%	2%	50	5%

Sources: U.S. Census Bureau Annual Surveys of State and Local Government Finances and U.S. Census Bureau annual population estimates for applicable fiscal years; personal income is from the Bureau of Economic Analysis.

Table 2 shows expenditures and revenues relative to personal income. Connecticut ranks first in the nation in terms of personal income per capita at \$60,247 (see table 3), which causes the state's rank for its expenditures as a percentage of personal income to drop to the bottom of the pack (47th), and ensures a similar effect for its own source revenues as a percentage of personal income (36th) in 2012. By this measure the state is a low spending, low revenue state; however, in 2012, the state ranked 8th in taxes as a percentage of personal income. The differential rank between own source revenues and taxes reflects the state's relatively high reliance on taxes as revenue source as compared to federal funds or charges and miscellaneous general revenues. The state has also increased its reliance on taxes over the period of this analysis, moving from 13th in 2002, with taxes at ten percent of personal income, to 8th, with taxes at 12 percent of personal income. Meanwhile, Connecticut's reliance on charges and miscellaneous revenues has declined.

Comparing Connecticut's Expenditures

Expenditures Overview

Tables 3, 4, 5, and 6 provide data on state and local direct general expenditures relative to comparison states. Note that this measure of expenditures includes capital outlays, education services, social services, transportation, public safety, environment and housing, governmental administration, and interest on general debt obligations. However, unlike direct expenditures reported previously, this measure *excludes* utility and liquor store expenditures, as well as insurance trust fund outlays. Expenditures include those financed by debt and federal funds.

Direct expenditures also do not capture a state's long-term obligations or unfunded liabilities. A state might rank low in terms of expenditures as a percentage of personal income or expenditures per capita, but the state may have a significant debt burden, an unfunded pension or long term benefits liability, as well as practice other forms of fiscal cost shifting that can skew its ranking.⁵ This caveat is particularly important for Connecticut policy-makers to consider given that Connecticut is widely identified as having some of the most significant unfunded debt, pension, and health benefit liabilities in the country.⁶

Expenditures as Share of State Wealth

Table 3 provides insight into state and local government direct expenditures relative to the overall wealth of a state. The first part of the table compares expenditures as a percentage of personal income in Connecticut relative to other states and to the national average over time (2002, 2005, 2009 and 2012). Connecticut state and local direct general expenditures are also displayed as an index showing expenditures as a percentage of personal income relative to the national average (the US average is 100), which should give a sense of the magnitude of spending differences across the states. The second part of the table identifies personal income per capita in 2012, how other states compare to Connecticut in terms of wealth, and it shows expenditures per capita and unfunded pension liabilities. The rankings of personal income per capita suggest that Connecticut's

neighboring states are all relatively wealthy. With the exception of Vermont and Delaware, all of the neighboring states rank in the top 15 for personal income per capita.

The expenditure table shows that Connecticut state and local governments spend a lower percentage of the state's personal income than both the national average and almost all other states in all of the examined fiscal years. The state ranked 48th in 2012 on this metric. Of the comparison states, only New Hampshire and Virginia (both high wealth states) rank lower. Note, as discussed earlier, this low rank is somewhat influenced by the state's relatively low receipt of federal funds, and subsequent low expenditures on federal programs.

The share of personal income that Connecticut state and local governments spend has dropped somewhat between 2002 and 2012. Connecticut ranked 46th out of all states in state and local direct general expenditures as a percentage of personal income in 2002, while it ranked 48th in 2012. Its level of expenditures as a percentage of personal income has declined from 16.2 to 15.9 percent over the course of this decade. By this metric, when compared to the national average, Connecticut has remained a relatively stable low-spending state.

Some quick contrasts: New Jersey and Massachusetts have a similar profile, ranking high in wealth and low in expenditures as a percentage of wealth. Note, they both also rank high in terms of spending per capita – spending amounts almost identical to Connecticut's per capita outlays. In contrast, New York is both a high income and high per capita spending state, and it spends much more relative to its wealth, ranking 6th in spending as a percentage of personal income. On average, New York state and local governments spend 27 percent more per capita than Connecticut.

At the other end of the spectrum, states such as Virginia and New Hampshire have lower expenditures as a percentage of personal income. These states also rank relatively high in terms of personal income per capita (10th and 8th respectively), but have much more modest levels of per capita spending – ranking 30th and 32nd. In 2012, Virginia spent 20 percent less per capita than Connecticut. Like Connecticut, Virginia also received some of the lowest amounts of federal funds per capita of any state (49th). Virginia's taxes as a percentage of personal income rank 45th (see tables 8 and 9). As such, Virginia has a similar income profile, a similar federal funds profile, but a different own source revenue and tax profile from Connecticut.

Table 3: CT State and Local Direct General Expenditure as a Percent of Personal Income and Indexed with US Average = 100.0
Compared With Selected States, 2002, 2005, 2009, 2012

State	Expenditures in \$m in 2012	2002 % of PI	Index	2005 % of PI	Index	2009 % of PI	Index	2012 % of PI	Index	2012 %PI Rank	Personal Income Per Capita	Rank	Expenditures Per Capita	Rank	UAAL for State Pensions Per Capita for 2011
United States	\$2,587,317	18.9%	100	18.9%	100	20.7%	100	18.6%	100	****	\$44,194	****			
CONNECTICUT	\$34,372	16.2%	85.5	15.1%	79.8	16.7%	81.0	15.9%	85.2	48	\$60,247	1	\$9,574	7	\$5,885
Neighboring															
Delaware	\$9,043	19.0%	100.5	21.1%	111.6	22.5%	108.9	22.4%	120.1	8	\$44,029	22	\$9,860	6	\$870
Massachusetts	\$63,393	16.6%	87.8	17.0%	89.8	18.1%	87.8	16.8%	90.2	44	\$56,706	2	\$9,538	8	\$2,589
New Hampshire	\$10,034	14.1%	74.5	15.4%	81.3	16.2%	78.3	15.2%	81.3	50	\$50,091	8	\$7,597	32	\$3,252
New Jersey	\$83,030	15.7%	82.9	17.3%	91.6	18.6%	89.8	17.0%	91.4	40	\$54,952	4	\$9,367	9	\$4,786
New York	\$237,735	23.3%	122.9	23.1%	122.3	24.0%	116.2	22.4%	120.4	6	\$54,115	5	\$12,148	3	\$814
Rhode Island	\$9,292	19.4%	102.5	20.2%	106.8	20.5%	99.2	19.1%	102.5	24	\$46,258	15	\$8,847	15	\$4,230
Vermont	\$6,237	20.2%	106.9	22.0%	116.3	23.0%	111.5	22.4%	120.2	7	\$44,439	21	\$9,963	5	\$1,909
Southern															
Florida	\$134,653	16.8%	88.7	17.5%	92.5	19.9%	96.2	17.0%	91.1	42	\$41,048	28	\$6,970	44	\$1,024
North Carolina	\$70,264	18.8%	99.0	18.5%	97.6	19.9%	96.5	18.7%	100.3	26	\$38,523	38	\$7,205	40	\$311
Virginia	\$62,781	15.7%	82.8	15.4%	81.4	16.6%	80.6	15.7%	84.4	49	\$48,720	10	\$7,669	30	\$2,707
Resource Rich															
North Dakota	\$7,210	22.4%	118.5	21.3%	112.5	20.6%	99.5	18.3%	97.9	30	\$56,449	3	\$10,305	4	\$1,061
Wyoming	\$7,721	24.6%	129.7	25.1%	132.5	30.8%	148.9	25.5%	136.8	2	\$52,489	7	\$13,394	2	\$2,486
Other															
Ohio	\$91,423	19.7%	103.8	20.8%	109.7	21.8%	105.4	19.7%	105.5	20	\$40,261	30	\$7,919	28	\$1,496
Pennsylvania	\$107,002	18.5%	97.7	19.5%	103.2	19.7%	95.4	18.4%	98.6	27	\$45,581	19	\$8,383	20	\$3,264
Connecticut Rank		46		49		48		48							

Note: Direct General Expenditures include expenditures on Current Operations, Capital Outlays, Assistance and Subsidies, Interest on Debt, and Insurance Benefits and Repayments. Expenditures from Intergovernmental grants are excluded, as well as Utility, Liquor Store and Insurance Trust expenditures. The Bureau of Economic Analysis (BEA) defines Personal Income as the sum of net earnings by place of residence, property income, and personal current transfer receipts. UAAL or Unfunded Actuarial Accrued Liability is the difference between the actuarial value of assets and the actuarial accrued liabilities in a retirement plan. Source: U.S. Census, State and Local Finances; Bureau of Economic Analysis (Personal Income); Morningstar Rating (UAAL).

Distribution of Expenditures

Table 4 shows real per capita expenditures and their distribution across all major spending categories in Connecticut. A current pressing issue nationally is the extent to which expenditures on health care, debt, pensions, and other long-term liabilities are crowding out government investment in human and physical capital. While the Census data does not capture some of these dimensions, the pressure from Medicaid is evident in Table 4. While the distribution of expenditure shares only shows small changes overall between 2002 and 2012, spending on public welfare increased by 4.5 percentage points, reflecting a 45 percent real per capita increase. Medicaid vendor payments dominate this Census expenditure category, which also includes regular welfare, foster care, and food stamps.

More in depth analysis of Connecticut's Medicaid and other social welfare programs would be required to understand cost drivers. However, a quick peek at the underlying numbers (Table 5) suggests that Medicaid growth has perhaps affected Connecticut somewhat more than other states. Of total spending on public welfare in Connecticut in 2012, 80 percent was on vendor payments for Medicaid. Meanwhile Connecticut has shifted in rank from 20th in the nation in per capita spending on public welfare to 11th. Spending on vendor payments has grown by 57 percent in real per capita dollars, changing the state's rank from 17th to 14th. While understanding the particular drivers of Medicaid spending in the state would require more analysis; nationally, the growth in Medicaid over the decade actually reflects growth in caseload more than growth in health care expenditures.⁷ Notably, "other public welfare" programs have also grown substantially in Connecticut as well, and the state went from 37th to 14th in per capita rank, while cash payments have declined by 50 percent, dropping the state's rank from 10th to 21st.

The shift towards public welfare has come at the expense of a number of other spending areas, including highways. Notably, in Connecticut, education spending continued to grow as a share of overall expenditures, with 22 percent real per capita growth – and a 3.2 percentage point growth in share. Connecticut's per capita spending on education has increased more than the national increase of 8 percent.

Table 4: CT Per Capita State and Local Direct General Expenditures and Percent Distribution by Functional Category
Selected Fiscal Years: 2002, 2005, 2009, 2012 (2012 Dollars, GDP)

Function	2002		2005		2009		2012		% Change: 2002- 2012	Percentage point change
	\$ per Capita	% Distribution	\$ per Capita	% Distribution	\$ per Capita	% Distribution	\$ per Capita	% Distribution		
Education	\$2,808	32.4%	\$2,975	35.3%	\$3,452	36.5%	\$3,413	35.7%	22%	3.2%
Highways	\$438	5.1%	\$413	4.9%	\$434	4.6%	\$474	4.9%	8%	-0.1%
Public Welfare	\$1,241	14.3%	\$1,416	16.8%	\$1,669	17.6%	\$1,801	18.8%	45%	4.5%
Health and Hospitals	\$680	7.9%	\$571	6.8%	\$666	7.0%	\$579	6.0%	-15%	-1.8%
Police and Fire	\$419	4.8%	\$412	4.9%	\$440	4.7%	\$470	4.9%	12%	0.1%
Sewage and Sanitation	\$229	2.6%	\$234	2.8%	\$262	2.8%	\$271	2.8%	18%	0.2%
Local Parks and Recreation	\$108	1.2%	\$92	1.1%	\$77	0.8%	\$79	0.8%	-27%	-0.4%
Financial Administration and General Control	\$191	2.2%	\$175	2.1%	\$176	1.9%	\$155	1.6%	-19%	-0.6%
Interest on General Debt	\$511	5.9%	\$471	5.6%	\$523	5.5%	\$531	5.5%	4%	-0.4%
Other Expenditure	\$2,027	23.4%	\$1,674	19.8%	\$1,763	18.6%	\$1,801	18.8%	-11%	-4.6%
TOTAL	\$8,653	100.0%	\$8,436	100.0%	\$9,464	100.0%	\$9,574	100.0%	11%	0.0%

Note: U.S. data excludes Washington DC. Sewage and Sanitation includes Sewerage and Solid Waste Management. Other Expenditure includes Employment Security, Veterans Services, Airports, Parking facilities, Sea and inland port facilities, Corrections, Protective inspection and regulation, Natural resources, Housing and community development, Judicial and legal, General public buildings, other governmental administration, and General expenditure. Source: US Census Bureau: Census of Governments (Expenditures), Population

Table 5. Connecticut's Public Welfare Real Expenditure per Capita

	2002			2012			% Change 2002-2012
	Expenditures per Capita	Rank	Share	Expenditures per Capita	Rank	Share	
Public welfare	\$1,241	20	****	\$1,801.26	11	****	****
Cash assistance payments	\$115	10	9%	\$57.50	21	3%	-50%
Vendor payments	\$924	17	74%	\$1,446.79	14	80%	57%
Other public welfare	\$202	37	16%	\$296.97	14	16%	47%

Source: U.S. Census Bureau

Functional Spending Comparisons

Table 6 examines Connecticut's functional expenditures expressed in an index where 100 equals the United States state and local per capita expenditure average. The story is much the same as previous. The state's education score of 109.8 for 2002 thus means that the state and its local governments spent 9.8 percent more per capita on education than the national average. The data show how Connecticut's spending has changed over time, as compared with the national average. It is important to note that Connecticut's per capita income increased by just 0.4 percent more than the US average between 2002 and 2012, so any growth in expenditures relative to the national average in this decade are not due to faster per capita income growth in the state.

Connecticut's numbers show a substantially higher investment in selected policy areas, most notably in education and public welfare. The state moved from 9.8 percent above the national average in education to 23 percent above, a 13.5 percentage point change. The state also saw a 14 percentage point increase in its investment in public welfare relative to the national average. Meanwhile the state also saw a decline in investment in health and hospitals, as well as in local parks and recreation. Both of these categories are often idiosyncratic to state and local governance arrangements and further analysis would be required to understand the implications of these shifts.

Table 7 examines how the share of education and public welfare expenditures have changed in Connecticut relative to the comparison states. Some observations: growth in expenditures per capita in Connecticut has been less than its regional peers over the decade, but is very much in alignment with the national average. Connecticut's per capita expenditure growth is greater than in states such as Florida and North Carolina.

Connecticut's share of spending on education grew by 3.2 percentage points; greater than the national share, which declined by 0.7 percentage points, and greater than all comparison states. Connecticut's neighboring states spent on average around 35 percent of direct expenditures on education and Connecticut has moved from below the regional average to above it. Meanwhile Connecticut's 4.5 percentage point growth in share of spending on public welfare is large relative to the 2.5 percent national growth in share, but is surpassed by several neighboring states including Massachusetts (10 percentage point growth), Delaware (7.8) and New Jersey (5.8). However, at 18.8 percent of total spending, Connecticut's overall share of spending on public welfare remains modest compared to peer states. Compared to southern states, particularly Florida and Virginia, this share is high.

Most of the state's spending goes into education and public welfare (largely Medicaid). In 2012: 54.5 percent of state and local spending was on these categories, and since 2002, these areas have grown at the expense of other parts of the state and local expenditure portfolio. Notably, spending on local parks and recreation, financial administration, and on health and hospitals have actually declined on a real per capita basis over the decade, while spending on highways has only grown by 8 percent over the period.

Untangling some of the underlying issues in this funding shift would require further analysis. In particular, the shift away from hospitals often reflects the closing of public general or mental health hospitals and the transfer of patients to community settings (in the case of developmental disability or mental health) or to private hospitals. Such shifts can simply reflect a shift in where the funding “hits” the state budget – away from hospitals and towards the vendor payments coming out of the Medicaid system. Assuming that the decline in health and hospitals does simply reflect a shift over to Medicaid, we can deduct the decline in health and hospitals from the change in public welfare spending. The 2002-12 (net) growth in public welfare would be still be significant - 37 percent as compared to 45 percent previously - in real per capita dollars even if all of the change in health and hospitals were attributable to a shift to Medicaid and subsequently the public welfare category.⁸

Table 6: CT Per Capita State and Local Direct General Expenditure Indices
Indexed with US Average = 100.0
Selected Fiscal Years: 2002, 2005, 2009, 2012

Function	2002	2005	2009	2012
Education	109.8	111.7	118.2	123.3
Local Schools	120.5	120.6	127.6	139.0
Higher Education	82.5	90.2	91.8	87.7
Other	105.2	103.2	138.5	130.9
Highways	88.3	84.5	82.1	93.8
Public Welfare	102.7	101.5	112.6	116.4
Health and Hospitals	107.6	86.7	87.0	75.7
Police and Fire	107.7	101.6	94.5	105.8
Sewage and Sanitation	105.8	104.6	101.8	112.1
Local Parks and Recreation	83.2	74.8	54.4	66.4
Financial Administration and General Control	136.3	123.5	126.7	124.9
Interest on General Debt	157.8	150.2	146.0	152.6
Other Expenditure	149.5	123.9	117.8	130.6
TOTAL	116.2	108.6	110.6	116.2

Note: U.S. data excludes Washington DC. Sewage and Sanitation includes Sewerage and Solid Waste Management. Other Expenditure includes Employment Security, Veterans Services, Airports, Parking facilities, Sea and inland port facilities, Corrections, Protective inspection and regulation, Natural resources, Housing and community development, Judicial and legal, General public buildings, other governmental administration, and General expenditure. Source: Census of Governments (Expenditures)

Table 7: A Comparison of Connecticut Direct General Expenditures
per Capita, and the share of spending on Education and Public Welfare
Compared With Selected States, 2002, 2005, 2009, 2012

State	2002			2005			2009			2012		
	Total Expenditures per Capita	% Spent on Education	% Spent on Public Welfare	Total Expenditu res per Capita	% Spent on Education	% Spent on Public Welfare	Total Expenditur es per Capita	% Spent on Education	% Spent on Public Welfare	Total Expenditu res per Capita	% Spent on Education	% Spent on Public Welfare
All States (US)	\$6,023	34.3%	16.2%	\$6,793	34.3%	18.0%	\$8,136	34.1%	17.3%	\$8,242	33.6%	18.8%
CONNECTICUT	\$6,996	32.4%	14.3%	\$7,378	35.3%	16.8%	\$8,998	36.5%	17.6%	\$9,574	35.7%	18.8%
Neighboring												
Delaware	\$6,643	36.2%	13.1%	\$8,098	35.5%	16.4%	\$9,190	35.8%	18.4%	\$9,860	36.9%	20.9%
Massachusetts	\$6,596	31.8%	13.5%	\$7,581	31.1%	20.8%	\$9,129	30.6%	21.8%	\$9,538	31.0%	23.6%
New Hampshire	\$4,998	38.5%	16.2%	\$6,047	36.9%	20.7%	\$7,090	37.4%	20.6%	\$7,597	38.3%	19.1%
New Jersey	\$6,359	37.8%	12.2%	\$7,762	39.6%	16.7%	\$9,325	38.7%	16.3%	\$9,367	37.9%	18.0%
New York	\$8,419	29.6%	20.2%	\$9,623	29.2%	23.2%	\$11,514	31.1%	20.1%	\$12,148	30.1%	21.4%
Rhode Island	\$6,338	32.3%	24.7%	\$7,388	31.9%	26.4%	\$8,465	32.9%	23.7%	\$8,847	33.7%	24.3%
Vermont	\$6,183	38.4%	19.9%	\$7,601	40.3%	23.8%	\$9,112	39.9%	23.9%	\$9,963	38.1%	24.0%
Southern												
Florida	\$5,217	29.6%	14.4%	\$6,351	28.3%	15.6%	\$7,421	28.5%	14.4%	\$6,970	27.8%	17.0%
North Carolina	\$5,349	34.3%	17.2%	\$5,964	35.9%	17.4%	\$6,963	35.5%	16.8%	\$7,205	33.7%	18.0%
Virginia	\$5,389	38.6%	11.9%	\$6,142	37.8%	14.5%	\$7,334	38.7%	15.0%	\$7,669	36.9%	16.1%
Resource Rich												
North Dakota	\$6,090	33.7%	17.1%	\$6,729	36.8%	16.4%	\$8,238	34.9%	15.7%	\$10,305	32.6%	13.3%
Wyoming	\$7,707	33.2%	9.9%	\$9,831	31.1%	11.0%	\$13,379	32.8%	9.8%	\$13,394	32.6%	10.1%
Other												
Ohio	\$5,877	35.2%	18.3%	\$6,802	35.3%	19.6%	\$7,736	35.3%	20.0%	\$7,919	35.6%	21.9%
Pennsylvania	\$5,945	33.1%	19.8%	\$7,016	34.6%	23.4%	\$8,011	34.0%	22.5%	\$8,383	33.0%	23.0%

Note: Direct General Expenditures include expenditures on Current Operations, Capital Outlays, Assistance and Subsidies, Interest on Debt, and Insurance Benefits and Repayments. Expenditures from Intergovernmental grants are excluded, as well as Utility, Liquor Store and Insurance Trust expenditures. Source: Census of Governments: State and Local Government Finances (Revenues); Population

Comparing Connecticut's Revenues

Revenue Mix

Table 8 presents data on the share of each revenue source relative to total state and local general revenue for Connecticut. These shares are compared to the comparison states and the national average. The percentage indicates the share of a particular source of revenue relative to total general revenue, the index number allows for a comparison of magnitude of dependence relative to the national average (the US average equals 100), and the ranking on the bottom row of the table is a rank of relative dependence on a particular revenue source relative to the 49 other states. Table 9 shows a different snapshot of the same data with per capita revenues from each source, and Connecticut's rank relative to peer states. Both tables tell a similar story and are useful to discuss simultaneously.

The tables show that the state and local governments in Connecticut rely heavily on the property tax. The state ranked 3rd in its reliance on this tax, with 26 percent of revenue originating from this source, compared to slightly over 17 percent nationally. Just two other states; New Jersey and New Hampshire, rely on the property tax to a greater extent, at 30.7 and 36.2 percent respectively. While other neighboring states are not necessarily as reliant on the property tax as Connecticut, all neighboring states (with the exception of Delaware) have high property taxes relative to the rest of the nation – all rank in the top ten. That being said, there are some significant differences in this range. Connecticut is 28 percent higher in property taxes per capita than Massachusetts (ranked 9th).

Connecticut also relies heavily on individual income taxation. Only Maryland relies on the income tax to a greater extent, at 22.3 percent of its general revenue. In Connecticut, 20.4 percent of state and local government revenue is derived from the individual income tax, compared to just 11.8 percent nationally. Again, the differences at the top are notable. Connecticut collects 14 percent more income taxes per capita than Massachusetts (ranked 4th) and 63 percent more than New Jersey (ranked 9th).

As the wealthiest state in the union, Connecticut receives a relatively small amount of its state and local general revenue in intergovernmental transfers from the federal government. Connecticut's state and local governments rely on federal aid for just 17.7 percent of total general revenues, compared to a national average of 22.5 percent. Federal aid forms a smaller share of total revenues in just two other states: New Jersey (17.2 percent) and Virginia (17.6 percent). That being said, New York, also one of the wealthiest states as measured by income per capita, is one of the top states in terms of federal aid per capita. Vermont, Rhode Island, and Massachusetts also are significant beneficiaries of federal funding according to this measure.

Another notable finding is Connecticut's relatively limited reliance on user fees and other charges - just 11.3 percent of total state and local general revenue, versus 22.1 percent nationally. This is particularly interesting in light of a three-decade long trend between the 1970's and 2000's, in which local governments have increasingly come to rely on

Table 8: Percentage Distribution of State and Local General Revenue by Source
Indexed with US Average = 100
Compared With Selected States, Fiscal Year: 2012

State	Federal Aid		Property Taxes		General Sales Tax		Selective Sales Tax		Individual Income Taxes		Corporate Income Taxes		Other Taxes		Interest Earnings		Charges and Miscellaneous General Revenue		Motor Vehicle License	
	%	Index	%	Index	%	Index	%	Index	%	Index	%	Index	%	Index	%	Index	%	Index	%	Index
All States (US)	22.5%	100.0	17.2%	100.0	12.1%	100.0	6.2%	100.0	11.8%	100.0	1.9%	100.0	3.3%	100.0	2.0%	100.0	22.1%	100.0	0.9%	100.0
CONNECTICUT	17.7%	78.8	26.1%	152.0	10.5%	86.5	8.1%	129.6	20.4%	172.6	1.7%	92.3	1.7%	53.6	1.8%	93.3	11.3%	51.2	0.6%	61.7
Neighboring																				
Delaware	21.5%	95.5	7.9%	46.1	0.0%	0.0	5.7%	92.3	14.2%	120.0	3.0%	161.1	16.3%	497.7	1.9%	97.9	28.9%	130.6	0.6%	60.1
Massachusetts	22.6%	100.6	21.3%	123.8	7.9%	65.2	4.0%	63.5	18.6%	157.3	3.1%	165.1	2.2%	68.3	3.0%	151.3	16.8%	75.8	0.6%	62.4
New Hampshire	19.6%	87.1	36.2%	210.9	0.0%	0.0	9.3%	149.3	0.9%	7.3	5.5%	293.2	3.1%	93.4	4.5%	228.5	20.0%	90.3	1.0%	106.4
New Jersey	17.2%	76.3	30.7%	178.8	9.6%	79.3	4.8%	77.6	13.2%	111.6	2.3%	121.2	2.5%	77.4	1.6%	79.8	17.4%	78.8	0.7%	76.5
New York	21.7%	96.5	18.7%	108.8	9.8%	80.8	5.2%	83.1	18.6%	157.6	4.1%	218.9	2.5%	77.8	2.0%	102.4	16.7%	75.6	0.6%	65.5
Rhode Island	25.3%	112.6	23.8%	138.6	8.5%	70.5	6.7%	107.7	11.0%	92.7	1.2%	66.2	1.2%	36.7	3.8%	192.5	17.9%	80.8	0.6%	61.8
Vermont	31.5%	140.0	21.8%	126.9	5.6%	45.8	10.0%	161.2	9.5%	79.9	1.5%	80.9	1.4%	44.2	2.0%	103.0	15.7%	70.9	1.0%	108.3
Southern																				
Florida	20.4%	90.8	18.4%	107.4	15.9%	131.4	8.6%	138.5	0.0%	0.0	1.5%	79.6	3.0%	91.4	1.6%	83.9	29.5%	133.3	1.0%	104.2
North Carolina	24.1%	107.3	12.4%	72.1	10.9%	89.8	5.9%	94.9	14.5%	122.2	1.7%	90.0	1.8%	53.9	1.2%	63.7	26.7%	120.6	0.9%	93.0
Virginia	17.6%	78.1	18.5%	107.7	7.4%	61.3	6.1%	98.5	16.7%	140.8	1.4%	72.5	3.1%	93.4	2.5%	126.0	25.9%	117.0	1.0%	103.5
Resource Rich																				
North Dakota	19.0%	84.3	7.6%	44.3	12.3%	101.7	4.7%	76.2	4.2%	35.1	2.1%	109.8	31.8%	972.3	2.3%	116.9	15.1%	68.1	1.0%	108.7
Wyoming	26.6%	118.2	15.0%	87.4	13.7%	112.8	1.8%	29.6	0.0%	0.0	0.0%	0.0	12.3%	375.4	7.6%	388.3	22.1%	99.9	0.9%	99.9
Other																				
Ohio	25.1%	111.7	14.7%	85.4	10.9%	90.2	5.5%	87.9	14.5%	122.8	0.4%	20.1	3.8%	116.2	1.6%	81.2	22.6%	102.3	0.9%	94.5
Pennsylvania	22.7%	100.8	16.5%	96.1	9.5%	78.3	8.3%	132.9	13.8%	116.9	2.1%	109.8	4.1%	127.0	1.9%	98.4	20.3%	91.8	0.8%	86.3
Connecticut Rank	48		3		30		12		2		18		40		28		50		43	

Note: Charges and Miscellaneous General Revenue do not include Interest Earnings, which are in a separate column. Selective Sales taxes include Motor Fuels, Alcoholic Beverages, Tobacco Products, Public Utilities, and 'Other Selective Sales'.

Source: Census of Governments: State and Local Government Finances (Revenues)

Table 9: Per Capita Distribution of State and Local General Revenue by Source
and Ranking of Selected States, Fiscal Year: 2012

State	Federal Aid		Property Taxes		General Sales Tax		Selective Sales Tax		Individual Income Taxes		Corporate Income Taxes		Other Taxes		Interest Earnings		Charges and Miscellaneous General Revenue		Motor Vehicle License	
	Per Capita	Ranking	Per Capita	Ranking	Per Capita	Ranking	Per Capita	Ranking	Per Capita	Ranking	Per Capita	Ranking	Per Capita	Ranking	Per Capita	Ranking	Per Capita	Ranking	Per Capita	Ranking
All States (US)	\$1,862	***	\$1,421	***	\$1,003	***	\$515	***	\$979	***	\$156	***	\$270	***	\$162	***	\$1,830	***	\$78	***
CONNECTICUT	\$1,782	32	\$2,626	2	\$1,054	18	\$811	4	\$2,053	2	\$175	12	\$176	31	\$184	20	\$1,139	50	\$58	35
Neighboring																				
Delaware	\$2,061	18	\$759	45	\$0	47	\$551	18	\$1,361	8	\$292	6	\$1,559	4	\$184	19	\$2,769	3	\$54	39
Massachusetts	\$2,187	15	\$2,055	9	\$764	38	\$382	43	\$1,799	4	\$301	5	\$216	26	\$287	8	\$1,619	33	\$57	36
New Hampshire	\$1,398	48	\$2,583	3	\$0	47	\$663	12	\$62	42	\$395	3	\$218	25	\$319	5	\$1,424	44	\$71	26
New Jersey	\$1,632	40	\$2,920	1	\$914	26	\$459	29	\$1,255	9	\$218	8	\$240	20	\$149	30	\$1,657	31	\$68	28
New York	\$2,826	4	\$2,431	4	\$1,274	12	\$673	10	\$2,427	1	\$538	2	\$331	12	\$261	9	\$2,177	7	\$80	20
Rhode Island	\$2,378	11	\$2,234	6	\$802	34	\$629	14	\$1,029	19	\$117	29	\$113	45	\$354	3	\$1,677	29	\$54	38
Vermont	\$3,184	3	\$2,202	7	\$561	44	\$1,014	1	\$956	23	\$154	17	\$146	38	\$204	14	\$1,585	34	\$103	11
Southern																				
Florida	\$1,411	47	\$1,273	27	\$1,099	16	\$595	15	\$0	44	\$104	32	\$206	29	\$113	39	\$2,035	15	\$68	29
North Carolina	\$1,778	33	\$912	39	\$802	33	\$435	35	\$1,065	17	\$125	25	\$130	40	\$92	44	\$1,964	18	\$64	32
Virginia	\$1,317	49	\$1,385	17	\$557	45	\$459	28	\$1,248	10	\$102	34	\$229	23	\$185	17	\$1,939	21	\$73	24
Resource Rich																				
North Dakota	\$2,820	5	\$1,132	30	\$1,833	4	\$705	7	\$618	37	\$308	4	\$4,723	2	\$341	4	\$2,240	6	\$152	4
Wyoming	\$4,057	2	\$2,290	5	\$2,086	1	\$281	50	\$0	44	\$0	47	\$1,871	3	\$1,161	1	\$3,371	2	\$143	6
Other																				
Ohio	\$2,013	20	\$1,175	29	\$875	29	\$438	33	\$1,163	13	\$30	46	\$304	13	\$128	34	\$1,812	26	\$71	27
Pennsylvania	\$1,838	30	\$1,337	25	\$769	36	\$670	11	\$1,121	14	\$168	14	\$336	11	\$156	26	\$1,645	32	\$66	31

Note: Charges and Miscellaneous General Revenue do not include Interest Earnings, which are in a separate column. Selective Sales taxes include Motor Fuels, Alcoholic Beverages, Tobacco Products, Public Utilities, and Other Selective Sales'.

Source: Census of Governments: State and Local Government Finances (Revenues)

user fees and charges, ultimately replacing the property tax as the premier source of revenue.⁹ For instance, charges and fees are the single largest source of revenue in the southern comparison states of Florida, North Carolina and Virginia. Connecticut also significantly lags its peer states in the northeast for this revenue category.

Charges and miscellaneous general revenue are a tricky category because they are a grab bag of many different types of revenue sources, some of which are hard to change. Current charges make up 72 percent of the charges and miscellaneous revenue category for Connecticut. Table 10 provides a quick overview of current charges per capita for Connecticut versus the national average. Nationally, tuition, fees and other charges associated with higher education make up 23 percent of the category, hospital charges make up 29 percent, and a generic “other charges” category makes up 28 percent. Connecticut’s spending per capita on tuition and fees is at the national average, and the state ranks 32nd overall. However, its hospital charges, as well as its “other charges” are low compared to other states. As noted earlier with the expenditures category on hospitals, the hospital charges are likely a function of the number of publicly run hospitals in the state relative to other states and so may not be therefore not particularly amenable or desirable to change. However, the “other charges” category may bear further investigation.

Tax Impact

Table 11 and 12 display two distinct measures that allow for a comparison between state tax systems; per capita and per personal income. The former is a commonly used measure that controls for population, the latter for a state’s level of prosperity, and each carries benefits and disadvantages.

The data displayed in table 11 show that Connecticut levies a relatively high amount of taxes on a per capita basis; 39 percent greater than the national average in 2002, and 57 percent higher than that average in 2012. Connecticut’s taxes per capita have consistently ranked among the highest in the nation since 2002, although it has declined somewhat; from 2nd to 4th. The state’s 2012 taxes per capita were surpassed only by New York, Alaska and North Dakota, the latter two of which are energy-producing states, and thus rely heavily on severance taxes (which is exported in large part to residents in other states).

Between 2002 and 2012, per capita tax collection increased by 59 percent in nominal terms, and by 28.6 percent when adjusted for inflation, compared to 40.5 percent nominal and 13.6 percent inflation-adjusted growth nationally. Connecticut’s state and local per capita tax burden is heavier than almost all other northeastern peer states, with the exception of New York, where the tax burden was 11.5 percent higher in 2012. Connecticut’s tax burden has also grown faster than its peer states, with the exceptions of Vermont and New York. In contrast, growth in tax collections per capita has been much more gradual in other areas of the country, like the south and the Midwestern states. Additionally, resource rich states have experienced very strong growth in their tax collections as a result of increased oil and gas production. If these are left out of the

Table 10. Connecticut State and Local Charges Compared with the National Average

	United States	Share	Per Capita	Connecticut	Share	Per Capita	Rank	Above/Below National Average
Current charges	\$426,127,960		\$1,357	\$2,931,703				
Institutions of higher education	\$99,135,188	23%	\$316	\$1,125,942	38%	\$314	32	-1%
School lunch sales (gross)	\$6,308,120	1%	\$20	\$117,724	4%	\$33	6	63%
Hospitals	\$123,389,520	29%	\$393	\$315,758	11%	\$88	43	-78%
Highways	\$13,285,811	3%	\$42	\$1,883	0%	\$1	49	-99%
Sewerage	\$47,013,334	11%	\$150	\$377,451	13%	\$105	38	-30%
Solid waste management	\$16,584,206	4%	\$53	\$242,735	8%	\$68	13	28%
Other charges*	\$120,411,781	28%	\$384	\$750,210	26%	\$209	N/A	-46%

*This is a composite, but a large portion of this is generic "other charges," which make up about 15 percent of the national total. CT ranks 46th in reliance on these other charges.

national growth average, the differential between Connecticut's tax burden growth and the national average would be even more significant.

Table 12 displays Connecticut's tax revenues as a percentage of the state's personal income. Since this measure accounts for the state's high personal income level, it shows the state and local tax impact in a different light. Between 2002 and 2012, Connecticut increased its taxes as a share of personal income by 1.4 percentage points – an amount only matched by New York over this period. However, since other areas of the country, particularly in the south and the rust belt reduced the taxes as a share of personal income, Connecticut moved up in rank on this metric from 13 in 2002 (see Appendix) to 8 in 2012. Again, resource rich states warp the national average. Sharp growth in oil and gas production in recent years has led to strong revenue growth for those states, and thus large increases in their taxes as a share of personal income.

Table 11: Per Capita State and Local Tax Revenue
Indexed with US Average = 100
Compared With Selected States, Fiscal Years: 2002, 2005, 2009, 2012

State	Collections in \$m in 2012		2002	2005		2009		2012		Change 2002-2012	2012 Rank Per Capita
All States (US)	\$30,207	\$ per Capita	Index	\$ per Capita	Index	\$ per Capita	Index	\$ per Capita	Index	***	***
CONNECTICUT	\$24,963	\$4,373	139.0	\$5,388	145.0	\$5,977	143.0	\$6,953	157.2	59.0%	4
Neighboring											
Delaware	\$4,196	\$3,333	105.9	\$3,878	104.3	\$4,055	97.0	\$4,575	103.5	37.3%	17
Massachusetts	\$37,042	\$3,724	118.3	\$4,494	120.9	\$4,971	118.9	\$5,573	126.0	49.7%	7
New Hampshire	\$5,271	\$2,836	90.1	\$3,318	89.3	\$3,825	91.5	\$3,991	90.2	40.7%	26
New Jersey	\$53,851	\$4,049	128.7	\$5,071	136.4	\$5,884	140.8	\$6,075	137.4	50.0%	6
New York	\$151,733	\$4,644	147.6	\$5,848	157.3	\$7,075	169.3	\$7,753	175.3	66.9%	3
Rhode Island	\$5,229	\$3,398	108.0	\$4,213	113.3	\$4,539	108.6	\$4,978	112.6	46.5%	13
Vermont	\$3,215	\$3,193	101.5	\$4,145	111.5	\$4,715	112.8	\$5,136	116.2	60.9%	11
Southern											
Florida	\$64,614	\$2,689	85.5	\$3,352	90.2	\$3,664	87.7	\$3,345	75.6	24.4%	44
North Carolina	\$34,451	\$2,711	86.2	\$3,137	84.4	\$3,387	81.0	\$3,533	79.9	30.3%	36
Virginia	\$33,177	\$3,037	96.5	\$3,650	98.2	\$3,965	94.9	\$4,053	91.7	33.4%	25
Resource Rich											
North Dakota	\$6,627	\$2,709	86.1	\$3,283	88.3	\$4,998	119.6	\$9,472	214.2	249.7%	2
Wyoming	\$3,846	\$3,637	115.6	\$5,146	138.4	\$7,268	173.9	\$6,672	150.9	83.5%	5
Other											
Ohio	\$46,828	\$3,170	100.7	\$3,639	97.9	\$3,827	91.6	\$4,056	91.7	28.0%	24
Pennsylvania	\$57,034	\$3,051	97.0	\$3,696	99.4	\$4,124	98.7	\$4,469	101.1	46.4%	18
Connecticut Rank			2		2		4		4	****	

Source: Census of Governments (Expenditures); Population

Table 12: CT State and Local Tax Revenue as a
Percent of Personal Income and Indexed with US Average = 100
Compared With Selected States, 2002, 2005, 2009, 2012

State	Collections in \$m in 2012	2002		2005		2009		2012		2012 Rank
		% of PI	Index	% of PI	Index	% of PI	Index	% of PI	Index	***
All States (US)	\$1,388,155									
CONNECTICUT	\$29,713	10.1%	102.3	11.0%	106.5	11.1%	104.7	11.5%	115.3	8
Neighboring										
Delaware	\$6,904	9.5%	96.5	10.1%	97.7	9.9%	93.5	10.4%	103.8	15
Massachusetts	\$49,710	9.4%	94.8	10.1%	97.3	9.9%	93.1	9.8%	98.2	23
New Hampshire	\$7,574	8.0%	80.9	8.4%	81.5	8.7%	82.3	8.0%	79.6	48
New Jersey	\$69,862	10.0%	101.0	11.3%	109.4	11.7%	110.3	11.1%	110.5	10
New York	\$199,440	12.8%	129.8	14.1%	135.8	14.8%	139.0	14.3%	143.2	3
Rhode Island	\$7,362	10.4%	105.1	11.5%	111.3	11.0%	103.5	10.8%	107.6	14
Vermont	\$4,335	10.5%	105.6	12.0%	115.9	11.9%	112.3	11.6%	115.5	7
Southern										
Florida	\$106,123	8.7%	87.5	9.2%	89.3	9.8%	92.4	8.1%	81.4	47
North Carolina	\$54,498	9.5%	96.1	9.7%	93.8	9.7%	91.3	9.2%	91.6	35
Virginia	\$50,562	8.8%	89.4	9.2%	88.5	9.0%	84.8	8.3%	83.1	45
Resource Rich										
North Dakota	\$8,432	10.0%	100.9	10.4%	100.3	12.5%	117.6	16.8%	167.7	2
Wyoming	\$6,458	11.6%	117.2	13.1%	126.8	16.7%	157.5	12.7%	127.0	4
Other										
Ohio	\$69,216	10.6%	107.2	11.1%	107.3	10.8%	101.5	10.1%	100.7	18
Pennsylvania	\$80,030	9.5%	95.9	10.3%	99.4	10.1%	95.6	9.8%	98.0	24
Connecticut Rank		13		13		12		8		****

Source: Census of Governments (Expenditures); Bureau of Economic Analysis (Personal Income)

Part II: Tax and Economic Climate Indices

The next section reviews a series of popularly reported fiscal and economic capacity indices, including:

- Total State and Local Business Taxes: Ernst & Young/COST Index
- State Business Tax Climate Index: Tax Foundation
- Tax Inequality Index: Institute on Taxation and Economic Policy (ITEP)
- Small Business Policy Index (2012-2015)
- State Competitiveness Index: Beacon Hill Institute

Caveats and Considerations

With the exception of the ITEP tax inequality measure, these indices are for the most part implicitly or explicitly intended to inform policy-makers about a state's competitiveness in attracting or growing businesses or jobs. Before venturing into a discussion of these indices an important note of caution should be made. Despite the time and effort invested in developing many tax and economic competitiveness indices, to date no empirical research has found that any of these indices actually predict economic growth (Anderson 2012). However, they may be of value in so far as they illuminate different elements of a state's tax structure and economy.

Total State and Local Business Taxes: EY/COST Index

The Council on State Taxation (COST) and Ernst and Young LLP (EY) jointly produce an annual report on the state and local business tax climate, which focuses on estimates of the state and local taxes that businesses pay each fiscal year. This report compares states on business tax composition, business tax revenue generation, business's taxation relative to public sector benefits provided, and the total effective tax rate for businesses across the states.¹⁰

What is Included as a Business Tax?

The EY/COST report defines business taxes as including: business or commercial property taxes, general sales taxes on business inputs, corporate and individual income taxes on business income, unemployment insurance, excise taxes including public utilities and insurance premium taxes, business and corporate licenses, severance taxes, and a collection of other smaller taxes including gift and estate taxes.

Business property taxation is estimated based on state and county data, and includes taxation of residential rental property, and state-level taxation of intangible property. Business sales tax collections include general sales tax, motor fuel taxes, and some types of excise and gross receipts taxes. EY/COST computes the impact of the general sales tax on businesses using a 50-state model that estimates total taxable business input, business investment, and personal consumption purchases. Individual income taxes on business income, namely income of pass-through entities is estimated using IRS statistics of income data and is distributed across states using BEA data on proprietorship income.

Business license taxes include business and motor vehicle license taxes - the latter of which was only distributed to businesses if it includes a fee by weight, as well as motor carrier and other truck fees.¹¹

How Does Connecticut Compare?

Total Effective Business Tax Rate

The EY/COST study has a number of metrics that are worth considering. Perhaps the most widely reported is the ‘Total Effective Business Tax Rate’ (TEBTR) measure, which is the ratio of each state’s state and local business taxes to its private sector Gross State Product (GSP). Much as with the personal income measures, Connecticut has typically ranked in the bottom 10 states for this measure of business tax burden. In the FY2013 TEBTR index, Connecticut ranked 49th lowest out of 50 states plus the District of Columbia, similar to North Carolina, and higher only than Oregon, which has no sales tax (Phillips et al. 2014).

According to the EY/COST calculations in FY2013, nationally, property taxes made up 36 percent of total state and local business taxes, by far the largest business contributor to overall state and local tax revenues. Sales taxes made up 21 percent of business tax contributions, while corporate income and individual income taxes, only made up around 13.4 percent (8 percent corporate, and 5.4 percent individual income) of overall state and local business tax payments.¹²

The analysis in Part I of this report found that Connecticut had some of the highest property taxes and income taxes per capita and as a percentage of personal income. One would therefore expect the state to rank poorly in the EY/COST index, since property taxes make up such a significant part of business taxes. However, the EY/COST analysis suggests that individuals, rather than businesses, are responsible for the majority of property tax revenues in Connecticut, and this significantly influences Connecticut’s overall ranking. Of the total business tax contributions, Connecticut collects just 30.3 percent from business property taxes, ranking 36th nationally in dependence.

Further, according to the EY/COST measurements, just 28.9 percent of total state and local tax revenue in Connecticut is raised from business taxation, the lowest share out of all states, and significantly below the 45 percent national average. Most notable is the business share of local taxes in Connecticut at 25 percent, the lowest share in the nation (the national average is 51.4 percent). However, the business share of state taxes is also one of the lowest in the nation at 31 percent, well below the national average of 41 percent (only Oregon and Virginia were lower in FY2013). The state also appears to benefit from its relatively limited reliance on general sales taxes, as well as on “other taxes.”¹³

Table 13: EY/COST Estimates of Business Taxation Shares

Tax Type	US Average Share	Connecticut Share	Connecticut Rank	US Average Share of Private Sector GDP	Connecticut Share of Private Sector GDP	Connecticut Rank
Property Tax on Business Property	36.1%	30.3%	36	1.7%	1.0%	46
General Sales Taxes on Business Inputs	20.9%	18.4%	31	1.0%	0.6%	43
Corporate Income Tax	8.0%	7.9%	22	0.4%	0.3%	34
Unemployment Insurance	7.6%	11.8%	8	0.4%	0.4%	20
Excise Taxes, Public Utility and Ins. Premium	12.3%	17.1%	7	0.6%	0.6%	19
Individual Income Tax on Business Income	5.4%	11.8%	1	0.3%	0.4%	7
All Other	9.8%	4.0%	47	0.5%	0.1%	49
Total	100.0%	100.0%	***	4.7%	3.4%	***

Note: Totals might not add up to 100 due to rounding. Rank out of 51.

Sources: Table 1. Total state and local business taxes, FY2013 (\$billions) (Phillips, 2014 p. 662)

Business Tax Revenue Growth

In FY2013, many states saw significant increases in business property tax revenues, as well as increases in business taxes on individual income. Connecticut, however, only experienced very modest growth. Average state and local business tax revenue growth was 4.3 percent while Connecticut's only grew 1.1 percent, one of the lowest growth rates in the nation. The preceding analysis suggests that some of this may be attributable to Connecticut's tax mix, which is not strongly reliant on business tax revenues.¹⁴

Business Tax to Benefit Ratio

Another highlight of the EY/COST analysis is the business tax-to-benefit ratio. This measure attempts to capture the degree to which companies benefit from public expenditures which would offset some of the business tax burdens. Arguably, this presents a more accurate picture of state business tax burdens, as a company in a certain state might well face a lower direct tax amount, but could be receiving significantly less in public benefits, making a competitor in a neighboring higher business tax state better off. Using a methodology developed by the Federal Reserve Bank of Chicago, the report assigns percentages to spending categories to indicate to what extent they benefit businesses relative to households. For instance, fire protection, police, and corrections are split 50-50 between both groups.

The report goes into some detail with respect to education, since it represents a large share of public expenditures. Because the exact extent to which education spending benefits business is unknown, the report provides a range of three estimates: zero percent education spending benefit to business, 25 percent, and 50 percent. These allocations in turn produces three separate tax-benefit ratios. The report additionally estimates net government spending, which subtracts non-tax revenue. Non-tax revenue includes federal funding and user charges, and accounts for 60 percent of total government expenditures on average. The final index indicates for each state the number of dollars businesses pay in taxes for each dollar they receive in public services. The lower the ratio, the more attractive the business tax burden.

Connecticut's business tax-benefit ratio, assuming a 50 percent split in education benefits between households and businesses, is comparably low. For every dollar of public services Connecticut businesses receive, they are taxed just \$0.80, versus a national average of \$1.20. Connecticut and Maryland have one of the most favorable ratios for business among the states. When education is assumed to hold no benefits for businesses, Connecticut ranks 6th (again one of the most favorable business tax-benefit ratios) with businesses paying \$2.70 dollars in taxes for every dollar in public benefits they receive, versus a national average of \$3.30.¹⁵

Considerations

The EY/COST metrics have some important caveats. First, in some places the metrics themselves are rough estimates, with the expenditure measures appearing to be particularly problematic. For instance, the benefits of some expenditure types to

businesses are simply split 50-50. While most indices rely on similar back of the envelope approximations, it is worth noting that these are not particularly precise.

Additionally, the metrics capture only the legal responsibility for taxation, as opposed to the actual economic actor who pays the tax (tax incidence). Most economists would agree that economic tax incidence is likely quite different from legal responsibility. EY/COST analysts themselves note that this assumption significantly affects states that are heavily dependent on severance taxes. States such as Alaska and North Dakota have very high TEBTR's, 12 and 9.9 percent respectively; yet, the burden of these taxes is not entirely born by the businesses in the state. Quite possibly a significant portion is passed on to consumers in other states, or even other countries.¹⁶ The issue of incidence is important for other reasons. The indices try to distinguish between taxes legally born by businesses and those born by households, but it is not entirely clear in reality which economic actor truly bears the costs of a tax. For instance, individual income taxes, although legally the responsibility of an individual, may affect the cost of labor, which in turn may affect a company's bottom line.

The EY/COST measures also do not measure the marginal tax rate a company faces when making decisions on new investments in a particular state. The TBETR doesn't assess whether the burden of taxation falls disproportionately on capital- or labor-intensive industries, which may have distortionary economic effects.¹⁷ Another critique, offered by the Connecticut Business and Industry Association, is that the report does not take into account non-tax expenses that reflect costs to business, such as high costs for labor, energy, and transportation.¹⁸ Along these lines, the measures also do not capture many of the user fees increasingly imposed by state and local governments.

Last, there are a number of distortionary effects from how taxes are actually administered by states that are not reflected in this index. The index only measures aggregate taxes estimated to be attributable to a particular business, and this is then assessed relative to an estimate of the aggregate tax base. However, tax revenues are heavily affected by a host of tax preferences or tax expenditures that may be embedded in a tax code or tax policy, including exemptions, tax credits, and abatements.¹⁹ If widely used, these types of tax benefits can have a significant distortionary effect on the tax system. Such benefits may occur on the expenditure side as well, with some industries heavily benefitting from direct government capital investment, or from investment in other benefits such as job training type activities.

Tax Foundation: State Business Tax Climate Index

The Tax Foundation's State Business Tax Climate Index (SBTCI) is an effort to provide a single relative measure that ranks a state's business tax climate against other states. Where the EY/COST index captures actual revenues collected from businesses, the SBTCI attempts to measure and compare features of a state's tax base and tax rates across five major tax areas: income tax, sales tax, corporate income tax, property tax, and unemployment insurance tax. Unlike the EY/COST index, the SBTCI does not focus on business taxes *per se*, but focuses on the entire tax system. For instance, in constructing

the income tax index, states score points for avoiding a marriage penalty, as well as for avoiding double taxation of LLCs and S Corps revenues.

For the most part, the SBTICI focuses on the potential distortionary effects of a tax system. Distortionary effects occur when a tax system interferes with private choices by firms or households. For example, if capital is heavily taxed, a company might choose a more labor intensive mode of production – in this case a distortion in the allocation (use) of economic resources. Recognizing that all taxes are potentially distortionary, the goal of the SBTICI is to give a high score to tax systems that relies on a broad base and a low tax rate. The SBTICI also penalizes states that have a high number of selective carve outs or tax credits, exemptions and deductions in their tax systems – most notably in their personal and corporate income taxes and in their sales taxes.

A number of tax policies associated with a progressive tax system, such as a highly differentiated set of tax brackets with a high top marginal tax rate in the income tax or carve outs in the sales tax for food, are features that the SBTICI authors believe create a more distortionary tax system. So it is likely that a tax system that incorporates these kinds of elements of progressivity will score poorly on this type of index.

What is included in the index?

The Tax Foundation's SBTC builds a series of component indices around each of the five tax types listed above. Each component is measured by developing two sub-indices that capture different features of the tax base and tax rate for each component type. The index is explicitly geared to assess a variety of features that the authors believe lead to a desirable business climate. These features include establishing a broad base and low rate across tax types, avoiding forms of compounding or double taxation (particularly on businesses), as well an assortment of other characteristics that the authors argue penalize businesses.

The SBTICI index weights the different tax components based on interstate variation within the component measure. In the 2015 report, the components of the index and their weights are: the Individual Income Tax (32.1%), the Sales Tax (21.6%), the Corporate Income Tax (20.6%), the Property Tax (14.6%), and the Unemployment Insurance Tax (11.1%). The authors argue that larger variability increases the importance of certain taxes in business location decision-making.²⁰

The effect of this weighting system combined with the emphasis on a “non-distortionary” tax system means that states with high reliance on individual and corporate income taxes and with highly progressive income tax structures are likely to rank low on the SBTICI measures. Another issue is that states lacking a particular tax type, for instance states that do not levy an income tax, receive a “perfect score” on this component. The authors argue that having a zero tax rate is perfectly neutral with respect to the making of economic decisions; however, because of the weighting system, this usually means that a state without a tax type will rank highly on the overall index, particularly if they do not have an income tax, regardless of the pressure put on other parts of their revenue systems.

Income Tax: The individual income tax rate sub-index is constructed by using the top marginal tax rate, the top tax bracket threshold, the number of brackets, width of brackets, income recapture, and the standard deductions and personal exemptions for each state. The base is determined by marriage penalties, capital gains taxation, and several other factors, including whether states have adopted the federal government's definition of income. According to the authors, states that score well on this metric have a single low flat rate, and a base that avoids higher taxation of married couples and recognizes LLCs and S Corp revenues appropriately.

Sales Tax: The sales tax component is determined by the sales tax rate, base, and by excise taxes. The rate is constructed by combining the statewide rate with a weighted average of county and municipal rates. The base is computed by examining whether the sales tax extends to business inputs (negative effect), services (positive), gasoline, and groceries (positive). States that score well have a low combined state and local tax rate, and have a base that is broad, focuses on consumer goods and services, has few exemptions, and carefully excludes business inputs.

Corporate Income Tax: The authors construct the corporate income tax rate sub-index through the top tax rate, the income level of the highest marginal rate, and the number of brackets. The base sub-index measures whether states allow deductions of Net Operating Losses (NOL), the number of years, and caps that apply to carrybacks and carry-forwards, and whether states tax gross receipts. Additionally, it measures whether states use the same base ACRS and MACRS depreciation schedules as the federal government, allow a deduction for depletion, levy an Alternative Minimum Tax, allow a deduction for taxes paid, index brackets for inflation, and have throwback rules. The presence of investment, job, and research and development tax credits lower the corporate tax component scores. As with the income tax, states that score well have a low flat tax that captures the first dollar of taxable income, but accommodates several types of deductions such as depreciation that are intended to smooth the variability of corporate income over time.

Property Tax: The property tax rate is determined by using property tax collections per capita (weighted 40%), property tax collections as a share of personal income (40%), and the capital stock tax rate (20%). The base is measured by whether states have implemented the following: taxes on intangible property, inventory tax, and asset transfer taxes such as estate, inheritance and gift taxes. The SBTICI's treatment of property taxes differs from the EY/COST report, as it does not differentiate between the effective property tax impact on residential property versus that on businesses. States that score well have low property tax revenues per capita and as a percentage of personal income and avoid many of the other types of property taxation such as estate and gift taxes.

Unemployment Insurance Tax: The unemployment insurance tax component consists of a rate, which is constructed with both statutory and effective rates, and a base that includes experience tax formula, solvency taxes, and the option to submit voluntary contributions in exchange for lower rates. States that score well have low minimum and

maximum tax rates and have simple experience formulas for adjusting the charges to businesses. Additionally, these states do not have add-ons or surcharges.

How Does Connecticut Compare?

Not surprisingly, as a state with heavy reliance on the income tax and with a very progressive tax structure, Connecticut scores poorly on the overall index. Connecticut's low performance is also heavily affected by its property tax score. Overall, Connecticut's State Business Tax Climate ranks 42nd out of all states, with a score of 4.47. In general, northeastern states have similar tax structures and Connecticut's scores are quite similar to its neighbors including New Jersey (50th), New York (ranked 49th), Rhode Island (ranked 45th), and Vermont (ranked 46th). In contrast, Massachusetts fares pretty well, ranking 24th, while New Hampshire ranks 7th, and Delaware is 14th.

Looking at the component parts of the index, Connecticut's individual income tax standing has slipped between 2012 and 2015. The state's ranking declined from 31st to 34th, as its score dropped by 0.06 points or 1.3 percent, from 4.62 to 4.56. The state's individual income tax component score fares better than New York, New Jersey, Rhode Island and Vermont, and also better than Virginia, North Dakota and Ohio, but it performs slightly worse than Delaware (ranked 33rd), and is strongly outperformed by Massachusetts (13th) and (obviously) New Hampshire (9th) which has a very limited form of income tax.

In corporate taxation, Connecticut ranked 32nd in fiscal year 2015, with a score of 4.86. Between 2012 and 2015, the state's corporate tax climate worsened slightly, dropping 0.09 points or 1.8 percent, from 4.95, and its rank dropped by one spot. However, Connecticut performs significantly better on this major tax component than neighboring northeastern states, with the exception of New York (ranked 20th in 2015).

Connecticut ranks 31st on the sales tax component. While this rank is higher than the other major tax categories, the Tax Foundation singles out the state as having a sales tax base sub-index that includes "too many business inputs, exclud[es] too many consumer goods and services, and impos[es] excessive rates of excise taxation".²¹

The state ranks 49th in property taxation - only New Jersey ranked lower. That being said, Connecticut's neighboring states, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont all make up the bottom ten in the nation in terms of the property tax.

Last, Connecticut is in the middle of the pack, at 20th in terms of the competitiveness of its unemployment insurance taxes. The state actually performs considerably better than most of its peer states on this component, and has improved substantially from its rank of 29th in 2012.

Table 14. 2015 State Business Tax Climate Index and Components

States	Index Score	Overall Rank	Corporate Tax Score	Corporate Tax Rank	Individual Income Tax Score	Individual Income Tax Rank	Sales Tax Score	Sales Tax Rank	Unemployment Insurance Tax Score	Unemployment Insurance Tax Rank	Property Tax Score	Property Tax Rank
CONNECTICUT	4.47	42	4.86	32	4.56	34	4.66	31	5.21	20	2.89	49
Neighboring												
Delaware	5.53	14	3.1	50	4.61	33	8.96	1	6	2	5.54	13
Massachusetts	5.08	24	4.74	37	6.49	13	4.98	21	3.67	48	3.69	45
New Hampshire	6.01	7	3.89	48	6.97	9	8.93	2	4.08	44	4.02	43
New Jersey	3.43	50	4.48	41	2.57	48	3.45	48	4.8	32	2.76	50
New York	3.62	49	5.31	20	1.88	49	4	40	4.81	31	3.61	46
Rhode Island	4.14	45	4.39	43	4.07	38	4.75	26	3.48	49	3.56	47
Vermont	4.11	46	4.41	42	3.21	44	5.1	16	5.37	17	3.27	48
Southern												
Florida	6.91	5	5.47	14	10	1	5.17	12	5.97	3	5.45	16
North Carolina	5.44	16	5.18	25	6.37	15	4.54	33	5.66	11	4.96	29
Virginia	5.03	27	5.84	6	4.06	39	5.92	6	4.53	37	5.1	26
Resource Rich												
North Dakota	5.08	25	5.33	19	4.18	36	4.99	20	5.45	16	6.56	2
Wyoming	7.58	1	10	1	10	1	5.13	13	4.65	34	4.72	35
Other												
Ohio	4.41	44	5.14	26	2.94	47	4.59	32	5.87	5	5.24	20
Pennsylvania	4.89	34	4.28	46	6.19	17	4.89	24	3.35	50	4.03	42

Considerations

While a detailed evaluation of the methodology for this index is beyond the scope of this report, suffice it to say that the development of these indices is enormously complex and is permeated by a host of judgment calls about which features of a tax system are important, how to measure these features, as well as the relative weights that should be assigned to each part of a tax system.

For instance, some features are simply assigned a one or zero, and are then combined with features of a tax system that are measured on a scale from one to ten. The one and zero variable are then only counted toward 20 percent of a particular sub-index score, while the scalar items are weighted at 80 percent – a relatively arbitrary assignment of weights for each type of variable. Another example: when developing the income tax base sub-index, the marriage penalty and the double taxation of capital income are each weighted at 33 percent, and then all other tax issues associated with the income tax base are weighted at 33 percent. Does a business experience a state's marriage penalty as one of the most influential components of the individual income tax base when choosing to invest or expand? There is very little empirical evidence to support the claim one way or the other. Even if it were an important consideration, it's not clear that 33 percent is the right weight. Such compounding of inexact weights can raise questions of construct validity.

A similar concern is that states without a particular tax type receive a perfect 10 for that tax component, which means they will rank much higher on their final score than other states that have a more balanced tax system.²² The claim is that a zero tax rate creates perfect tax neutrality. However, Fisher points out that while a state without a corporate income tax might score well on this index, if this is replaced by a higher property tax, this hurts "capital intensive but low-profit businesses,"²³ which might have behavioral implications and might actually negatively affect tax neutrality.

The SBTCI leaves out severance taxation, which, in resource rich states, forms a significant share of the business tax burden. Also, as with the EY/COST index, this index doesn't capture many of the other revenue sources such as user fees that increasingly make up a significant portion of state and local revenue portfolios. Unlike the EY/COST study, the SBTCI doesn't attempt to account for the benefits that businesses receive through governmental expenditures (nor do the authors make any claim to); however, arguably certain types of expenditure are an important part of business climate.

Finally, even though the index focuses on the carve outs that create economic distortions when considering the income and sales tax, the property tax component is measured more like the EY/COST metric capturing an aggregate effective tax rate - or total tax amounts relative to the base, personal income in this case, as opposed to the various exemptions and special carve outs associated with that tax.²⁴

ITEP: Tax Inequality Index

ITEP's Tax Inequality Index (TII) provides a distributional analysis of state tax systems, as opposed to economic development and improving a state's business climate. Because ITEP focuses on individual income inequality, the analysis only evaluates income, sales and property taxes. While the efficiency of a tax system and its relative progressivity do not have to be mutually exclusive, in practice many of the tax structures and policies associated with a progressive tax system do create economic distortions. As a result, many of the features that would cause a state to score well on SBTCI cause them to score poorly on the ITEP index.

What is in the TII Index?

To develop this index, ITEP uses a microsimulation model and a variety of detailed datasets to assess the impact of income, sales, and property tax structures on households at different income levels in each state. In particular, the analysis focuses on calculating the effective tax rates on family incomes (excluding elderly people) per income quintile and for the top one percent of earners.

The index number is constructed by subtracting the average of several ratios from 1:

- The share of after-tax to pretax income for the wealthiest 1 percent of income earners divided by that same ratio for the poorest 20 percent.
- The share of after-tax to pre-tax income for the wealthiest 1 percent of income earners divided by that same ratio for the middle 60 percent of income earners.
- The share of after-tax to pre-tax income for the wealthiest 20 percent of income earners divided by that same ratio for the poorest 40 percent, half-weighted.

The resulting index number indicates the progressivity of a state's system of taxation. The more positive the number, the greater the progressivity of a state's tax structure; meaning incomes in the various income quintiles become more similar after state and local taxation. Alternatively, the more negative the index number, the more regressive a state's system of taxation; meaning it furthers income inequality.²⁵

Unlike the SBTCI, states with a flat income tax rate generally score poorly on the ITEP index. However, they can have tax credits, such as the earned income tax credit, or other policies that address progressivity without creating an explicitly progressive set of tax brackets. States that rely more heavily on income taxes tend to fare better in the ITEP ranking than those without an income tax or with low reliance on income taxes because income taxes rates tend to set so that those at higher incomes pay a higher tax rate.

The ITEP analysis identifies sales taxes as the most regressive tax, since low-income families spend proportionately more of their income on consumer goods and services. Whereas the SBTCI views a sales tax exemption on food negatively since it makes the tax base smaller and is poorly targeted, ITEP's index has the effect of penalizing such a policy since it makes the sales tax even more regressive.

ITEP finds that the property tax is regressive, albeit not as regressive as the sales tax. The report notes that the fact that businesses pay a substantial share of property taxes, around 40 percent, helps offset some of the regressive nature of the tax. Additionally, homestead exemptions, circuit breakers and other tax forms of property tax relief for low to moderate income families will raise a state's score. Notably, this would create a disadvantage in the EY/COST ranking, since these measures often have the effect of shifting the tax burden to businesses.²⁶

How does Connecticut compare?

Connecticut's tax inequality index number is -5 percent, ranking 26th, so in the middle of the pack of all US states and Washington DC (number 1 being most unequal, number 51 being most equal). For comparison, the highest ranking or most unequal state, Washington, has an index number of -12.6 percent, and the lowest, least unequal state, Delaware, has an inequality index number of -0.5 percent.

Connecticut's tax structure is slightly more effective at equalizing incomes than neighboring Rhode Island (-5.2%, ranked 23rd), Massachusetts (-5.2%, ranked 24th), and New Hampshire (-5.2%, ranked 25th), but less so than New Jersey (-2.9%, ranked 39th), New York (-2.7%, ranked 41st), and Vermont (-1.7%, ranked 46th). Not surprisingly, the state's ranking is affected by the regressivity of its property and sales taxes, and the relative progressivity of its income taxes does not overcome these effects.

State and local taxes make up 10.5 percent of family income for Connecticut's bottom 20 percent income earners, 8.9 percent for the second quintile, 10.7 percent for the middle 20 percent income earners, 10.5 percent for the fourth quintile, 9.2 percent for the next 15 percent of income earners, 7.6 percent for the next four percent, and 5.3 percent for the top one percent of income earners.

For those top one percent of earners, Connecticut ranks 29th in their taxable income share, with Wyoming ranking 1st with just 1.2 percent of their incomes going to state and local taxation. Most neighboring/northeastern states impose heavier tax burdens on their top one percent income families, including Rhode Island (6.3%), New Jersey (7.1%), Vermont (7.7%), and New York (8.1%).

The state has a relatively high burden of taxation on its bottom 20 percent of income earners, ranking 32nd, with 10.5 percent of family incomes going to state and local taxes. Compared to neighboring states, Connecticut is surpassed only by New Jersey (10.7%, ranked 35th), and Rhode Island (12.5%, ranked 45th). Other Northeastern states have lower tax burdens on low-income families, including Vermont (8.9%, ranked 15th), New Hampshire (8.3%, ranked 8th), and Delaware (5.5 %, ranked 1st).

Finally, for the middle 60 percent of income earners, the middle-class, Connecticut again has a comparably high tax burden. 10 percent of the state's middle-class family income is taken up by state and local taxes, and Connecticut ranks 40th out of all states and DC. New York is the only other Northeastern state to carry a higher tax burden on the middle-

Table 15: Taxes as a Share of Family Income

	Index Number	Rank	Lowest 20%	Middle 60%	Top 1%	Top 1% Rank	Lowest 20% rank	Middle 60% rank
CONNECTICUT	-5.0%	26	10.5%	10.0%	5.3%	29	32	40
Neighboring								
Delaware	-0.5%	51	5.5%	5.3%	4.8%	21	1	2
Massachusetts	-5.2%	24	10.4%	9.2%	4.9%	24	27	23
New Hampshire	-5.2%	25	8.3%	6.7%	2.6%	7	8	6
New Jersey	-2.9%	39	10.7%	9.1%	7.1%	46	35	21
New York	-2.7%	41	10.4%	11.4%	8.1%	50	27	51
Rhode Island	-5.2%	23	12.5%	9.9%	6.3%	38	45	37
Vermont	-1.7%	46	8.9%	9.8%	7.7%	49	15	34
Southern								
Florida	-9.5%	2	12.9%	8.3%	1.9%	4	48	13
North Carolina	-3.9%	31	9.2%	9.1%	5.3%	29	19	21
Virginia	-3.6%	35	8.9%	8.3%	5.1%	26	15	13
Resource Rich								
North Dakota	-5.7%	20	9.3%	7.4%	3.0%	9	21	7
Wyoming	-6.1%	14	8.2%	5.8%	1.2%	1	7	3
Other								
Ohio	-5.8%	18	11.7%	10.2%	5.5%	32	41	44
Pennsylvania	-7.3%	6	12.0%	10.1%	4.2%	13	43	41

Source: (Davis et al. 2015, p. 133-135)

class (11.4 percent, ranked 51st), although others, such as Massachusetts (9.2%, ranked 23rd), Vermont (9.8%, ranked 34th) and Rhode Island (9.9%, ranked 37th) are similar.

Considerations

One major critique of the inequality index is that it only focuses on *tax* equality, and thus leaves out spending or benefits, a crucial part of redistribution efforts. For instance, income supplements, which are administered through the state budget are not included in this ranking. A state with a relatively ‘unfair’ tax system, such as Washington, might spend a much greater share on its lowest income families, creating a more equal outcome than a state with a ‘fair’ taxation system, but where expenditures mostly flow towards middle and higher incomes.²⁷

Just as the SBTICI relies on arbitrary assumptions, so does the ITEP index. For instance, the “cut points” in the income distribution that denote high versus low incomes are based on a judgment call. Critics point out that while just taking the top versus the bottom quintile still produces a regressive aggregate state and local tax system, the regressivity becomes less pronounced than in the various cut points chosen by ITEP.²⁸

As with the EY/COST index, the metrics only look at the legal responsibility for a tax rather than tax incidence, which may actually make the tax structure look *more* regressive. Further, they do not account for the related issue of “tax exporting” outside of a state’s boundaries, which may reduce the regressivity of the tax structure.²⁹

The report leaves out several taxes, such as severance taxes, business license and gross receipt taxes, which have significant implications for the distributional nature of the tax system in certain states. For instance severance taxes make up the majority of the state and local taxes for Alaska. These taxes are more likely to fall on businesses and are exported outside the state which has implications for the relative tax burden on households.³⁰ Presumably, accounting for high severance taxes would make a state appear more progressive. Along the same lines, the report leaves out user fees and other non-tax sources of revenues, which also have significant distributional implications – typically they are more regressive.

Small Business Tax Index (SBTI)

The small business tax index is annually produced by the Small Business and Entrepreneurship Council and to some degree functions as a much more basic version of the Tax Foundation’s SBTICI. Connecticut has consistently performed poorly on this index, largely because of its top personal and corporate income tax rates.³¹

What is included in the index?

The SBTI is an additive index of tax rates, ranges, and various policies that count as demerits, ranging from 1-5, against a state’s rank. Specifically, the index adds up top personal and corporate income tax rates and then repeats this measure for capital gains for both tax types and dividend interest for personal income. The index then adds in the range of rates (top rate less bottom rate), tallies up any additional special tax rates on LLCs, S-Corps, etc., adds property and sales tax revenues as a proportion of personal

income, and adds unemployment, gas tax, and communication tax rates. States then receive additional demerits for having an inheritance tax (5 points, regardless of the rate or level at which it is imposed), an individual or corporate alternative minimum tax, failure to index the personal income tax rate brackets to inflation, an internet access tax, a remote seller tax, and failure to have legislation that caps tax increases.

How Does Connecticut Compare?

In 2015, Connecticut ranked 41st on this index. By far the majority of the score is accounted for in the repeated addition of the top personal and corporate income tax rates. Connecticut's score was 60.787, and 38 points (63% of the score) are derived from the income and corporate income tax. Other states with a high top individual or corporate income tax rate obviously also rank poorly, including Delaware, New York, New Jersey and Vermont, while states with no income tax tend to rank quite highly.

Considerations

The index purports to capture the costs to small business of doing business in a state. However, notably, the index fails to account for deductions, exemptions or credits, or more generally the breadth of the tax base. As far as a small business is concerned, there may be a significant difference between tax burden (at least the burden associated with the legal liability for the tax) and the index. For instance, in an ironic twist, Kansas, which recently eliminated the income tax on "pass through" revenues for small businesses, is still measured based on its 4.6 percent top income tax rate.

As noted above, by far the majority of the score is derived from the repeated addition of the top personal and corporate income tax rates. So, 60 percent of Connecticut's score is related to the top personal and corporate income tax rates. In contrast, these taxes are weighted much lower by both EY/COST and the SBTCI. Meanwhile, property taxes, measured as property tax revenues as a proportion of personal income, only account for a minor part of the score (around 7 percent). This differs sharply from the EY/COST estimates that suggest property taxes make up over one third of the total taxes paid by business.

In sum, it's not entirely clear what aspects of a tax system this metric is intended to capture, but it neither captures the efficiency of the tax system with the same level of rigor as the Tax Foundation index, nor does it capture the direct impact of taxes on businesses burden as effectively as the EY/COST index.

Beacon Hill Institute: State Competitiveness Index

The Beacon Hill Institute State Competitiveness Index (SCI) measures substantially more than tax competitiveness. The SCI captures index different dimensions of economic competitiveness, only one of which encompasses government and fiscal policy. The remaining dimensions are: security (largely crime rates), infrastructure, human resources, technology, business incubation, openness, and environmental policy.

The dimensions are based on the World Economic Forum's Global Competitiveness Report, which has a similar range of measures that attempt to capture not only business costs, but also human and physical capital and capacity for innovation.³²

What is included in the index?

The index is composed of eight sub-indices with a variety of metrics in each. Each dimension comprises of factors Beacon Hill refers to as “competitive advantages” and “competitive disadvantages,” which count positively or negatively towards a state's sub-index score. The following sections summarize some of the major component parts of each sub-index.

Government and fiscal policy

The competitive advantage measures in the Government and Fiscal Policy sub-index include a state's bond rating, budget deficit (as a percentage of the GSP), the average weekly payment to insured unemployed individuals, and the ratio of state and local taxes per capita to per capita income. The measures that lower this sub-index score include the number of full-time government employees per 100 residents, and worker's compensation premium rates.

Security

The security sub-index solely contains disadvantage measures, including a crime and murder index measure per 100,000 inhabitants, the percentage change in crime index in the preceding two years, and the Better Government Association Integrity Index.

Infrastructure

This sub-index includes mobile phones and high speed lines per 1,000 residents, air passengers per capita, average travel times to work, electricity prices and the average rent of a 2 bedroom apartment.

Human Resources

This sub-index includes a variety of education, labor participation and health metrics, including high school graduation rates, college enrollment and students at or above proficiency in mathematics in Grade 4, unemployment rates, as well as population without health insurance, doctors per 100,000 inhabitants, and infant mortality.

Technology

This sub-index includes measures of support for science investment as well as overall employment in the industry. Some key indicators are funding for R&D and funding from the National Institutes of Health (NIH), the number of patents, science and engineering graduates and degrees awarded, as well as individuals employed in science, engineering and high tech industry as a percentage of overall labor force.

Business Incubation

This sub-index includes both capital available for investment in business start-ups, labor costs, including minimum wage (and union involvement) and labor costs adjusted for educational attainment, as well as actual business creation data.

Openness

This sub-index includes exports per capita, employment in majority owned US affiliates in the state, and the percentage of the population born abroad.

Environmental Policy

The sub-index includes a variety of measures of pollution and environmental contamination, including air quality and greenhouse gas emissions.

How Does Connecticut Compare?

Connecticut was 40th lowest (a poor score) on this index in 2014. However, in other years, going back to at least 2006, the state was in the middle of the pack, scoring 24th in 2006 and 27th in 2013. Connecticut has very bifurcated rankings on the sub-indices. The state scores in the top ten states in terms of openness (5th), technology (8th) and security (6th), and in the upper ranks in human resources (15th).

The state then scores very poorly on government and fiscal policy (47th), business incubation capacity (50th), infrastructure (41st), and environmental policy (42nd). Oddly, the recent overall shift from 24th to 40th appears to have been partly driven by a 13-point change in the state's infrastructure index ranking, which in turn appears to be driven by a drop in "mobile phones per person" from 1st in the nation to 15th.

Considerations

As with the other indices and measures, this much more ambitious index of the overall business climate is subject to some of the same cautions, as well as some additional ones. First, the choice of the different measures and their relative weights are largely grounded in judgment calls. Among the many questions one might raise are whether the components of each sub-index are actually appropriate "proxies" for the concept they are trying to measure. Many of the sub-indices combine some disparate concepts, while others may not be fully specified. Ideally, indices are tested for predictive validity of some sort – does the security measure actually correlate with business perceptions of security that might hinder business startups or growth?

Second, the index includes the actual outcomes that the index intends to predict. For instance, the index includes a measure of business startups, presumably an *outcome* that a good business climate would produce. Along the same lines, the authors show a correlation between their index and growth in personal income, claiming that policymakers can improve their index score and thereby improve personal income. However, causation is not always clear – for example, a high number of mobile phones per capita and a high number of physicians per capita is likely associated with a high personal income state. Does the index measure the environment that causes personal income to increase, or does it simply measure quality of life indicators associated with having a high personal income in the first place?

Conclusion

This analysis is intended to provide some insight into the contours of Connecticut's revenue and expenditure portfolio as compared to neighboring states as well as other states in the country. By using these comparisons, state policy-makers may gain some insight into areas that may be fruitful for further investigation.

Importantly, both the simple indices in part one and the more sophisticated indices in the second part show that the state cannot be all things to all people but has to balance between competing objectives. A state tax system that taxes a higher percentage of the income of wealthy people may not be the most efficient tax system. High taxes may be used to fund public services important for business development - such as education and physical infrastructure. Researchers have found that both taxes and expenditures have an effect on a state's economic development and growth.

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Notes

¹ Drenkard and Henschman (2015). The 2015 index reflects taxes as of July 2014.

² Other comparable wealth metrics include GDP and total taxable resources. While assessing expenditures and revenues using these different metrics in the denominator yields some differences (in particular natural resource rich states tend to rank higher in total taxable resources and GDP relative to personal income), in general, the metrics are all highly correlated. GDP and personal income yield a correlation coefficient of .85 while personal income and total taxable resources are correlated at .91. Switching out these metrics does not significantly change Connecticut's story since the state is ranked 1st in personal income and 3rd in total taxable resources (not including the District of Columbia).

³ Davis, et al (2015)

⁴ The national average reflects all national revenues in a particular category divided by population, rather than the average of the states. As such it reflects the experience of the average citizen as opposed to the average state. Using the average of the states can be skewed by a number of small but high revenue/high expenditure states such as Alaska and Wyoming, particularly in 2012 when energy prices were relatively high. The national average obviously biases the sample towards the large states. While using different types of averages does change the relative distance of CT's average revenues and expenditures from the average, it does not materially change the main observations of this report.

⁵ The Volker Alliance (2015), and Bifulco et al. (2012).

⁶ Munnell and Aubry (2015), Truth in Accounting (2014), Moody's Investors Service (2015), and The Pew Charitable Trusts (2014).

⁷ Garfield et al. (2012, and Holahan and Yemane (2013).

⁸ In this calculation, I simply assume the entire decline in health and hospitals is due to a shift towards Medicaid funding of these services, and so I add back the decline to health and hospital and deduct a comparable amount from the change in public welfare.

⁹ Dollery, Garcea, and LeSage (2008)

¹⁰ Effective tax rates in these contexts typically refer to total taxes paid over the total tax base as means of side-stepping the impact of deductions, exemptions and credits associated with a particular tax. Typically, when economists use this term, they also deduct the portion of a tax that a particular economic unit (a person or firm) is able to avoid or pass on to another economic actor. This type of calculation is not included in these analyses, which focus on the legal liability for a tax.

¹¹ Cline, Neubig, and Phillips (2006).

¹² Phillips et al. (2014).

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Anderson (2012).

¹⁷ Phillips et al. (2014).

¹⁸ Pazniokas and Phaneuf (2015).

¹⁹ Anderson (2012).

²⁰ Drenkard and Henschman (2015).

²¹ Ibid, 29.

²² Anderson (2012), and Fisher (2005).

²³ Fisher (2005), p. 18.

²⁴ Anderson (2012).

²⁵ Davis et al. (2015), 133-135.

²⁶ Conceptually the SBTCI would also find these problematic since they erode the tax base; however, because of data collection issues, these are not included in the SBTCI.

²⁷ Malm and Pomerleu (2015).

²⁸ Ibid.

²⁹ Ibid.

³⁰ Ibid.

³¹ Note that this index replaced the Small Business Survival Index, which included a broader set of economic and demographic criteria.

³² Beacon Hill Institute for Public Policy Research (2014)

Chapter 6

Competitiveness: Factors that Contribute to Economic Growth in States with Special Reference to State and Local Spending and Taxes

A Report Prepared for the Connecticut Tax Panel
Presented September 30, 2015

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Acknowledgement: I thank my colleague Stuart Rosenthal for his many discussions about and guidance on the research presented here. Robert Ebel's comments on an early draft improved the Report. The research support from Boqian Jiang, Jindong Pang and Xirui Zhang is outstanding. The views expressed are the authors and not that of Syracuse University

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Competitiveness: Factors that Contribute to Economic Growth in States with Special Reference to State and Local Spending and Taxes

Executive Summary

Strengths

Connecticut has inherent economic strengths. It is an advanced state economy with a per capita Gross State Product that is 31% higher than the U.S. average and one of the highest in the nation.

It has a highly educated workforce; the percentage of persons between the ages of 25 and 60 who have a bachelor's degree or higher is 39.6 percent and ranks second to Massachusetts.

21 percent of Connecticut's workforce is employed in the high-productivity, high-earnings knowledge-based industries, where Connecticut's workers annual earnings average \$105,000 in 2013. (19 percent of the U.S. workforce is in knowledge-based industries; the figure is 25 percent for Massachusetts. The comparable earnings figure in these same industries for the U.S. overall is \$77,000.)

Knowledge industries are located throughout the MSAs in Connecticut. All three of Connecticut's MSAs have about 21 percent of their employment in knowledge-based industries.

Since 2012 the Hartford-West Hartford-East Hartford MSA has had a higher employment growth rate for knowledge-based industries than the other two MSAs in Connecticut.

The high earnings industries also have a large multiplier and create as many as five local service jobs for each high earning job. Moretti (2010).

At the same time, Connecticut has a diverse economy and with exceptions its economy is structured like New York and Massachusetts.

Vulnerabilities

As a relatively small state economy, national trends in trade, automation or recession can buffet Connecticut's industries and affect livelihoods in Connecticut more than in larger states.

Connecticut's economy has grown more slowly than neighboring states since 2007. It experienced a larger downturn in its economy during the 2008/2009 recession than the nation overall, and Connecticut economic recovery from the recession has not kept pace with the national recovery.

The lagging recovery in Connecticut is broadly present across industry groups, although professional business services; and education, health and social assistance show signs of stronger growth since 2013. And the sluggish economic growth pattern is similar across its three metropolitan areas. Whatever has caused the low growth rate in Connecticut since 2007 appears to affect the entire State and does not appear to be confined to a particular area or industry.

Competitiveness

State and metropolitan areas compete most often with nearby or neighboring states. Put another way, businesses come to the Northeast for its workforce and largely go to other regions for the workforce in those regions.

The implication for fiscal variables is that differences in taxes or public services have the most effect on business expansion and locations decisions when competition is between nearby states and not across regions of the country.

Findings in this report and others in the series show that Connecticut is not a high tax state relative to its income or fiscal capacity. It is also not a high business tax state.

Connecticut has a relatively high property tax, and its individual income tax is higher than the average for states.

Do Taxes and Expenditures Matter for Economic Growth?

Empirical estimates done for this report find that high property taxes and individual income taxes depress growth. Connecticut has relatively high property taxes and higher than average individual income taxes. The estimates also show that states that spend more on elementary and secondary education have higher economic growth.

Simulations indicate that the property tax and the individual income tax have modest effects on growth. Reducing reliance on those taxes would help growth but that fiscal reform by itself would not have a dramatic effect on a lagging economy. At the same time, doing nothing to reform those two would continue to hinder growth.

Simulations of tax effects suggest that cutting property and /or individual income taxes and increasing other revenue sources to pay for the cuts might increase growth by as much as 0.2 percentage points, depending on the size of the tax changes.

Cutting property taxes and paying for the cuts by increasing revenues from the individual income would have a neutral to negative effect on economic growth.

Some combinations of tax and spending reforms might hurt growth. Cutting property and/or individual income taxes and paying for the cuts by reducing spending on elementary and secondary education would harm growth.

Based on data collected for this report, Connecticut has very high electrical energy prices. Energy costs are high in the Northeast states in general, so while the high costs may be problematic, high energy costs may be endemic to the region and structural in nature.

Connecticut has underfunded public employee pension systems. Although not confirmed in the statistical analysis on growth, that situation is unlikely to help future growth, because to some it represents an unfunded liability and higher future taxes.

Conclusions

In a recent report, Mirrlees (2011) and his fellow commission members reiterate long understood principles of tax design. They emphasize “looking at the fiscal system as a whole rather than at its individual components.” (Page 26) The system should be progressive, neutral and a system (page 471.)

To the extent that a tax system such as Connecticut’s discourages income growth, reform of the system should broaden bases and lower tax rates to reduce the disincentives that occur when there are high nominal tax rates for some taxes and low rates elsewhere in the system. More balanced tax systems create the best environment for growth.

Connecticut has underfunded public employee pension systems. That situation is unlikely to help future growth, because to some it represents an unfunded liability and higher future taxes.

The Northeast Corridor of the United States has a high concentration of knowledge workers. Connecticut has a substantial share of its economy in knowledge-based industries. These high earnings industries produce a large number of jobs that support the industry.

The literature of on job growth has found that most growth occurs when states retain and grow their existing industries. While economies do evolve, most economic growth or decline stems from a state’s current employers and expansion in existing industries.

An important finding in the literature on state and regional growth is that knowledge workers learn from one another and through their interaction create new ideas and that enhance economic growth. Knowledge-based industries rely on a continuing flow of highly educated and innovative workers to a state or region.

Connecticut should adopt policies that attract and retain these workers. It has attractive coasts and recreation. An area that can give Connecticut a competitive edge over its neighboring states is in the cost of housing. Local governments might examine local zoning laws to insure orderly land use but not unduly restrictive zoning that may drive land and housing prices upward. And it should consider strategic investment in its university laboratories and STEM disciplines to enhance knowledge creation and the supply of knowledge workers.

Competitiveness: Factors that Contribute to Economic Growth in States with Special Reference to State and Local Spending and Taxes

1. Background on Economic Growth and Changes in the U.S. Economy

Policy makers, economists, and other professionals have had interest in job and income growth since at least Adam Smith. There is a substantial literature that focuses on the determinants of differential employment and income growth among states and urban areas. Studies published before 1995 on differential job growth among states have analyzed growth with data that range over short time periods. That limits the conclusions on whether the factors found to influence growth do so consistently over long periods of time. On the other hand, looking at growth in states and cities over long time periods introduces national and global economic forces that may lift or harm growth in all states and cities or help some more than others. The results gleaned from these studies risk finding that growth is due to policies adopted in states or localities when in fact the growth is due to national and international economic forces over which states have no control. Not accounting for these larger national or international forces can lead to false conclusions about the causes of differential growth rates among states. See Barro and Redlick (2011).

Three long-term national or international trends have received major attention and influence growth. Economic growth is not steady over time and innovation plays a large role in the overall growth rate of the U.S. economy. (U.S. Bureau of Labor Statistics March 26, 2015.) Briefly, economic growth has three main components: the amount of growth that can be attributed to labor and to capital productivity, as well as a residual or unexplained component, known as multifactor productivity, that results from innovation and new ideas. By their nature, innovations and new ideas that lead to large productivity gains are not predictable.

Another form of unexplained growth arises from agglomeration economies, generally attributed to knowledge workers sharing ideas and inventing new products and services (Jacobs 1969). Illustrations of these effects include Silicon Valley for information technology and scientific research as well as the Boston area for scientific research. These highly productive areas result from a complicated set of forces that are largely idiosyncratic and not easily duplicated in other regions. There are other examples, including New York City and other large cities that specialize in knowledge workers in a common industry. In fact, Rothenberg Pack (2002) explains in her book that growth in metropolitan areas can be explained by a standard set of variables, but a large component of the growth differential among areas is due to agglomeration effects that tend to be idiosyncratic and not explained by policy interventions.

Two other trends – import competition primarily from China and automation in the economy or the substitution of capital for labor in the economy - have disrupted growth in certain industries

and could have differential effects on job and per capita income growth in states. Autor and Dorn (2013) and Autor, Dorn and Hansen (forthcoming) in two papers examine the effects of trade with China and of automation on jobs in the manufacturing sector. Trade has caused job losses in manufacturing for both production workers and for managerial and professional occupations. They note that job losses from trade have accelerated over time due to increased competition from trade. The loss of manufacturing jobs in turn reduces the demand for local goods and services, and trade then indirectly affects jobs losses in the non-manufacturing sector.

The effects of production automation on manufacturing job losses has had the largest effects in the 1980s and smaller effects over time, with the smallest effects in the 2000s. Automation or technology has also reduced the demand for clerical jobs as well as for jobs that involve routine tasks. On the other hand, the demand for workers in the non-manufacturing sector that require manual work, communication skills, personal service and abstract reasoning has increased. Overall, employment in the non-manufacturing sector has not declined; instead, as a consequence of automation in the service sector, jobs have grown in low-wage services sectors and in high-wage sectors that require abstract reasoning.

Two observations stem from this change in the mix of jobs: states with high concentrations of manufacturing jobs affected by trade may exhibit more overall job/income losses than states with a lower shares of manufacturing jobs. The job losses may have little to do with state fiscal policies. States have limited power to redress job changes that result from globalization or automation. But sorting out the reasons for slower job growth – external forces or state policies – only can be done at times with the benefit of hindsight. However, prospectively, states may undertake policies with the intention of offsetting job losses only to find that the job effects of external forces cannot be reversed and spend valuable resources to no effect.

A second observation is that jobs in high-wage industries exhibit slower growth, while lower-wage jobs tend to grow at a faster pace because the industries are labor intensive. The implication, and one noted previously by Rothenberg Pack (2002), is that higher employment growth and higher per capita income growth are not necessarily related. Places that create high-wage jobs will generally have slower employment growth and high per capita income growth. The opposite is true when places create primarily lower wage jobs. Moretti (2010) has observed, however, that higher wage jobs have larger local multipliers and create more jobs in services than lower-wage jobs. Strong income growth creates higher demand for services, and Moretti estimates multiplier effects and suggests that five service jobs are created for every high-wage job created.

An implication for state policy makers is to focus the discussion on whether economic progress means per capita income growth, job growth, or both, and to address the types of jobs to be created. The appropriate policy instruments for job creation may depend on the types of jobs one wants to create.

The next section of this report will review the recent empirical literature on the forces that create jobs and income growth in states and areas. A third section will focus on Gross State Product (GSP) growth by industry in Connecticut, and then examine the presence and growth of

knowledge-based, high-earnings industries in Connecticut. A fourth section examines the business climate in Connecticut, followed by a section that reports a new set of empirical estimates for the effects of public expenditures and taxes on GSP growth in states from 1990 to 2013. A final section contains conclusions.

2. Results on Job and Income Growth in Regions and States from Earlier Studies

There is a large literature on the forces behind economic growth for both national and subnational – regions and states – economies. There is a related literature on convergence of incomes among nations due to transmission of innovation and technology across countries. Nations with higher per capita incomes tend to grow more slowly than nations with lower per capita incomes. Convergence may be relevant when examining economic growth at subnational levels. Barro and Sala i Martin (1990) as well as Rothenberg Pack (2002) find evidence for income convergence among states, and there is a large literature on convergence among regions of the United States due to labor mobility within the country and related convergence of workers' wages among regions. A point here is that Connecticut with a high per capita income, may realize lower growth than other states due to convergence of incomes over time.

There is also a large literature on fiscal competitiveness in states and regions, which is summarized below. Much of the literature focuses on tax and expenditure policy and whether states with higher taxes have lower employment and income growth. An important question is whether taxes and expenditure patterns “cause” slower growth or are simply coincident with it. Findings that there is no or limited association between taxes and growth may be correct, but a finding that there is an association should be subjected to rigorous testing for causality and the more recent literature uses techniques that attempt to uncover cause and effect.

The literature published before 1995 is summarized in Wasylenko (1997). The conclusions from that body of work are that researchers do not consistently find that taxes and expenditure policies in states deter employment and per capita income growth in states. The results and the conclusions drawn from them about the influence of tax policy depend on the time period analyzed; the type of analytical techniques used; and what industries are examined. Carroll and Wasylenko (1994), for example, analyze employment growth by industry and test whether the influence of fiscal variables changes between the 1970s period and the 1980s period. Indeed, they find that in the 1970s manufacturing jobs grow more slowly in states with higher state and local taxes especially when the funds are used to finance public welfare, but that these results do not hold for the 1980s. They also find that fiscal policy has no effects on non-manufacturing industries in either the 1970s or the 1980s.

Where agglomeration economies could be measured, researchers consistently find that they influence job creation. If a place exhibits agglomeration economies, the best practice is to nurture it, but it is difficult to create agglomeration where none exists. More will be said on agglomeration below when the post-1995 literature is reviewed.

On the other hand, when researchers examine business location choices or employment growth within an urban area, as opposed to across regions or states, they consistently find that taxes and expenditures patterns make a difference for business locations and employment growth. Places with more favorable fiscal environments within a metropolitan grow more quickly. The reasoning behind the findings is that within an urban area, there is likely to be less variation in the other factors and variables (wages, labor force availability, energy costs) that matter for businesses, and differences in fiscal policies then become the main differences between sites within a local area. Fiscal variables then influence business expansion and location decisions.

A note of caution is needed in interpreting the above results. The findings that taxes do not affect growth in states should not be interpreted as, “any fiscal policy is as good as any other.” Poor tax and expenditure policy can hurt a state’s economic prospects. What the empirical literature tells us is that there is not so much bad fiscal policy in states that it shows up in the empirical work or in the statistics on location decisions and employment growth. It is the case that public finance economists and public policy researchers agree that expenditure policy should follow citizen preferences for state and local goods and services, and that taxes should be levied on broad bases to preserve economic efficiency and interfere as little as possible with economic decisions of firms and people. Tax policy should also not favor particular industries. Furthermore, there may be scope for tax and expenditure policies that promote equity within a state. But at a state and local level, unless supported by citizen preferences, tax policy has limited potential as an instrument to redistribute income, because residents, capital and non-service sector businesses are mobile and can avoid these policies, if they choose, by moving or shifting operations elsewhere.

2.1 Methods Used in Recent Studies

Studies performed since the mid-1990s focus attention on fiscal forces as well as other variables than influence growth, and in some studies, the fiscal variables receive less emphasis than other forces. Compared to earlier work, the later studies use longer time series data and pay closer attention to identifying cause and effect when studying fiscal policy and its influence on employment and income growth. Below the recent literature is discussed according to the policy being analyzed. For example, some studies examine policies on the borders of states – one state having changed its policy is compared to others that have not changed – and examine the differential growth across the state lines. Others examine agglomeration effects. We summarize the findings for each type of study in the tables that follow each section, and then discuss the limitations of the studies, if any. While tax and expenditures are a focus of this report, a logical extension is to ask what other factors, according to the growth studies, make a difference to growth and how can Connecticut capitalize on its current strengths and improve fiscal and other aspects of its economy to stimulate growth.

2.2 Method to Analyze Expenditures and Taxes

Helms (1985) modeled state and local expenditures and taxes within a balanced budget framework and that has become a standard method for analyzing how expenditures and taxes affect economic growth. Carroll and Wasylenko (1994) and two newer papers that are reviewed here use Helms' framework.

Briefly, Helms structures the fiscal issue within a budget model of taxes and expenditures. The state and local budget equation is written as the state and local budget deficit (or surplus) equal to the sum of various state and local revenues sources (denoted by subscript i) less the sum of state and local spending on different services (denoted by j):

$$Deficit (surplus) = \sum_i REV(i) - \sum_j EXP(j)$$

Revenues include all taxes, user charges, grants from federal government, and expenditures include all state and local expenditure items. Using a budget framework means that the expenditure and tax variables are not independent of one another or that to maintain the budget framework, we cannot change one fiscal variable in the equation without an offsetting change in another fiscal variable. To perform appropriate empirical analysis, one of the expenditure items or revenue items must be excluded from the model and then the results are interpreted in terms of the left out variable. For example, it is common in the papers to omit public welfare expenditures from the list of expenditure items in the statistical model. Thus a finding that personal income taxes have a negative coefficient means that personal income taxes spent on public welfare - the left out category - has a negative effect on the dependent variable. To look at the net effect of increasing personal income taxes to finance another expenditure item, raise the tax by one dollar and increase the expenditure item of interest by one dollar and compare the coefficients of the particular tax and expenditure items.

2.3 A Note on Industry Classification

Effective in 1997, the U.S. changed its industry classification. Industries are classified according to the North American Industry Classification System (NAICS) and no longer according to the Standard Industry Classification (SIC). The implication is that, when data on employment or Gross State Products for individual industries cross 1997, the industry-level employment or income figures pre-1997 and post-1997 are not necessarily comparable. So, researchers who use long time periods in their analysis generally analyze total employment for states, Gross State Product for the states, or per capita income. They do not analyze individual industries to avoid the inconsistent classification of industries pre and post 1997.

2.4 Recent Studies of Expenditure, Taxes, and Growth

Two recent studies examine a comprehensive set of expenditure and tax variables and test their influence on economic growth in states. Recent work has focused on analyzing Gross State

Product or total employment for states over a multiple set of time periods along the lines of Carroll and Wasylenko (1994) and is summarized in Table 1 below.

Reed (2008) examines per capita income growth in states over a five time periods between 1970 and 1999. When he uses state and local taxes to represent fiscal variables, he finds that taxes deter income growth and the coefficients on taxes are statistically significant across a number of different empirical specifications. When he includes productive and public welfare expenditures in his equations along with taxes, as suggested in Helms (1985), Reed finds in some specifications that higher taxes spent on productive expenditures deter per capita income growth, while the higher taxes spent on public welfare foster growth. The latter results are unexpected, given the findings of the past literature (Reed 2008, page 74).

Gale, Krupkin and Rueben (2015) use similar data to estimate per capita income growth, new firm formation, and the employment to population ratio in states between the 1977 and 2011 at various points in the 1977 to 2011 time period. They also follow Helms' (1985) specification of the tax and expenditure variables. In addition to a measure of aggregate tax burden, they disaggregate the tax variable into major taxes – sales, individual, corporate and property taxes. Higher property taxes consistently have a negative and statistically significant effect on employment growth and per capita income growth in states. Taxes spent on public welfare have a negative effect on employment and income growth. Beyond those findings, when empirical estimates are done for different time periods, individual and corporate taxes have a positive effect on income and employment growth in one or more times periods.

Gale, Krupkin and Rueben take issue with Reed that taxes are important drivers of income and employment growth in states. By adding more time periods to the Reed analysis, they find that taxes do not persist over time as drivers of income and employment growth. Property taxes and social welfare spending do affect job and income growth and those results seem fairly consistent across time periods in the Gale, Krupkin and Rueben analysis.

Table 1 Expenditure and Tax Analyses			
Author	Measure of Growth /Dependent Variable	Tax Variable/Results	Expenditure Variable Result
Reed (2008)	Difference in state real per capita personal income over five year period. Analyzes the period from 1970 to 1999.	Taxes as a ratio to income have a negative and statistically significant effect on per capita income growth. Same for non-tax revenues.	Expenditures are split between productive and welfare expenditures. Tax effects are negative when revenues are spent on productive expenditures. Tax effects on income growth are sometimes positive when taxes are spent on welfare expenditures.
Gale, Krupkin, Ruebin (2015)	Difference in state real per capita personal income over five-year period. Also examines firm formation per capita and change in employment-population ratio. Analyzes the period from 1977 to 2011.	Taxes as a percentage of income negatively influence income growth in some of the equations and for some time periods. Increases in individual and corporate income taxes are associated with increases in income growth. Property taxes consistently have a negative and statistically significant effect on personal income, firm formation and employment growth.	Public welfare expenditures have a consistently negative effect on employment growth and real per capita personal income growth.

2.5 Taxes across State Borders

The research reviewed in this section addresses more specifically whether tax policy “causes” growth or business locations. Running social experiments on firms in treated and non-treated groups is not possible, so researchers have looked to other methodologies. In this case, the studies examine neighboring states, where one or more have undergone policy changes (treated group) and compare the growth or business outcomes in the treated states to the growth or business outcomes in neighboring states that have not undertaken a change in policy (non-treated group). Generally, research in this area examines growth in neighboring counties in the treated states and compares it to the growth in border counties in the non-treated states.

The results of these border studies need careful interpretation, however. Note that the studies typically examine firm location patterns in smaller geographic areas in counties on one side of a state border and compare them to location patterns in counties on the other side of the state border. Finding fiscal effects on location or growth within geographically small areas is consistent with the literature that examines location within metropolitan areas and finds taxes and expenditures matter within the urban area because other factors that could affect firm choice or employment growth do not vary much with the urban area. The issue for the border studies is: do the results scale to a broader population or affect employment and income in the state overall. More specifically in the context of state employment and income growth, are the effects in border counties indicative of what happens in the entire geographic area of the state or are we finding results at the border that, while large in those locations, do not materially move the income or employment of the state in general.¹

The two studies reviewed here exploit the idea that counties in one state have a different tax or business climate condition than neighboring counties in another state. Rohlin, Rosenthal and Ross (2014) examine the effects of state tax reciprocity for the personal income tax on the location of new establishments in bordering state locations. Tax reciprocity allows the employee to pay tax in the state of residence rather than the state of employment. Where one state has a higher personal income tax rate, tax reciprocity allows the firm to locate in the high personal income tax state that may have other features that are favorable to business and the employee to live in the lower personal income tax state. Thus, we should observe in the data that a high personal income tax does not deter new business location, when a reciprocal personal income tax agreement exists between two states. They find that new establishments in fact favor high personal income tax locations when reciprocal agreements are in place and avoid the states with high sales and corporate income taxes. They also find that the results are more pronounced in more densely populated locations.

Ljungqvist and Smolansky (2014) examine employment and income growth in five-year intervals from 1970 to 2010 in border counties for states that have increased their corporate

¹ For a discussion of the limitations of randomized control trials and quasi experiments, see Deaton (2010) and pages 447 to 452 therein.

income tax rates compared to states that have not increased their corporate tax rates. In states that have increased their corporate tax rates, income and employment grow more slowly compared to border counties in states with no corporate income tax rate increases.

They then examine states that have reduced their corporate tax rate, and compare the employment and income growth in border counties in these states to employment and income growth in border counties in states that have not reduced their corporate income tax rates. They find no growth advantages in border counties when states reduce their corporate tax rates. The asymmetry in the effects on income and employment growth when states increase corporate rates compared to when they reduce corporate rate raises interesting questions for tax policy.

Table 2 Tax Effects Across State Borders		
Author	Measure of Growth /Dependent Variable	Tax Variable/Results
Rohlin, Rosenthal, Ross (2014)	Newly created enterprises situated within commuting distance of the state border. 2002 and 2005	Tests whether reciprocity for personal income tax influences location of new enterprises. A set of results indicates that with a reciprocity agreement in place – workers pay taxes where they live and not where they work – new enterprises locate in the high personal income tax state, and try to avoid the states with higher corporate and sales taxes. The results are more pronounced in more densely populated areas.
Ljungqvist and Smolansky (2014)	Income and employment growth in counties over five-year intervals from 1970 to 2010. Examines counties on the borders of states that have raised their tax rates and compares them to border counties in another state that has not raised its tax rate.	In states that increased their corporate tax rates, employment in counties on the state border grew more slowly than counties on the other side of the border in states that had not increased their corporate income taxes. However, in states that reduced their corporate income taxes, the border counties did not have an increase in employment or income compared to border counties in states with unchanged corporate income tax rates.

2.6 Agglomeration Economies

The importance of agglomeration economies has received attention as a driver of economic growth in the urban and regional literature for some time. Agglomeration economies take two basic forms: localization economies or firms that benefit from knowledge spillovers from firms in the same industry; and urbanization economies – urban diversity, urban size, knowledge - where firms benefit from workers and managers interacting across industries to spread existing knowledge and create new knowledge (See Jacobs 1969.). Both types of agglomeration occur in larger cities and the advantages of agglomeration drives further growth in regions or cities. The distinction between the agglomeration economics is important. Some researchers find that localization economies are important to retaining firms but do not lead to growth, whereas the agglomeration that comes with urban diversity, talent and knowledge spillovers offers a dynamic growth environment.

Glaeser and Gottlieb (2009) review this literature. One point of special note is that agglomeration economies lead to growth and enhanced productivity, and that in turn leads to higher wages. The advantages of agglomeration and the higher wages induce further in-migration of knowledge workers who demand more housing and land; and create more congestion adding to commuting times. Larger numbers of workers, congestion, and higher housing/land prices then present limits to the agglomeration advantages. Once the added costs of housing and congestion exactly offset the higher wages in the region, the area reaches an equilibrium where further growth requires another significant advance in productivity gains. An important point here and one often not mentioned in studies of economic growth is the role that housing prices can play for future economic growth. Glaeser and Gottlieb note that whether or not employment growth increases housing prices depends on the elasticity of supply of housing and of land, in particular. A shortage of available land in a city area will increase the cost of land; drive households farther from the city area; and increase congestion and commuting costs. Furthermore, zoning laws and land regulations can also restrict available land and drive up the costs of land to offset the higher wages that derive from agglomeration economies.

Turning to the empirical literature, Glaeser, Kallal, Scheinkman and Shliefer (1992) find evidence of knowledge spillovers when they examine employment growth for major industries in 170 cities from 1956 to 1987. Henderson, Kuncoro, and Turner (1995) examine employment growth between 1970 and 1987 in five mature manufacturing industries for 224 metropolitan areas. They find that localization or within-industry agglomeration economies play an important role for growth. They then examine employment growth for three knowledge-based industries. Two observations: only about a third of the original 224 metropolitan areas have knowledge-based industries; and growth in employment in these industries depends more on urban diversity or Jacobs-type knowledge spillovers than on localization economies.

Rosenthal and Strange (2003) examine firm births in relation to agglomeration economies. Firm births are more likely to occur nearer to small firms in the same industry. They also find

evidence that the benefits of agglomeration for new firms attenuate with distance from other firms; the benefits are strongest when firms locate within five miles of one another.

Moretti (2012) devotes a significant portion of his book to a discussion of the literature on agglomeration and applies it to newer industries in the innovation sector – information technology, life sciences, medical devices, robotics, new materials, and nanotechnology, for example. Agglomeration economies play a significant role in attracting more knowledge-based companies to an area. He also argues that the knowledge spillovers require close proximity and attenuate with distance. Knowledge workers need to find one another quickly and interact frequently for more than brief periods of time to create meaningful knowledge spillovers.

Of substantial interest for development and growth is how the agglomeration of knowledge industries come into being and what policy makers can do to jump start the knowledge-based sectors. Another way to ask the question from a policy perspective is: “Can we create incentives – tax or otherwise – to attract knowledge-based industries?” Moretti makes two points: tax or other incentives targeted at attracting specific firms or industries rarely work to the advantage of the state or locality. He points to the large subsidies paid to automobile companies to locate businesses in a state and the high cost per job created.

Another approach to attract industries is through place subsidies, where states or cities and even the federal government target a particular area for investment. Examples include the Appalachian Regional Commission that directed investment in the Appalachian area; the Tennessee Valley Authority; and Empowerment Zones. Moretti (2012) notes that the latter two are successful for two reasons: the investment amount is large and sustained for 25 years or more in the case of TVA, and the subsidy is not targeted at a particular industry but to all businesses in the case of Empowerment Zones. Generally though, place subsidies do not have sustained funding and as a result do not produce the desired growth results.

Further Moretti (2012) reasons that formation of a high-tech sector involves a complex ecosystem. The presence of universities by itself will not result in a high-tech industry sector, although they can be an important part of the system. Moretti notes that the Silicon Valley and the Boston-Cambridge areas have a system of diverse enterprises; faculty who innovate and have the entrepreneurial drive to start companies with venture capitalists. Faculty return to research while the venture capitalists hire managers and hire knowledge workers often from universities in the area. Larger companies then buyout the successful ventures and grow the company, which in turn attracts more knowledge workers. The system feeds itself.

Connecticut has a number of highly rated research universities; it also has other high-tech industries that benefit from agglomeration. The report turns to an analysis of the Connecticut economy.

Table 3 Agglomeration Economies		
Author	Measure of Growth /Dependent Variable	Results
Glaeser, Kallal, Scheinkman, and Shleifer (1992)	Employment growth and wage growth in five largest industries for 170 cities between 1956 and 1987.	Cities that have more variety of industries and more competition among firms in a given industry tend to grow faster. Also, knowledge spillovers among workers – a main feature of agglomeration economies - tend to occur among industries rather than strictly within a given industry.
Henderson, Kuncoro, Turner (1995)	1987 Employment in five mature manufacturing industries in 224 metropolitan areas, given 1970 levels of employment in those same areas. Then 1987 employment in three high-tech manufacturing industries in fewer than half of the 224 areas that have those industries.	Within industry agglomeration economies are important for the mature manufacturing firms. No evidence of the Jacobs-type knowledge spillover agglomeration effects are found or these five industries. For 1987 employment size in the three high-tech industries, Jacobs–type knowledge spillovers among industries played a much stronger role than localization or within industry agglomeration economies.
Rosenthal and Strange (2003)	Births of new establishments and new establishment employment in 1997.	Localization economies – within industry – spillovers found to influence the birth and establishments and employment. Two caveats: the degree of the agglomeration are strongest when like firms are located within five miles of one another and the effects are strongest for smaller establishments and less important for large establishments.

Connecticut has a population of 3.6 million residents and has a real per capita GSP in 2014 of \$64,676 (measured in 2009 dollars) that is 31 percent higher than the United States average. Table 5 displays the per capita real (2009 dollars) GSP in 1997 and 2014 for the five highest states in 2014, excluding the District of Columbia and the natural resource states; namely, Alaska, North Dakota and Wyoming, because their resource-based economies lack economic comparability with Connecticut and other states.) In 1997, Connecticut and Delaware rank ahead of New York and Massachusetts in real per capita GSP. By 2014, New York ranks first among the non-natural resource states, and Delaware falls behind Massachusetts. New York and Massachusetts have annual average real per capita GSP growth rates of 1.6 and 1.7 percent, respectively, while Connecticut grows at an annual rate of 1.0 percent, which is slightly below the United States annual average growth rate of 1.1 percent over the 1997-2014 period.

Table 4
Real Per Capita GSP for Selected States by Rank (2009 dollars)

State	1997	2014	Annual Growth Rate
New York	\$49,004	\$64,818	1.6%
Connecticut	\$54,753	\$64,676	1.0%
Massachusetts	\$47,224	\$63,005	1.7%
Delaware	\$57,351	\$60,551	0.3%
New Jersey	\$49,678	\$56,405	0.7%
United States	\$40,818	\$49,469	1.1%
Rhode Island	\$37,744	\$47,901	1.4%
New England	\$45,693	\$58,071	1.4%
Source: U.S. Bureau of Economic Analysis http://www.bea.gov/iTable/iTable.cfm?reqid=70&step=1&isuri=1&acrdn=1#reqid=70&step=1&isuri=1			

To some extent, the slower growth rates in a higher income state may be a regression to the mean phenomena or convergence in per capita GSP over time. It may also be due to a different mix of industries among the three states. For example, Connecticut may be saddled with slower growing industries while New York and Massachusetts have faster growing industries.

To understand the difference in industry mix among the three states, Table 5 displays location quotients based on the 2014 employment share in each (2-digit NAICS) industry sector compared to the employment share in the same sector for the nation as a whole. As an example, a location quotient of .90 in an industry sector means that a state has a lower share of employment in that sector than the nation as a whole. A location quotient of 1.10 means it has a 10 percent higher share of employment in the sector than the nation as a whole.

Based on location quotients displayed in Table 5, the three states have similar employment structures, and their differences are limited to a few industry sectors. Connecticut has a greater share of employment in manufacturing in 2014 than the nation as a whole, while both Massachusetts and New York have lower concentrations in manufacturing than the nation as a whole. All three states have higher concentrations of employment in educational services as well as in health care and social assistance than the nation as a whole, and the employment concentrations in these two industry sectors are similar among the three states. All three states have above average concentrations in finance and insurance, and Connecticut has a higher concentration of employment in this industry sector than the other two states. The same applies to management and enterprise, where Connecticut enjoys a higher concentration of employment than the nation, Massachusetts, and New York. New York dominates the other two states in real estate and rental and leasing.

An important observation is that Massachusetts and New York have higher concentrations of employment in professional, scientific and technical services (NAICS 54) and in the information sector (NAICS 51) compared to the nation, and Connecticut lags the nation in these two emerging economic growth areas. The industry sector named “professional and technical services” contains scientific research and development as well as a range of professional services from law to architecture and other knowledge-based industries, but there is more to knowledge-based industries than these two sectors.

Table 5
Industry Sector Location Quotients: ^a
Connecticut, Massachusetts and New York 2014

Industry Sector (NAICS)	Connecticut	Massachusetts	New York
Base Industry: Total, all industries	1.00	1.00	1.00
11 Agriculture, forestry, fishing, and hunting	0.34	0.23	0.32
21 Mining, quarrying, and oil and gas extraction	0.05	0.04	0.08
22 Utilities	0.88	0.77	1.06
23 Construction	0.75	0.83	0.86
31-33 Manufacturing	1.07	0.81	0.57
42 Wholesale trade	0.89	0.84	0.89
44-45 Retail trade	0.98	0.90	0.94
54 Professional and technical services	0.93	1.34	1.16
55 Management of companies and enterprises	1.21	1.16	1.01
56 Administrative and waste services	0.82	0.79	0.82
61 Educational services	1.74	1.99	1.86
62 Health care and social assistance	1.19	1.27	1.18
48-49 Transportation and warehousing	0.78	0.68	0.81
51 Information	0.95	1.24	1.49
52 Finance and insurance	1.56	1.16	1.37
53 Real estate and rental and leasing	0.77	0.83	1.40
71 Arts, entertainment, and recreation	1.02	1.02	1.17
72 Accommodation and food services	0.81	0.91	0.87
81 Other services, except public administration	1.16	1.06	1.27

^a Note: Location Quotient: Ratio of analysis-industry employment in the analysis area to base-industry employment in the analysis area divided by the ratio of analysis-industry employment in the base area to base-industry employment in the base area.

Source: 2014 BLS http://data.bls.gov/location_quotient/ControllerServlet

Another observation is that examining average real per capita GSP growth rates over a decade or more, as in Table 5, will mask episodic growth spurts and declines that underlie the annual average calculated over the entire period. In particular, while a trend over 13 years indicates that Connecticut's growth has not kept pace with real per capita GDP growth in the United States, it would be interesting to know whether the differences occur in a particular time period and/or stem from a few particular industries.

3.1 Annual Growth in Connecticut and Major Industry Sectors

To address the above questions, annual growth rates of real per capita GSP in Connecticut are compared to the growth pattern for the United States as a whole. The graphs (Figure 1) below trace real per capita GDP growth for the United States (blue dashed line) and Connecticut (red line) over the 2001 to 2013 time period. Based on the data that form the basis of the graphs, growth in real per capita GSP in Connecticut exceeds the rate of growth in the United States until the 2007/2009 down turn. Connecticut suffers a deeper recession than the U.S. overall and it does not rebound to the same extent as the United States in the post-recession period from mid-2009 forward.²

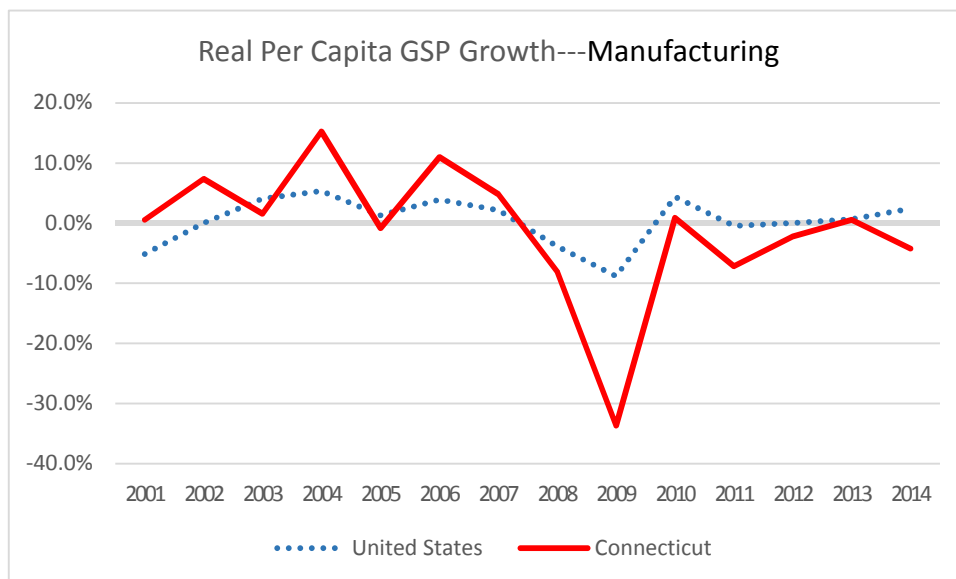
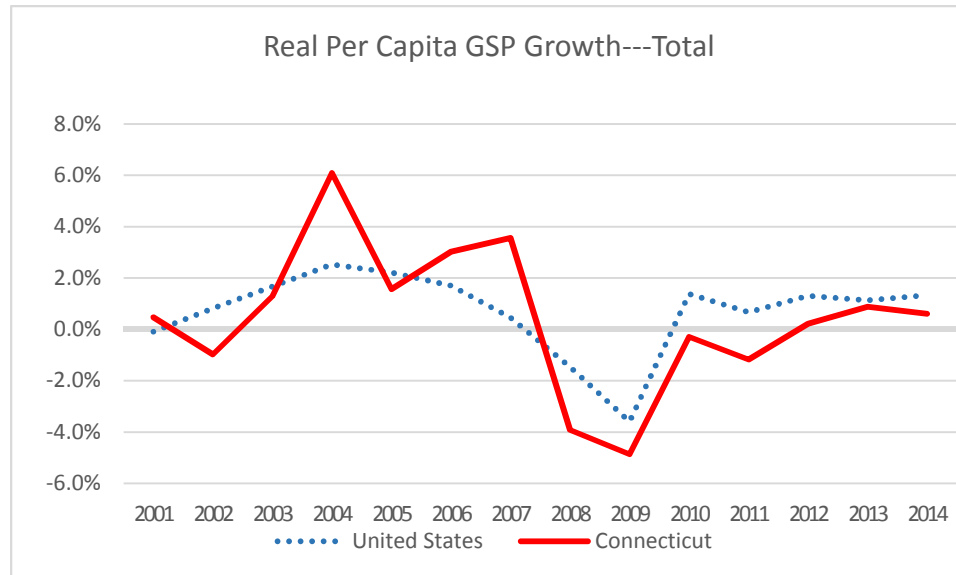
We next examine real per capita GSP for each of Connecticut's major industry sectors: manufacturing; finance, insurance, real estate, rental and leasing; professional and business services; educational, health care and social assistance; and government. Prior to 2008, with the exception of professional and business services, real per capita GSP growth rates in the other four sectors exceed - for manufacturing and government - or keep pace with the U.S. average growth rate. During the recent recession, Connecticut experienced a much sharper decline in real per capita GSP growth rates in the industry sectors examined here except for professional and business services. Connecticut lags the U.S. in growth during the post-recession period, and its strongest growth lies in professional and business services, and government, where the recent annual growth rates are as high as 6 percent. Finance, insurance, real estate, rental and leasing initially exhibit a sharp recovery in Connecticut after suffering a larger decline than the nation in 2008. Since 2010, the Connecticut's growth rate in this important sector and has been near zero.

While there are areas of recent strong growth, the graphs in Figure 1 reveal a sluggish recovery for Connecticut overall.

² The National Bureau of Economic Research puts dates on business cycles. According to NBER, the recession began in December 2007 and reached its lowest point in June 2009. The recovery thus began in the third quarter of 2009. See <http://www.nber.org/cycles.html>

Figure 1³

Growth in Real Per Capita GSP for Connecticut and the United States: Total and for Selected Industries 2001-2014



³ Source: Real per capita GDP is in chained 2009 dollars from the U.S. Bureau of Economic Analysis.

<http://www.bea.gov/iTable/iTable.cfm?reqid=70&step=1&isuri=1&acrdn=1#reqid=70&step=1&isuri=1>

Figure 1 (continued)

Growth in Real Per Capita GSP for Connecticut and the United States: Total and for Selected Industries 2001-2014

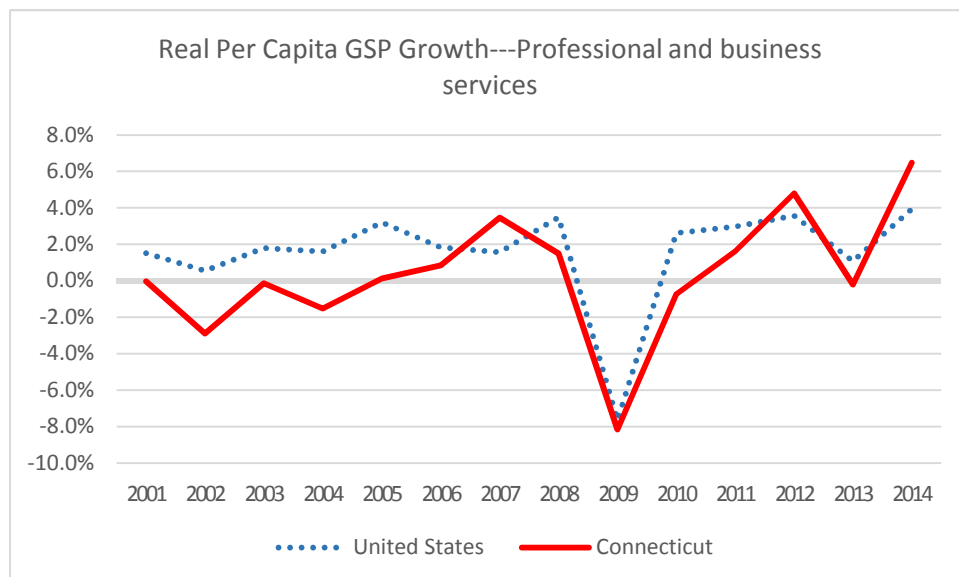
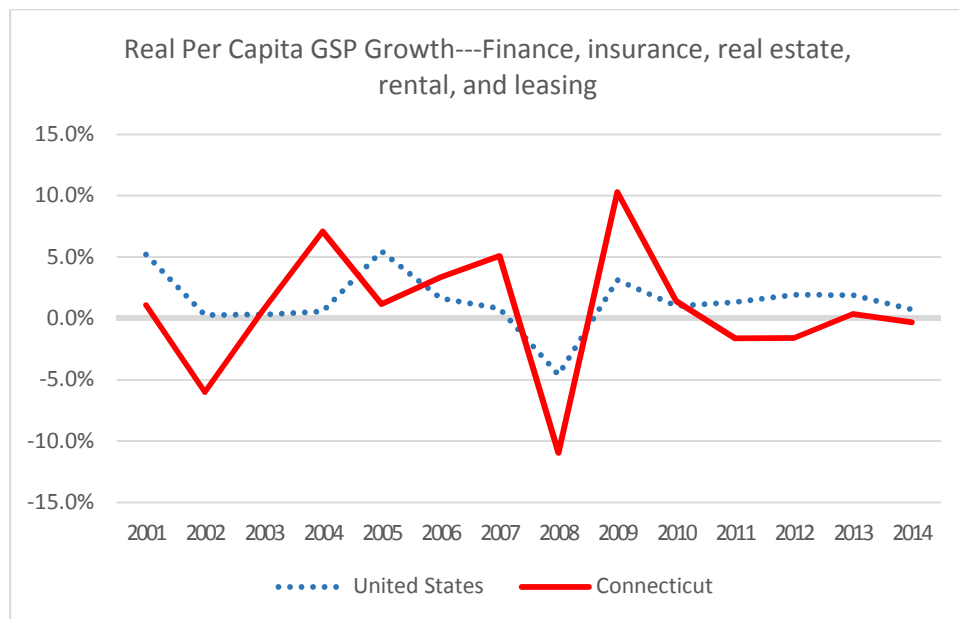
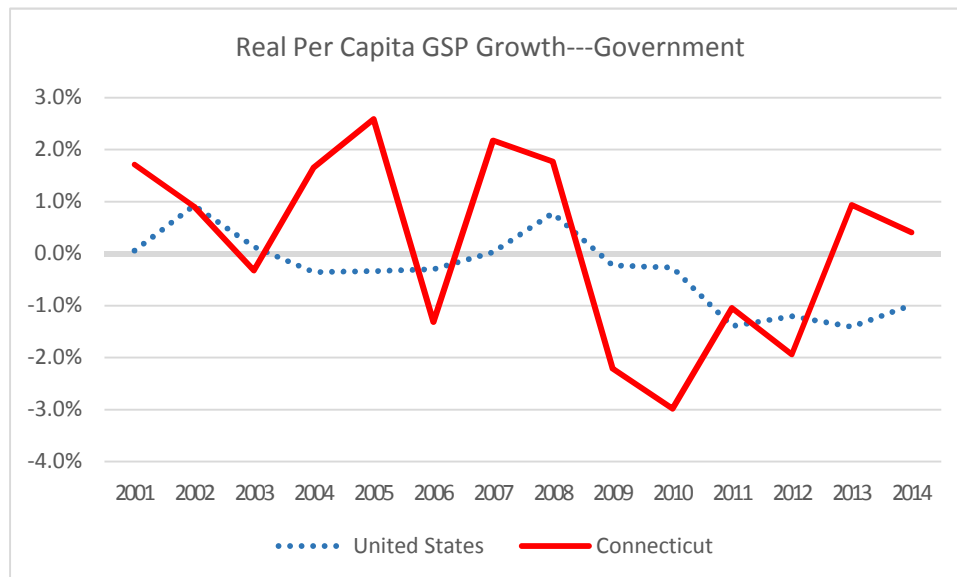
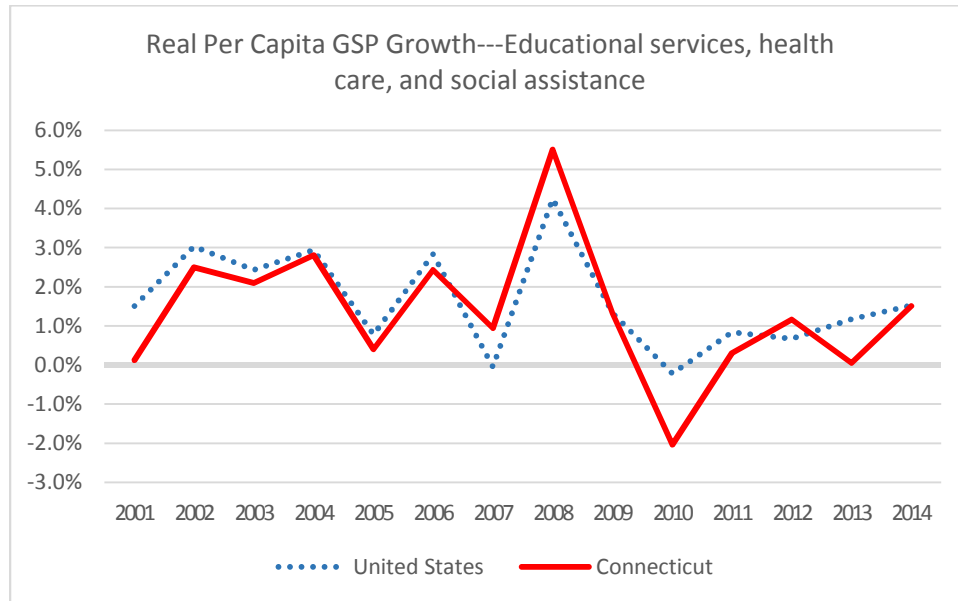


Figure 1 (continued)

Growth in Real Per Capita GSP for Connecticut and the United States: Total and for Selected Industries 2001-2014



3.2 Growth in Connecticut's Metropolitan Statistical Areas

Another question is whether sluggish growth occurs in any particular metropolitan statistical area (MSA) within the state or do all three MSAs in the state grow at roughly the same rates? With about 84 percent of the Connecticut's population living in one of three metropolitan areas, - Bridgeport-Stamford-Norwalk (BSN); Hartford-West Hartford-East Hartford (H-WH-EH); and New Haven-Milford (NH-M) - these MSAs will likely drive growth in Connecticut. Uneven patterns of growth or decline among the regions could be a responsible for the slow growth. Such a pattern would suggest policy intervention at the regional level, whereas similar growth or decline in all three MSAs may suggest a more general set of policy interventions.

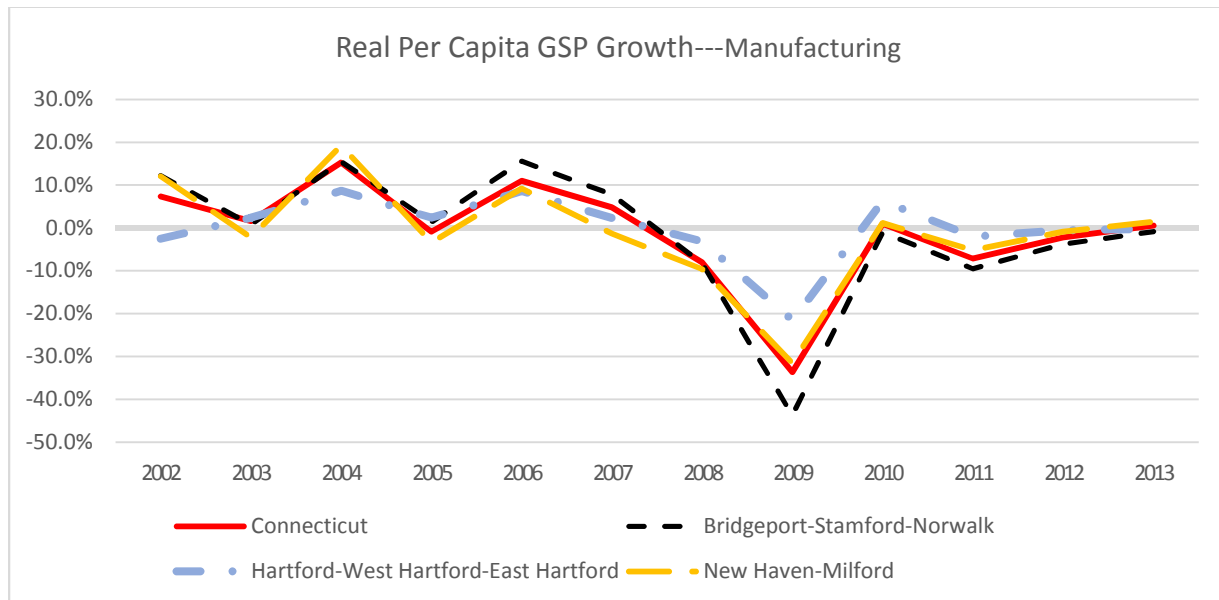
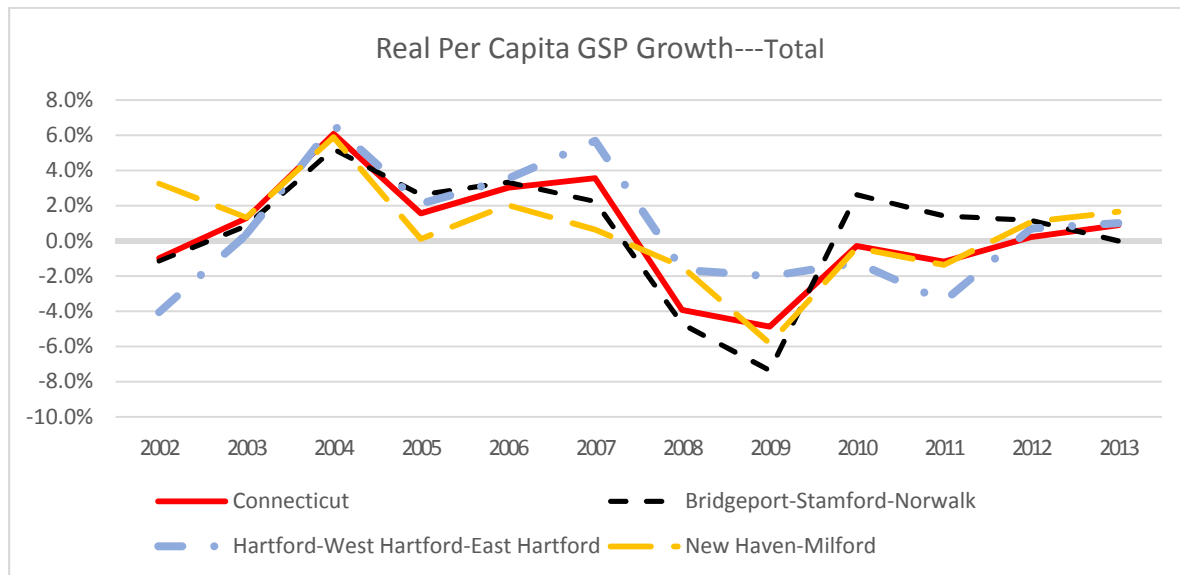
A second set of graphs in Figure 2 examines real per capita GSP growth in each of the three MSAs for the 2001 to 2014 period for the same industries as above.

Using the 2001 to 2013 period, for which we have data on the metropolitan areas, the graphs show the annual rates of growth in each of the three MSAs using the State's rate of growth (red line) as a benchmark. For real per capita GSP growth, BSN emerges from the recession with stronger growth rates than the other two MSAs. By 2012, its growth rate returns to the mean in the State, and after 2011, NH-M has stronger annual growth than the State overall. The differences in growth rates among the MSA can be attributed to two industry sectors: finance, insurance, real estate, rental and leasing; and education services, health care and social assistance. NH-M shows strong growth in the former sector in recent years, and H-WH-EH and NH-M show stronger than average growth in educational service, health care and social assistance. While the growth differences among the MSAs are not large and the differences may be ephemeral, as the growth rates change over time, the numbers suggest some areas of strength in two MSAs, but not enough strength to drive high growth in the State overall.

At the same time, the figures do not support the ideas that a particular area of the State or an industry sector in the state have grown or shrunk more than any other. Put another way, whatever has caused the low economic growth in Connecticut during the post-recession period appears to affect the entire State and does not appear to be confined to a particular area or industry.

Figure 2⁴

Growth in Real Per Capita GSP for Connecticut and Three MSAs: 2001-2013



⁴ Source: Real per capita GSP is in chained 2009 dollars from the U.S. Bureau of Economic Analysis.

<http://www.bea.gov/iTable/iTable.cfm?reqid=70&step=1&isuri=1&acrdn=1#reqid=70&step=1&isuri=1>

Figure 2 (continued)

Growth in Real Per Capita GSP for Connecticut and Three MSAs: 2001-2013

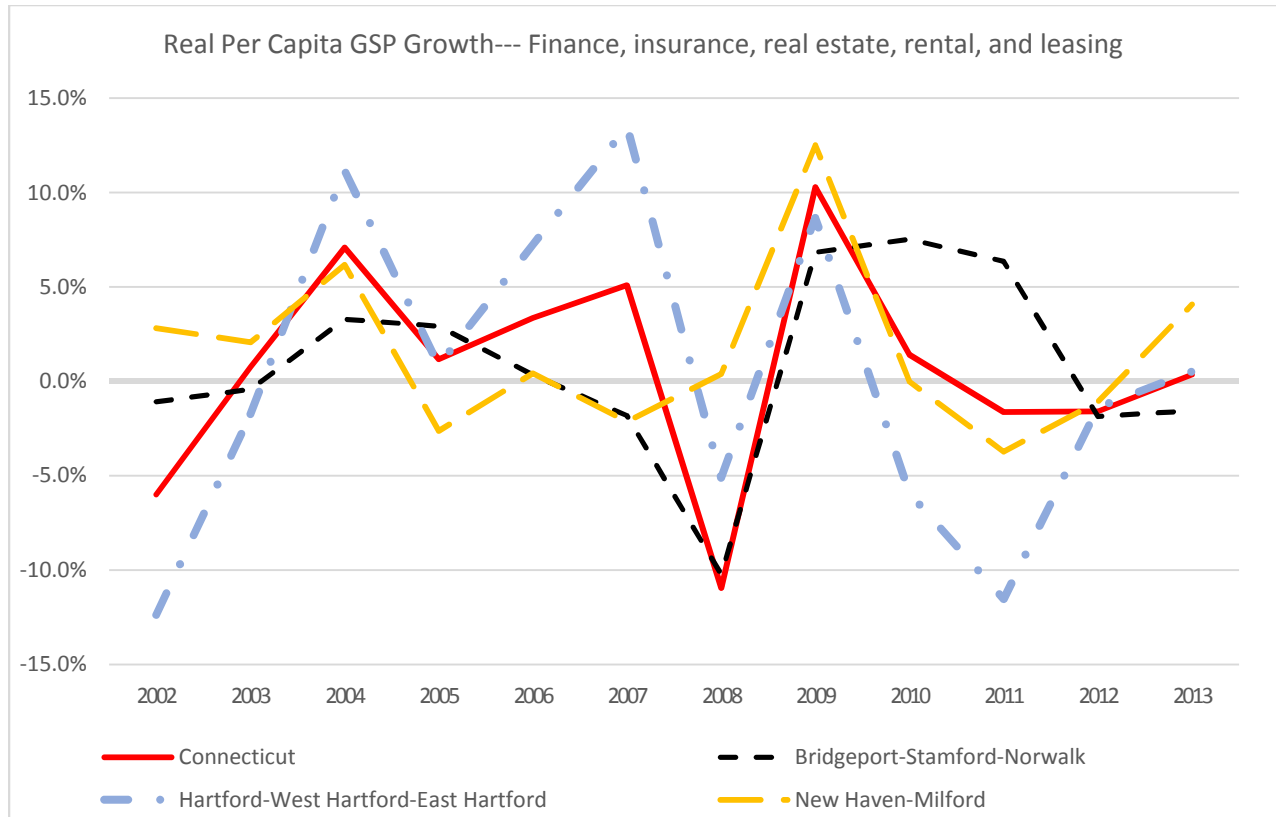


Figure 2 (continued)

Growth in Real Per Capita GSP for Connecticut and Three MSAs: 2001-2013

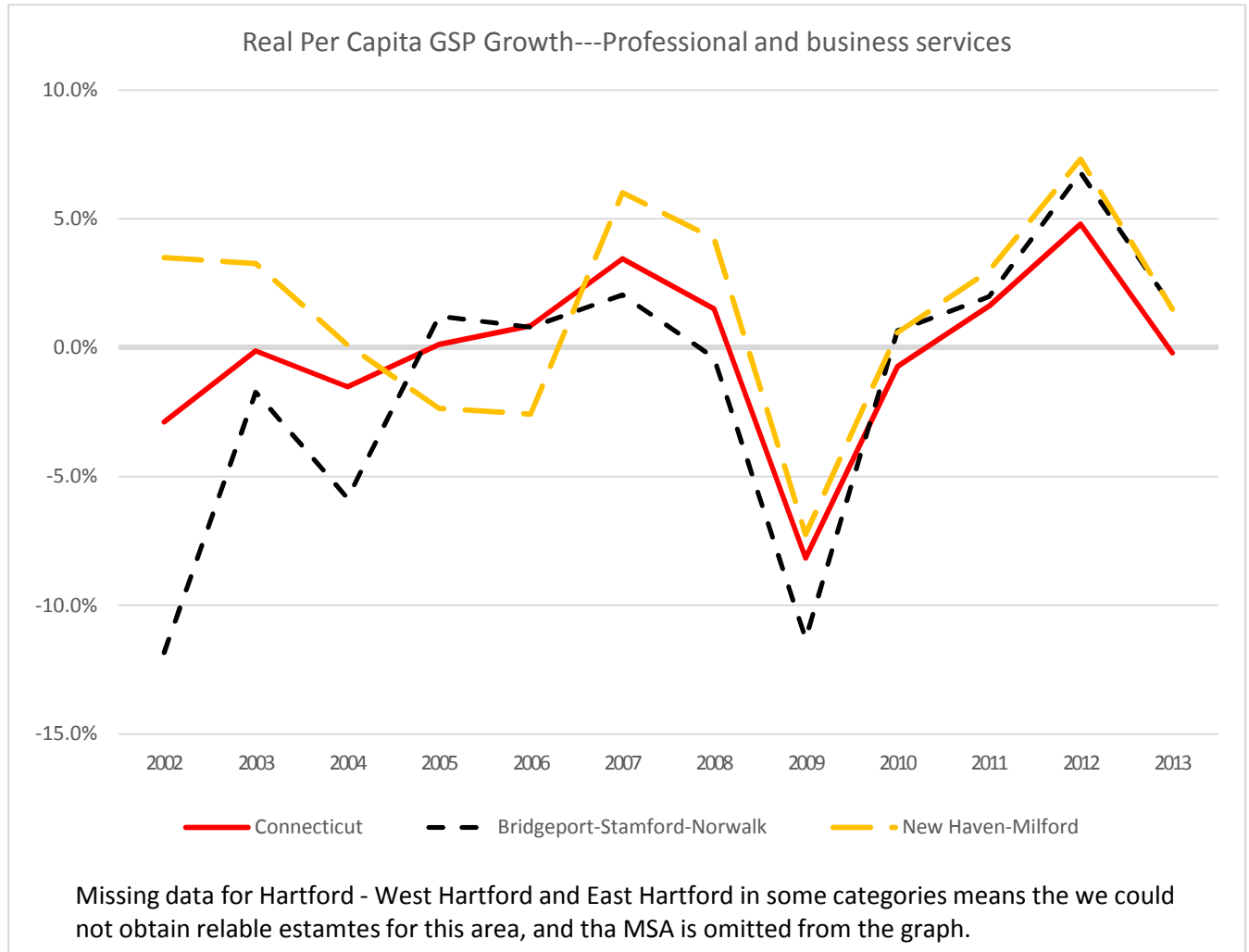
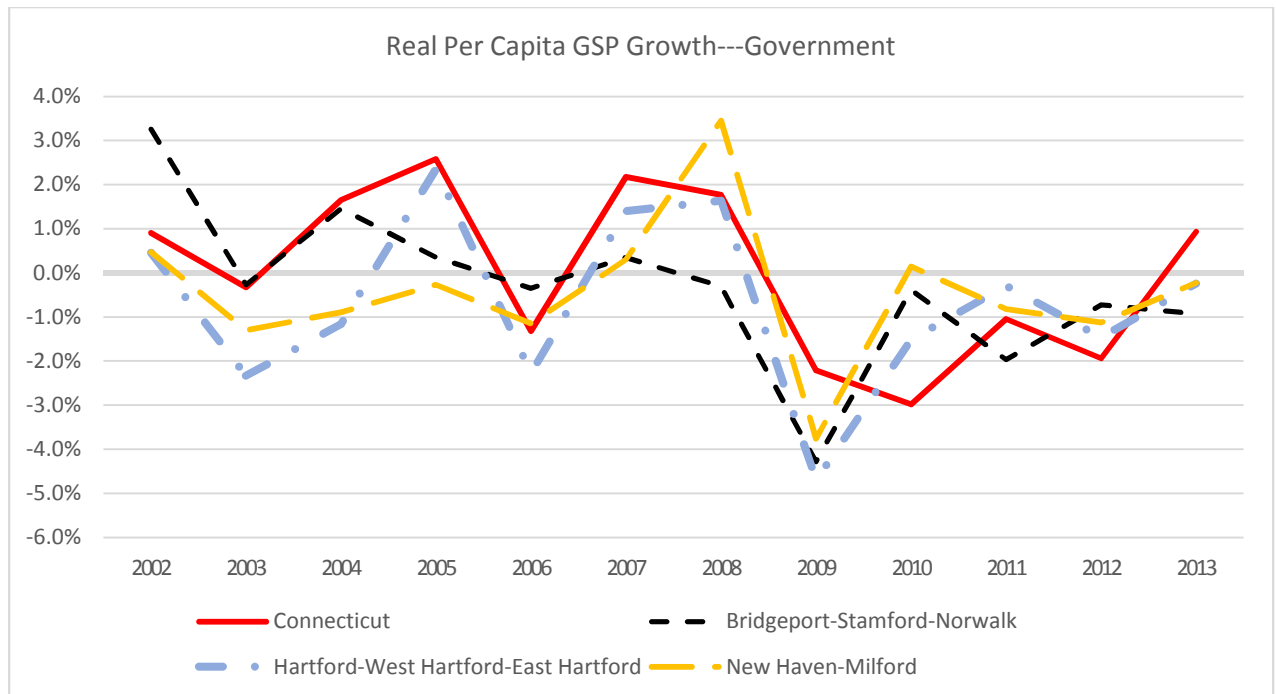
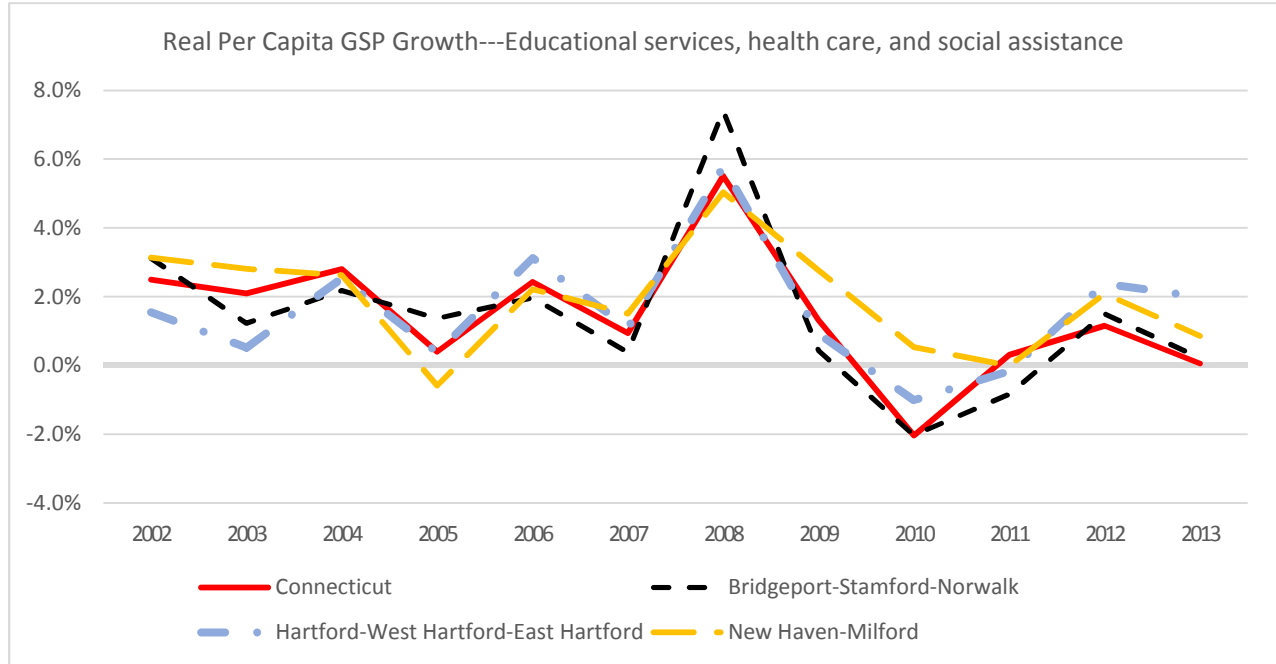


Figure 2 (continued)

Growth in Real Per Capita GSP for Connecticut and Three MSAs: 2001-2013



3.3 High-Wage, Knowledge-Based Industries

Global competition as well as automation have presented challenges for job growth in the United States. A number of studies [Dever et al. (2014), Hecker (2005), Fischer (2015), Kantor and Whalley (2012), Moretti (2012), and Muro et al. (2015)] point to advanced manufacturing in pharmaceuticals and related industries as well as knowledge-based industries as sources for new high-wage job growth in the United States. These industries in particular cluster around one another so that knowledge workers continue to learn and innovate through contact with workers in the same and related industry sectors (Jacobs 1969).

Measuring the amount of biotech and knowledge-based industries in a state or region poses two types of challenges. The first is that any definition of what constitutes a knowledge-based sector requires aggregating industries from their three- and four-digit level NAICS codes. But state-level and MSA-level Gross State Products are not available by three-digit and four-digit NAICS codes. Consequently, to examine state-level and MSA-level concentrations and growth in these industry clusters, we use employment data from the U.S. Bureau of Labor Statistics. These employment figures rely on ES-202 data reported by states and aggregated by employers in each county - or quasi-counties in the cases of Connecticut and Massachusetts.

Another challenge is that there is not a unique definition of biotech and knowledge-based industries. Three different studies have defined advanced manufacturing and knowledge-based industries. There is significant overlap in the definitions of knowledge-based and biotech used in the three studies, however. In choosing a definition for the purpose of this study, we take advantage of the observation by Muro et al. (2015) that knowledge-based industries have a presence in all but six states, and that the type of knowledge-based industries located in a state varies by region of the U.S. and by state. We have chosen an industry definition used in a study of Massachusetts (2007), because that definition is representative of the industries likely to locate in East Coast MSAs and states.

The industry definitions used in this report are noted in a text box below. For purposes here, biotech itself consists of employees in four advanced manufacturing industries. And the biotech industries are a subset of the more broadly defined knowledge-based industries, which consist of advanced manufacturing as well as information services, education, research and development, hospitals, insurance, and professional services industries.

Biotech manufacturing, as defined here employs about 0.6 percent of the workforce nationwide and roughly 0.8 percent of the workforces in Connecticut and Massachusetts. The more broadly defined knowledge-based industries employ 19 percent of the workforce nationwide; 21 percent of the workforce in Connecticut and 25 percent of the workforce in Massachusetts. See Figure 3.

Figure 4 displays average real earnings for employees in biotech and knowledge-based industries. Earnings of employees are measured in real 2013 dollars and real earnings in these industries for the U.S. overall exceed \$90,000 in 2014 and have grown from under \$80,000 in 2000. Real earnings for biotech employees in Connecticut and Massachusetts are \$110,000 in 2014, and since 2000 average real earnings in biotech industries have grown from \$90,000 in Massachusetts and from \$100,000 in Connecticut.

Knowledge and Information Industries

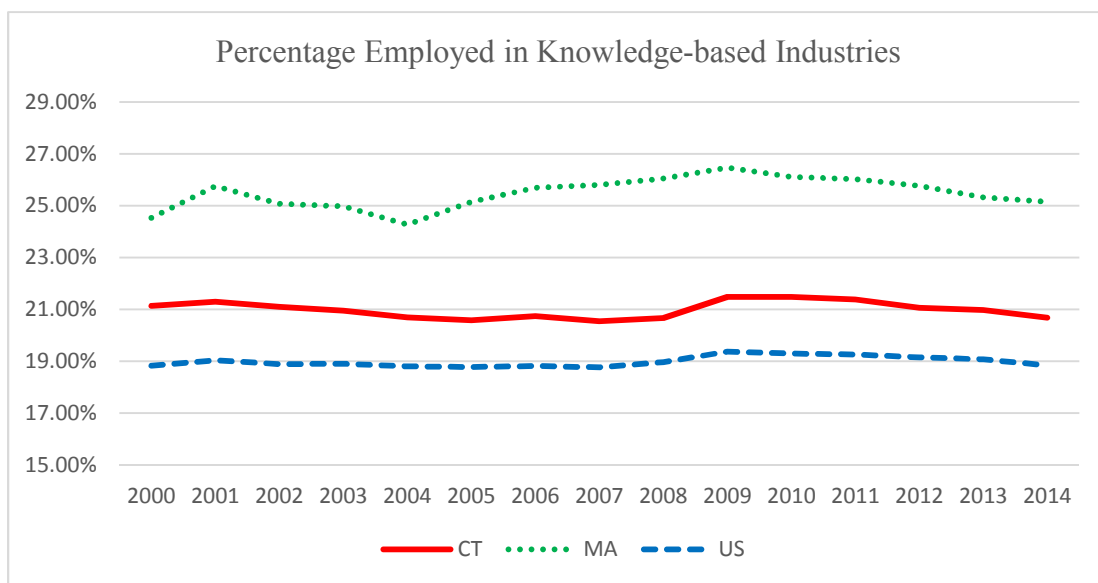
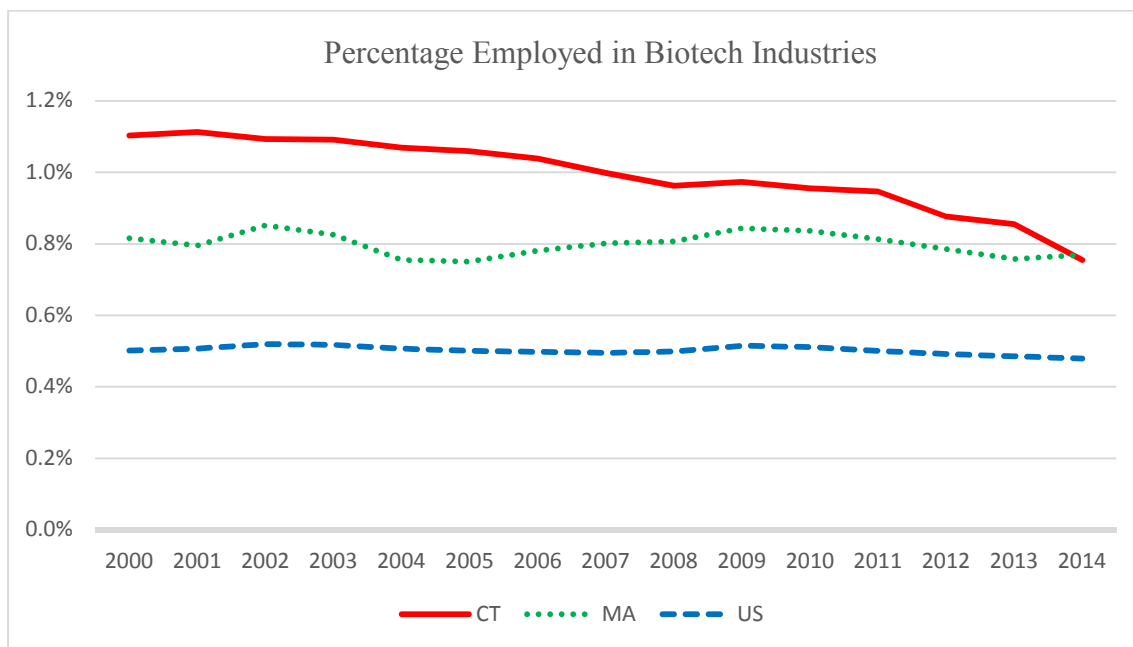
Definitions of knowledge industries and information technology industries vary across studies - see, for example, Hecker (2005) and Muro et al. (2015) - but there is similarity in the definitions of knowledge-based or advanced technological industries across the studies. National studies look at advanced industries more broadly and find that among the advanced industries certain groups concentrate in different areas of the country Muro et al. (2015). For the purpose of this report, we use a definition adopted by for a study of the Massachusetts work force.

(“Identifying and Defining; Life Science, Bio-Tech, High Tech Knowledge Industries and Information Technology Industries.” Prepared by: Massachusetts Department of Workforce Development, Division of Career services, Economic Analysis Office, July 2007.) Bio tech industries include the following industry NAICS (2002) industries: 3254 Pharmaceutical and Medicine manufacturing; 334510 Electro Medical Apparatus manufacturing; 334517 Irradiation Apparatus manufacturing; and 3391 Medical Equipment and Supplies Manufacturing.

Knowledge-based industries include the following NAICS industries: 3231 Printing and Related Support Activities; 5411 Legal Services; 5412 Accounting, Tax Preparation, Payroll, and Bookkeeping Services; 5413 Architectural, Engineering and Related Services; 5417 Scientific Research and Development Services; 6112 Junior Colleges; 6113 Colleges and Universities; 6114 Business, Computer and Management Training; 6115 Technical and Trade Schools; 3254 Pharmaceutical and Medicine Manufacturing; 3391 Medical Equipment and Supplies Manufacturing; 662 Hospitals; 334 Computer and Electronic Product Manufacturing; 335 Electrical Equipment and Appliances; 5512 Software Publishers; 516 Internet Publishing and Broadcasting (519 NACIS in 2012); 517 Telecommunications; 518 Data Processing, Hosting, and Related Services; 5415 Computer Systems Design and Related Services; 522 Credit Intermediation and Related Activity; 523 Securities, Commodity Contracts, and Other Financial Investments and Related Activity; and 524 Insurance Carriers and Related Activities.

Figure 3

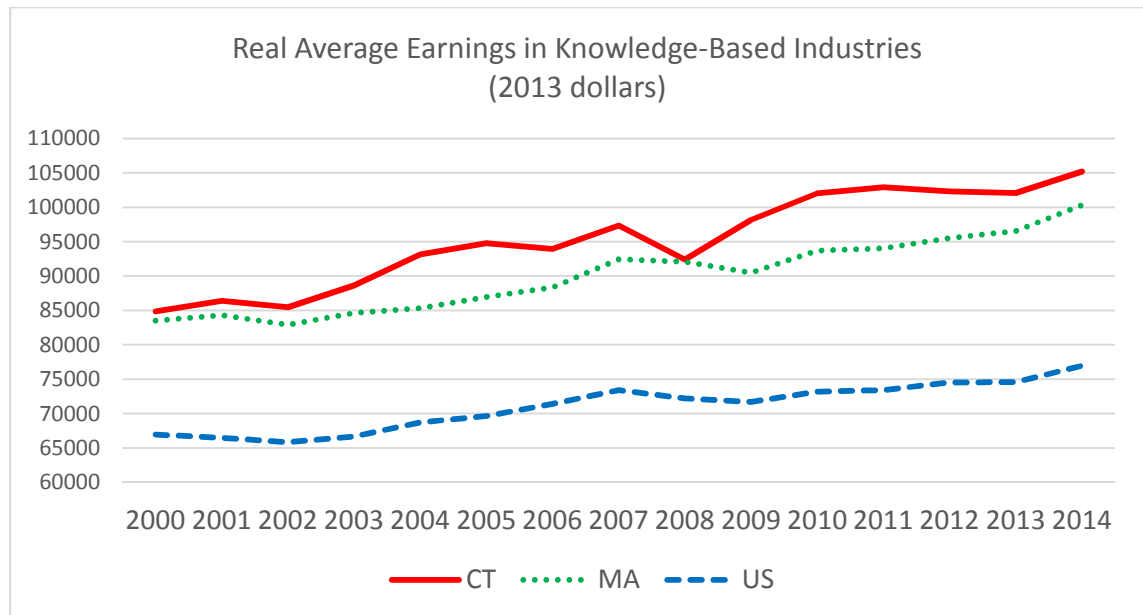
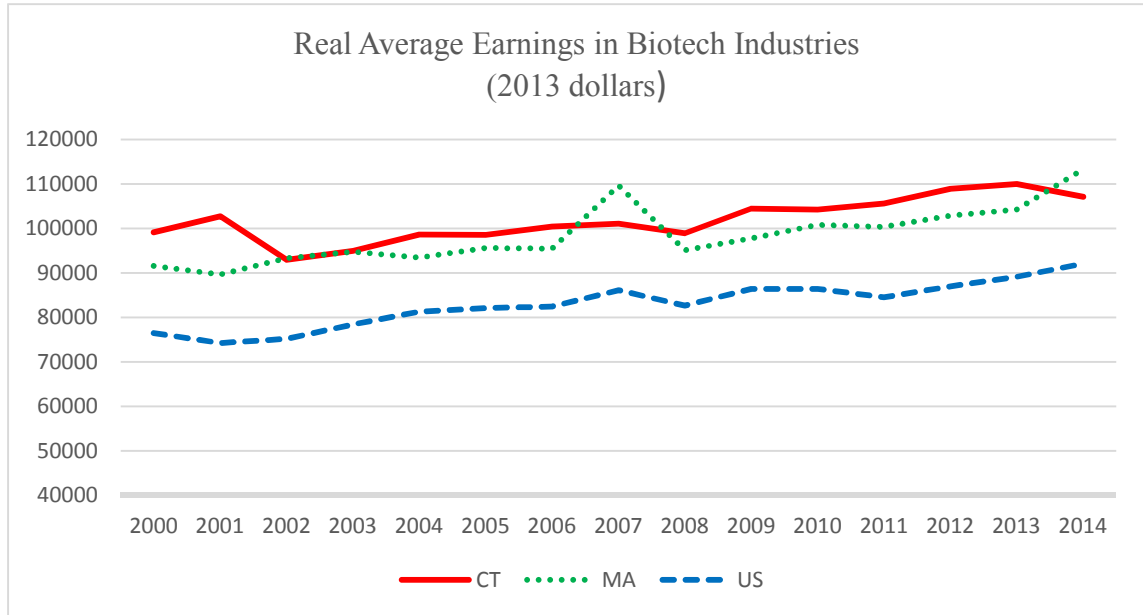
Employment in Biotech and Knowledge-based Industries as a Percentage of Total Employment: U.S., Connecticut and Massachusetts



Source: U.S. Bureau of Labor Statistics. Quarterly Census of Employment and Wages.
<http://www.bls.gov/cew/datatoc.htm>

Figure 4

Real Average Earnings in Biotech and Knowledge-based Industries:
U.S., Connecticut and Massachusetts



Source: U.S. Bureau of Labor Statistics. Quarterly Census of Employment and Wages.
<http://www.bls.gov/cew/datatoc.htm>

Connecticut biotech workers start with higher average annual earnings than Massachusetts in 2000 but real earnings grow faster in Massachusetts and catch-up with average earnings for workers in these industries in Connecticut. The fact that earnings are higher in biotech, which is a consistent and a well-defined set of industries, in Connecticut and Massachusetts than in the United States as a whole suggests that productivity of workers is higher in Connecticut and Massachusetts and the earnings reflect higher productivity.⁵

Average 2014 real earnings in the knowledge-based industries average \$77,000 for the nation overall and average \$100,000 in Massachusetts and \$105,000 in Connecticut. Some of the differences in average earnings are due to the industry mix and the skills required for different industries. Nonetheless, this sector is an important source of employment and an important source of high-earnings employment. As Moretti (2010) has noted, high-earnings workers spend dollars locally and tend to create many more local jobs – up to 5 local jobs per knowledge-work jobs.

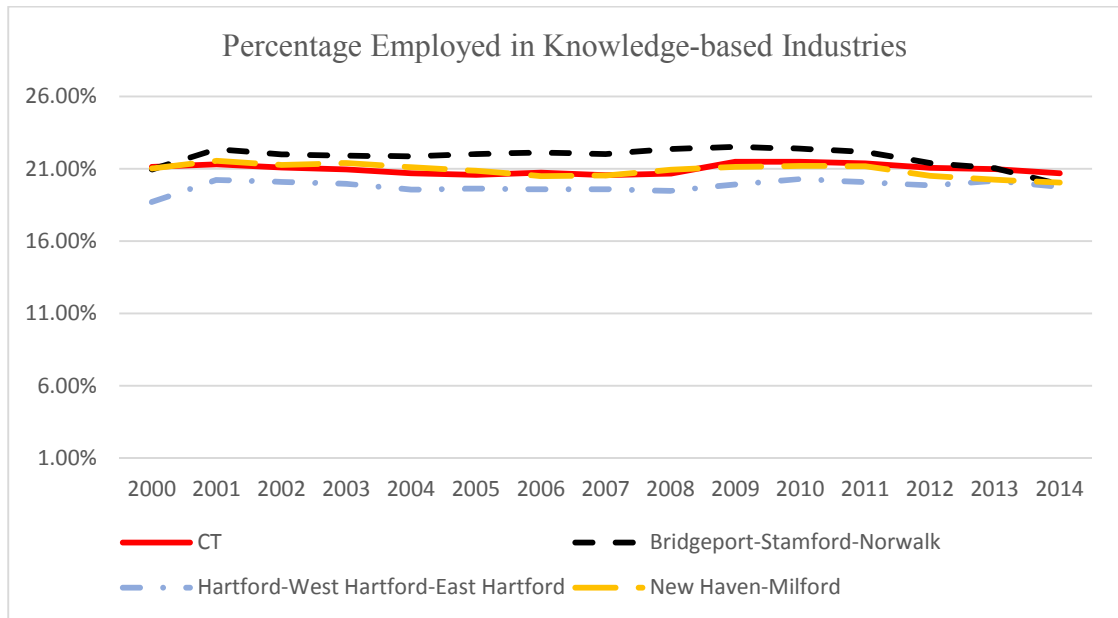
A related question is whether a particular Connecticut MSA has a higher employment level or has higher employment growth in biotech and knowledge-based industries than other MSAs in the state. All three of Connecticut's MSAs have about 21 percent of their employment in knowledge-based industries. See Figure 5. Since 2012 the Hartford-West Hartford-East Hartford MSA has had a higher employment growth rate for knowledge-based industries than the other two MSAs in Connecticut. See Figure 6.

As an advanced economy, Connecticut will want to demonstrate that it continues to have an attractive business climate, especially for knowledge-based industries and their employees.

⁵ It should be noted that the price of housing – cost of living – may also be higher in these two states than in the United States overall. Housing price increases and more congestion can offset the high earnings in a state or region. This point is made by Glaeser and Gottlieb (2009).

Figure 5

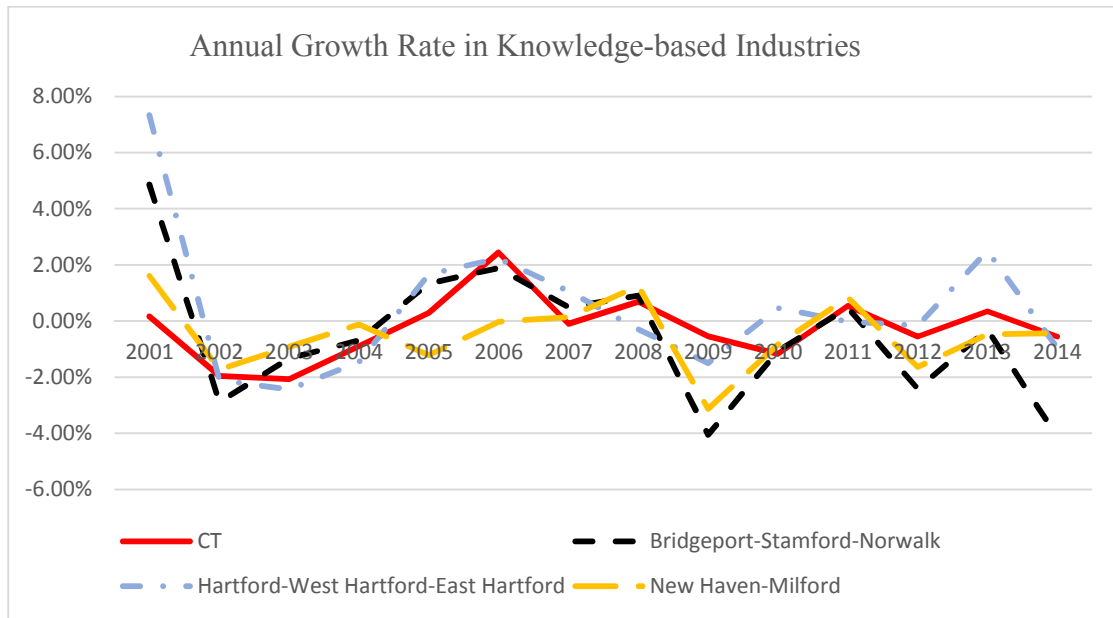
Employment in Knowledge-based Industries as a Percentage of Total Employment: Connecticut's Metropolitan Statistical Areas



Source: U.S. Bureau of Labor Statistics. Quarterly Census of Employment and Wages.
<http://www.bls.gov/cew/datatoc.htm>

Figure 6

Annual Growth Rates Knowledge-based Industries in Connecticut's MSAs



Source: U.S. Bureau of Labor Statistics. Quarterly Census of Employment and Wages.
<http://www.bls.gov/cew/datatoc.htm>

4 Growth in States: Major Forces for Growth and Business Climate

For many of the reasons stated in the literature review, it is difficult to uncover sources of growth in a national economy and even more difficult at the subnational level. (Rotman, 2015) Forces of automation, global competition, as well as state-level or local-level shifts in labor force compositions, capital investment agglomeration economies, and fiscal policies change simultaneously. Identifying the exact forces that cause employment or GSP growth in a state or region presents an empirically daunting challenge. And these same forces that cause growth in one period may be different in another period.

As drivers of subnational economic growth, most studies have focused on two types of variables: agglomeration economies and state and local fiscal policy. Other economic variables – energy prices, urban population percentage – can influence growth, but agglomeration and state and local fiscal variables are generally of interest. The precise reasons that agglomeration economies drive economic growth are not settled in the

literature and their effects can vary among industries. Jane Jacobs (1969) argued that clustering of people generated ideas, innovation and growth. Silicon Valley; the Boston area; pharmaceutical firms along the Washington- Boston corridor; and groups of universities, research hospitals and other medical facilities are often cited as areas that grow due to agglomeration or proximity of researchers and technically skilled workers. Recent authors, Kantor and Whalley (2012) also note that, under the right set of circumstances and universities' priorities, research universities can "anchor" economic development strategies.

Other industries may benefit from agglomeration clusters in other ways – proximity to a large and skilled labor force, for example. A large labor force facilitates labor mobility among industries and promotes better matching between firms' demands for labor skills and labor supply. Krugman (1991) makes a strong case that firms realize increasing returns from geographic concentrations.

State and local fiscal policy has traditionally focused on tax policy, but a growing number of states have undertaken public investment in industry, such as nanotechnology in Albany, N.Y. or investment in scientific facilities in Texas. Economists have cautioned against these so-called place-based or industry-specific subsidies. Investing in a specific place presents risks, and Moretti (2012) summarizes economic thinking on place-based subsidies. He notes that when they work, it has taken sustained and deep investment and uses the TVA as an example of a successful place-based subsidy. Others, such as investment in Appalachia, have worked less well. Moretti notes that empowerment zones have generally been successful place-based subsidies, because they apply to all industries locating in the zone and the subsidies are long lasting enough to get businesses established and profitable in these areas.

A few states, such as Texas, have invested in the scientific facilities at its land grant institutions, hoping that the research will attract entrepreneurial faculty who start businesses with venture capitalists, and these startups then form the basis of an ecosystem of larger firms that buyout the startups and continue the research and as well as enhance the biotech and knowledge-based profile of the state. (Basken, August 7, 2015) Again, where undertaken successfully, there was a significant university presence already in place and states made a large investment in providing funds for science labs to both build them and sustain their operations.

On the tax side, taxes themselves may deter growth, but high taxes may also be capitalized into lower land prices, so that they have a neutral effect overall. The level of current taxation is often used to measure the business climate of a state. Future tax obligations may also be a concern to the extent that states accumulate debt obligations and have underfunded public employee retirement systems. Both may signal mounting interest payments and future tax obligations to fund interest payments and pensions.

4.1 Business Climate

Most measures of business climate focus on the tax environment and within that some measures take into account tax rates and other aspects of the tax code, as well as regulations, unionization of the workforce and other variables. Criticisms of business climate measures are well-known, and covered in Carolyn Bourdeaux's report for this project. She cites work by Phillip et al. (2014) that notes Connecticut derives a relatively low share of its state and local taxes from business taxes. The data on fiscal variables for our empirical work below will also show Connecticut's competitive fiscal position.

Three additional points can be made here. Taxes on business, as typically measured, do not account for the actual tax incidence or whether the tax is borne by capital, land, labor or consumers. The ultimate burden of the corporate tax, for example, may ultimately fall on labor, capital, land or consumers. And the portion of the tax that is borne by capital might fall on capital in general (tangible and portfolio capital in the corporate and non-corporate sectors alike) and not all on business capital alone. In fact, there is reason to believe that the corporate tax at the state level does not fall on corporations but is shifted from capital to less mobile factors of production (McLure, 1980).

For the second point, recall that the empirical literature on taxation and its effect on growth almost uniformly shows taxes and fiscal variables have a more significant role when business location or expansion decisions are made among a small set of contiguous geographic states or regions. Given the findings about adjacent locations, Connecticut competes on fiscal dimensions most with its bordering states and it is important for Connecticut's tax system to be competitive with its neighbors as well as implement tax policy in line with economic efficiency and best administrative practices.

Thirdly, a view that is widely shared among economists and that Drenkard and Henchman (2015, page 8) articulate well is that state tax incentives and subsidies to businesses are generally ineffective in attracting and retaining businesses; are offered as a result of deficiencies in tax policy and practices; and are a poor substitute for broad-based tax reform. "Lawmakers create these deals under the banner of job creation and economic development, but the truth is that if a state needs to offer such packages, it is most likely covering for a woeful business climate. A far more effective approach is to systematically improve the business climate for the long term to improve the state's competitiveness." By that they mean broad-based tax reform –broad bases and lower rates.

4.2 Future Fiscal Concerns: Debt Obligations and Pension Funds

States with high outstanding debt obligations risk higher taxes and an unstable future fiscal system. As well, many state and local employees have defined-benefit retirement plans and often have state-financed health insurance into retirement. The underfunding

of the trust funds that undergird these future obligations poses risks for future fiscal stability.

Norcross (2015) in her report ranks states by overall fiscal solvency. Connecticut, Massachusetts, New Jersey and Illinois rank at the bottom, primarily due to underfunded employee pension and retiree health insurance.

Standard and Poor's (2014) analysis of state pension systems reinforces Norcross' findings. Connecticut has a funded to pension obligation ratio of 49.1 percent, whereas New Jersey and Massachusetts have funded to pension obligation ratios of 65 percent. At the same time, these three states have relatively high real per capita GSP and thus may have a higher fiscal capacity than most states to secure future tax funding to meet the obligations.

In the empirical analysis below, we'll examine the extent to which outstanding debt, expenditures on insurance trust funds and other expenditures, and tax variables influence growth in state economies.

5. Empirical Analysis

We examine the effects of fiscal and other variables on economic growth in states over the 1980 to 2007 period and the 2009 to 2013 period. While recent studies have also examined variables that influence growth, performing an analysis here allows us to update the years included in the study and to include explicitly taxes, expenditures and energy costs – variables of interest in Connecticut - in the empirical analysis.

Average annual growth in real per capita GSP is used here to measure state economic growth. The deep recession between 2008 and 2009 complicates the empirical analysis. The recession years impose in this case a large discontinuity in the data, as the recession affected states differentially for reasons not accounted for by the standard economic development variables that are used in empirical work here and elsewhere. The analysis here handles the discontinuity by excluding that time period.

Two models are used. To start the analytics, we use the long trend model previously developed by Glaeser et al. (1992). The advantage to examining a long time period using a fixed set of explanatory variables is to uncover the variables that have enduring effects over long time periods.

On the other hand, the long trend model relies on a cross section of 48 state observations. The statistical tests and the results with few observations are not always robust, and the results are subject to error caused by omitted variable bias that occurs when variables that influence growth are not included in the empirical model.

To address both of these concerns, a second analysis takes advantage of newer empirical techniques that are designed to increase the sample size and examine trends over multiple time periods. The pooling of states across multiple time periods increases the sample

size. Both the pooling and the sample size allow the analysis to incorporate fixed effects for each state to address omitted variable bias. The second analysis is based on papers by Reed (2008) and Gale, Krupkin and Rueben (2015). In the second set of models, we examine annual growth in real per capita GSP growth in each state over the 1991 to 2000, 2001 to 2007, and 2009 to 2013 periods. Because the time periods vary in their lengths – one is ten years, one is seven years and a third is four years - pooling time periods with different lengths complicates the interpretation of the estimated coefficients of the explanatory variables. To accommodate the different length periods, average annual growth rates are used for each state in each period rather than using total growth for ten years, seven years and four years. Using annual average growth rates standardizes the coefficients and makes interpretation of the coefficients consistent over different length time periods.⁶

The explanatory variables are based on a set of variables used in the empirical literature on economic growth in states. These variables include agglomeration economies, energy prices/costs and sets of fiscal variables for both expenditures and taxes. All variables are measured for each state and time period.

Analyses of business and economic development consistently find that agglomeration economies have a significant influence on growth. As described in a previous section of the report, agglomeration can take at least two forms. The first is the synergy and productivity enhancement that occurs when clever people work and live near one another. Gains in productivity growth occur across industries and within industries. Inventors, mathematicians, programmers, engineers, machinists, architects and others feed off each others ideas and production. The second type of agglomeration occurs within an industry. A workforce specialized in an industry adds productivity as above within an industry, and adds to the efficiency of labor markets. Workers can move almost seamlessly among establishments, which in turn have the flexibility to expand or contract, knowing that workers more readily find other employment when downsizing occurs or employers can find qualified workers when they want to hire.

Energy prices are relatively high in New England and vary among states and regions. These may deter growth, especially in industries that use energy intensively in their production.

Fiscal variables are of special interest here and in the literature on growth. Rather than put a few fiscal variables in the estimating equation, Helms (1985) has set a precedent for using fiscal variables in an estimation framework. Helms starts with a budget constraint for state and local governments where the surplus or deficit equals the sum over each of the state and local revenues $REV(j)$ in a state less the sum over each of the state and local expenditures $EXP(i)$ in a state.

⁶ Reed (2008) and Gale et al. (2015) use time periods of the same length in their analyses and so use total growth in each period. This affects the size of the coefficients relative to the coefficients estimated here.

$$Deficit (surplus) = \sum_i REV(j) - \sum_j EXP(i)$$

For empirical purposes, different expenditure categories and various taxes may each affect growth more, less or not at all. To accommodate the potential different effects of taxes and expenditures on growth, coefficients a_i and b_j are added to each of the expenditures and revenues.⁷ Finally, outstanding debt, which is not included in the budget constraint per se, may portend tax obligations in the future and it is included in the estimation equation.

The empirical equation has the following general form:

$$PCRGDP_{st} = f(AGJ_{st}, AGC_{st}, P_{ENERGY}, \sum a_i EXP_{s,t,i}, \sum b_j TAX_{s,t,j}, OUTDEBT)$$

where

AGJ_{st}	represents agglomeration economies of the Jacobs's-type or clusters of productive and bright workers;
AGC_{st}	represents agglomeration economies when industries cluster;
P_{ENERGY}	represents the price of electricity or natural gas;
$\sum a_i EXP_{s,t,i}$	represents a vector of state and local expenditures in each state (s) and time (t) period;
$\sum b_j TAX_{s,t,j}$	represents a vector of state and local taxes and charges in each state (s) and time (t) period;
$OUTDEBT$	represents outstanding debt for state and local governments.

The estimation equation is specified in linear form and the fiscal variables are measured as a proportion of income in the state. The sources for the variables are listed in Table 6.

5.1 Measures of the Fiscal and other Variables

⁷ In an ideal public finance setting, where citizen and industry preferences for public goods and expenditures and tax financing match the expenditures made and taxes and charges imposed, fiscal variables would have little or no effect on economic growth. When some of the expenditures or revenue items match citizen and business preferences, the well-matched items of expenditure and revenue may have no effect on growth while other expenditures and revenues affect growth.

Agglomeration economies at the state level are difficult to measure. To capture Jacobs-type agglomeration, we use the percentage of state residents between the ages of 25 and 60 who hold a bachelors degree or higher. Industry specific agglomeration economies are typically measured by clusters of similar workers within a particular industry. This type of agglomeration does not apply to an analysis of aggregate growth, and this measure is dropped from the model. Energy costs are collected for electricity and natural gas in both the industrial and commercial sectors. Commercial and industrial prices of electrical energy are correlated with each other, and the same correlation is observed in the commercial and industrial prices of natural gas. We first included all four energy costs in the empirical model, and after examining the simple correlations across the four energy costs, the cost of electricity for the industrial sector and the cost of natural gas in the industrial sector are used in the empirical model reported here.

The fiscal variables require some explanation. All of the fiscal variables are measured as a proportion of personal income. More importantly, in a balanced budget situation – the sum of expenditures on goods and services equal the sum of revenues collected – the budget equation above becomes an identity, and empirical tests cannot be performed when all the fiscal variables in the budget equation are included in the empirical equation. Helms (1985) omits one expenditure or tax item from the estimating equation. That resolves the identity, but requires taking the omitted expenditure or tax item into account when interpreting the empirical results.

There are six principal expenditure categories: basic services (BASICSERVICES), elementary and secondary education (ELSECED), higher education (HIGHED), public welfare (PUBWELFARE), payments into insurance trust benefits for public employees' retirements (INSTRUST), and other expenditures (OTHEREXP).⁸ The tax variables include property tax (PROPTAX), personal income tax (INCTAX), corporate income tax (CORPTAX), intergovernmental revenue (INTERGOV), and other revenue (OTHREV), which includes license taxes, charges, gift taxes, selective sales taxes and other taxes. In the empirical work, we omit, basic services in part to get explicit coefficients on various taxes and important expenditure items, such as education, public welfare, and insurance trust expenditures. The rationale behind including these expenditures is that previous studies have shown that one or more of these expenditure variables impact growth, and in some other instances, policy makers or business leaders in Connecticut have expressed interest in knowing the impact of some of these specific variables.

On the tax side, the data reported in Table 6 reveal that Connecticut relies on the property tax and the individual income tax to a much greater extent than the average in states. These two taxes are highly visible, as both require filing and the amount of the tax is clearly indicated. Sales taxes by contrast are generally not very visible and become more

⁸ Basic services include police, corrections, air transportation, natural resources, parking, parks and recreation, sanitation, sewer management, water, health and hospitals, libraries, highways and housing. The category "other expenditures" include: subsidies, interest and administrative expenditures.

visible when consumers purchase high-priced commodities, such as automobiles and expensive appliances. Given the above, property taxes, individual income taxes, intergovernmental revenue, and all other revenues are used as explanatory variables.⁹

To interpret the results, a negative coefficient on a tax variable means that increasing the tax to pay for more basic services would have a negative impact on growth. For example, suppose the coefficient on the individual income tax variable is -0.15. Then increasing the individual income tax by \$1 per \$100 of personal income to pay for an increase in basic services would reduce growth on average by 0.15 percentage points per year.

However, one could hold basic services constant, increase the personal income tax, and increase insurance trust spending. Suppose the coefficient on the individual income tax is -0.15 and the coefficient on insurance trust spending is 0.10 or putting money into the trust fund is generally seen as good for growth. The net effect is a -0.05 $(-0.15 + 0.10)$ decrease in the annual growth rate, as taxes more than offset the positive effects of the spending. These cases are, of course, hypothetical and the empirical results for the fiscal variables are discussed below.

We include outstanding debt as a proportion of personal income (DEBTOUT) in the empirical model to measure the states' long-term tax obligations associated with higher debt. Norcross (2015) suggests that higher longer-term debt may represent a drag on economic growth in states.

5.2 Comparison of Connecticut with Other States

Table 6 lists the 2012 values of the fiscal and other key variables for Connecticut, the 2012 mean for all states, and the range of the data (minimum and maximum) for each variable. The data sources are listed at the bottom of the table. A few variables stand out. Connecticut has a highly educated work force or population relative to other states, with almost 40 percent of the population between the ages of 25 and 60 holding a bachelor's degree or higher. For electrical energy costs in the industrial sector, Connecticut has the highest rate among the states in 2012 and very near the top for the commercial sector. Connecticut's natural gas costs in the industrial sector are above the mean for states and in the commercial sector fall just below the mean for the states.

Table 6

⁹ All other revenues for this empirical model include select sales taxes, license taxes, death and gift taxes, state corporate income taxes, taxes not elsewhere classified, and total charges and miscellaneous revenue. The fiscal data are from the Tax Policy Center 2013 <http://slfdqs.taxpolicycenter.org/>

Means and Minimum and Maximum Values of Explanatory Variables

Sources: <https://usa.ipums.org/usa/> for the population variables; the energy price data are from U.S. Energy Information Administration <http://www.eia.gov/state/seds/>, and the fiscal data are

VARIABLES	Connecticut	Mean for 48 States	Min	Max
Percent of state population 25-60 with Bachelor's degree or higher	39.61	29.92	19.77	42.84
Percent of state population in MSAs	94.78	78.48	0	100
Total State Population (Census)	3,591,765	6,481,664	576,626	37,999,878
P _{ENERGY} Natural gas price for industrial (\$ per million Btu)	8.56	6.08	2.92 (LA)	11.29 (DE)
P _{ENERGY} Electricity price for industrial (\$ per million Btu)	37.14	20.67	12.10 (WA)	37.14 (CT)
P _{ENERGY} Natural gas price for commercial (\$ per million Btu)	8.14	8.44	5.67 (ND)	12.94 (DE)
P _{ENERGY} Electricity price for commercial (\$ per million Btu)	42.94	28.51	20.12 (ID)	44.13 (NY)
BASICSERVICES	0.042	0.063	0.037 (NH)	0.114 (WY)
ELSECED	0.041	0.041	0.031 (NC)	0.054 (WY)
HIGHED	0.012	0.020	0.011 (NV)	0.035 (UT)
PUBWELFARE	0.029	0.036	0.022 (NV)	0.055 (ME)
INSTRUST	0.025	0.022	0.011 (NH)	0.037 (OH)
OTHEREXP	0.024	0.026	0.019 (MO)	0.035 (DE)
PROPTAX	0.043	0.030	0.014 (OK)	0.053 (NJ)
GENSALES	0.017	0.022	0	0.040 (WA)
INCTAX	0.034	0.020	0	0.044 (NY)
CORPTAX	0.002	0.003	0	0.009 (NY)
INTERGOV	0.029	0.047	0.027 (VA)	0.082 (MS)
OTHERREV	0.039	0.069	0.039 (CT)	0.144 (ND)
DEBTOUT	0.198	0.189	0.079 (WY)	0.321 (NY)

from the Tax Policy Center 2013 <http://slfdqs.taxpolicycenter.org/>

Energy costs in general are well above average in each of the New England states. Massachusetts, for example, has higher natural gas costs than Connecticut and electricity costs are only one dollar lower than the costs displayed in Table 6 for Connecticut. Energy costs in the Middle Atlantic States are generally less expensive than in Connecticut. Natural gas costs per BTU in these states are at or slightly below the average for all states, and except in New York and New Jersey, electricity costs in other Middle Atlantic States are average to below average. New England states, along with immediate neighboring states of New York and New Jersey, in general, have higher costs for energy.

Measured as a proportion of personal income in the state, Connecticut's state and local expenditures register at or below the mean for states. The exception is expenditures on insurance trust benefits that build balances for public employee retirement and health insurance benefits. As already noted, Norcross (2015) ranks Connecticut as a state with substantial out-year unfunded obligations for employee pensions. Higher spending in this area can be viewed as taking a responsible approach to address the shortfall in the pension obligation accounts. Alternatively, having a shortfall may signal higher spending in the future that crowds out spending on other services, or reduces aid to local governments that may provide property tax relief, or signals future increases in tax burdens, or a combination of the above.

On the revenue side, Connecticut's property taxes and individual income taxes as a proportion of personal income are among the highest for the states. Other revenues as a proportion of Connecticut's personal income are below the mean for states. Federal intergovernmental revenue is also below the mean for states. Much of the aid from the federal government finances the federal share of Medicaid expenses or public welfare. Connecticut and other states with higher personal incomes receive a lower Medicaid reimbursement from the federal government, and consequently lower intergovernmental aid.

5.3 Empirical Results

As already noted, two models are used here to estimate the importance of fiscal and other variables on real per capita state GSP growth. Running a variety of models for different time periods and samples of states checks the robustness of the findings and increases the confidence of the recommendations that stem from the empirical work.

Table 7 reports results based on the Glaeser et al. (1992) long-run model. The dependent variable is annual average growth rate of real per capita state GSP from 1980 to 2007. It is run against the explanatory variables for the 48 states. All the statistical models are first run for the 48 states, excluding Alaska and Hawaii, and then for states with fewer than one million residents - Delaware, Montana, North Dakota, South Dakota, Vermont and Wyoming. Removing those states from the sample also excludes the states that have grown primarily due to resource discovery. Finally, we also exclude two states

Table 7

Growth in States from 1980 to 2007

(Dependent Variable: Annual Real Per Capita Gross State Product Growth Rate)

	(1)	(2)	(3)
VARIABLES	48 States	States with Pop > 1 Million	Sates with 20M > Pop > 1M
AGJ (pop % Age 25-60 with bachelors or higher)	0.000159	0.000228	0.000270*
P _{ENERGY} natural gas in industrial sector	0.00198*	0.00255***	0.00257***
P _{ENERGY} electricity in industrial sector	0.000581***	0.000431**	0.000472**
Primary/Secondary Ed	0.193	0.385***	0.368**
Higher Ed	-0.0346	-0.217*	-0.162
Public Welfare	0.00270	0.0296	0.0626
Insurance Trust Ben	-0.298***	-0.317***	-0.311***
Property Tax	-0.128	-0.213**	-0.235**
Individual Income Tax	-0.00161	-0.0293	-0.0387
Intergovernmental Revenue	-0.00706	-0.0206	-0.0553
Other Revenue	-0.114*	-0.167***	-0.165***
OUTDEBT	0.0238**	0.0199**	0.0201**
Observations	48	42	40
R-squared	0.682	0.757	0.783

*** Significant at the 1 percent level

** Significant at the 5 percent level

* Significant at the 10 percent level

that have more than 20 million people (California and Texas). Both types of states (large states and resource-based or small states) may differ enough from the rest of the states to skew the results when they are included in the analysis.

We use 1980 values to represent the right-hand side variables to remove as much endogeneity as feasible from the estimation. Agglomeration economies do not yield statistically significant effects except when the small and two large states are removed from the model. And then the effects on growth rates are quantitatively small. Energy prices are statistically significant but have the wrong sign or the results indicate that states with higher energy costs have higher growth rates.

For the state and local fiscal variables, the results suggest that states with more than one million people and more expenditure on elementary and secondary education as a proportion of personal income education have higher growth rates. States with more spending on insurance trust benefits, higher property taxes and greater revenue from sources other than individual income tax have slower growth rates. On the other hand, states with more outstanding debt as a proportion of personal income appear to grow at faster rates.

As noted above, the long growth model has some limitations by modern statistical standards for empirical modeling. It is presented here to fix ideas and as a check on variables that consistently exhibit a drag on growth rates across the tests of different empirical models and over time. The property tax is one such variable as is elementary and secondary education.

Table 8 displays results for a statistical model based on the recent papers by Reed (2008) and Gale, Krupkin and Rueben (2015). The sample consists of growth in three time periods – 1991 to 2000, 2001 to 2007, and 2009 to 2013 – for the 48 states or a total of 144 state observations on growth rates. The explanatory variables are lagged ten years – 1980 measures are used for first time period, 1990 for the second time period, and 2000 for the third time period - to address endogeneity or attempt to determine to the extent possible whether the explanatory variables truly cause growth rather than being coincident with it. The pooled sample also accommodates correction for omitted variables by using fixed effects or a set of binomial variables to represent other aspects of each state that the explanatory variables do not explicitly take into account. Finally, time effect binomial variables are used to account for macro aspects that are common across states in each of the time periods but that differ across time periods. (Globalization, automation, and economic downturns, for example.)

As in the case for the long growth model, the models are run for three samples: the 48 states, states with populations of 1 million people or more, and states with fewer than 20 million and more than one million people. The results differ for the individual income tax and outstanding debt variables between the 48 state sample and the two restricted samples. The two restricted samples have similar results. Overall though, the results are not sensitive to the sample restrictions.

Table 8
Growth in States 1990-99, 2000-2007, 2009-2013

	(1)	(2)	(3)
VARIABLES	48 States	States with Pop >1 Million	Sates with 20M > Pop > 1M
AGJ (pop % Age 25-60 with bachelors or higher)	-0.000441	-0.000532	-0.000455
P _{ENERGY} natural gas in industrial sector	-0.00332**	-0.00225*	-0.00262**
P _{ENERGY} electricity in industrial sector	0.000780	-0.000704	-0.000873
Primary/Secondary Ed	1.288***	1.273***	1.222***
Higher Ed	1.179	0.485	0.546
Public Welfare	-0.522*	-0.571***	-0.576***

(Dependent Variable: Annual Real Per Capita Growth Rate in Three Time Periods)

Insurance Trust Ben	0.791	0.461	0.407
Property Tax	-0.881**	-0.903***	-0.887***
Individual Income Tax	-1.051***	-0.731***	-0.685***
Intergovernmental Revenue	1.110***	0.655***	0.633**
Other Revenue	-0.107	0.0199	0.0331
OUTDEBT	0.0760*	0.0208	0.0210
Observations	144	126	120
R-squared	0.572	0.668	0.675
Number of States	48	42	40
Year Fixed Effects	YES	YES	YES
State Fixed Effects	YES	YES	YES

*** Significant at the 1 percent level

** Significant at the 5 percent level

* Significant at the 10 percent level

Agglomeration does not influence growth among states. Agglomeration tends to be more important in analyses of MSA growth and is harder to find in more aggregate data at the state level. From the results at the state level, it would be wrong to conclude that agglomeration effects are not important for growth. A better conclusion is that agglomeration effects occur over much smaller areas and their effects are not captured using statewide data. Higher costs of natural gas tend to depress growth rates, while the coefficient on the price of electricity is not statistically significant. As noted above, the energy prices are correlated, and, based on the empirical results here, higher energy costs can be said to reduce GSP growth in states.

For state and local expenditures, elementary and secondary education expenditure tends to increase growth compared to basic services and more expenditure on public welfare tends to depress state GSP growth. Coefficients on expenditure on higher education and insurance trust benefits are not statistically significant.

On the tax side, property taxes and individual incomes taxes have coefficients that are negative and statistically significant for all three of the state samples. These are two areas where Connecticut ranks high when compared with other states. The results here on the negative influence of property taxes on growth are consistent with the findings of Gale, Krupkin and Rueben and with the results for the long growth model in Table 7 of this report. .

Tax reform might take a hard look at these two taxes and evaluate whether Connecticut can maintain its spending in key areas while it creates a more balanced tax system. On the other hand, property taxes typically fund a large share of expenditures on elementary and secondary education. And what education spending property taxes do not fund derives from state intergovernmental aid that is often funded by revenues from individual income taxes. While higher taxes on property and income depress growth rates, they fund elementary and secondary education that has a positive effect on growth. In fact, the empirical results here suggest that the positive effects of spending on education more than offset the negative effects of property taxes. The negative effects of the individual income tax are not so clearly offset by higher spending on elementary and secondary education. Reform of the two revenue sources needs to be done with an eye on the effect reform will have on elementary and secondary education. And knowledge sector employees are likely to value high-quality education at all levels.

The coefficients on “other revenues” - from selective sales, corporate and other taxes and charges – indicate that “other revenues”, as defined here, do not have statistically significant effects on state GSP growth. And more federal revenue in the form of intergovernmental aid increases GSP growth. Outstanding debt as a ratio of personal income does not appear to have a statistically significant effect on GSP growth.

To test the robustness of the results, we dropped the agglomeration and energy prices from the list of explanatory variables, allowing their influence to be captured in the fixed effects variables. See Table 9. The coefficients of the fiscal variables change very little

Table 9

Growth in States 1990-99, 2000-2007, 2009-2013: Fiscal Variables Only

(Dependent Variable: Annual Real Per Capita Growth Rate in Three Time Periods)

	(1)	(2)	(3)
VARIABLES	48 States	States with Pop >1 Million	Sates with 20M > Pop > 1M
Primary/Secondary Ed	1.175**	0.892***	0.859**
Higher Ed	0.889	0.494	0.495
Public Welfare	-0.794**	-0.951***	-0.974***
Insurance Trust Ben	0.853	0.339	0.305
Property Tax	-0.481	-0.531**	-0.503*
Individual Income Tax	-1.252***	-1.142***	-1.111***
Intergovernmental Revenue	1.069***	0.978***	0.988***
Other Revenue	-0.142	0.00730	0.0209
OUTDEBT	0.0721	0.0193	0.0209
Observations	144	126	120
R-squared	0.517	0.618	0.619
Number of States	48	42	40
Year Fixed Effects	YES	YES	YES
State Fixed Effects	YES	YES	YES

* Significant at the 10 percent level

** Significant at the 5 percent level

*** Significant at the 1 percent level

when agglomeration and energy prices are omitted from the empirical models. The same conclusions as above apply to the effects of property and income taxes, and the same conclusions as above apply to the influence of state and local expenditures on growth.

5.4 “What if” Fiscal Scenarios for Connecticut

The empirical results taken a face value support the idea that high property taxes and high individual income taxes rates imply lower growth rates for those states that score higher in these personal tax burdens. Nonetheless, the competitiveness literature suggests that these effects, while statistically significant, generally do not play a major role in a state’s growth rate. It bears repeating that the fiscal effect play a more significant role in growth in economic competitions with nearby states than in growth in economic competitions with states across the country.

To determine the size of the influence that fiscal variables may have on Connecticut’s growth rate, a few simulations are run based on changes in the property tax and the individual income tax. The changes have to be paid for with either expenditure reductions or increased taxes elsewhere in the system.

The results for the simulation are displayed in Table 10. The first row of the table reports results when the property tax is reduced from 0.043 of personal income to 0.033, and revenues are increased by rising revenues from all other own sources except the individual income tax. In this case, annual growth might increase by as much as 0.1 percentage points. This figure compares to Connecticut’s annual growth during the recent period of 1.0 percent annually. Fiscal changes alone will not lead to a large increase in growth but the results do suggest that less reliance on the property tax would enhance growth prospects in Connecticut.

Two other scenarios are run to pay for the property tax cut; making up the revenues through an increase in the individual income tax in the second case, and cutting elementary and secondary education expenses in the third scenario. Both actions lead to reductions in the state’s growth rate or it is better to leave the tax system as it is than to cut property taxes and pay for the cuts with higher income taxes or reduced school spending.

The second row of the table reports results when property taxes are reduced from 0.043 of personal income to 0.033 of personal income and the individual income tax is reduced from 0.034 of personal income to 0.024 of personal income, a figure that is closer to the average for all states. Again paying for the cuts by increasing revenues from all other sources may increase annual growth by as much as 0.2 percentage points. But according to the estimate in this report, paying for the cuts with reduced school spending will reduce growth on average in Connecticut.

While the results suggest that the fiscal environment has only a modest effect on growth, it nonetheless indicates that an unbalanced tax system or overreliance on a few taxes can deter growth. It also suggests that Connecticut residents value public services overall and especially elementary and secondary education.

Table 10

Expected Changes in Connecticut's Annual Growth When Taxes and Spending
Change: Simulations based from Results in Table 8

Tax Reduction	Annual growth rate change when a fiscally neutral tax reduction is paid for by increasing another tax or reducing spending as follows:		
	Increase "other revenues"	Increase individual income tax	Cut spending on Elementary and secondary education
Reduce the property tax by 1 percentage point of personal income	+0.10%	-0.02%	-0.05%
Reduce property tax and the individual income tax each by 1 percentage point of income	+0.21%		-0.08%

Source: Author calculations

6.0 Conclusions

In a recent report, Mirrlees (2011) and his fellow commission members reiterate long understood principles of tax design. They emphasize “looking at the fiscal system as a whole rather than at its individual components.” (Page 26) The system should be progressive, neutral and a system (page 471.) In the context of this report, neutrality means that a tax system should interfere with economic growth as little as possible. High tax rates and overreliance on a few taxes can reduce economic growth.

The empirical analysis done for this report finds that overreliance on two taxes by some states – property and individual income taxes – reduces their per capita Gross State Product (GSP) growth rates. And it finds that elementary and secondary education produce value for residents and favorably influence economic growth.

Connecticut is one state that has overreliance on property and individual income taxes and the fiscal analysis done here suggests that reducing those taxes and increasing revenue from other own sources to pay for the cuts in property or individual income taxes will modestly enhance Connecticut’s per capita GSP growth rate. On the other hand, reducing those taxes and cutting elementary and secondary education to pay for the cuts will have deleterious effects on per capita GSP growth.

Connecticut has an underfunded public employee pension system. That situation is unlikely to help future growth, because to some private sector decision makers, it represents an unfunded liability and the potential for higher future taxes.

The Northeast Corridor of the United States has a high concentration of knowledge industries and workers. Connecticut has a substantial share of its economy in knowledge-based industries. These industries through the high earnings and consumption of knowledge workers support a large number of jobs outside of the knowledge-based industries; by one estimate each knowledge sector worker supports as many as five service sector jobs. Given that most economic growth in a state comes from its existing businesses and industries, it is important to retain and expand its current industries and especially the knowledge-based industries that drive growth in other areas.

A pervasive finding in the growth literature is that knowledge-based industry workers learn from one another and through their close interaction produce new ideas and economic growth. Knowledge industries rely extensively on a continuing flow of highly educated and innovative workers in a state or region. In addition to modifying its tax system, Connecticut should continue to invest in the services and environments that knowledge workers enjoy. Connecticut has attractive coasts and good recreation. It might ensure that its fiscal environment remains stable and competitive with neighboring states as well as that its zoning laws do not, by being highly restrictive, drive up land and housing prices. Keeping housing prices more affordable than its neighboring states could give Connecticut a competitive advantage. Connecticut may also consider strategic investment in its university laboratories and STEM disciplines to increase knowledge creation at its universities as well as to increase the supply of knowledge workers.

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Chapter 7

Fiscal Architecture of Connecticut

A Report for Prepared for the Connecticut Tax Panel
Presented October 13, 2015

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Executive Summary

The economic and demographic structure of every state in the Union affords state and local governments a number of opportunities and challenges when it comes to public finances. In Connecticut, over the past three decades, the landscape of economic activity has been defined by quite different activities—from manufacturing and defense procurement to finance and banking. Certain types of manufacturing have fallen off in many states including Connecticut and the finance and insurance industry has struggled to reach pre-Great Recession levels. In looking for a current or medium term comparative advantage, the state is investing in the development of the knowledge economy, including industries such as high tech medical and advanced manufacturing while not ignoring important general investments including education and infrastructure.

These large-scale changes in the economic structure of the state are accompanied by important changes in demographic and institutional factors that influence Connecticut's fiscal structure. Population growth is slower in Connecticut relative to the U.S. and the State's population is older. Several other characteristics provide the State with challenges and opportunities in terms of long-term fiscal sustainability. In this report, trends in the main demographic and economic characteristics are analyzed with respect to their potential impact on the Connecticut's state and local revenues. The main findings are highlighted here.

There are a number of overarching trends that will have substantial impact on public finances in Connecticut in the coming decades. The trends and their general impact on finances are as follows:

- Population growth is slower than the U.S. average
 - Reduced natural growth in tax bases
- Connecticut's population is older than the average state

- o Reduced buoyancy in the income tax¹
 - o Reduced buoyancy in the sales tax
 - o Continued pressure related to pension liabilities
- High median personal income, increasing disparity in income
 - o Pressure on the acceptance of skewed income tax burden
 - o Reduced sales tax buoyancy
- Employment landscape restructuring: “natural” growth in relatively low wage service professions, potential comparative advantage and government focus on knowledge based industries
 - o Reduced tax handles for income tax²
 - o Reduced tax handle for sales tax (consumption moves toward services)
 - o Reduced buoyancy of income tax due to relative growth in lower wage jobs
- Globalization and technology: competition will continue to increase—international as well as local for employment, residents, economic activity
 - o Dampens ability to raise taxes on business-related income and capital investments
 - o Reduction in wage share in income tax base
 - o Increase in ability to avoid tax through shelters, transfer pricing, etc. reduce the buoyancy of business income-related taxes, individual income taxes, and sales taxes
- The state’s infrastructure including roads, will need to respond to government’s priority areas of growth and development and residents’ demands (education, transportation, health care)
- The state’s institutional infrastructure presents some unique challenges to adapting to demographic and economic change:
 - o The local governments have little fiscal space to adapt to the sub-state changes in architecture due to high property tax burdens and relatively low levels of autonomy in the intergovernmental system
 - o The state is fiscally constrained due to the previous underfunding of long-term pension liabilities and debt

¹ Buoyancy refers to the growth of revenue relative to the growth in the economy (GDP, income, etc.). A tax with more buoyancy will grow faster with the economy than one with less buoyancy.

² “Tax handles” refer to the relative ease of taxing certain sectors.

Introduction

Public finances, revenues and expenditures of government, are directly affected by economic and demographic characteristics as well as institutional structures. Demographic, economic, and institutional trends define the “fiscal architecture” of state and local governments on which public finances are developed. Changes in these trends put pressure on expenditures and revenue sources of state and local governments and may constrain options for reforming public finances. The trends include demographic changes (e.g., growth and age composition of the population, sizes of households, life expectancy) and economic changes that affect the structural mix of the state’s economy (e.g., employment level, distribution of income, the mix of sectors). How institutions and organizations change also constrains and frames the nature of revenue and expenditure pressures and options, e.g., the way citizens communicate among themselves about their government and how governments communicate and become accountable to their citizens, federal government interventions in the form of expenditure mandates and preemptions of the revenue base, and the intergovernmental implications of federal, state, local, and, in this era of rapid globalization, other nations’ policies.

As a result, what state and local governments can and cannot do in terms of what makes “fiscal sense” is based on the fiscal architecture of those governmental units and the projections of changes. The institutional structures including those that give rights over some revenue streams to one level of government but not another affect the ability of state and local governments to respond to changes in their architecture. For example, states might see fiscal value in imposing import duties as globalization opens world markets, but they are constitutionally prohibited from doing so because taxation of imports falls under the purview of

the federal government. Fiscal competition from other states or countries may preclude taxing capital. Entitlement programs cannot typically be altered without federal approval even in the face of increased demand associated with demographic change. These are just a few examples of the impact of overarching institutional arrangements.

Connecticut's changing fiscal architecture shares some similarities with other states in the U.S. In general, states are seeing an increasingly older population, the manufacturing sector of economies has diminished, and infrastructure demand remains strong throughout the country. At the same time, there are a number of uniquely Connecticut aspects—the decreased concentration in the high-wage financial and insurance industry, proximity to New York and Massachusetts, and well above average household income that has become more disparate. This report focuses on those trends that, arguably, will have the most influence on the future of the Connecticut's finances.

The report does not provide original forecasts of data but relies on data and information from the *Economic Report of the Governor*, Connecticut Office of Policy and Management, the Connecticut Department of Labor, and other sources as noted. Federal sources are also used from the Bureau of Economic Analysis (BEA), the Bureau of Labor Statistics (BLS), and the U.S. Census. The focus of the report is not on revenue forecasting but it seeks to provide insight into how best to align Connecticut's revenue system to best serve its population over the coming decades given important economic and demographic trends.

The characteristics analyzed in this report and the forecasts analyzed are not exhaustive. The interactions among many of the economic and demographic characteristics are difficult to pin-down. Therefore, in this report, the major trends are generally evaluated as independent

trends but in the last section of the report, an attempt is made to bring together the “big picture” of the myriad trends in the form of Table 11.

Officials from the state of Connecticut have been very helpful in providing data and insights that were necessary to prepare this report. In particular, thanks go to the officials from the Department of Labor, the Connecticut Office of Policy and Management, and to the Department of Revenue Services.

The report is structured as follows. The next three sections highlight demographic and economic changes and institutions that affect finances. In each section, the general impact of these factors is presented and the trends in the major factors are discussed. The sections are summarized with a perspective on the potential implications of the trends on Connecticut revenues.³ The concluding section presents a matrix of trends, impacts and potential options for consideration to better align Connecticut’s revenue system with the changes in its demographics and economy. Since forecasts of many demographic and economic changes are tenuous, in some cases more than one “future” scenario is presented.

³ Expenditures are heavily affected by the trends presented in this report and where they are important, they are noted in the report.

Demographics

Overview

Population changes in terms of overall growth and distribution by age, race, and family size are among the variables that best identify a state and have potential impacts on state revenue. Highlights of this section include:

- **Population growth:** Connecticut has witnessed reduced growth in population since the 1970s. Current projections suggest the state will gain slightly more than 100,000 residents over the next ten years (2.8 percent growth). The relatively slow pace of growth may signal sluggish growth in revenues including income tax. It is important to analyze accompanying changes such as the racial/ethnic mix, age and income distribution, and the level of education and health status.
- **Age distribution:** The aging of the population has been an important demographic for the past two decades. Connecticut is no stranger to the aging trend. Between 2015 and 2025, the aged dependency ratio will increase from 23.9 percent to 31.9 percent.⁴ An aging population demands specialized services including healthcare, accessible transportation, and recreational facilities. This demographic change could reduce the natural growth in tax bases that exclude pension and retirement income and health and medical supplies. Throughout the U.S., life expectancy is slowly increasing, which means that the future's elderly will be much older on average than in the past—continuing pressure for health care and related services.
- **Family size and composition:** The structure of Connecticut's households is relatively stable and similar to the U.S. (2.52 people per household). Household size and composition (dual or single wage earner, dual or single care giver) do influence the overall fiscal architecture of a government. Smaller families may consume differently than larger families, although this is directly linked to income as well.
- **Race and ethnicity:** The racial and ethnic composition of the population can affect the population via the type and variation in public service demands. Consumption patterns are also influenced by race and ethnicity, which can affect sales tax bases. Connecticut is currently more homogenous in this regard than the average U.S. state, but global movements of people and businesses could change this in the future.
- **Health:** Health status is inextricably linked to income distribution, labor supply, and population growth among other important characteristics of a state. Health status has direct implications for public expenditures and may also affect revenue potential.

⁴ Aged dependency ratio is measured as the ratio of those 65 and older to those over 17 and younger than 65 (Office of Policy and Management, 2015).

One of the overarching health trends is the increased incidence of obesity, especially among children which may affect income potential in the future.

In the sections below, the trends and potential impacts of these characteristics on public finances are explored.

General Population Characteristics

Connecticut has experienced lower than average population growth since the mid-1970s. There are a variety of contributing factors to this trend including a reduction in production associated with the close of the Vietnam War, general migration to the South, and a temperamental financial market in the region. According to the Connecticut Data Collaborative, the state is expected to gain about 101,000 people between 2015 and 2025—a 2.79 percent increase. The U.S. Census projects U.S. population growth over the same period of 8.08 percent. The slow growth in the population is similar to that of the New England region and may well reflect the long term trend of economic expansion in the South and West. In some respects, the relatively slow growth affords Connecticut some room to hone its fiscal structure. In states in which population is growing very rapidly, there is a concern that demands on the public sector come at the public sector quickly and may be increasingly heterogeneous—leaving less time for thoughtful planning. However, slow population growth may also be associated with slow growth in revenues.

Migration has also played a role in the changing population of Connecticut. Between 2006 and 2011, the Economic Report of the Governor reports net outmigration of 49,771 people (about 10,000 people per year on average). According to the Census, in 2013, about 91,600 people left Connecticut for other states, while 88,351 migrated into Connecticut from other states

in the U.S.⁵ New York, Massachusetts, Florida, Pennsylvania and California were the biggest recipients of Connecticut expatriates in 2013.⁶ While one year does not make a trend, there may be some slowing down of net outmigration between Connecticut and other states as the economies of the region settle post-Great Recession.

One question often asked is whether domestic migrants into Connecticut are of higher income than those who have left the state. Data from two reputable sources suggest somewhat different income characteristics associated with migrants. The Internal Revenue Service Statistics of Income provides migration data based on reported residence of federal tax returns.⁷ These data report the number of returns, exemptions, and adjusted gross income. These data show that the net change in adjusted gross income from domestic migration in 2011-12 is a loss of \$1.96 billion for Connecticut and a loss of \$1.64 billion in 2012-13. However, nearly all of the loss is attributable to adjusted gross income in Florida; \$1.34 billion in 2011-12 and \$1.1 billion in 2012-13. Migration between Connecticut and New York netted an *increase* in adjusted gross income in Connecticut of \$111 million in 2011-12 and \$555 million in 2012-13.

The Census data demonstrate a slightly different income-migration pattern. Since 2011, the average wage of those migrating into Connecticut is larger than for those leaving Connecticut. For example, in 2013, the average wage for those leaving Connecticut was \$38,640 and for those entering Connecticut was \$44,956. The average household income for migrants was \$101,663 for those entering Connecticut in 2013 and \$95,359 for those leaving the state. These data seem somewhat at odds with the IRS data. However, adjusted gross income does not

⁵ See <https://www.census.gov/hhes/migration/data/acs/state-to-state.html>; Connecticut received immigrants from abroad and lost residents to other countries but the latter is not fully identified in the Census data and therefore not reported here.

⁶ <http://www.theday.com/article/20150124/NWS12/301249945>

⁷ <https://www.irs.gov/uac/SOI-Tax-Stats-Migration-Data>

include full pension and Social Security income and place of reporting may be sensitive to one-time capital gains. Also, Census reports individuals and households, neither of which are exactly the same as a tax return unit. In addition, if we look a bit deeper at the Census data, we find that, among the households with the highest reported wages (above the 90th and 95th percentile), there are slightly more out-migrants than in-migrants—5.51 versus 4.59 percent for the 90th percentile and 2.64 versus 2.51 for the 95th percentile. Based on these data, it appears that there is some migration out of Connecticut that affects the income tax base, but most of that migration is to Florida and not to Connecticut's close neighbors.

The population density in Connecticut is very high, with 738 persons per square mile, compared to 87 persons per square mile density across the nation and is expected to grow further to 764.6 versus 94.7 persons per square mile by 2020 in Connecticut and the U.S. accordingly, increasing the difference between Connecticut and the average U.S. state of 670 persons per square mile. This doubtless has particular impact on human behavior and choices and therefore, on revenues and expenditures of the state – it affects residential property values, education choices and business development patterns as some of the examples. There are some economies of scale in production and distribution of public services associated with density. The expected increase in density in the coming two decades could eventually outpace the economies of scale and over the long-term, could increase the cost of service provision in Connecticut relative to less dense states. This is not likely to happen in the medium term.

The specific characteristics of the population are critically important to forecasting the impact of population demographics on public finances. Connecticut's profile is characterized by a relatively older population (median age of 40.2 versus a U.S. average 37.3 in 2013), racially homogenous (81.6 percent white versus a U.S. total of 77.7 percent for those reporting one

race⁸), and 32.18 percent of housing units are rented in Connecticut versus 35.06 in the U.S. Connecticut's population trends of relatively slow growth and increasing elderly population have been developing for the last two to three decades. The homogeneity of the population (relative to the U.S.) is also long-standing. Table 1 highlights some of the differences in basic demographics between Connecticut and the rest of the U.S. which will be discussed further in the sections below.

Table 1. Basic Demographic Differences: Connecticut and the U.S., 2010-2015

	Connecticut	U.S.	Difference (CT-U.S.)
Population growth rate (2010-2015) percent	0.7	2.5	-1.8
Median age	40.2	37.3	2.9
Average household size	2.55	2.63	-0.08
Average family size	3.14	3.22	-0.08
Percent Non-family households	33.4	33.6	-0.2
Percent Owner occupied	67.8	64.9	2.9
Percent Renters	32.18	35.06	-2.88
Percent White	81.6	77.7	3.9
Percent Black	11.3	13.2	-1.9
Percent Hispanic	14.7	17.1	-2.4

Source: U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits

Age Distribution

From the perspective of public finances, one of the important demographic details of Connecticut is the age distribution of the population. The composition of population in terms of age and particular trends in its distribution are important determinants of the state's fiscal opportunities. Relative to the U.S., Connecticut's population is older. Table 2 presents details of the changing age distribution in Connecticut, New England, and the U.S. from 1990 to 2010.

⁸ Census Quickfacts, <http://www.census.gov/quickfacts/table/PST045214/00>

Connecticut's concentration of school-age population (5 to 17 years) is closer to the distribution of the average U.S. state versus New England states while the youngest population concentration is more like New England. School-aged population has declined in absolute terms since 2004-05 (Connecticut State Department of Education 2013-14).⁹ The school-age population is forecast to continue to decline from 2015 to 2025.

Connecticut was one of the seven states with median age of 40 and over in 2010, along with Pennsylvania, Florida, New Hampshire, West Virginia, Vermont, and Maine; Utah ranked as the youngest with a median age of 29.2.¹⁰ The percent of population over 64 is expected to grow to 782,848 people, or comprise 20.9 percent of total population by 2025 (up 4.9 percentage points from 2015), increasing the age-dependency ratio by over 33 percent between 2015 and 2025¹¹. This group is expected to comprise 19 percent of total population across the United States by the same year (14.9 percent in 2015). Table 3 provides the detailed forecast of the age distribution in Connecticut from 2015 to 2025.

⁹ Link:

http://www.sde.ct.gov/sde/lib/sde/pdf/board/boardmaterials040615/iii_c_receipt_of_the_report_on_the_condition_of_education_2013_14.pdf

¹⁰ <http://www.usa.com/rank/us--median-age--state-rank.htm> and

U.S. Census Bureau (2011), "Age and Sex Composition: 2010 Census Briefs". May, 2011

¹¹ FY 2016 – FY 2017 Biennium Economic Report of the Governor. Office of Policy and Management, Budget and Financial Management division. February 2015.

(http://www.ct.gov/opm/lib/opm/budget/2016_2017_biennial_budget/budget/economicreportofthegovernor.pdf)

Table 2. Age Distribution in Connecticut, New England and the United States, 1990-2010

	<u>1990</u>		<u>2000</u>		<u>2010</u>	
	Population (thousands)	Share of Total Population	Population (thousands)	Share of Total Population	Population (thousands)	Share of Total Population
Connecticut						
All ages	3,287	100.0 %	3,406	100.0 %	3,574	100.0 %
Under 5 years	233	7.1 %	233	6.8 %	202	5.7 %
5 to 17 years	520	15.8 %	618	18.1 %	615	17.2 %
18 to 24 years	349	10.6 %	272	8.0 %	327	9.1 %
25 to 44 years	1,093	33.3 %	1,133	33.3 %	905	25.3 %
45 to 64 years	648	19.7 %	790	23.2 %	1,019	28.5 %
65 years and over	444	13.5 %	470	13.8 %	507	14.2 %
Median age	34.4		37.4		40.0	
New England						
All ages	13,207	100.0 %	17,184	100.0 %	14,445	100.0 %
Under 5 years	938	7.1 %	865	5.0 %	797	5.5 %
5 to 17 years	2,137	16.2 %	2,484	14.5 %	2,354	16.3 %
18 to 24 years	1,494	11.3 %	1,570	9.1 %	1,429	9.9 %
25 to 44 years	4,399	33.3 %	7,262	42.3 %	3,451	25.5 %
45 to 64 years	2,477	18.8 %	3,111	18.1 %	4,136	28.6 %
65 years and over	1,762	13.3 %	1,892	11.0 %	2,042	14.1 %
Median age	33.7		N/A		40.6	
United States						
All ages	248,710	100.0 %	281,422	100.0 %	308,745	100.0 %
Under 5 years	18,758	7.5 %	19,176	6.8 %	20,201	6.5 %
5 to 17 years	45,166	18.2 %	53,118	18.9 %	53,980	17.5 %
18 to 24 years	26,942	10.8 %	27,143	9.6 %	30,672	9.9 %
25 to 44 years	80,595	32.4 %	85,041	30.2 %	82,135	26.6 %
45 to 64 years	46,169	18.6 %	42,666	15.2 %	81,489	26.4 %
65 years and over	31,079	12.5 %	34,992	12.4 %	40,268	13.0 %
Median age	32.9		35.3		37.2	

Source: U.S. Bureau of Census, Demographic and Housing Estimates: 2009-2013 American Community Survey http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_5YR_DP05&src=pt and www.ct.gov/eecd/lib/eecd/ct_market_data/md04_5-3.xls

Notes: N/A – Figures not available

Table 3. Projections of Connecticut's Population by Age (percent of total)

Age Group	2015	2020	2025
0-19	891.8 (24.5)	852.5 (23.0)	822.9 (22.0)
20-44	1,107.6 (30.4)	1,129.4 (30.5)	1,143.9 (30.5)
45-64	1,062.9 (26.2)	1,049.7 (28.4)	996.5 (26.6)
65 and over	582.2 (16.0)	671.0 (18.1)	782.8 (20.9)
85 and over	94.6 (2.6)	94.9 (2.6)	96.4 (2.6)
Total	3,644.5	3,702.5	3,746.2

Source: Office of Policy and Management, February 2015

The age distribution of Connecticut's population is interesting in terms of public finances. School-age children are not large direct contributors to the income tax base but are directly or indirectly related to consumption and property tax bases. General consumption patterns show that households with children age 6 to 18 spend slightly more of their budget on entertainment, housing, education, insurance, apparel, and food than the overall family on a per household basis.¹² To the extent that these items are taxable in Connecticut (taxable items include some entertainment, education supplies, and some apparel), if the youth population were growing, Connecticut would see increased growth in sales tax revenue due to consumption demand for the youth. Since there is forecasted reduction in this age group in Connecticut, we expect a slowing of sales tax revenue (all else equal). On the expenditure side, this age cohort naturally serves to demand educational services, so as the population of school-age children declines, there may be less pressure for educational expenditures associated with the population to be served (technology and other issues aside). Connecticut's public education system receives high marks already, which provides a solid expenditure base for education, which is not true in

¹² BLS, Consumer Expenditure Survey, Expenditure Tables: <http://www.bls.gov/cex/csxstnd.htm#2011>.

many states.¹³ As noted below, a changing mix of students in terms of ethnicity and socioeconomic status may increase demand for specialized programs thus countering the potential decrease in demand associated with a smaller school-age population.¹⁴

The cohort aged 20 to 44 represents a different kind of revenue potential. On the consumption side, this cohort is more likely than the average consumer unit to spend their budget on items including: food away from home, rent, personal services, apparel, transportation, and pensions and social security, and less on: cash contributions¹⁵, health care, and utilities. The forecast for this age group is relatively stable in Connecticut as a share of total population and we might expect sales tax revenue to be stabilized by the activities of this cohort after a recent decade of significant decline (2000 to 2010). In addition, this is the prime working aged population and as such, we would expect relative stable income tax revenue associated with the stability of this age group over the next ten years. There is, however, a concern is that as this cohort ages into retirement, they are not being replaced by a younger cohort according to population forecasts for the state.

The continued aging of Connecticut's population is arguably the most certain scenario for the future. The relatively stable "labor years" of 20 to 44 and the past years' trend of aging in Connecticut may provide a soft landing in terms of the projected impact of the growth in the elderly population on tax bases versus other states where the aging of the population is a somewhat newer phenomenon (Alaska, Idaho, Colorado, Georgia, for example). The elderly

¹³ Consistent comparisons of public schools among states are hard to come by. One source is the popular U.S. News and World Report ranking, which lists Connecticut third in the country: <http://www.usnews.com/education/best-high-schools/articles/how-states-compare>.

¹⁴ For example, the State Department of Education reports that the percent of public school children on free and reduced lunch was 37.1 percent in 2013-14 compared to 26.6 percent in 2004-05.

¹⁵ Cash contributions are listed as an expenditure item in the Consumer Expenditure Survey. It is important to note this expenditure category in this discussion because cash contributions reduce potentially taxable consumption. This is a relatively unique characteristic of this age cohort.

tend to consumer higher shares of goods that are non-taxable: healthcare, utilities, household operations and supplies, and they spend less on food away from home, apparel, and transportation.¹⁶ The elderly also receive more income that is partially exempt from income tax (military pensions and social security under Connecticut’s personal income tax code).

As a high wealth state, one might ask if the elderly of Connecticut are markedly different from the “average elderly.” To gain a bit more insight on the economic activity associated with the older population in Connecticut, we report the average value of gross receipts reported for the federal estate tax. This by no means is a definitive measure of the wealth of the elderly population of the state, but it provides interesting information on the magnitude of those wealthy enough to be in the estate tax net. As seen in Table 4, the average gross estate for Connecticut residents is very similar to the simple average across the U.S. There is no evidence of Connecticut trending higher or lower than the U.S. average from 2000 to 2013. These data suggest that, based on the taxable estates of Connecticut residents, the wealth of the elderly in the state are not markedly different than the average state.

Table 4. Federal Estate Tax Returns

	Average Gross Estate for Tax Purposes (000’s)		
	2000	2010	2013
Connecticut	\$1,978	\$7,737	\$13,893
U.S.	\$2,007	\$8,571	\$13,125

Source: IRS Statistics of Income, Tax Stats: <http://www.irs.gov/uac/SOI-Tax-Stats-Estate-Tax-Statistics-Filing-Year-Table-2>

Notes: Gross estate is the value of the estate before any deductions or exemptions.

¹⁶ Consumption analysis based on data from the U.S. Bureau of Labor Statistics, Consumer Expenditure Survey for 2011, <http://www.bls.gov/cex/csxstnd.htm>.

Households, Family Composition, and Fertility

The number of households and household size affect the level of demand for services. Fertility gives us some indication of the direction of change in family and household size as well as the future size of the population. Household characteristics in Connecticut are only slightly different than what is found nationally. As reported above, the average household and family size in Connecticut is slightly smaller than that found in the average state. The largest difference in housing demographics is the percent owner occupied, which is 67.5 percent in Connecticut compared to 64.9 percent in the U.S. The fertility rate for the U.S. has fallen over the last two decades, and the Centers for Disease Control estimate the rate to be 62.5 births per 1,000 women age 15-44 in 2013.¹⁷ The same source estimates Connecticut's fertility rate to be 52.7 births per 1,000 women age 15-44 in 2013. The number of households in Connecticut increased by 5.3 percent from 2000 to 2010—a smaller growth rate than the U.S. average.

To sum up, Connecticut's households are slightly smaller than the U.S. average with more owner occupied than rental housing. The forecasted trend for the U.S. and Connecticut is for slight declines (nearly stable) in household size (associated with fertility rates). The average size of a family has its own implications for consumption and possibly income tax bases. Larger families consume more of certain goods such as basic foodstuffs, but not necessarily more on a per capita basis. Economies of scale can influence household consumption and larger (smaller) families could be equated to smaller (larger) levels of per capita consumption. Given the stability in household size, it is difficult to identify this demographic characteristic as affecting revenue sources in a measurable way. There is uncertainty around this demographic as it can be substantially affected by foreign immigration.

¹⁷ http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_01.pdf

The above-average owner-occupied housing trend in Connecticut may continue, but a combination of other factors may mean a different picture of owner-occupied relative to potential impacts on property tax. In a report done by BJB Planning for the Connecticut Housing Finance Authority, the authors conclude that there will continue to be growth in owner-occupied housing in the state through at least 2017.¹⁸ Relatively slow population growth coupled with the increasing concentration of elderly (and reduction in the number of school aged children) suggests movement toward smaller homes. In addition, growing income disparity and projected employment growth in relatively low income industries reduces the demand for high price owner-occupied housing. These factors could dampen the growth of property tax revenues.

Race and Ethnicity

Diversity is a complicated demographic characteristic to analyze. The population of Connecticut is less racially diverse than the average state in the U.S. measured via race. However the share of foreign born population increased from 8.5 percent in 1990 to 13.6 in 2010. There are various ways to measure race and ethnicity, but using the Census definition of race for those reporting one race, 81.6 percent of the population identify as white (including Hispanic), 11.3 as black, and 14.7 as Hispanic in Connecticut. For the U.S., the percentages are 77.7, 13.2, and 17.1. Interestingly, some of Connecticut's cities are notably among the most diverse in the country, including Bridgeport, Stamford, Hartford, New Haven, and Waterbury.¹⁹ Connecticut's percent foreign born population is 13.6 percent compared to the U.S. average of 12.9 percent. The origin region of the foreign born is somewhat different in Connecticut than across the U.S. with most migrants coming to Connecticut from Latin America and Europe.

¹⁸ http://www.ct.gov/opm/lib/opm/hhs/interagency_council_on_affordable_housing/meeting_2013_12-03/final-report-11-12-13.pdf

¹⁹ Wallethub rates cities diversity using data on race and ethnicity, language diversity, and regional of birth, <http://wallethub.com/edu/cities-with-the-most-and-least-ethno-racial-and-linguistic-diversity/10264/>.

Across the U.S., the concentration of Latin American and Asian foreign born populations are larger than in Connecticut. According to the 2013 American Community Survey, a large share of Latin American populations often live in the cities, whereas the Asian immigrants are more likely to live in the suburbs. The trends in foreign born are likely to continue into the next decade unless there are major changes in national immigration policy.

Table 5: Percent of Foreign Born by Origin Region (2009-2013)

Origin	Connecticut	U.S.
Europe	27.3	11.9
Asia	23.0	28.8
Latin America	42.2	52.5
Africa	3.9	4.1

Source: <http://www.census.gov/acs/www/data/data-tables-and-tools/narrative-profiles/>,
<http://www.census.gov/acs/www/data/data-tables-and-tools/narrative-profiles/>

The diversity of the population in terms of race and ethnicity presents some challenges to the expenditure side of the budget in terms of specialized demands for educational services (second language support in schools for example). The impact of ethnicity on tax compliance has been studied, but the results are not consistent regarding the impact of ethnicity on compliance. All else equal, however, revenues that are easier to understand would likely see higher compliance in a heterogeneous population.

Health

Health characteristics also affect both the revenue and expenditure side of government finances – they impact transportation and medical services on one side and through the health level of the population, labor potential, and income and consumption tax revenues on the other of the budget. The population in Connecticut is relatively healthy based on data from the Centers for Disease Control.²⁰ Connecticut’s obesity level among children is 12.3 percent versus the

²⁰ <http://wwwn.cdc.gov/sortablestats/>

U.S. average of 13.7 percent. Among adults, the obesity rate in Connecticut is 25.6 percent while it is 28.1 percent in the U.S. However, according to the Connecticut Department of Health, obesity has increased in the state for the past decade and is particularly prevalent among adults and adolescent males and while Connecticut is healthier than the average of the U.S. if we look at obesity, the level is still high by international standards.²¹ A dated study of the costs of obesity (Finkelstein et al 2009) estimates health related costs across the U.S. of over \$147 billion per year. There are signs that obesity among the youngest is beginning to decline in the U.S., but expectations are that health related costs will remain high.

Among U.S. states, Connecticut has lower rates of teen pregnancy (15.1 births per 1,000 females ages 15-19 versus 29.4 nationally), and less incidence of heart disease and stroke deaths than the U.S. (155.1 and 28.3 for heart and stroke in Connecticut versus 173.1 and 37.9 respectively). These statistics may change in the future as Connecticut continues to age and the disparity in income grows.

Regarding the link between health status and public finances, arguably the most important trend in Connecticut is that of the rise of obesity. If this trend in obesity of children continues, it potentially shifts more of the sales tax base toward non-taxable consumption (health and medical supplies) in addition to affecting the long-term prospects for higher education and productive labor supply. Connecticut's relative health status suggests that health demographics (obesity and heart disease) will play less of a role on the state's fiscal health than might be expected in the average state in the country. Health Statistics estimated average life expectancy at birth to be 78.7 years in 2010, up from 73.7 years in 1980, 75.4 years in 1990, and 76.8 years

²¹ <http://www.worldobesity.org/resources/overweight-obesity-region/> ; Connecticut Department of Health (2014).

in 2000. As life spans continue to increase nationally, this trend will impact retirement, social security, pension systems, health care, and other similar requirements.

Economic Characteristics

Economic factors are no less important to the state's fiscal structure as are demographic characteristics. There are a number of economic factors to consider and their implications are as follows:

- The employment and output (GSP/GDP) structure. A government's revenue base is largely determined by the structure of industry and the output produced, and the composition of employment that goes along with production. Property taxes make more sense as a sustainable revenue source for non-service oriented economies; consumption (sales and excise) taxes may be more dependable in a service-based economy if the sales tax base were broadly defined. Connecticut like many states has seen a decline in manufacturing activity and an increase in services. The state would like to capitalize on infrastructure developed around the defense industry also taking advantage of its strong universities. Production is likely to become less labor intensive and more capital and technology intensive. Taxation of this landscape is different and in some respects more difficult than taxing a "traditional" manufacturing base.
- Composition and distribution of income. Capital is a mobile factor of production which makes it a difficult subject of taxation. Competition and globalization have only made that more difficult. Transfer payments (in the form of pension and retirement income as well as public welfare payments) typically fall outside of the income tax net. Increases of these components relative to other income would reduce the natural growth of the income tax. Connecticut's personal income level is high and capital and transfer payments comprise an important share of the base. Transfer payments including social insurance are likely to rise in the coming 10 to 15 years. Connecticut's income distribution is increasingly disparate which may increase scrutiny of the distribution of tax burdens.
- Globalization. Greater globalization means that consumers and producers have fewer barriers to conduct business throughout the world. Competition for labor and capital and consumer markets means that it needs to consider reaction to its fiscal decisions from near and far. Global real estate capital is also looking for a home that is understandable and predictable. Globalization and competition also increases the need to produce public goods competitively to attract and keep residents and businesses.
- Technology. Internet commerce continues to challenge state and local governments' sales tax revenue. Increased ease of doing business and investing on-line will increase the administrative burden of collecting income taxes as well as sales taxes. Technology will also affect how industries work—how collaboration happens (remotely), the relative capital to labor ratios, the types of output produced, how

much and where inventory is kept, and marketing of products. As more economic activity occurs remotely, tax handles²² become more scarce.

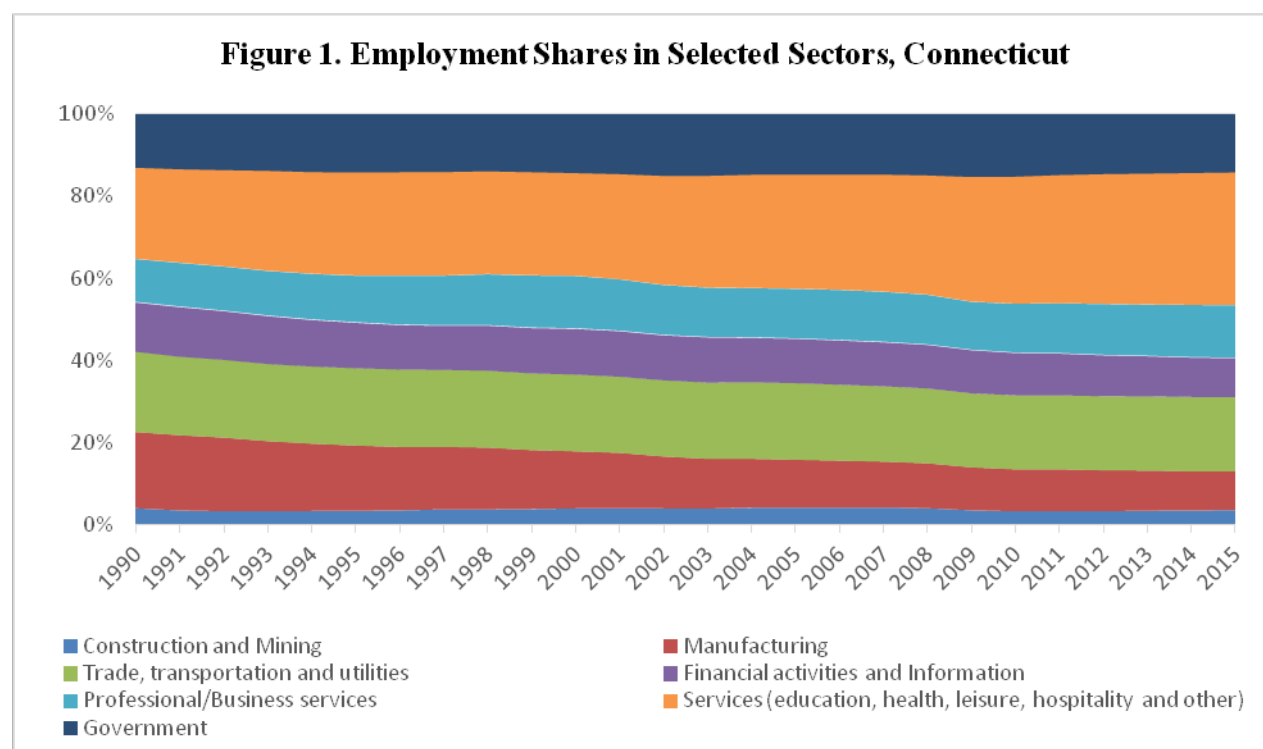
Employment and Output

Employment and output (production) are important drivers of the public finance system. The composition and trends of these factors affect the level of compensation (affecting tax revenue), consumption (and sales tax), as well as the demand for public services. A rapidly changing concentration of employment and output could signal a healthy economy that is taking advantage of changes in worldwide economic trends. Such trends could also signal substantial human capital and infrastructure needs to support sustained growth. Some kinds of economic activity are associated with strong tax handles (meaning an easier identification of taxable economic activity—think manufacturing) versus weaker tax handles (services and internet commerce). All else equal, it is less costly for the tax administration to identify and value physical output and assets than it is when the produced good is a less tangible service.

Connecticut's employment and output composition have changed substantially over the past thirty years. Other studies in this series (including Srivastava and Wasylenko) document the long-term and recent trends in employment pre and post-recession. They find that manufacturing has decreased more as a share of economic activity in Connecticut than in the average state while government and finance and insurance (through 2010) increased more in Connecticut as a share of employment than in other states. Connecticut shares the trend of reduced concentration in manufacturing and increase in employment in the service sector with most states in the U.S. Figures 1 and 2 document the changing distribution of employment by major sector. As seen in Figure 1, service sector employment has grown from 22.41 percent to 32.55 percent of overall

²² Tax handles refer to the ability to identify the taxable activity or income. Poor tax handles reduce the ability of tax administration to identify tax bases as well as taxpayers.

employment between 1990 and 2015 while manufacturing has declined from 18.58 percent to 9.48 percent.

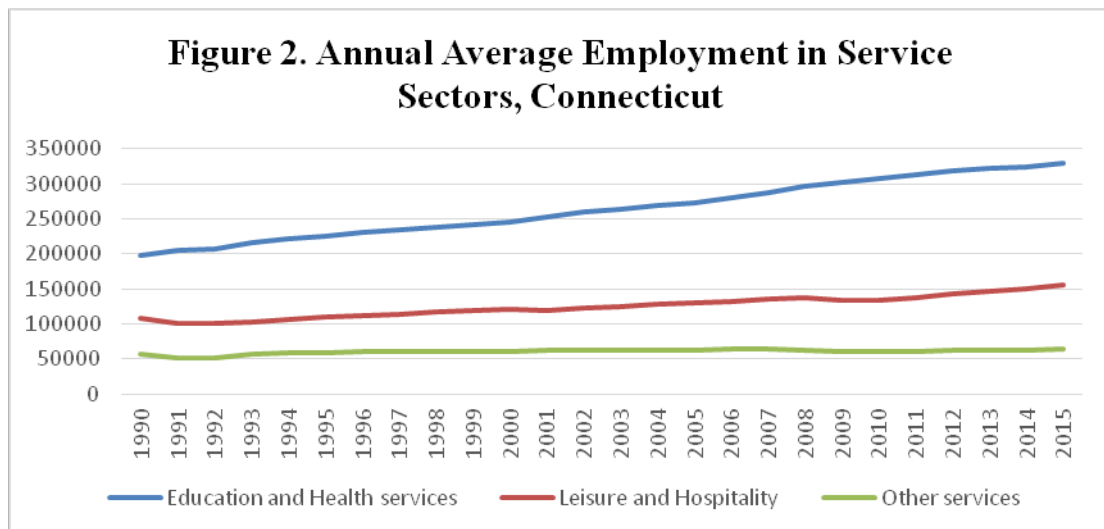


Source: Connecticut Department of Labor

Notes: The employment data is seasonally adjusted and based on annual average employment in selected sectors.

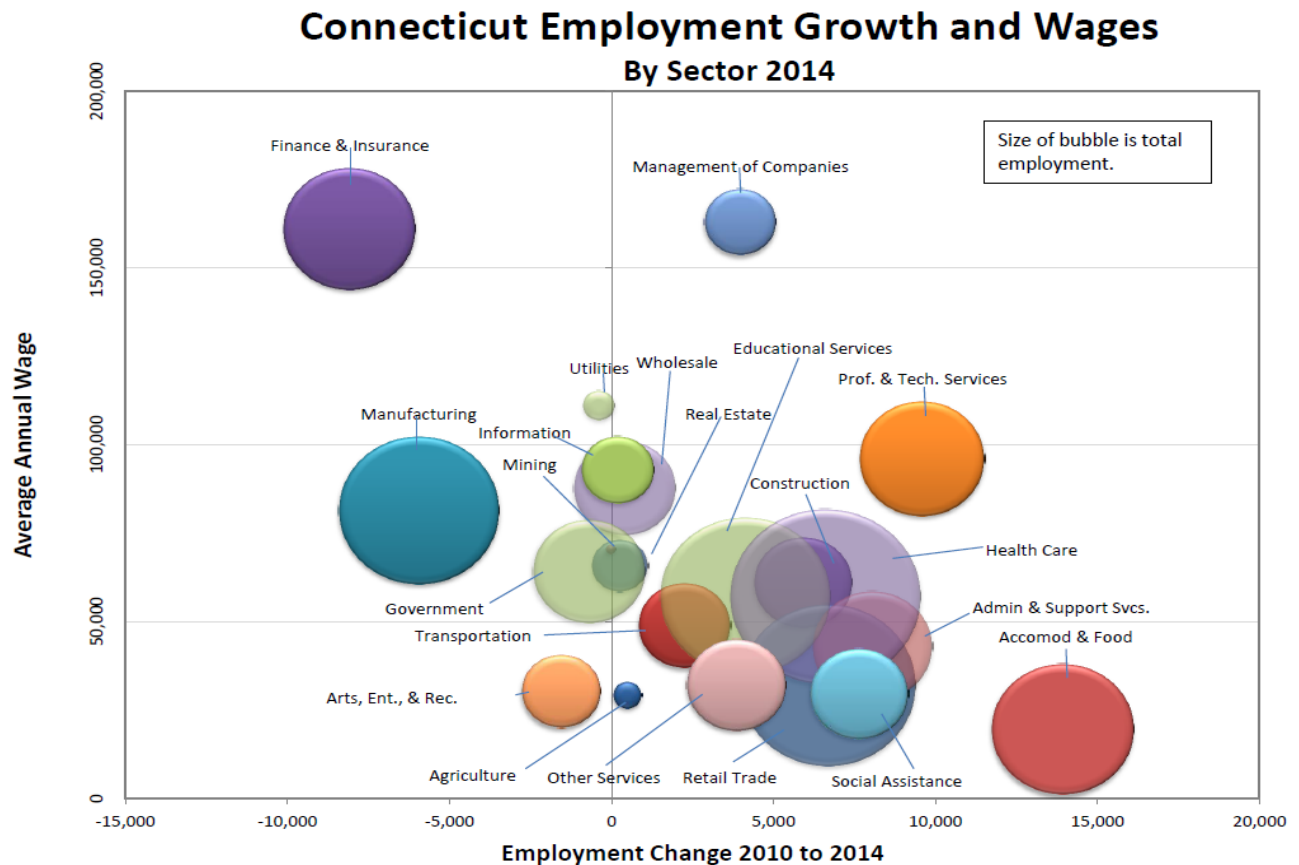
Given the major changes associated with the Great Recession in terms of economic activity and government finance, it is useful to take a careful look at the changes in the composition of employment post-2009. Coming out of the Great Recession, job growth in Connecticut has been fueled by sectors with low average wages (health care and leisure and hospitality, see Figure 2). Finance and insurance and manufacturing growth in Connecticut post-recession lag the U.S. while management of companies in Connecticut is stronger than the U.S. average. Figure 3, provided by the Department of Labor, demonstrates very effectively what has happened to the composition of employment at the end of the Great Recession. The largest positive employment changes are for the Accommodation and Food industry, which is a relatively low-wage sector. Large losses in employment are seen in Finance and Insurance and

in the Manufacturing industries. Finance and Insurance are also among the highest paid—so big losses are associated with spending power and revenue raising capacity.



Source: Connecticut Department of Labor

Figure 3: Employment Growth in Connecticut, 2010-2014



Source: Connecticut Department of Labor

Official state projections show that Connecticut's real GDP is expected to grow 2.8 percent in FY 2015, and then decline to an annual average of 2.0 percent growth from FY 2016 to 2019.²³ Employment in Connecticut is expected to surpass its pre-recession peak by the second quarter of 2016. Connecticut's unemployment rate is projected to decline to 6.3 percent by FY 2015 and drop down to 5.2 percent by the end of the forecast period in FY 2019.

²³ FY 2016 – FY 2017 Biennium Economic Report of the Governor. Office of Policy and Management, Budget and Financial Management division. February 2015.
(http://www.ct.gov/opm/lib/opm/budget/2016_2017_biennial_budget/budget/economicreportofthegovernor.pdf)

According to projections, U.S. real GDP is anticipated to increase from \$13.6 trillion in 2012 to \$17.6 trillion in 2022, an annual growth rate of 2.6 percent.²⁴ The U.S. economy will be dominated by an increased concentration of employment in education and health care services. Nationally, growth industries (measured by BEA forecasted expenditures) are service industries (versus goods producing) and among services, the fastest growing sectors will be information, with annual rate of change from 2012-2022 followed by retail trade and health care and social assistance (both 4.2 percent per year).²⁵

The employment forecast for Connecticut shows a continued growth in the service sector, not unlike that of the U.S. Based on Connecticut Department of Labor's 2012-2022 Industry Projections, construction, healthcare and social assistance and professional, scientific and technical services are expected to grow at higher rates with 22.8 percent, 19.9 percent and 19.6 percent growth respectively over the period 2012-2022 while agriculture and forestry will grow by 11.2 percent by 2022, mining and wholesale trade are expected to experience 13.9 percent and 9.9 percent growth respectively.²⁶ Manufacturing growth remains flat with total growth expected to be 0.8 percent over the ten year period. The resulting concentration of employment is heavily in the service sector—in particular in educational and healthcare services as summarized in Table 6.

²⁴ <http://www.bls.gov/opub/mlr/2014/article/consumer-spending-and-us-employment-from-the-recession-through-2022.htm>

²⁵ <http://www.bls.gov/opub/mlr/2014/article/consumer-spending-and-us-employment-from-the-recession-through-2022.htm>

²⁶ <http://www1.ctdol.state.ct.us/lmi/ctindustry2012.asp>

Table 6: Connecticut Concentration of Employment by Industry 2012 and 2022

	Construction	Manufacturing	Retail Trade	Finance/Insurance	Prof/Tech Services	Educational Services	Healthcare Services	Accommodation and Food Service	Government
2012	2.91%	9.31%	10.26%	6.45%	5.04%	10.29%	15.56%	6.63%	4.80%
2022	3.26%	8.57%	9.90%	6.08%	5.51%	10.33%	17.06%	6.61%	4.44%

Source: Calculations based on Connecticut Department of Labor Industry Projections
<http://www1.ctdol.state.ct.us/lmi/ctindustry2012.asp>

The employment and output trends present a few challenges for Connecticut's fiscal structure. Coming out of the recession, Connecticut has seen most growth in relatively low wage industries including accommodation and food, social assistance, retail trade and health and education services. There has been some growth in management of companies (which is high paid) and professional and technical services. Through 2014, employment in the finance and insurance sectors has not fully recovered. The general shift in economic activity and projections for growth are in relatively low wage service sector industries. The service sector in general provides a weaker tax handle than does economic activity in goods producing sectors. Services are less transparent and can more easily bury their paper-trail of production relative to the production of hard goods. The growth in service sector jobs and output in the health and education sectors are also moderate-wage jobs (or low wage jobs) which may produce less buoyancy to the revenue system. An added issue arises with respect to attracting and keeping these employees.

Connecticut has invested in maintaining and attracting economic activity in the biotech industry, which may be a growth industry in the future. The presence of Yale University and the University of Connecticut provides the state with a potential comparative advantage in the biotech sphere. This and other knowledge-based industries are typically high-wage sectors and may generate very large multiplier effects due to their impact on other industries. Many of these

industries are of the “new economy” and utilize sophisticated technology and tools to affect productivity in manufacturing, produce new medical procedures and interventions, and affect commerce via the internet and other means. The potential growth in these sectors does not immediately translate into tax revenues as start up support for these industries is expensive and pay-offs may be long-term.

Wasylenko (2015) shows that the concentration of bio-tech employment in Connecticut is small (0.8 percent and down from 1.1 percent in 2000); in all knowledge-based industries it has hovered around 21 percent since 2000. This is above the U.S. level of 19 percent but lower than the regional leader, Massachusetts, at 25 percent. Connecticut’s NIH funding per capita exceeded the same by almost two-fold as is seen from the table below.²⁷

Table 7: Bioscience Performance Metrics

Metric	Connecticut	U.S.
Bioscience Industry, 2012		
Bioscience Employment	24,194	1,619,746
Bioscience Establishments	864	73,088
NIH Funding, FY2013		
Funding (thousands)	\$444,605	\$22,293,255
Funding per capita	\$124	\$70

Source: Biotechnology Industry Organization, and Battelle,
https://www.bio.org/sites/default/files/SP_Connecticut.pdf

Overall, the forecast of employment and output in Connecticut is that we would expect (with high probability) a continued increase in relatively modest-waged service sector jobs and economic activity. There is much less certainty around the growth in the knowledge economy, for which there will be demand but with substantial competition and long gestation periods. The growth in the service-sector economy will also give rise to increased demand for technical training in the areas of health and education (as well other service sectors) while the knowledge-

²⁷ https://www.bio.org/sites/default/files/SP_Connecticut.pdf Battelle/BIO State Biosciences Jobs, Investments and Innovation 2014.

industry growth will demand specialized infrastructure and the ability to attract and retain very highly skilled and educated workforce.

Given the increasing use of technology in all facets of employment, Connecticut will also need to continue to invest in quality infrastructure to support the use of technology. Most all of the sectors of the economy rely more and more on digital communication and demand speed and quality in wireless and other communication. “Old infrastructure” of roads and bridges are still important, but new technology will compete more and more for public dollars.

One last issue that defines the architecture of Connecticut’s employment and revenue relates to the geographical proximity of Connecticut to other states with job opportunities. For example, according to the 2009-2013 5-Year American Community Survey Commuting Flows, 6.2 percent or 108,511 individuals out of 1,727,253 with residence in Connecticut worked in another state.²⁸ The wealthiest areas in Connecticut border New York. The potential draw of Connecticut residents to work in New York (and other surrounding states) has implications for the Connecticut income tax. The Department of Revenue Service has identified this as an issue because, while Connecticut residents are taxed on all income, Connecticut credits income tax paid to another state.²⁹ The allure of certain high-paid industries in the heart of New York City is expected to continue into the future, which may continue to cause a drain on the income tax net for Connecticut.

²⁸ U.S. Census Bureau, 2009-2013 American Community Survey
<http://www.census.gov/library/publications/2015/acs/acs-32.html>

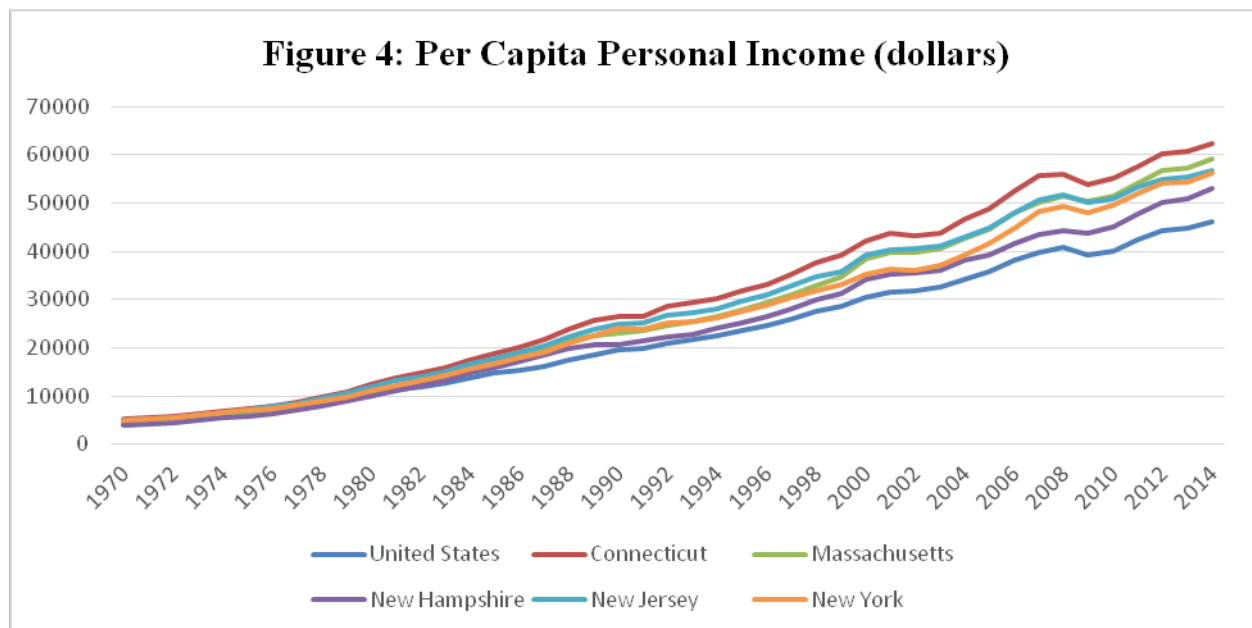
²⁹ Connecticut Department of Revenue Services <http://www.ct.gov/drs/cwp/view.asp?a=1462&q=266294>

Income

Income is an important driver of revenues and expenditures at all levels of government. In Connecticut, revenues are largely driven by income, sales and property taxes, all of which are obviously affected by income. However, not all income is created equally in the eyes of tax policy. Retirement income is largely exempt for income tax purposes (some social security and military pensions and other transfer payments in Connecticut) and while income drives consumption, not all consumption is taxable. The distribution of income is also an important factor in determining the buoyancy of the tax system as well reflecting the variation in demand for public services (expenditures).

Connecticut is the highest ranking state in terms of per capita personal income at \$61,464 dollars per person relative to a U.S. average of \$45,384 in FY 2014.³⁰ Over the last three decades, income growth in Connecticut has outpaced that of its New England neighbors and the U.S. (see Figure 4). Over the last ten years, personal income (PI) and per capita personal income has been rising, with fast growth from 2005 to 2008 and a relatively strong income recovery post-recession (in 2010). From 2005 to 2008, personal income grew from \$167 billion to \$195 billion in Connecticut. Figure 4 illustrates this growth in per capita personal income since 1970.

³⁰ OPM (2015)



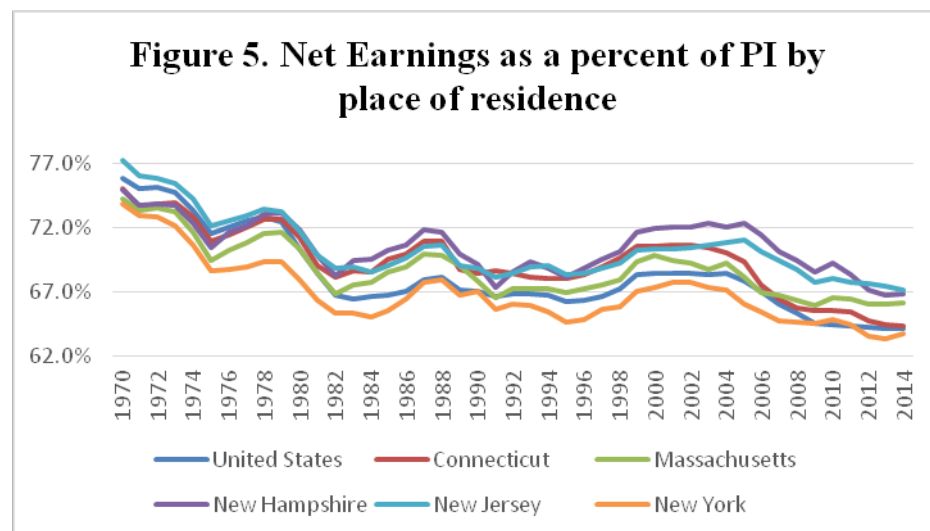
Source: BEA

Decomposition of personal income by its major components shows that net earnings remain the dominant component of personal income nationwide as well as in Connecticut and other New England states (see Figures 5, 6, and 7). The long-term trend demonstrates a decline in the share of wage income from 1970 to the early 1990s. In Connecticut, the net earnings share of personal income increased after 1992, but then fell precipitously after 2004 (as did other states). Net earnings are mainly comprised of wages, so its growth pattern is an important indicator of income tax revenue.

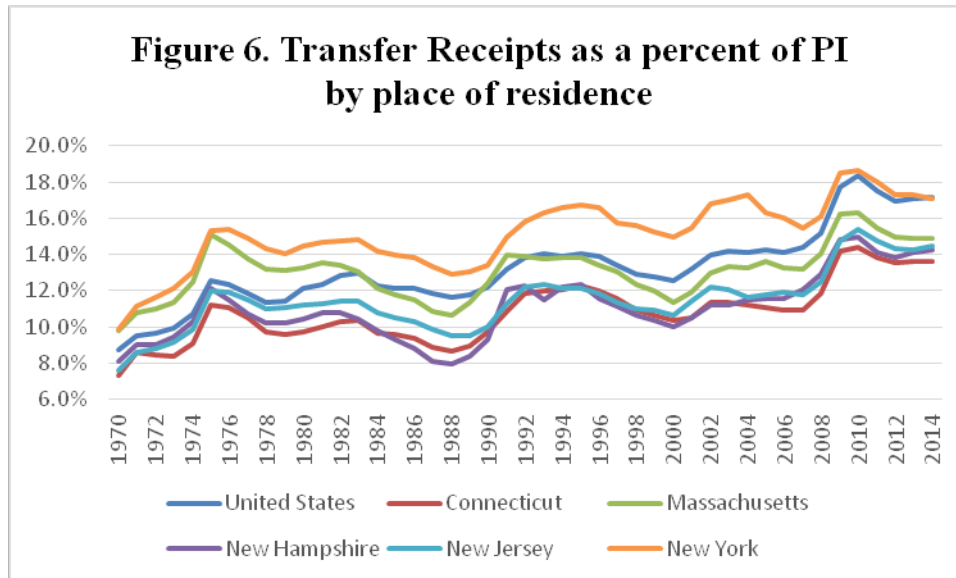
Between 1970 and 2014 personal current transfer receipts (Social Security, Medicaid, TANF, and the like) as a share of personal income increased from approximately 9 percent to 19.3 percent in the U.S. and from 7.5 percent to 13.6 percent in Connecticut, increasing in neighboring states as well. Transfer payments are less taxable under the income tax than wages so growth in transfer payments as a share of personal income will reduce income tax buoyancy. Connecticut's increase in this share could reduce income tax buoyancy, but it is not as dramatic

as in neighboring states or the U.S. Continued growth in the elderly population in Connecticut could increase this share in the future.

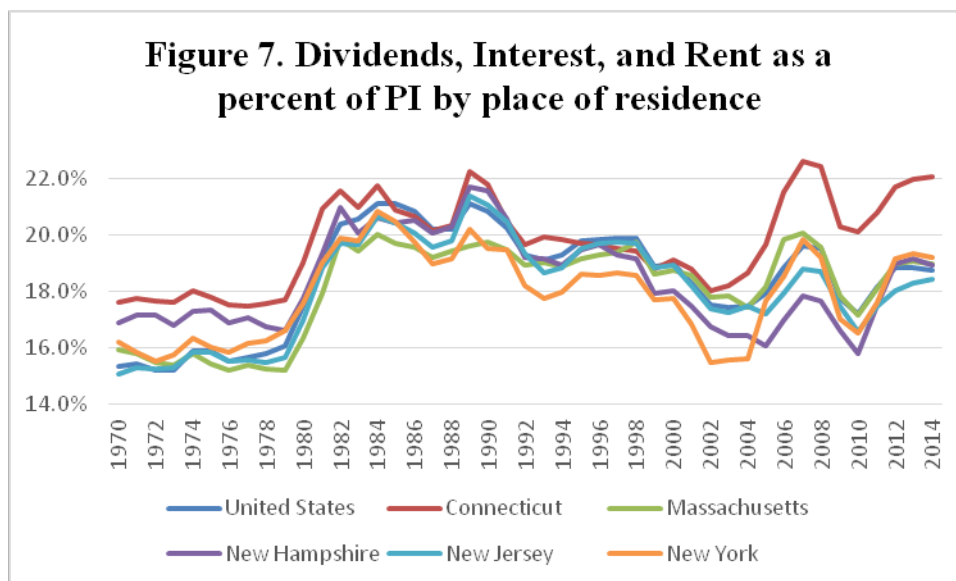
Capital income in the form of dividends, interest, and rent as a share of personal income was rising steadily till 1990 and then started to decrease (Figure 7). Connecticut's share is particularly large—rising to 22.3 percent in 1989 and then to 22.6 percent in 2007. Largely taxable, but typically more volatile, Connecticut's capital income base will continue to support tax revenue to the extent that high income individuals remain in the state (including post-retirement).



Source: BEA



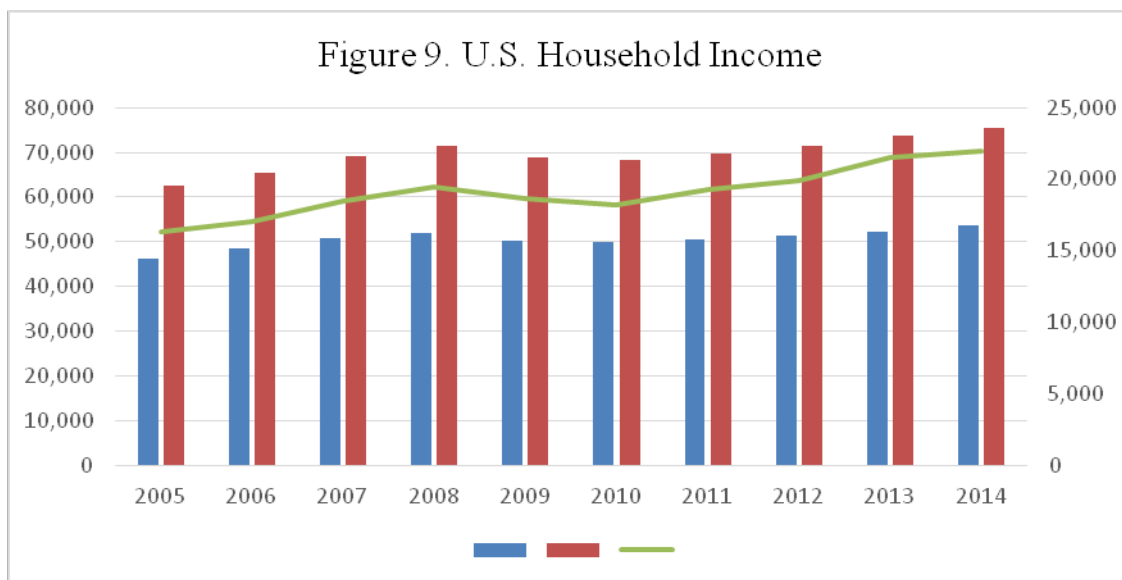
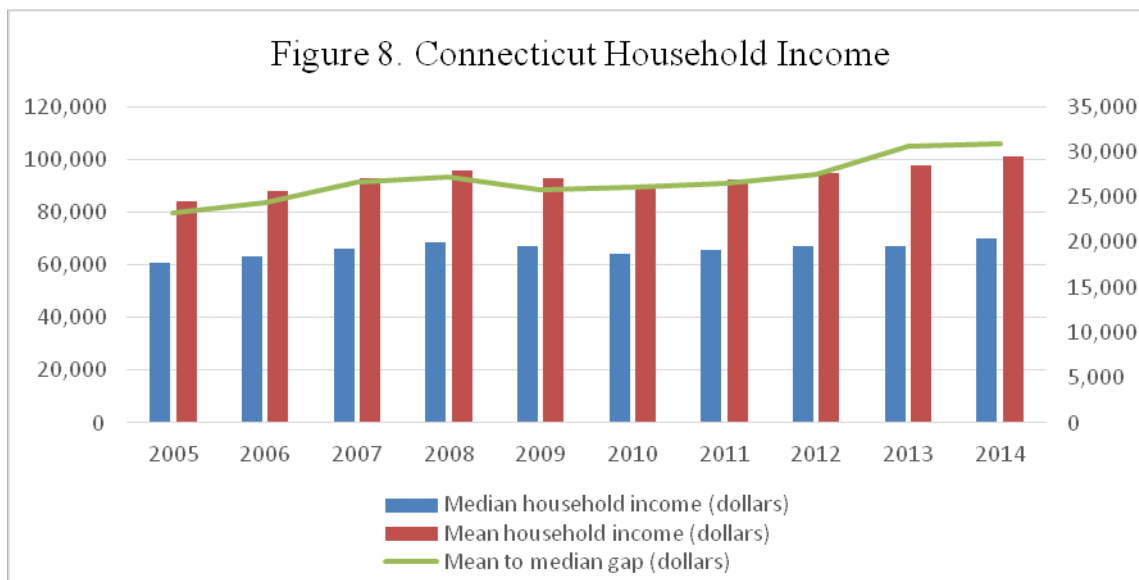
Source: BEA



Source: BEA

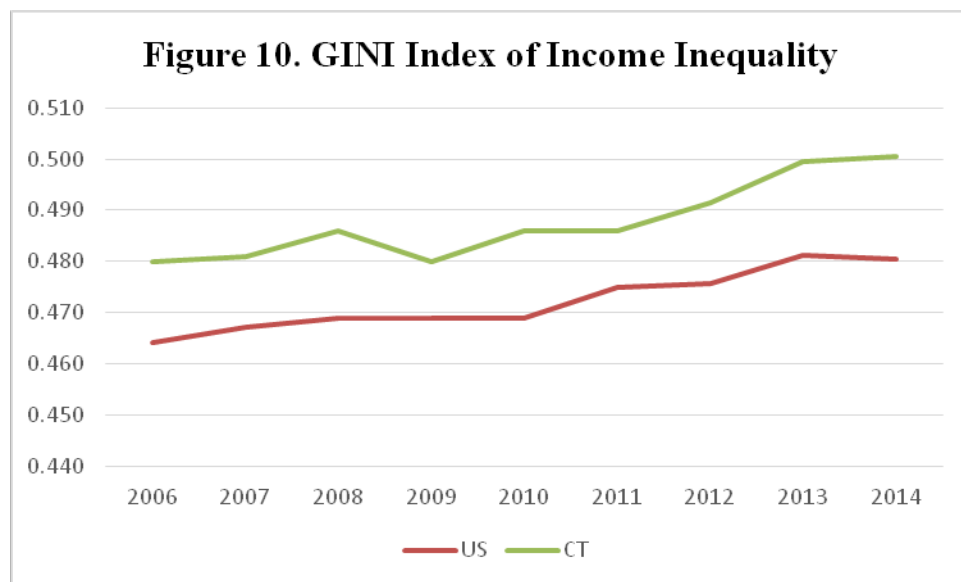
While a high income state, Connecticut is experiencing a change in the distribution of income. The difference between median and mean household income over time is computed to show the change in income disparity in Connecticut (Figure 8). The median income is the income of the household in the middle of the income distribution while the average income is

simply the sum of household income divided by the total number of households. The greater the concentration of income at the high end of the income distribution, the greater the spread between average (mean) income per household and the median income. In Connecticut, the gap between median and mean income is consistently over \$25,000 from 2005, increasing to \$30,000 in 2013. As seen in Figure 9, a similar trend is occurring nationwide but the spread is not as great—about \$20,000 in 2013.



Source: American Community Survey 1-Year Estimates (from each year's release)
 Note: Income in the Past 12 Months (In Inflation-Adjusted Dollars for each relevant year of survey)

Finally, the Gini index, a measure of equality in an economy, can also be used to gauge the trends in inequality in Connecticut (and the U.S.). A Gini index equal to zero means perfect equality—each decile of the population holds 10 percent of income. A Gini of one is complete inequality where the highest income earners “own” virtually all income. Figure 10 demonstrates the Gini index over time for Connecticut and the U.S. As seen there, income inequality measured by the Gini index increased substantially in Connecticut and in the U.S. post Great Recession. Connecticut is more disparate in terms of income than is the U.S., but the relative income inequality from 2006 to 2014 is similar in both cases.



Source: U.S. Census of Bureau. 2014 American Community Survey 1-Year Estimates

<http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

Note: Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution.

Disparities in income will affect revenues as well as expenditures. Connecticut’s Temporary Assistance for Needy Families (TANF) has declined since the mid-2000s but Supplemental Nutritional Assistance Program (SNAP) recipients have increased (somewhat faster than the average state during the recession). In December 2014, there were 27,512 total TANF recipients relative to an average of 27,183 persons in March, 2015. This was a

continuation of a downward trend as the caseloads were 34,413 in 2010, 32,427 in 2011, 30,049 in 2012 and 28,553 in 2013 respectively.³¹ According to the Center on Budget and Policy Priorities, Connecticut raises TANF benefit levels each July 1 based on the Social Security Administration's COLA for Social Security and Supplemental Security Income benefits. The state suspended its COLA for several years due to budget constraints. Most families of three in Connecticut receive a maximum benefit of \$576 a month. TANF benefit levels as percentage of federal poverty were 42.3 percent in Connecticut, which was the third highest indicator after New York (47.8 percent) and Alaska (44.8 percent) in 2014. The benefit levels as percentage of federal poverty level of both TANF and SNAP also ranked Connecticut third in the country (71.2 percent) after Alaska (78.4 percent) and Hawaii (72.2 percent).³² SNAP recipients in Connecticut had been increasing in number for the past five years and the benefits level have also increased from 2010 to 2013 with slight decrease in 2014.³³

Table 8: Supplemental Nutrition Assistance, Connecticut

	FY2010	FY2011	FY2012	FY2013	FY2014
Average Monthly Participation	336,064	378,677	403,466	425,320	438,559
Annual program benefits	569,684,382	647,390,087	696,670,564	707,654,612	697,435,672

Source: U.S. Department of Agriculture. Food and Nutrition Service

If Connecticut continues to experience growth in income disparities the pressure on the social safety net will grow and the distribution of the burden of the income tax will be increasingly skewed. The continued increase in disparities coupled with the anticipated growth in relatively low-wage industries and a focus on relatively high paid knowledge industries

³¹ TANF: Average Monthly Number of Recipients as of 07/23/2015

<http://www.acf.hhs.gov/programs/ofa/resource/tanf-caseload-data-2015>

³² Center on Budget and Policy Priorities <http://www.cbpp.org/research/tanf-cash-benefits-have-fallen-by-more-than-20-percent-in-most-states-and-continue-to-erode>

³³ U.S. Department of Agriculture. Food and Nutrition Service. Supplemental Nutrition Assistance Program. Annual state level data FY 2010-2014. <http://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap>

increases the chance for continued growth in income disparity in Connecticut. The income tax would be affected with similar disparities in the future as some of the growth industries will see income earners at the low end of the tax distribution and an increased concentration of income tax paid at the high end. The distribution of sales tax burden may also become more skewed. Lower income households spend more money on basic goods and services including items like food which are not taxed for home consumption (for the most part). A sales and excise tax system that is geared toward luxury items (including entertainment and food away from home) would take advantage of the skewed nature of the income distribution. Public service demands may also diverge due to the difference in needs and preferences of low relative to high income households.

At the national level, according to the Bureau of Labor Statistics, between 2012 and 2022, U.S. personal income is projected to increase to \$20,947 billion, with an annual rate of change of 4.6 percent.³⁴ The share of compensation is expected to increase slightly to 65.9 percent of personal income by 2022 while transfer payments are expected to decrease from a high in 2011 of 18.7 percent to 17.2 percent in 2022 as the U.S. economy continues to gain strength post Great Recession. The BLS projects an increased concentration in interest income in the next decade. If Connecticut's capital income composition follows suit, the increased capital component of personal income may challenge the income tax system as some capital income provides fewer tax handles than wage income that is typically subject to withholding. The Office of Policy and Management forecasts that personal income will grow at an average rate of 4.83 percent per year between 2015 and 2019.

³⁴ http://www.bls.gov/emp/ep_table_410.htm

Additional economic issues

The importance of real estate and construction to state and local governments throughout the U.S. and the impact of the Great Recession on those markets warrants a special mention in this report. Real estate trends are closely tied to the business cycle while construction tends to lag. Connecticut's real estate market, like virtually all in the country, suffered during the Great Recession and construction employment was hard hit. Connecticut's *Economic Digest* July 2015 reports that recovery started in 2012 but slowed in 2014. With relatively slow population growth forecast for the next two decades, we might expect this industry to continue to grow slowly. This is coupled with the growth in retirees who may look to downsize, increasing the availability of larger homes. As pointed out in the *Economic Digest* housing affordability is still an issue and with the larger employment increases forecast among relatively low wage jobs, Connecticut might experience more demand in rental housing than owner-occupied. Overall, this could signal slower growth in property tax revenue.

One additional special interest item is the role of federal government defense contracts on Connecticut's economy. Other reports in this series note that there is a long history of the defense industry in Connecticut. The industry has adapted to new technology and changes in demand associated with U.S. involvement in conflicts. Srivastava (2015) estimates that defense contracting contributes 5 percent to the state GDP—a number some may feel is large and others, small. The industry has substantial reach, however, through the supply chain that makes up the manufacturing and ancillary industries associated with defense manufacturing and research and development. A 2012 study by Deloitte reports a multiplier effect associated with the Aerospace and Defense Industry in the U.S. of 2.36.³⁵ This means that a dollar spent in the industry

³⁵ http://armedservices.house.gov/index.cfm/files/serve?File_id=126226cd-bc54-4e4b-a9ec-1ea16e61a2dd

generates an additional \$1.36 throughout the economy as the initial dollar spent in defense procures business from other suppliers and employees from all industries engage in additional economic activity. At a state level, this multiplier could be smaller, but it is quite feasible that a dollar of defense spending generates a dollar or more of additional activity in Connecticut.

The future of defense spending is unknown and is a function of a variety of factors not the least of which is domestic politics. Tying the future of economic growth in Connecticut to this industry is not likely to be a wise strategy due to its volatility. However, using the infrastructure from the industry to further develop knowledge industries in the state, while somewhat risky, has some merit.

Globalization

Globalization has reduced the costs associated with labor and capital mobility, increased the speed of sharing information and products, and reduced significant amounts of commerce to move from country to country with the ease previously associated with moving between states. Over the past two decades, there has been concern that the pressures of globalization would lead to intense intergovernmental competition for economic development and revenue. The proverbial “race to the bottom” in terms of taxation of mobile capital in particular was hailed as one of the pre-eminent threats to state and local finance. The race to the bottom has not completely panned out (capital taxes are alive!) but there is an intense amount of competitive pressure among jurisdictions to lure mobile employers with a wide variety of tax and expenditure incentives. Various studies, including Troeger (2013) conclude that among countries, the race to the bottom has not materialized as countries have adjusted public expenditures and revenue systems in line with demand for public goods and services. State governments may be expected to do similarly

but the bar for competition is likely to be a bit lower among states than it is among countries due to the ease of transporting and traveling across state borders.

Technology

The “new economy,” the “sharing economy,” the “information economy” may all be ways to characterize the growth and importance of technology in our lives. Technology has changed production processes, altered the interaction among individuals and between governments and their constituencies, reduced the cost of collaboration, enhanced the ability to barter, affected the dissemination of health care, changed models of education, and more. While technology can affect Connecticut’s revenue in many ways, we focus here on three technology trends that arguably most directly affect natural revenue growth: internet commerce, the mix of capital and labor in production, and other forms of outsourcing (education, cloud computing, and virtual collaborations and meetings).

The impact of internet commerce on state sales tax revenue has been a cause for concern for the last two decades. The Streamlined Sales Tax Project begun in 2000 opened up the debate regarding the treatment of internet sales from the perspective of state tax policy. The so called “Amazon Laws” are an attempt by states to expand the attribution of nexus to include affiliates and subsidiaries that establish a physical nexus. Connecticut has done so since 2013. While several states have adopted these types of laws, companies like Amazon are pushing back and it is not obvious when or if a final resolution will occur. As more states tax internet sales, there is somewhat less concern about the loss in sales tax revenue. The Marketplace Fairness Act sitting in Congress may increase the ability of states to tax internet commerce. Still, where differences in tax rates exist, competition remains. Einav et al (2014) find that consumers are very

responsive to sale tax rates over the internet and for every percentage point increase in the sales tax rate, purchases are reduced by two percent.

The rise of the sharing economy is giving government officials pause similar to that experienced with the advent of the internet. Discussions of the taxation of commerce associated with conduits such as Uber, VRBO, Airbnb, Craigslist, among others, is a daily occurrence. Nellen (2015) provides a useful summary of the components of the new/sharing economy and outlines issues associated with them. Her list of tax challenges is long, but many of the challenges belong to the same basic set of issues: being able to identify and value the commerce and locate the transactions (tax handle problem).

The second challenge that technology brings is the potential for substantial shifts in the mix of capital and labor in the economy. Technological advances can reduce the relative cost of capital inputs, putting labor at a potential disadvantage in the production process. Karabarbounis and Neiman (2013) empirically analyze labor shares in production across 59 countries. They find evidence of statistically significant decreases in labor shares in 37 countries (9 increases and 13 with no impact) and point out that two-thirds of U.S. states saw labor share declines over the period of 1975 to 2012. The advent of the “new economy” is in large part a function of the growth and pervasiveness of technology. Connecticut’s support for biotech and advanced manufacturing industries is a reflection of this trend. Education and training aimed at connecting to and embracing the new economy could stem the shift from labor to capital in the overall production process.

The trend in the use of technology in production (of goods as well as services) suggests a reduction in the wage component of the income tax base. Capital is notoriously difficult to tax – intellectual property, artificial intelligence, and other technology-based valued added can be

located in any jurisdiction, which increases the complexities of transfer pricing and other tax avoidance techniques. The very nature of the new economy reduces the tax handles associated with identifying taxable activity – and then collecting tax. The virtual nature of meetings, education over the web, and person-to-person transactions for vacationing and the like could increase the difficulty of revenue identification and collection. These trends are likely to continue into the future.

Institutions

Connecticut's fiscal structure and budgetary institutions present some important considerations for state and local reform options that respond to changes in the state's fiscal architecture. Over specific relationships and constraints that the state and local governments have within their budgets, the state has a constitutional state spending cap that, theoretically, keeps increases in state expenditures in check. The cap was introduced in 1991 and became constitutional in 1992. Spending increases are limited by the greater of the growth in personal income or inflation. There is debate regarding its effectiveness as expenditures have been moved off budget and the treatment of debt and pension liabilities has been fluid. Relative to the pressures associated with changes in fiscal architecture, the cap could nominally affect how to deal with some of those changes depending on the interpretation of the spending cap. For example, the increased focus on knowledge based industries and advanced manufacturing could call for significant resources that may be constrained by a spending cap.

State and Local Fiscal Structure

Connecticut's revenue structure includes state and local finances and federal grants. The federal grant component is smaller than a typical U.S. state as Connecticut; federal grants comprise 21 percent of total revenue whereas the US average is 27 percent (2012,

<http://slfdqs.taxpolicycenter.org/pages.cfm>). In Connecticut, own source revenue is driven by personal income, sales and use, and corporate income tax – accounting for 79.3 percent of general revenue in FY2015.³⁶ Total general fund revenue for FY 2015 is \$17,458 million, a 0.6 percent decrease from the previous year. Other states throughout the U.S. also rely heavily on the personal income and sales tax but Connecticut’s use is heavier at 40 percent as a share of general fund revenue in 2012 compared to the U.S. average of 25.6 percent (including non-income tax states). Among surrounding states, New York has a larger reliance on income tax (42 percent).

Connecticut also uses sales and gross receipts taxes to a larger extent than surrounding states—but more like that seen in the U.S. The heavy reliance on the two main taxes is an important consideration since some of the demographic factors will reduce the buoyancy of these revenues. The revenue forecast reported in the Economic Report of the Governor projects continued reliance on the personal income tax and sales taxes (see Table 9).

Table 9. General Fund Tax Revenue FY 2015

Revenue item	FY 15 (\$ millions)	FY 15 percent of total
Personal Income	9,264.5	49.4
Sales & Use	4,167.4	22.2
Business/Corporations	1,290.8	6.9
Federal Funds	1,299.6	6.9
Other Revenue	595.2	3.2
Gambling	601.6	3.2
Health Provider Tax	509.5	2.7
Tobacco	480.9	2.6
Other Taxes	554.1	3.0
Gross Total	18,763.5	100
Less Refunds & Credits	(1,305.5)	
NET TOTAL	17,458.00	

Source: Office of Fiscal Analysis

³⁶ <https://www.cga.ct.gov/ofa/add-budinfo.asp>

On the expenditure side, the state has invested heavily in a number of areas in a way similar to the average state. Among the largest state expenditures are expenditures for education, social services, and transportation, and these are similar to other states. The state is an outlier (according to the 2012 comparative data) in terms of the percent of expenditures going to debt repayment (6.45 percent of total direct expenditures versus an average of 3.33 across the U.S.). The November 2014 Fiscal Accountability Report of the Office of Fiscal Analysis states that one of the three major contributors to the annual expenditure growth of the Special Transportation Fund for FY 2016-2018 is due to an increase of \$6.2 million in each fiscal year for the State Employees' Retirement System (SERS).

The state budget reports \$7.2 billion in tax expenditures resulting from tax credits, exemptions, and deductions offered by the state. This level is approximately 38.2 percent of the total projected FY 15 General Fund and Special Transportation Fund revenue. The majority of tax expenditures occur in the Sales and Use Tax and Motor Fuels Tax (approximately 54.1 and 25.3 percent, respectively).

Local governments in Connecticut play an important fiscal role. The overarching story of local governments in Connecticut is the relative level of property tax used to fund local services. In 2012, Connecticut's local governments received 78.4 percent of own-revenue from the property tax, compared to 40.3 percent nationwide. Local governments received slightly less in state intergovernmental aid in Connecticut (26 percent versus the national average of 29 percent). It is not surprising then to see that Connecticut's local governments report that 56 percent of their general fund expenditures go toward education versus the U.S. average of 41.7 percent (2012). Additional detail on the revenue and expenditure picture of the state and local governments is provided in Bourdeaux and de Zeeuw (2015). The data demonstrate the budgetary pressures that

Connecticut is experiencing relative to other states. Table 10 (reproduced from Bourdeaux and de Zeeuw) demonstrates very clearly the relative investments Connecticut is making in education, and also the pressure of public welfare and interest payments. As Wasylenko (2015) points out, the sectoral focus on education has long-term payoffs and may be viewed as a positive component of the state's fiscal architecture but the debt situation is different. Connecticut's medium term spending will continue to be hampered by the debt repayment liability while the main revenue sources may be constrained due to competitive pressures associated with income and sales taxes.

**Table 10: Connecticut Per Capita State and Local Direct General
Expenditure Indices
Indexed with US Average = 100.0
Selected Fiscal Years: 2002, 2005, 2009, 2012**

Function	2002	2005	2009	2012
Education	109.8	111.7	118.2	123.3
Local Schools	120.5	120.6	127.6	139.0
Higher Education	82.5	90.2	91.8	87.7
Other	105.2	103.2	138.5	130.9
Highways	88.3	84.5	82.1	93.8
Public Welfare	102.7	101.5	112.6	116.4
Health and Hospitals	107.6	86.7	87.0	75.7
Police and Fire	107.7	101.6	94.5	105.8
Sewage and Sanitation	105.8	104.6	101.8	112.1
Local Parks and Recreation	83.2	74.8	54.4	66.4
Financial Administration and General Control	136.3	123.5	126.7	124.9
Interest on General Debt	157.8	150.2	146.0	152.6
Other Expenditure	149.5	123.9	117.8	130.6
TOTAL	116.2	108.6	110.6	116.2

Note: U.S. data excludes Washington DC. Sewage and Sanitation includes Sewerage and Solid Waste Management. Other Expenditure includes Employment Security, Veterans Services, Airports, Parking facilities, Sea and inland port facilities, Corrections, Protective inspection and regulation, Natural resources, Housing and community development, Judicial and legal, General public buildings, other governmental administration, and General expenditure. Source: Census of Governments (Expenditures)

Source: Bourdeaux and de Zeeuw (2015)

Intergovernmental Landscape

The institutional relationship between the state and local governments in Connecticut is important because public finances of one level of government are naturally closely related to the other and could affect one level of government's ability to react to changing fiscal architecture. Arguably, from a fiscal perspective the most impactful state-local issues in Connecticut are the amount of autonomy afforded to local governments and the intensive use of the property tax by local governments in the state. The property tax constraint (how high can it go?) is discussed above. We turn now to a discussion of the fiscal "space" that local governments in Connecticut have relative to the state, and how this may impinge on the state's overall response to changes in fiscal architecture.

Wolman et al (2009) analyze the relative degree of autonomy across states including local government importance (fiscal, economic, and personnel), discretion (limitations, legal scope of government) and capacity (revenue, professional/institutional, etc.). Based on their measure, Connecticut's local autonomy ranking is -0.324, which is 42nd out of 50. This is at the low end of their autonomy measure.³⁷ Kansas is rated number one with an index of 0.861. This index suggests that local governments in Connecticut have less room to react to changes in fiscal architecture. This is an important point in this study and in the Commission's considerations of policy options because, all else equal, it suggests that local governments in Connecticut have less of a role to play in adapting to changes that may be more local than state-wide. Connecticut is relatively small geographically, but diverse still in terms of its urban versus rural areas, and in

³⁷ A variety of factors are used to calculate the overall index. For instance, to measure local government importance, variables including local own-share of revenue, local government employment share, and local direct expenditures as a share of GSP are used. For local government discretion, variables including home rule structure, debt limits, and property tax rate limits are used. Finally to measure local government capacity variables including the following are used: revenue from local general purpose own-sources, taxes and fees, revenue and expenditure limits.

some border areas in particular. In the current environment, local governments have less of a partnership with the state to be entrepreneurial in adapting to change.

Debt and Pension Liabilities

In addition to general fiscal structure and intergovernmental relations in Connecticut, public debt and pension liabilities present an important institutional consideration for the medium term to long-term (10 to 25 years). Connecticut's unfunded pension liability is ranked as one of the highest in the country. The Pew Charitable Trusts Fact Sheet on State Pension Plans (2014, 2015) reports that in 2012 and 2013, Connecticut was one of only three states with a funded ratio (funds to liabilities) of less than 50 percent (along with Illinois and Kentucky).³⁸ Connecticut did fund 100 percent of their actuarial required contribution in 2012 and 2013. Previous underfunding and poor investment performance along with the forecasted continued aging of the population will continue to put pressure on the state and local governments in Connecticut to achieve and maintain solvency in their pension system.

Pew also reports outstanding public debt (2012) and demonstrates that Connecticut's non-pension long-term debt overhang is also large – 12th largest in absolute terms among all states – while the state is ranked 29th by population and 23rd by gross state product.³⁹ Much of the debt is associated with capital projects including school construction (K-12 and higher education). A 2014 report of the Governor provides details on the composition of debt and plans to pay down the principle. As noted in that report, there are many factors that influence the ability to carry-out the plan for debt repayment including the magnitude of retirements, the volatility of the capital markets, and the stability of public revenues (Office of the Governor,

³⁸ <http://www.pewtrusts.org/~media/assets/2014/03/31/pewstateswideninggapfactsheet2.pdf>;
http://www.pewtrusts.org/~media/assets/2015/07/pewstates_statepensiondebtbrief_final.pdf?la=en

³⁹ <http://www.pewtrusts.org/en/multimedia/data-visualizations/2014/fiscal-50#ind4>

2014).⁴⁰ The level of debt and pressure to continue to make substantial contributions to public pensions will most certainly affect the state’s ability to respond to other fiscal challenges over the medium-term.

Conclusions:

Implications of Changes in Fiscal Architecture in Connecticut

A summary of the economic trends and demographics and the implications for Connecticut’s revenues in the next ten to fifteen years is summarized in this section. The major trends that Connecticut has recently experienced and those that will continue in the future are reported below to the extent that we project they will have measurable effects on the state’s fiscal structure. In almost all cases, there is a degree of uncertainty regarding the future trends. Those “what-ifs” are noted in Table 11 which summarizes the outlook for the state’s revenues, given the major trends discussed in this report. Connecticut will have to decide on the balance between supporting industries with natural growth, which are relatively low wage service sector (with limited exceptions) and supporting the expansion of knowledge-based industries for which Connecticut has arguably a limited comparative advantage. The state will also need to grapple with constraints on revenue buoyancy brought about by an aging population and increased income disparity at a time when debt and long-term pension liabilities constraint budget choices. Finally, relative to a number of states, local governments in Connecticut have less fiscal “space” to partner to adjust to changes in fiscal architecture due to relatively high levels of property tax as well as constrained autonomy to adjust to local demands.

Overarching trends—what to expect in the next five to ten to fifteen years:

⁴⁰ The report is embedded in an article in the CT Mirror, <http://ctmirror.org/2014/01/09/malloy-says-connecticuts-long-term-debt-outlook-has-improved/>

- A small increase in population
 - General increase in revenue albeit at a relatively low level
- A population that is growing older with increased dependency ratios of retirees relative to working age population
 - Stymied individual income tax growth
 - Decrease in consumption tax potential due to increased consumption of health care and non-taxed medical goods and services
 - Questionable increase in property values—scarcity of property close to New York may increase values in areas close to the border, but aging of the population may reduce the demand for current housing stock in favor of smaller properties
- A decrease in the number of school aged children
 - The state will have to make a case for the increased share of the budget on education as the percent of school-aged children declines
- An increase in the 20-44 age group
 - Increase buoyancy in sales tax due to the consumption patterns of this age-group
 - Increased demand for recreation services, with pressure on traditional educational services
- High median income and a growing income disparity
 - Pressure on a skewed income tax burden
 - Reduced buoyancy of the sales tax
- Employment and output growth in the health and education sectors, and accommodation industries with lower wage jobs
 - Reduced tax handles for income tax
 - Reduced tax handle for sales tax (consumption moves toward services)
 - Reduced buoyancy of income tax due to relative growth in lower wage jobs
- Potential employment and output growth in knowledge industry
 - Increase income tax growth due to relatively high paying jobs
 - Demand for infrastructure expenditures in high-tech and higher education sectors
 - Demand for government involvement nurturing the sector which may include short-term revenue costs
- Uncertainty related to the defense industry increases exposure in employment and output
- Globalization and technology: competition will continue to increase – international as well as local for employment, residents, economic activity
 - Competition among states puts pressure on tax competition (capital taxes in particular)
 - Growth of technology/capital in production reduces the wage share in income tax base
 - Increase in ability to avoid tax through shelters, transfer pricing, etc. reduce the buoyancy of business income-related taxes, individual income taxes, and sales taxes
- Connecticut's infrastructure (particularly in technology) will need to respond to government's priority areas of growth and development
- Long-term pension liabilities and debt constrain government choices to respond to fiscal needs

- Local governments are further constrained in their adaptability due to high property taxes and a lack of autonomy.

In Table 11 these factors are summarized and some “what-if” scenarios are highlighted.

The information in the table summarizes the discussions presented above.

Table 11. Summary Matrix Impact of Changing Demographics on Connecticut's Revenues

	Trend	Revenue Implications	Impact of Institutions	What if?
Demographic				
Age composition	Decline in school-aged, increase in 20-44, and continued growth in retirement aged	Income Tax ↑: Working age population will positively affect income tax Property Tax ↓: fewer young children and transitions in retirement reduce demand for large houses; slow population growth and increased income disparities reduce demand for large properties Sales Tax ↑: Sales tax revenue will see growth from consumption expenditures of the 20-44 age group but this is tempered by the decline in school aged children over the next 10 to 15 years Income and Sales Tax ↓: Longer term the elderly dynamic will reduce buoyancy of both taxes	Income tax growth is affected by the cross-border tax treatment (NY) The relatively large amount of pension liability and debt constraint options for Connecticut to deal with potential slowing of natural revenue growth	Previous growth in education expenditures will increasingly be in competition with support for elderly and public welfare.
Population size	Slow growth	All Taxes ↑ →: Population growth will in general lead to increased revenue but the growth will be slower than for the average state; Connecticut has dealt with this slow growth for the last decade	Not directly relevant	Population growth has been relatively slow; if efforts to attract knowledge industry development population growth could increase as well as the income base
Health status	Relatively healthy; rates of	Little direct effect on tax	Pressure on health	Connecticut's expansion into bio-tech and

	Trend	Revenue Implications	Impact of Institutions	What if?
	obesity lower than U.S. average; high by international standards	revenues expected over the next 10 to 15 years Increases in medical expenditures	care costs expected to grow	other knowledge industries could lead to gains in healthcare research and status in the state
Economic				
Employment and output	Increase in service sectors including health/education/accommodation Lower wage jobs Uncertainty around defense spending	Income Tax ↓: The mix of activity toward services and lower wage jobs will reduce the natural growth of the income tax Corporate Tax ↓: Service sector is less transparent and provides a weaker paper trail for tax administration Property Tax ↓: Service sector activities by nature use less property	Ability for state to compete in knowledge industries a function of existing high tech manufacturing and higher education institutions	Investments in knowledge industries including bio-tech and advanced manufacturing could mitigate the negative impacts on public finances associated with the status quo growth of lower paid service sector jobs.
Personal Income	High median income Increasing disparity in income; Growth in lower wage jobs Growth in transfer payments (including TANF and SNAP and Social Security)	Income Tax ↑: Increased share of income tax from higher income earners ↓↑: Potential for volatility associated with capital income for high income earners Income Tax ↓: Reduction in wage relative to transfer income will reduce the income tax base; Lower income individuals will have a larger portion of income tax exempt (standard deduction plus exemptions)	Increased burden on high income earners could have backlash in terms of payment of “fair share” for services provided	Growth in relatively low wage industries could lead to a reduction in median income and reduced growth in income taxes; if focus on knowledge industries pays off, such a trend would be mitigated

	Trend	Revenue Implications	Impact of Institutions	What if?
		reducing the elasticity of revenue Sales Tax ↓: Large concentration of low income jobs will increase relative consumption of food and housing (largely non-taxable)		
Globalization and Technology	Continued competitive pressure from globalization and increased use of technology	Income Tax ↓: Shift from labor to capital inputs reduces the income tax handle. Corporate Tax ↓: Competition in factor and output markets should increase the tax minimization strategies of companies	Internet sales legislation increasingly possible to stem the sales tax loss Local governments have less room to maneuver to deal with these pressures in Connecticut	If Connecticut is successful in the knowledge industry, the state could play a role in the production of the new technology and bolster its economic situation

Notes: The symbols, ↑ ↓ ↔ summarize the anticipated change in the growth of various revenue sources (increase, decrease, uncertain), given assumptions about the economic and demographic changes noted in the table.

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Chapter 8

The Connecticut Personal Income Tax

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November 17, 2015

The views expressed here are those of the author and not of the George Washington University

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Executive Summary

Connecticut is a relative latecomer to the ranks of states with a personal income tax. Since its enactment in 1991, however, the Connecticut PIT has steadily grown in importance as a source of state revenue to the point where Connecticut ranks 2nd among the states in its reliance on the PIT as a source of state revenue.

This study has evaluated the Connecticut PIT along four dimensions that are frequently used to evaluate the performance of particular taxes.

- 1) The adequacy of the CPIT as a source of state tax revenue, where adequacy is defined not only in terms of the size of the personal income tax base relative to Connecticut's financing needs, but also in terms of the buoyancy, or ability of the CPIT to meet changing financing needs over time.
- 2) The fairness of the CPIT, where fairness is defined in terms of the distribution of the CPIT tax burden among Connecticut citizens of varying abilities to pay tax.
- 3) The collectability of the CPIT defined in terms of the degree of complexity that confronts both the government and taxpayers in imposing, collecting, and payment of taxes.
- 4) The economic efficiency and competitiveness of the CPIT defined in terms of the incentives created by the tax for workers, business owners, and investors, as well as the tax burden of the CPIT as compared with the tax burdens nationally, and in neighboring states.

Summary Assessment

Overall, the Connecticut PIT performs reasonably well along each of the above dimensions.

Revenue Adequacy

The Connecticut PIT is imposed on a fairly broad base of Connecticut income, which has the potential to grow apace with Connecticut personal income over time (Wallace, 2015); and estimates of the PIT's buoyancy suggest that it has been among the most buoyant of the state income taxes. There are, however, some potential limitations on the ability to rely on a growing Connecticut PIT base: (1) aging of the Connecticut population combined with exclusion of all or a portion of Social Security benefits and 100% of military retirement benefits from Connecticut AGI; (2) the fact that recent tax increases have reduced the "competitive space" between Connecticut tax rates and the Connecticut income tax burden and those of its neighboring states; and (3) the fact that a significant portion of earnings of Connecticut residents is earned in and taxed by jurisdictions other than Connecticut.

In addition, because income from capital gains is a relatively larger share of Connecticut AGI than is the case nationally, as well as among its neighbor states, Connecticut PIT revenue is prone to be more volatile.

Fairness

Because the Connecticut PIT is levied on a fairly broad base, the burden of the Connecticut PIT is distributed in a manner that is generally consistent with the principle of horizontal equity. Aside from the exclusion of Social Security and military retirement benefits from Connecticut AGI, and the provision of three fairly minor tax credits, the Connecticut PIT taxes most sources of income at the same rate.

The Connecticut PIT also has a progressive distribution of the tax burden, and the progressivity of the Connecticut PIT has grown over time. Those who favor using the tax system as a means of reducing inequality in the distribution of income would regard this as a positive feature of the Connecticut PIT. At the same, however, Connecticut also pays a price for such progressivity in rankings of the tax climate that regard a progressive system as undesirable (Bordeaux 2015).

The Connecticut Earned Income Tax Credit which is administered through the Connecticut PIT is generally viewed as an effective means of providing added income support to working poor individuals and families. There is, however, evidence that perhaps as much as 25% of the benefits paid out through the Federal EITC is based on questionable claims; and barring any additional effort by Connecticut authorities to verify eligibility for the Federal EITC, this error rate is likely to carry over to the Connecticut EITC.

With regard to work incentives/disincentives, the EITC provides positive incentives to work for those who are not in the labor force and negative incentives (resulting from means testing) for those who are presently working. Much of the empirical evidence suggests that the positive labor supply effects of the EITC roughly offset the negative effects.

Administration and Compliance Costs

Conforming the definition of the Connecticut income tax base to the Federal income tax does much to reduce the cost of administration and compliance with the Connecticut PIT. Two alternatives to the existing Connecticut PIT, conforming to Federal taxable income, and replacing the current tax rate structure with a single tax rate (as is the case in Massachusetts) would modify the progressive structure of the Connecticut PIT, but would likely yield only small to modest benefits in reductions in the burden of complying with the Connecticut PIT.

The current set of exemption phase-outs and low tax rate recapture in the Connecticut PIT has the advantage of ensuring that the taxpayer's average effective tax rate, moves closer to the taxpayer's actual tax bracket rate as income increases. A disadvantage of this structure is that it creates rather high "shadow marginal tax rates" as income increases. Whether these shadow tax rate affect behavior will depend on their salience to the taxpayer, but they do introduce at least some element of non-transparency into the Connecticut PIT.

Economic Effects and Competitiveness

Like any other state personal income tax, the Connecticut PIT adds to the disincentives to work and to save resulting from the Federal income tax. The best empirical evidence on the magnitude of such disincentives, however, suggests that the impact of taxing income at the state level is likely to be small in the case of work incentives, and uncertain in the case of saving incentives.

Like all of its neighbors, except for Massachusetts (which actually taxes capital gains at higher rates than ordinary income) income from capital gains is fully included in taxable income, and is taxed at the same rate as other income. Some stakeholders have suggested that consideration be given to taxing capital gains at lower rates than apply to other income, as is done under the Federal income tax. While there is agreement that taxing capital gains at preferential rates favors the receipt of income that takes the form of capital gains, there is considerably less agreement, and no strong evidence that lower tax rates on capital gains significantly encourage risk-taking and entrepreneurship.

As for tax competitiveness, by a variety of measures, Connecticut's PIT is generally competitive with that of its neighbors. Recent changes which have increased Connecticut tax rates, however, may have weakened Connecticut's competitive position and may pose constraints to future efforts to raising Connecticut PIT revenue by raising tax rates.

Possible Options for Change

The report also identifies and discusses a number of policy options identified in the course of the analysis.

1. Dealing with Income Tax Volatility

Like other states in which income from capital gains is an important component of the personal income tax base, the Connecticut PIT is exposed to significant volatility especially during periods of significant economic downturn. There is no "easy fix" for this problem within the PIT itself. However, the presence of such volatility points to the need for maintaining and strengthening the existing Connecticut budget stabilization fund.

2. Dealing with an Aging Population of Taxpayers

An aging population in and of itself imposes a constraint on future growth in the tax base. The revenue impact of this constraint can be further exacerbated if states grant preferential tax treatment to income received by senior citizens. Unlike some states, Connecticut does not contain provisions that, for example, exempt entire portions of income from individual income taxation. However, Connecticut does make adjustments in computing Connecticut AGI that exempt Social Security benefits received by some taxpayers, and military retirement benefits from taxation. Presently the revenue effects of these exemptions are relatively small. However, as the Connecticut population ages, these provisions, especially the Social Security exemption,

could become more significant; and consideration should be given to treating these forms of income in the same way as they are treated under the federal income tax.

3. Substitute Federal Taxable Income for Federal AGI as the Starting Point for Computing Connecticut AGI

While “full conformity” by using Federal Taxable Income as the starting point for determining Connecticut taxable income might seem like a means for further simplifying compliance with the Connecticut PIT, the disadvantages of doing so would seem to outweigh the advantages. Most notably, using Federal taxable income would narrow the base of the Connecticut PIT, requiring the enactment of higher statutory tax bracket rates in order to raise the same amount of revenue as from taxing a broader base linked to Federal AGI. Any benefits from less time required to compute Connecticut tax liability would be small to nonexistent, since it is likely that additions to and subtractions from Federal taxable income would still be necessary in order to arrive at Connecticut AGI.

4. Replace the Current Connecticut Income Tax With a Flat Tax

Tax experts agree that while a single-rate income tax would have a simpler structure than an income tax with multiple rates, the practical saving in compliance burdens from having a single rate would be quite small. Any complexity introduced by multiple tax rates can be dramatically reduced by providing clear and easy to use tax “look-up” tables and tax calculators, both of which are provided by the DRS. The main effect of moving to a flat tax (assuming equal revenue yield) would be lower the marginal tax rate faced by higher income taxpayers, while raising it for lower income taxpayers. Estimates presented below suggest that the effect of such changes would be to reduce the current progressivity of the Connecticut PIT by roughly ½.

5. Retain the Connecticut EITC and Restore the Percentage of Federal EITC to 30%

To the extent that Connecticut citizens wish to supplement the efforts of the federal government by providing income support to working poor Connecticut residents, the state EITC, despite its error rate, is still the most proven effective means of delivering the benefit. These considerations would support retaining the EITC in its present form --- state budgetary circumstances permitting -- and returning the percentage supplement to the Federal EITC to 30%.

6. Tax Capital Gains at Preferential Rates

In light of the uncertain evidence about the effects of preferentially taxing capital gains on risk-taking and entrepreneurship, the case for taxing capital gains at a lower rate under the Connecticut PIT is not a strong one. This conclusion is further buttressed by the fact that none of Connecticut’s neighboring states tax capital gains preferentially. Moreover, since there is no compelling evidence that cutting the tax rate on capital gains is “self-financing,” a capital gains cut would need to be made up by increasing tax rates applied to other sources of income.

Maintain the Competitiveness of Connecticut's Income Tax with Those of Its Neighbors

Connecticut's PIT is presently broadly competitive with the PIT's of its neighboring states. One of the best ways of maintaining this position in terms of tax rates is to strive to continue to tax a relatively broad income base, at relatively low rates.

I. Introduction

The state of Connecticut is a relative latecomer among the 50 states in adopting a comprehensive personal income tax as a revenue source. However, since its enactment in 1991, the Connecticut Personal Income Tax (CPIT) has grown to become the most important source of Connecticut own-tax revenue; and Connecticut now ranks 1st among the states in the share of revenue from own sources that is raised from the individual income tax (PIT).

After summarizing the principle features of the CPIT, this report examines its performance along four dimensions that are commonly used to evaluate the performance of taxes and other revenue sources. Specifically, this report examines:

- 1) The adequacy of the CPIT as a source of state tax revenue, where adequacy is defined not only in terms of the size of the personal income tax base relative to Connecticut's financing needs, but also in terms of the buoyancy, or ability of the CPIT to meet changing financing needs over time.
- 2) The fairness of the CPIT, where fairness is defined in terms of the distribution of the CPIT tax burden among Connecticut citizens of varying abilities to pay tax.
- 3) The economic efficiency and competitiveness of the CPIT defined in terms of the incentives created by the tax for workers, business owners, and investors, as well as the tax burden of the CPIT as compared with the tax burdens nationally, and in neighboring states.
- 4) The costs of administration of the CPIT defined in terms of the degree of complexity that confronts both the government and taxpayers in imposing, collecting, and payment of taxes.

II. Main Features of the Connecticut Personal Income Tax

Since its enactment in 1991 the personal income tax (PIT) has grown in importance to become the largest source of Connecticut state revenue. In FY 2014, the personal income tax accounted for \$8.7 billion or 41% out of a total \$21.3 billion in total general fund revenue (net of refunds and adjusted for Medicaid budgeting); and between FY 2010 and FY 2014, increases in income tax revenues accounted for 68% of increased revenue from higher taxes. Indeed, as noted by Bordeaux, Connecticut currently ranks at the top among neighboring states, and second nationally in its reliance on the personal income tax as a source of total state revenue (inclusive of grants in aid.)

Base of the Connecticut Income Tax and Tax Rate Structure

The Connecticut personal income tax is levied on a taxable base of Connecticut Adjusted Gross Income (CAGI) which equals Adjusted Gross Income from the Federal Tax Return plus Connecticut additions to Federal AGI minus Connecticut subtractions from AGI.

	Table 1: Federal Adjusted Gross Income and Connecticut Adjusted Gross Income Tax Year 2013						
	No. Returns	Federal Agi	Additions To Federal Agi	Subtract From Federal Agi	Connecticut AGI	Fed AGI-CtAGI	Diff. per Return
Connecticut AGI	(1)	(2)	(3)	(4)	(5)	(6)	(6)÷(1)
Less than \$50,000	844,294	\$20,109,219,611	\$42,296,405	\$899,081,076	\$19,252,434,940	(\$856,784,671)	(\$1,015)
\$50,000 to \$100,000	384,210	\$28,688,808,609	\$64,392,637	\$1,262,538,733	\$27,490,662,513	(\$1,198,146,096)	(\$3,118)
\$100,000 to \$250,000	273,655	\$41,068,365,698	\$140,427,105	\$927,653,502	\$40,281,139,301	(\$787,226,397)	(\$2,877)
\$250,000 to \$500,000	47,075	\$16,022,936,650	\$125,253,681	\$228,771,046	\$15,919,419,285	(\$103,517,365)	(\$2,199)
\$500,000 and over	25,621	\$47,472,651,506	\$617,503,879	\$519,392,926	\$47,570,762,459	\$98,110,953	\$3,829
Total	1,574,855	\$153,361,982,074	\$989,873,707	\$3,837,437,283	\$150,514,418,498	(\$2,847,563,576)	(\$1,808)

- Additions include items such as: interest and dividends from obligations (such as bonds) from other states or subdivisions of other states unless federal law exempts them from state income taxes; the taxable amount of lump-sum distributions from qualified plans not included in Federal AGI; and loss on sale of Connecticut state and local government bonds.
- Subtractions include items such as: (1) income included in adjusted gross income that federal law exempts from state taxation, (2) refunds or credits for overpayments of income tax, (3) exempt dividends paid by a regulated investment company; (3) all or part of social security income received by taxpayers, depending on their federal AGI; (4) tier one and tier two railroad retirement benefits; and beginning tax year 2015, 100% of military retirement pay.

As may be seen from Table 1, the effect of Connecticut adjustments to income is to reduce the base of income that is subject to the CPIT relative to Federal AGI. For taxpayers with Federal AGI less than \$500,000 the reduction in Federal AGI that is subject Connecticut PIT ranges from a per-return amount of just over \$1,000 to just under \$2,200. For taxpayers with Federal AGI greater than \$500,000 the net impact of Connecticut adjustments to Federal AGI is to increase the amount of income that is subject to tax by just over \$3,800 per return.

Special rules are established for determining whether the income of the following taxpayer types is derived from sources within the state and how income gains, losses, and deductions are allocated: (1) a non-resident or a part-year resident, (2) a partner's distributive share of partnership income, (3) a shareholder's pro rata share of S corporation or limited liability company (PA 93-267, effective 10/1/93) income and (3) a beneficiary's share of trust or estate income.

The tax imposed on income earned by resident and nonresident trusts and estates is similar to the one applied to individuals except that the trusts and estates do not receive the exemptions and credits that individuals receive. The tax must be paid by the fiduciary. Special rules are established for determining what income is derived from sources within the state for nonresident and part-year resident estates, trusts and beneficiaries and how income, gains, losses, and deductions are allocated.

Exemptions and Tax Rates

The tax is levied on Connecticut AGI above basic personal exemption levels that vary according to taxpayer status and which phase out at higher income levels. Income below the personal exemption threshold is excluded from the tax base based on the rationale that income needed for bare sustenance should be free from tax.

Table 2 displays the tax rates applied to taxable income for 2015 based on the budget bill passed in June 2015. The bill increased the marginal income tax rate for individuals with annual taxable incomes over \$250,000 (or \$500,000 for couples) from 6.7% to 6.9%. It also added a 6.99% marginal tax bracket applicable to individuals with annual taxable incomes over \$500,000 (or \$1,000,000 for couples).

Table 2: Connecticut Personal Income Tax Brackets: 2015					
Single Filers			Joint Filers		
Taxable Income			Taxable Income		
<u>From</u>	<u>To</u>	<u>Rate</u>	<u>From</u>	<u>To</u>	<u>Rate</u>
\$0	\$10,000	3.0%	\$0	\$20,000	3.0%
\$10,000	\$50,000	5.0%	\$20,000	\$100,000	5.0%
\$50,000	\$100,000	5.5%	\$100,000	\$200,000	5.5%
\$100,000	\$200,000	6.0%	\$200,000	\$400,000	6.0%
\$200,000	\$250,000	6.5%	\$400,000	\$500,000	6.5%
\$250,000	\$500,000	6.9%	\$500,000	\$1,000,000	6.9%
\$500,000	& Over	6.99%	\$1,000,000	& Over	6.99%

Personal exemptions ranging from \$12,000 to \$24,000, as well as personal tax credits ranging from 1% to 75% of a taxpayer's Connecticut tax liability are available to taxpayers, depending on factors such as filing status and Connecticut AGI. Both the exemptions and tax credits are phased out at higher income levels. In addition, lower tax rates are phased out or "recaptured" for high income earners.

Minimum Tax

In some cases taxpayers are required to pay the higher of their liability under the state Personal Income Tax or the Connecticut Minimum Tax. The Connecticut Minimum Tax is the lesser amount of 19.0% of adjusted federal tentative minimum tax or 5.0% of adjusted federal alternative minimum taxable income.

Tax Credits

Connecticut taxpayers are eligible to claim a number of tax credits which further reduce their actual tax liability. These include: (1) a personal tax credit that all taxpayers up to certain income levels can claim; (2) a Connecticut earned income tax credit for lower income taxpayers based on the federal earned income tax credit; (3) a credit that offsets income taxes paid to other states and jurisdictions; and (4) tax credits for property taxes paid to municipalities and special taxing districts. Three additional credits are available for the following business activities: an angel investor tax credit for taxpayers who invest in eligible start-up companies; a tax credit for investors in Insurance Reinvestment Funds; and tax credit for businesses that create new jobs and hire certain Connecticut residents to fill them.ⁱ

Table 3 below presents information from 2013 on the two largest tax credits (excluding the earned income tax credit which is discussed more fully below). Tax credits for income taxes paid to other jurisdictions reduce Connecticut income tax liability by 16% overall, with the bulk of the credits for taxes paid to other jurisdictions accruing to taxpayers with Connecticut AGI in excess of \$500,000. As noted in the report on Connecticut's Fiscal Architecture (Wallace, 2015), concern

has been expressed about the significant portion of the income earned by Connecticut residents that is effectively excluded from the Connecticut income tax base.

Table 3: Tax Credits for Taxes Paid to Jurisdictions Other Than Connecticut and Property Tax Credit: 2013							
	No. Returns	Ct Agi	Income Tax	Credit For Tax Paid To Jur. Other Than CT.	Property Tax Credit-Count	Credit For Property Tax	Ct Income Tax
CT-1040	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Less than \$50,000	844,294	\$19,252,434,940	\$319,196,821	\$9,962,958	381,792	\$97,720,315	\$244,164,096
\$50,000 to \$100,000	384,210	\$27,490,662,513	\$1,163,282,566	\$48,853,129	328,680	\$86,553,290	\$1,021,143,456
\$100,000 to \$250,000	273,655	\$40,281,139,301	\$2,073,871,820	\$169,139,755	162,888	\$24,617,983	\$1,877,717,554
\$250,000 to \$500,000	47,075	\$15,919,419,285	\$910,260,534	\$165,514,354	\$0	\$0	\$743,179,809
\$500,000 and over	25,621	\$47,570,762,459	\$3,173,242,622	\$826,514,393	\$0	\$0	\$2,343,626,938
Total	1,574,855	\$150,514,418,498	\$7,639,854,363	\$1,219,984,589	873,360	\$208,891,588	\$6,229,831,853

III. Revenue Adequacy

This section discusses the extent to which the personal income tax is adequate to meet the changing needs for state revenue. We focus on three dimensions of adequacy: (1) breadth and size of the tax base; (2) long term trends in the tax base over time; and (3) the volatility of the tax base from year to year.

Breadth and Size of CT AGI

Connecticut AGI is defined as equal to Federal AGI + Connecticut Additions - Connecticut Subtractions. The net impact of the Connecticut adjustments has been to reduce total Connecticut AGI relative to Federal AGI so that in 2013 Connecticut AGI equaled 98% of Federal AGI. This relationship between Connecticut and Federal AGI has remained quite stable over the past 10 years.

Since Connecticut ranks first among the states in personal income per capita, the above numbers imply that CT AGI provides a broad base for raising revenue. This optimistic assessment should, however, be tempered by the fact that, as indicated by the magnitude of credits for taxes paid to other jurisdictions, a significant share of income received by Connecticut taxpayers is subject to tax in other jurisdictions.

Long Term Trends in Connecticut AGI

Figure 1 plots the trends in both Connecticut Personal Income and Connecticut AGI since 1992. Two features of the behavior of Connecticut AGI are noteworthy. First, over the long-run, Connecticut AGI has grown apace with Connecticut Personal Income. Indeed, estimates of the long-run elasticity of CT AGI with respect to CT Personal Income yields a point estimate of 1.15, with a standard error of $\pm .08$, indicating that CT AGI has grown slightly more proportionately than CT PI over the period from 1992 to 2013. Second, CT AGI has exhibited a fair degree of volatility from year to year (see below).

The above result implies that over the long run, one can expect the base of the Connecticut income tax to grow with Connecticut personal income. This assessment, however, needs to be balanced by several trends identified in Wallace (2015). These include: (1) slower income growth due to an aging population; (2) reduced tax handles for the income tax due to growth in the service sectors with lower wages; and (3) increased difference in ability to pay between high and low earners leading to more resistance to tax increases at the top. These trends may, however, be offset by growth in income due to potential growth in the knowledge sectors of the Connecticut economy.

Volatility in Income Tax Revenues

Reliance on the personal income tax as the primary source of state tax revenue is a two-edged sword. On one hand, revenue from the income can keep pace with growing needs for financing public spending. At the same, income tax revenues are also more sensitive to economic fluctuations.

This latter feature of the Connecticut income tax is depicted in Figure 1. The line in Figure 1 that is labeled “CT PI” shows that, while Connecticut Personal Income has grown fairly steadily over time, there also have been long-run fluctuations about its longer run trend of growth. The same is true for the line labeled “CT AGI” which exhibits even greater fluctuations about its trend. The line labeled “CT AGI as % of AGI” charts the behavior of the Connecticut AGI as a percent of Personal Income, and indicates that Connecticut AGI is more cyclically sensitive than is Personal Income per Capita.

Especially noteworthy are both the movements of CT AGI on the upside, when Connecticut Personal Income is growing, and on the downside, when Connecticut Personal Income per capita is contracting. This cyclical sensitivity creates a “boom and bust” cycle for Connecticut personal income tax revenue in which income tax revenue growth is strong when the Connecticut economy is doing well, accompanied by a marked income tax revenue decline when the Connecticut economy falters.

Revenue Buoyancy

Another concept relevant to assessing the volatility of the Connecticut personal income tax is that of revenue buoyancy. Revenue buoyancy measures the relationship between changes in individual income and individual tax revenue including the effects of changes in the tax structure over time.

The revenue buoyancy of the Connecticut income tax is estimated using an approach described in Bruce, Tuttle and Fox (2006). Using data on Connecticut income tax revenue, and Connecticut personal income, I use data from 1992-2013 to estimate a regression of the form:

$$(1) R_t = \beta_0 + \beta_1 Y_t + \beta_2 \Delta Y_{t-1} + \varepsilon_t$$

where R_t and Y_t are the log of real income, tax revenue, and real personal income, respectively. The point estimate of the coefficient $\hat{\beta}_1$ equals the long-run elasticity of revenue with respect to income, and equals 2.37 with a standard error of $\pm .19$. The interpretation is that over time, an increase in Connecticut personal income of \$1 has yielded an additional \$2.37 in revenue. Conversely a drop in Connecticut personal income of \$1 has yielded a drop in revenue of \$2.37.

The Role of Capital Gains Income

The estimated income tax revenue elasticity for Connecticut is higher than the average estimated long-run income elasticity of 1.83 reported in the Bruce, et. al. paper. An important reason for the difference, as well as for the greater volatility of Connecticut AGI compared with Connecticut PI, is that capital gains income is a relatively large component of the Connecticut income tax base, as is illustrated in Figure 2. Figure 3, which is reproduced from Pellowski (2015) shows the importance of capital gains income as a source of error in reconciling projected vs. actual tax revenue.

Figure 1: Trends in Connecticut Personal Income and in Connecticut AGI

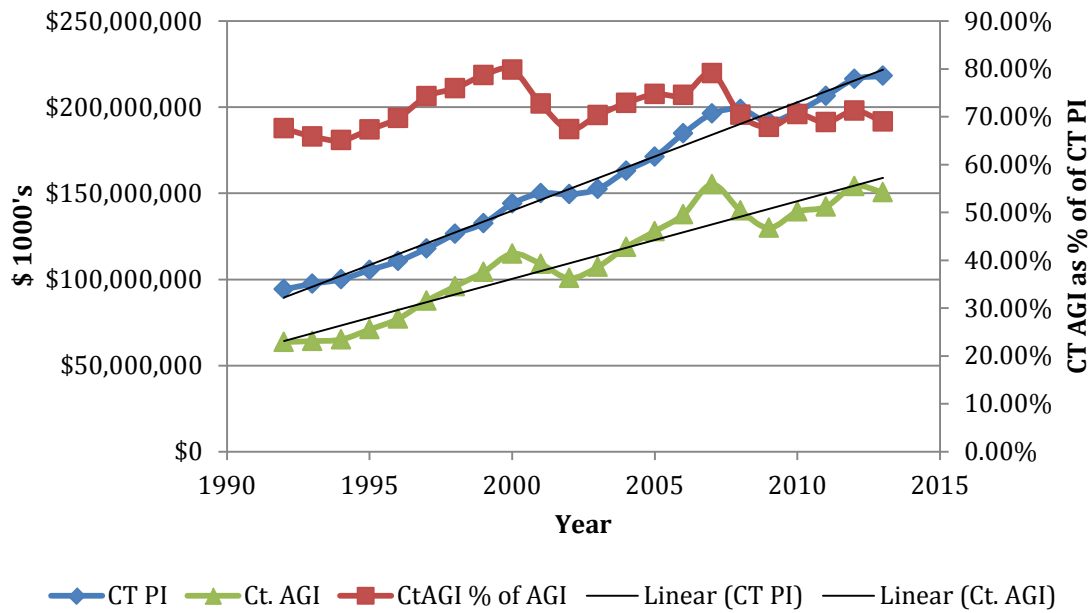


Figure 2: Net Capital Gains as a Share of AGI

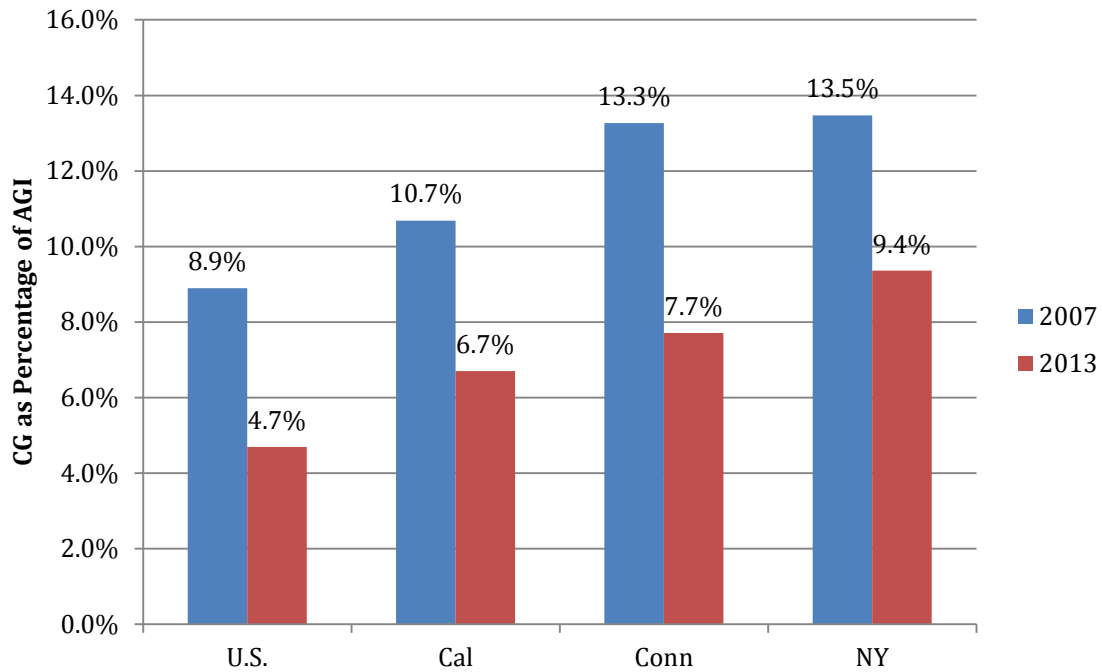
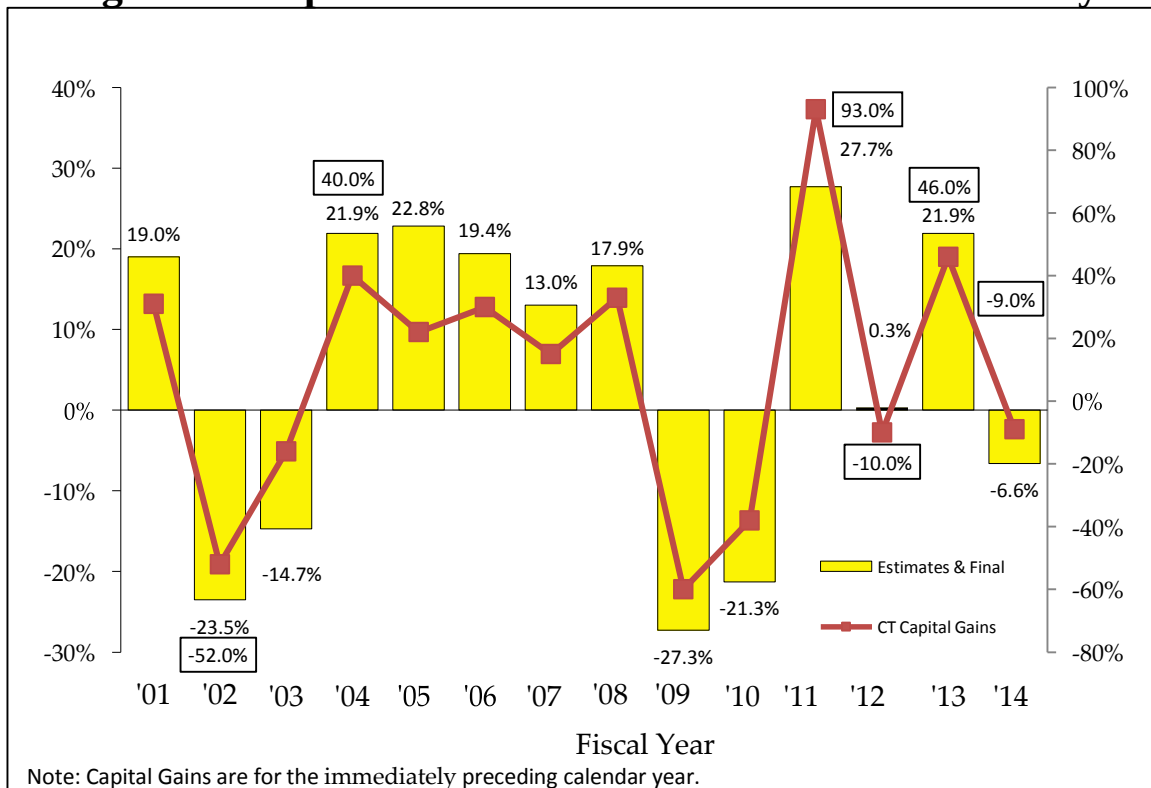


Figure 3: Capital Gains and Revenue Forecast Volatility



IV. Fairness in Distribution of the Tax Burden

A critical element in assessing the performance of a tax is whether it distributes the tax burden fairly among taxpayers. In the case of the personal income tax, there are two dimensions of fairness that are relevant. The principle of horizontal equity applies to the fair treatment of taxpayers with the same ability to pay. The principle of vertical equity applies to taxpayers with unequal abilities to pay.

Horizontal Equity of the Connecticut Personal Income Tax

Horizontal equity requires that taxpayers with the same ability to pay tax should face the same tax burden. Ability-to-pay is normally defined in terms of income, and in principle should be based on the broadest possible definition of income. In applying the principle in practice, it is recognized that certain items of income may be excluded from the tax base for administrative reasons so that the benchmark for assessing horizontal equity is typically a measure such as Federal Adjusted Gross Income which is adjusted upward to include items such as employer provided fringe benefits. In the case of state income taxes, many of which use Federal Adjusted Gross Income as a starting point, it is the case that certain sources of horizontal inequity, such as the exclusion of tax-exempt fringe benefits from taxation, are “inherited” from the Federal definition of income, and can be taken as a given for purposes of this analysis.

Aside from the exclusion of certain items of income in determining Federal AGI, Federal AGI is itself a reasonably broad base because it includes items such as Federal itemized deductions that are often described as “tax loopholes” in discussions of federal income tax base broadening. The question then becomes whether the exclusion of certain additional items from the definition of Connecticut AGI, violates the principle of horizontal inequity. Aside from the exclusion of Connecticut income tax refunds from Federal AGI, the certain subtractions from Federal AGI represents items of income that should, in principle, be fully taxable but which instead are either only partially taxable, or are exempt from Connecticut income taxation: These items, which are listed below in Tables 4 and 5 are classified as tax expenditures in the 2014 Connecticut Tax Expenditure Report.

Among the exclusions from Connecticut AGI, the most significant is the Social Security Benefit Adjustment. In computing Federal AGI, single taxpayers with income exceeding \$34,000, and married taxpayers filing jointly with income exceeding \$44,000 are required to include up to 85% of their Social Security Benefits in Federal AGI. Depending on the taxpayer’s AGI, either 100% or 75% of the amount of Social Security benefits included in Federal AGI is subtracted from Federal AGI in arriving at Connecticut AGI so that the portion of Social Security benefits that are taxed at the federal level is either entirely or partially excluded from Connecticut Income Taxation.²

As may be seen from Table 4, the remaining subtractions from Federal AGI add up to just under \$1.3 billion overall. Table 5 shows estimates of the estimated tax revenue that would be gained by eliminating each of the current subtractions from

Table 4: Subtractions from Federal AGI in Determining Connecticut AGI: 2013

CT-1040 Subtractions	Number of Returns	Int. On Govt. Obligations	Mutual Fund Dividends	Soc. Security Benefit Adj.	Railroad Retirement Benefits	50% Military Retirement	Beneficiary's Share CT Fid.	Ct Bond Gain On Sale	CHET Contributions	Other	Total Subtractions
Less than \$50,000	844,294	48,789,726	1,379,567	735,590,538	16,365,098	29,384,005	1,073,562	867,375	4,672,674	39,772,179	919,686,448
50,000 to 100,000	384,210	25,576,441	1,322,754	1,073,439,598	5,782,492	33,195,125	467,139	825,315	17,929,375	10,413,988	1,262,746,593
100,000 to 250,000	273,655	26,636,488	1,452,068	657,117,929	2,420,514	31,749,597	599,128	1,711,938	79,200,304	14,024,047	927,708,077
250,000 to 500,000	47,075	6,886,577	761,026	122,726,281	44,124	3,361,612	227,505	1,498,382	43,563,969	6,061,254	228,842,842
Greater than \$500,000	25,621	82,848,453	1,650,723	63,386,361	64,045	667,918	289,968	5,263,832	27,335,059	22,351,797	519,568,557
Total	1,549,234	190,737,685	6,226,342	2,613,489,731	24,662,664	97,731,189	2,507,599	8,757,464	154,025,052	85,090,297	3,741,336,312

Table 5: Connecticut Personal Income Tax Expenditures			
Item	FY 14 Estimates	FY 15 Estimates	Revenue Gain in FY 15 if Repealed
Personal Income Tax			
<i>Exemptions and Deductions</i>			
Interest on US Obligations	29.6	29.6	29.6
Dividends from Mutual Funds Derived from US Government Obligations	1.0	1.0	1.0
Tier I Railroad Retirement Benefits	0.5	0.5	0.5
Beneficiary's share of Connecticut fiduciary adjustment	0.2	0.2	0.2
Gain on sale of Connecticut Bonds	0.8	0.8	0.8
Social Security Benefits	100.0	102.2	102.2
Military Retirement Income	3.9	4.0	4.0
Contributions to CHET	7.3	7.5	7.5
Other Deductions	12.3	12.3	12.3
<i>Credits</i>			
Credit for Property Taxes Paid	213.1	214.3	214.3
Earned Income Tax Credit	104.5	120.7	120.7
Angel Investor Tax Credit	6.0	3.0	3.0
Insurance Reinvestment	1.6	1.6	1.6
Job Expansion Tax Credit	6.0	6.0	6.0
Total Personal Income Tax	486.8	503.7	503.7

Federal AGI. The greatest estimated revenue gain would obtain if the present 100% exclusion of social security benefits were eliminated which effectively would subject Connecticut social security benefits to the same tax treatment as under the federal income tax.

Tax Credits

Table 5 also lists tax credits available to eligible taxpayers. Although these credits are classified as tax expenditures, the two most significant tax credits – property tax and the earned income tax credit – should not be viewed as violating the principle of horizontal equity in the usual sense. Rather, each is best viewed as making use of the Connecticut income tax as a convenient administrative vehicle for achieving other objectives of state fiscal policies. In the case of the property tax, the intent is to provide income conditioned relief from the burden of local property taxes. In the case of the earned income tax credit, the intent is to supplement the Federal earned income tax credit which is the principal means of income support for low income workers.

Tax Treatment of Different Filing Units

Another potential dimension of horizontal equity is how different tax filing units fare under the Connecticut individual income tax. Table 6 below shows the average effective tax by Connecticut AGI group for taxpayers by filing status. As noted in the DRS 2014 Income Tax Study as the case with other state income taxes, Connecticut taxpayers who are married and filing jointly or as single heads of households face lower average tax rates for the same amount of Connecticut AGI as do taxpayers who are single filers, or married and filing separately.

Vertical Equity

Vertical equity requires that taxpayers with different abilities face appropriately different tax burdens. There is general, although not uniform, support for the principle that income tax burdens should be distributed progressively with respect to income. That is, the amount of taxes paid should increase more than proportionately as income increases.

There are a number of different measures of the distributional incidence of taxes. The measures used in this analysis are: (1) the Suits index of progressivity; (2) the average effective tax rate, (3) the comparative share of taxes paid by different income groups vs. the income share of those groups; (4) the difference between the highest and the lowest marginal statutory tax rate, and (5) the ratio of the income threshold at which the highest tax rate is imposed to and income level of \$25,000.

Suits Index

As is noted in Department of Revenue Services (2014):

The Suits Index is a statistical, non-binary measure of progressivity ranging from negative one to one where regressive taxes have negative values, progressive taxes have positive values and a proportional tax would be equal to zero. The degree of a tax's progressive or regressive nature increases the further it is from zero. The most progressive tax with a Suits Index of 1.0 would have the single Connecticut household with the highest Connecticut AGI paying all of the taxes. Likewise, the most regressive tax would have a Suits Index of -1.0 and have the single Connecticut household with the lowest Connecticut AGI paying all of the taxes. In reality, neither of those scenarios would exist and the Suits Index indicators for Connecticut's taxes will lie somewhere on the spectrum between 1.0 and -1.0.

Table 6: Average Effective Connecticut Income Tax Rates by AGI and Filing Status

	Avg. Tax Rate: CT. Tax/CT. AGI			
			Married filing	Head
Connecticut AGI Class	Single	Joint	Separately	of Household
01) Less than \$5000	0.00%	0.04%	0.06%	0.01%
02) \$5,000 to \$10,000	0.00%	0.00%	0.02%	0.00%
03) \$10,000 to \$12,000	0.00%	0.00%	0.00%	0.00%
04) \$12,000 to \$15,000	0.01%	0.00%	0.04%	0.00%
05) \$15,000 to \$19,000	0.09%	0.00%	0.23%	0.00%
06) \$19,000 to \$20,000	0.22%	0.00%	0.36%	0.01%
07) \$20,000 to \$24,000	0.38%	0.00%	0.59%	0.06%
08) \$24,000 to \$25,000	0.57%	0.00%	1.01%	0.12%
09) \$25,000 to \$30,000	1.02%	0.02%	1.85%	0.27%
10) \$30,000 to \$34,000	2.02%	0.07%	2.78%	0.38%
11) \$34,000 to \$35,000	2.50%	0.12%	3.20%	0.50%
12) \$35,000 to \$40,000	2.91%	0.14%	3.38%	0.92%
13) \$40,000 to \$44,000	3.46%	0.44%	3.46%	1.62%
14) \$44,001 to \$45,000	3.52%	0.62%	3.52%	2.02%
15) \$45,001 to \$48,000	3.54%	0.77%	3.54%	2.37%
16) \$48,001 to \$50,000	3.46%	1.06%	3.63%	2.72%
17) \$50,000 to \$60,000	3.73%	1.93%	4.20%	3.25%
18) \$60,000 to \$74,000	4.38%	3.12%	4.65%	3.54%
19) \$74,000 to \$75,000	4.54%	3.49%	4.79%	3.69%
20) \$75,000 to \$96,000	4.63%	3.57%	4.84%	4.19%
21) \$96,000 to \$100,000	4.70%	3.84%	4.73%	4.45%
22) \$100,001 to \$150,000	4.85%	4.51%	4.74%	4.63%
23) \$150,001 to \$200,000	4.90%	4.77%	4.58%	4.66%
24) \$200,001 to \$250,000	5.11%	4.67%	5.02%	4.67%
25) \$250,001 to \$350,000	5.56%	4.58%	5.27%	4.80%
26) \$350,001 to \$500,000	5.65%	4.54%	5.19%	5.05%
more than 2000000	5.46%	5.02%	5.28%	4.88%

The Suits index can be calculated with individual tax data, as was done in the 2014 DRS incidence study. It can also be calculated using data grouped by AGI class as are the data made available annually by the Connecticut DRS. We use these data to calculate the Suits index for the years 2007, 2010, and 2013 using the formula for a discrete approximation for the Suits index found in Suits (1977):

$$(2) S_x = 1 - \frac{L_x}{K}$$

Where S_x = the Suits index for tax x , L_x = the area under the Lorenz curve for tax x , and $K = .5$. The discrete approximation for L_x is further defined as:

$$(3) L_x = \sum_{i=1}^N [(T_x(Y_i) + T_x(Y_{i-1})) \cdot (Y_i - Y_{i-1})]$$

Where $T_x(Y_i)$ is the cumulative share of tax x paid by those in income group Y_i , where the group index i increases to N as income increases.

The value of S_x that is calculated using individual data in the 2014 analysis of the incidence of Connecticut taxes is 0.11. As noted in that study (DRS, 2014), the income tax along with the estate tax, is the only Connecticut state tax with a progressive distribution of the tax burden. Together the progressive distributional incidence of these two taxes is enough to offset the regressive incidence of other taxes so that overall, the Connecticut state taxes are distributed in a mildly progressive manner. Using (2) and (3) to calculate the Suits index from grouped data, yields values of 0.138, 0.139, and 0.146 respectively for the tax years 2010, 2011, and 2014. Although Suits indexes calculated with grouped data are not directly comparable with Suits indexes calculated with individual data, the Suits index values for 2010, 2011, and 2013 do indicate that the 2011 changes enacted in the income tax made it more progressive.¹ Although data are not yet available, the most recent changes enacted in June 2015 should further increase the progressivity of the tax.

Average Tax Rates and Shares of Tax Burden by AGI Class

Two other common measures of progressivity are: (1) the relationship between the average tax rate, and (2) the relationship between the shares of taxes paid in different income classes compared with the share of income reported in each income class. In Figure 4, the average tax rate in tax year 2013 – the percentage of Connecticut AGI paid in Connecticut income tax – is shown to increase with income. (The same general relationship is also observed for each type of filing status in Table 6. The relationship between income shares and taxes paid, which is also shown in Figure 4 displays a pattern

¹ The value of the Suits index calculated using grouped data will overstate the degree of progressivity so that the Suits index value of 0.146 calculated from grouped data is likely to overstate the actual progressivity of the Connecticut income tax in 2013. Nonetheless the change in the value of the index calculated from grouped data indicates an increase in its value between 2010 and 2013 of about 6%.

Figure 4: Progressivity of the Connecticut Income Tax

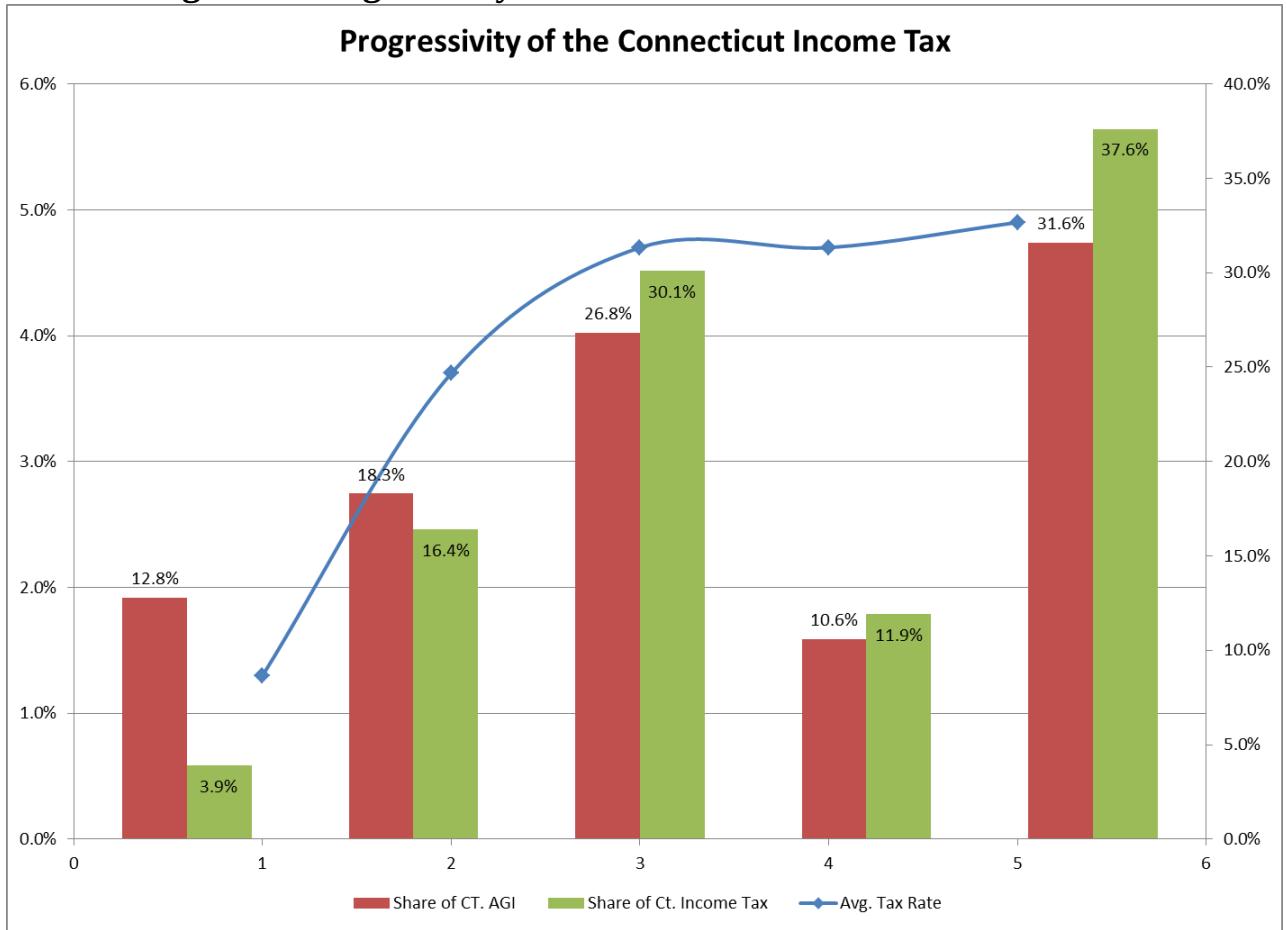


Table 7: Comparison of the Progressivity of the Connecticut Income Tax						
State	Progressivity Index 1	Rank	Progressivity Index 2	Rank	EITC Percent	Rank
Connecticut	4.85	8	1.7	15	27.5	3
Delaware	1.28	20	1.4	17	20.0	
Massachusetts	0.08	37	0.0	23	15.0	6
New Hampshire	0.05	39	0.0	23		
New Jersey	9.49	4	7.2	2	20.0	5
New York	19.00	1	2.4	9	30.0	2
Rhode Island	3.02	14	2.2	10	10.0	8
Vermont	9.42	5	5.4			

Progressivity Index 1 = multiple of average earnings at which the top income tax rate applies; Progressivity Index 2 = difference between the top income tax rate and the marginal rate on \$25,000 of taxable income.

consistent with progressivity. For example, note that the share of Connecticut income tax paid by taxpayers in the bottom income class equals 3.9% compared with their income share of 12.8%; while at the top of the income distribution the share of Connecticut income tax paid by taxpayers with Federal AGI of more than \$500,000 is 37.6% compared with this group's income share of 31.6%.

Table 7 uses yet another set of indicators to compare the progressivity of the Connecticut income tax with that of the income taxes in neighboring states. The two measures used are: the multiple of average earnings at which the top income tax rate applies; and the difference between the top income tax rate and the marginal tax rate on \$25,000 of taxable income. The data are for the year 2014. If one were to assume that the tax structures of other states remained constant for 2015 – the year in which Connecticut increased its top rate, and raised the threshold at which the top rate applies, Connecticut's rankings in terms of relative progressivity would increase from those reported in Table 7.

Earned Income Tax Credit

Connecticut is one of 26 states that have enacted a state-level earned income tax credit (EITC) to supplement the Federal EITC. The general structure of the Federal EITC is described in the text box on the next page. Like other states with an EITC, Connecticut provides its own EITC equals to a percentage of the amount a taxpayer receives from the Federal EITC. The Connecticut EITC is also refundable. Namely, when the EITC claimed exceeds a taxpayer's tax liability, the excess amount is refunded to the taxpayer.

The legislation which established the Connecticut EITC in 2011 set the percentage initially at 30%. The credit was temporarily cut to 25% of the Federal EITC for budgetary reasons in 2012. It was scheduled to be increased to 27.5% of the Federal credit in 2014 and to 30% in 2015. The increase to 27.5% scheduled for 2014 did take place. However, the increase to 30% was postponed again in 2015 to take effect in 2017.

DRS data from 2013 on the receipt of the Connecticut EITC at the town and city level indicates that just under 190,000 Connecticut residents received total EITC payments of \$95.8 million, or an average payment of \$504. The average amount received ranged from \$284 in Weston to a high of \$589 in Hartford.

The Connecticut state EITC can be viewed from two perspectives. It can be treated as part of the overall structure of the Connecticut income tax. In this case, as illustrated in Figure 5, inclusion of the EITC increases the progressivity of the income tax because taxpaying families in the bottom income quintile actually pay a negative tax – e.g. receive a subsidy – by virtue of receiving a tax rebate.

Alternatively, the EITC can be viewed as a social transfer program that uses the income tax as the administrative vehicle for providing the transfer. Seen from this perspective, supporters of using the EITC as an income support program for low-income working families give the EITC good marks both for its relative administrative

Policy Basics: The Earned Income Credit. Center on Budget and Policy Priorities.
Updated August 2015

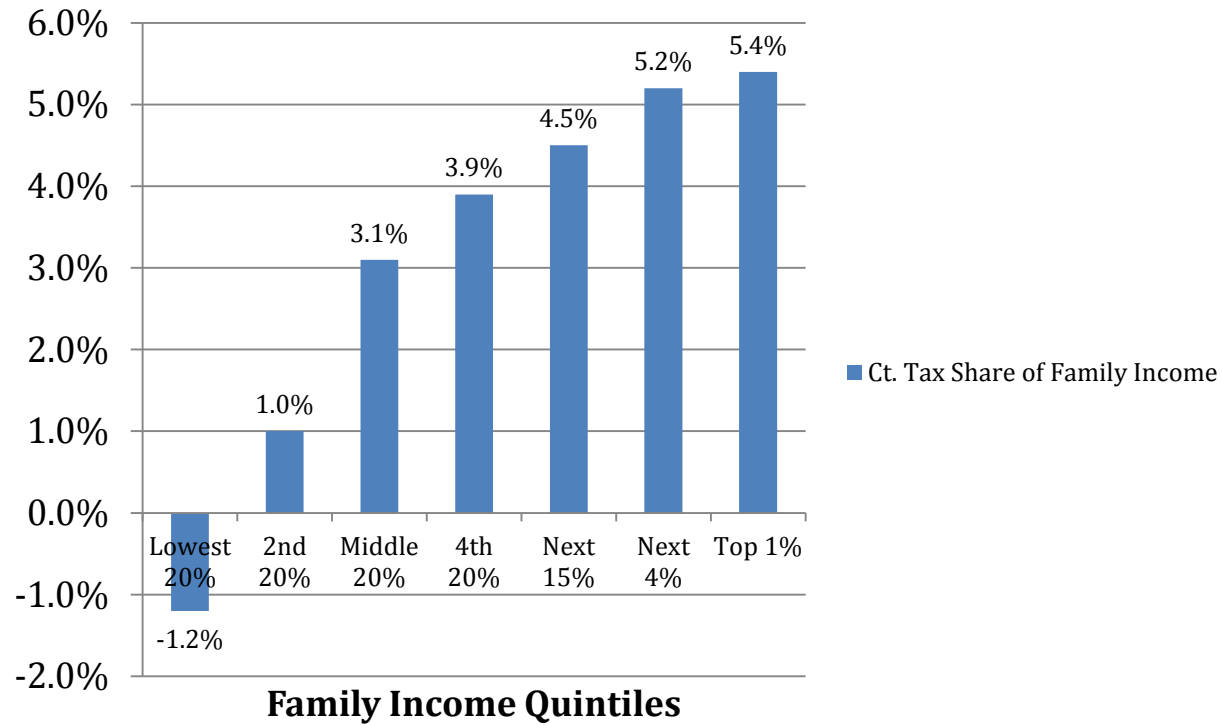
The Earned Income Tax Credit (EITC) is a federal tax credit for low- and moderate-income working people. It encourages and rewards work as well as offsets federal payroll and income taxes. Twenty-six states, plus the District of Columbia, have established their own [EITCs](#) to supplement the federal credit.

Who Is Eligible, and for How Much?

In the 2015 tax year, working families with children that have annual incomes below about \$39,000 to \$53,300 (depending on marital status and the number of dependent children) may be eligible for the federal EITC. Also, working-poor people who have no children and have incomes below about \$14,800 (\$20,300 for a married couple) can receive a very small EITC. In the 2013 tax year, the most recent year for which data are available, over 27 million working families and individuals received the EITC.

The amount of EITC depends on a recipient's income, marital status, and number of children. Workers receive the credit beginning with their first dollar of earned income; the amount of the credit rises with earned income until it reaches a maximum level and then begins to phase out at higher income levels (see the table at the end of this piece for how the EITC is calculated). The EITC is "refundable," which means that if it exceeds a low-wage worker's income tax liability, the IRS

**Figure 5 : Share of Family Income Paid in CT.
Personal Income Tax Including EITC**



simplicity, and for its positive incentive effects: (1) in principle, basing receipt of the credit on the filing of federal tax returns offers a relatively simple way of means-testing receipt of the credit; and basing the state EITC on a percentage of the federal EITC is a simple and transparent way of determining the additional state supplement; and (2) unlike other social support programs, conditioning receipt of the credit on earned income provides positive rather than negative work incentives for some recipients (see next section).

Critics of expanding the EITC, however, counter that despite the apparent ease of administration, true eligibility for refundable tax credits is difficult to verify, creating possibilities for fraudulent claims. The estimated amount of such claims in the case of the EITC in Federal fiscal year 2013 was \$14.5 billion or 24% of the total amount of credits claimed. Applying a similar error rate to the Connecticut EITC would result in an estimated amount of false credits claimed in 2013 of approximately \$23 million. Moreover, overall there is mixed evidence that the EITC has a positive effect overall on the labor supply of its recipients.

V. Collectability

The tasks of collecting revenue and monitoring and enforcing compliance with taxes require the use of time and money on the part of both the government and of private parties. Other things equal, it is desirable to minimize such costs.

As a revenue source, the individual income tax is widely viewed as imposing low to modest collection costs on the government, and relatively high costs of compliance on private parties. Estimates of the government collection cost per dollar of revenue are on the order of 1% or less of revenue collected, whereas estimates of the total private compliance burden may be on the order of 15% of revenue raised.

Recent analyses of the private burden of complying with the income tax have identified the following types of activities that contribute to total time spent on income tax compliance: (1) recordkeeping, (2) tax planning, and (3) form completion and submission, with an average total cost of \$200 per return. Recordkeeping and tax planning account for the lion's share of total costs, and form completion and submission account for the remaining amount.

In taxing personal income, states have virtually complete flexibility in how they define the base of taxation. Over time, however, many states have decided to “conform” all or a part of their tax base to the base of the federal income tax. Table 8 shows the patterns of conformity of Connecticut and its neighboring states with the federal income tax.

Some analysts have viewed decisions by states to conform their tax bases as a form of tax base erosion presumably because such conformity incorporates federal departures from a comprehensive tax base into the base of state personal income taxes. Using the federal tax base as a starting point for determining state tax liabilities, however, considerably simplifies the process of complying with state income taxes. State conformity substantially reduces if not entirely eliminates recordkeeping and tax planning costs. Thus, using the IRS estimates of the money cost of individual income tax compliance, a rough estimate of the marginal compliance cost of paying Connecticut income taxes would be on the order of \$50 per return, or about 1.2% of tax revenue collected.

While there are clear benefits to conforming the Connecticut base to the Federal base, the remainder of this section considers several possible modifications to current practice. One is to maintain federal conformity but use Federal taxable income as the starting point. Another is to replace the current income tax with a “flat tax.” Lastly, we consider the implications of the exemption phase-outs, and low tax rate recapture provisions that are part of the current Connecticut income tax rate structure.

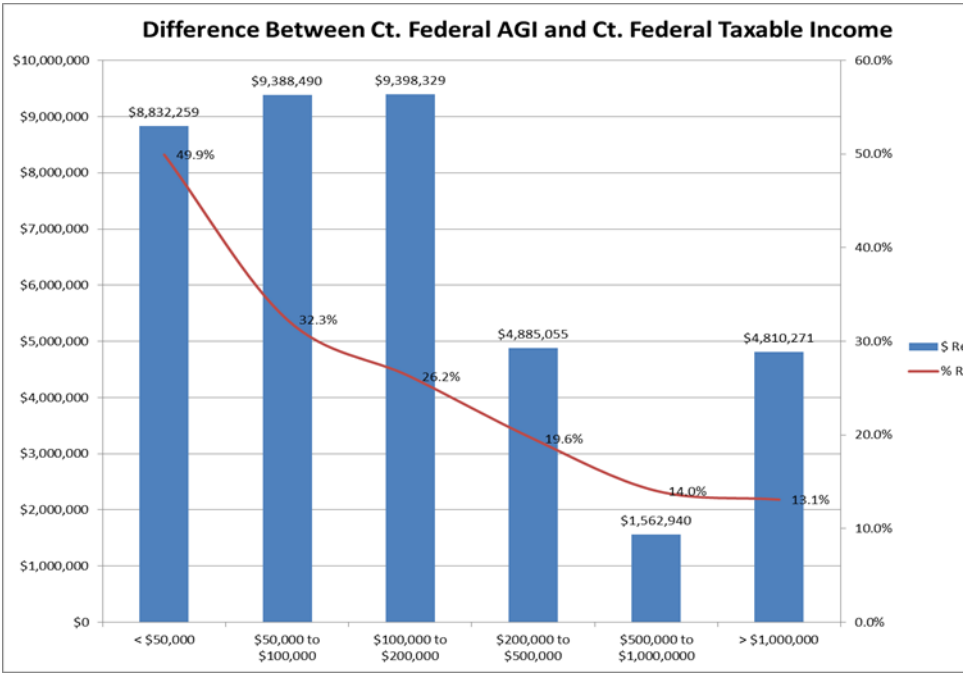
Table 8				
Conformity of State Personal Income Tax Bases to Federal Income Tax Base				
Federal Rule		Two-tier system in which 50% of provisional income above \$25,000/single and \$32,000 married is taxed, and 85% of income above \$34,000/single and \$44,000/married is taxed.	States cannot tax railroad retirement benefits, but other private pension income is taxable as regular income.	For gains held more than one year, capital gains tax is 15% for those whose marginal tax rate is 25% or more. Capital gains tax is 0% for those in 10% and 15% tax brackets. Net capital losses are deductible up to \$3,000/yr., and unused capital losses can be carried forward.
State	Federal Conformity	Social Security	Private Pensions³	Capital Gains
Connecticut	Automatic	Modified ²	None	Federal Conformity
Delaware	Automatic	Exempt	\$2,000/\$12,500	Federal Conformity
Massachusetts	Automatic	Exempt	None	Own System
New Hampshire ¹	Fixed	Exempt	Exempt	Exempt
New Jersey	Selective	Exempt	\$15,000	Federal Conformity
New York	Automatic	Exempt	\$20,000	Federal Conformity
Rhode Island	Automatic	Federal Conformity	None	Federal Conformity
Vermont	Fixed	Federal Conformity	None	Modified

¹ New Hampshire's income tax is limited to dividends and interest income only.

² Connecticut does not tax SS benefits if income is below \$50,000 for single filers and \$60,000 for joint filers. Amounts above these thresholds are subject to partial taxation.

³ For states with two numbers, the lower number is the exclusion for younger retirees (such as 55- to 64-year-olds) and the higher number is for older retirees (65+).

Figure 6: Conforming to Federal Taxable Income Instead of to Federal AGI



Conforming to Federal Taxable Income Instead of Federal AGI

Although 27 of the 37 states that conform to the Federal income tax use Federal AGI as the starting base, some stakeholders have raised the possibility of conforming to Federal taxable income rather than Federal AGI. Using Federal taxable income as the starting point for determining Connecticut income tax liability would narrow the base for computing Connecticut taxable income by including: (1) Federal dependent exemptions, and (2) the amount of the Federal standard deduction or Federal itemized deductions. As a result, the starting point for determining Connecticut taxable income would be reduced by a total of \$38.9 billion, or 25%. The relative absolute and percentage reductions by Federal AGI class are shown in Figure 6.

The net benefits of conforming to Federal taxable income rather than Federal AGI are mixed. First, because adopting Federal taxable income as the starting point involves narrowing the Connecticut income tax base, Connecticut tax rates would need to increase in order to yield the same amount of revenue. The precise amount of the required increase in tax rates would depend on factors such as whether Connecticut substituted the Federal structure of personal exemptions for its current structure, as well as net additions (subtractions) that would be made to Federal taxable income.

The magnitude of the size of tax rate increases that would be required can be gauged by grossing current rates up by a factor of (1-.25). Using this factor, the current rate schedule of 3.0%, 5.0% 5.5%, 6.0%, 6.5%, 6.9%, and 6.99% would increase to 4.0, 6.7%, 7.3%, 8.0%, 8.7%, and 9.3%, respectively. Although the average effective tax burden would, by definition, not change, Connecticut would nonetheless be perceived as having higher marginal tax rates as a result of such a change.

Another consequence of starting with a narrower base is that a number of federal tax preferences enjoyed by federal itemizers would become available implicitly if not explicitly in the Connecticut income tax, which would weaken the horizontal equity of the Connecticut income tax base. Moreover, adopting “full conformity” by using Federal taxable income would not necessarily further simplify compliance.

On the one hand, substituting Federal personal exemptions in place of state-level personal exemptions might simplify matters somewhat if Connecticut followed the practice of states that conform to Federal taxable income of substituting Federal exemptions for state exemptions. As noted by Duncan (2006), however, state additions to the federal tax base typically involve including items that are tax-exempt at the federal but not the state level, such as tax-exempt state and local debt, while state subtractions from the federal tax base involve removing items, such as interest on federal debt, that are not constitutionally taxable by the states. If Connecticut continued to make these additions and subtractions, plus exempt all or a portion of Social Security benefits and railroad and military retirement income, Connecticut taxpayers would need to continue make the same adjustments to Federal taxable income as they currently make to Federal AGI.

Adopting a “Flat Tax”

Connecticut, like many other states, including neighbors such as New York and New Jersey, has an income tax with multiple tax rates that increase with the taxpayer’s taxable income. Would it simplify matters if Connecticut enacted an income tax with a flat rate?

Type of Flat Tax

In addressing this question, it is first useful to distinguish between two different types of flat taxes. As noted by Burman and Slemrod, one version is what most public finance economists regard as *the* flat tax first proposed by Hall and Rabushka. The Hall-Rabushka flat tax and other proposals like it do involve taxing an income-like base at a single rate. However this version is not actually an income tax, but instead taxes consumption by taxing only wage income on the individual side, and coupling this with a value-added-tax like levy on all business income. The main features of this type of flat tax are described in more detail in the text box on the next page.

The proposals to introduce a Hall-Rabushka-type flat tax have figured prominently in presidential campaign proposals at the national level. However, for a number of reasons that are beyond the scope of this report, it would neither be feasible, nor necessarily desirable for a state to introduce this type of flat tax in a world in which the Federal government continued to tax income.

Another version of a flat tax, which is administered by several states, including Massachusetts, would be to tax income in excess of some basic exemption, but at a single instead of multiple rates. Using DRS data, it is possible to estimate the approximate impact of substituting a single rate income tax for the current Connecticut income tax under the following simplifying assumptions: (1) the Connecticut income tax would continue to conform to Federal AGI with the same additions and subtractions from Federal AGI as currently; (2) all Connecticut AGI at or below \$15,000 for single filers and at or below \$30,000 married taxpayers filing jointly would be exempt from taxation; and (3) all Connecticut AGI above these thresholds would be subject to the same tax rate designed to raise the same amount of revenue as the current Connecticut income tax.

Under these assumptions, the single tax rate that would apply to Connecticut AGI is approximately 5.4%. Compared to existing rates, the estimated single rate would be approximately equal to the 5.5% applied to single filers with Connecticut AGI between \$50,000 and \$100,000 and to joint filers with Connecticut AGI between \$100,000 to \$200,000. It would higher than the statutory tax rates currently applied to taxpayers with CT AGI below these thresholds (3.0% and 5.0%), and lower than the statutory rates currently applied

The Hall-Rabushka Flat Tax

The original concept of a (consumption-based) flat tax was proposed by Stanford economists Robert Hall and Alvin Rabushka. Under the proposal, the current system for taxing business income, which features a separate tax on corporate profits combined with personal income taxes collected on profits from partnerships and unincorporated businesses, would be replaced by a single business tax levied at a flat rate on a tax base equal to *Sales minus Wage and Salary Payments minus Purchases of Goods and Services from Other Businesses minus Investment Spending on New Plant and Equipment*.

A separate tax would be levied on individuals at a flat tax rate on wages, salaries, and/or pensions above a basic exemption. Dividends, interest, and capital gains would not be taxable at the personal level. The single tax rate on businesses and individuals would be the same, and its value would depend on the amount of revenue needed.

Proponents of the flat tax argue that it would have several advantages. First, it would be simpler than current federal corporate and individual income taxes with their hosts of forms and accompanying schedules. Life would be particularly simple for taxpayers whose income was less than the combined amount of the basic exemption and dependent allowances. They would pay no tax at all. Moreover, because the flat tax would effectively exempt income that is saved until withdrawn for consumption, flat tax proponents contend it would not only greatly simplify tax administration and compliance by eliminating the need to keep track of capital income until withdrawn, but it would also boost private saving.

to taxpayers with Connecticut AGI above these thresholds (6.0%, 6.5%, 6.9%, and 6.99%). Mainly because of the income exemptions, the incidence of the flat tax would still be progressive. However, it would be less progressive than the current tax, with a calculated Suits progressivity index of 0.078 compare with 0.17.

Although a tax with a single rate would appear to be simpler than one with multiple rates, there is a consensus among public finance scholars that the main sources of tax complexity reside in the rules for determining the tax base rather than the structure of tax rates. Although having multiple rates does involve some complexity, the burden of determining tax liability in a multiple tax rate structure is virtually eliminated through the use of tax software and/or the provision of easy-to-use tax look-up tables such as those available on the DRS website.

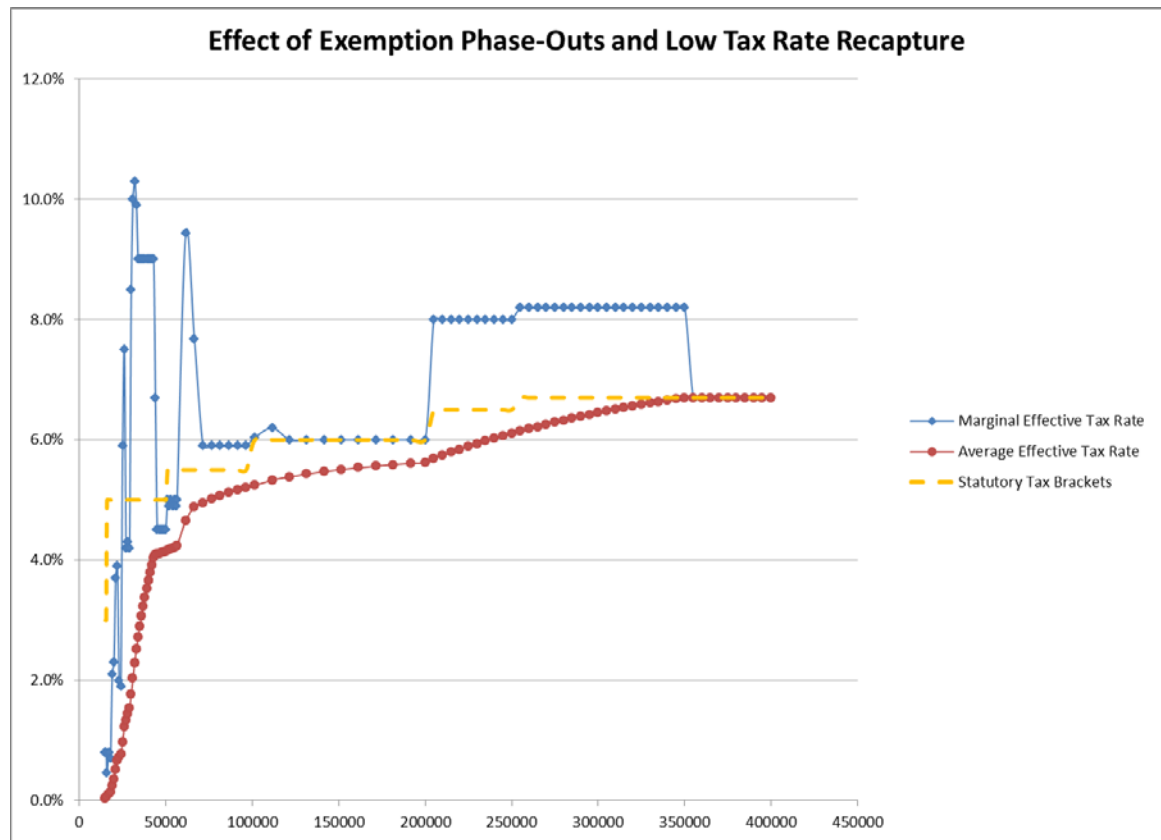
Exemption Phase-Outs and Low Tax Rate Recapture

The Connecticut PIT includes a phase-out of personal exemptions and personal tax credits for taxpayers with Connecticut AGI above certain income thresholds, as well as a recapture of the benefit received by higher income taxpayers of having their income initially taxed at lower tax rates. The intent of these provisions is to ensure that higher income taxpayers pay average effective tax rates that are equal to their tax bracket. (The effect of those provisions may be seen in Figure 7 which illustrates the effect of both exemption phase-outs, and low tax recapture on the marginal and average tax rates faced by a single filer. (Although not shown here, a similar pattern would be observed in the case of taxpayers with different filing statuses).

In Figure 7, the top line with the triangle markers shows the marginal effective tax rates that result from the withdrawal of exemption amounts and/or low tax rate recapture. The dotted middle line with the square markers shows the statutory tax brackets; and the bottom line with the dots shows how the average effective tax rate changes as income increases. As may be seen, the exemption phase-outs and low-tax-rate recapture cause the average effective tax rate to move closer to the statutory tax brackets as income rises until the average effective tax rate is the same as the statutory bracket at income levels above \$250,000.

As noted in an e-mail from the Connecticut Office of Policy and Management, the effect of the various recapture provisions is to add roughly \$230 million or about 3% of revenue collected from the income without increasing the statutory bracket rates. This outcome is, however, achieved at the cost of creating higher “shadow” marginal tax rates which can rise as high as into the 8 to 10% range. Whether such high implicit marginal tax rates are perceived as such depends on their salience to taxpayers. To the extent that they are salient, however, the statutory tax brackets will understate the incentive effects at the margin for taxpayers facing the shadow marginal rates.

**Figure 7: Marginal Tax Rates under Phase-out's of Exemptions, Personal Tax Credits
And Low Tax Rate Recapture**



VI. Economic Incentives

A side effect of income taxation is that it has the potential to affect the economic decisions of taxpayers. In this section we examine the incentive effects of the Connecticut income tax in the following dimensions: (1) general incentives to work and to save; (2) overall work incentives of the Connecticut EITC; (3) the current tax treatment of capital and the case for and against taxing capital gains preferentially; and (4) the competitiveness of Connecticut's income vis a vis its neighboring states.

Incentives to Work and to Save

Income taxes potentially affect both incentives to work and incentives to save. Namely, if W and r are the wage and the return to saving respectively, an income tax reduces the take-home wage to $W(1-T)$ and the after-tax return to saving to $r(1-T)$ where T is the taxpayer's marginal tax rate.

State taxation increases the work and saving disincentives of the Federal income tax by a magnitude that is determined by the taxpayer's marginal state income tax rates. For example, for taxpayers at the top of the income scale, the Connecticut income would increase the top marginal tax on earnings and savings from the federal rate of 39.6% to 43.7% (assuming deductibility of state taxes against federal) for those with Connecticut AGIs greater than \$500,000, and from 39.6% to 43.8% for those with Connecticut AGI of \$1,000, 000 or more. The text box on the next page summarizes the assessment of two prominent public finance scholars about the effects of income taxation on the incentive to work and the incentive to save.

In addition to affecting work and savings incentives, higher marginal income tax rates "may encourage taxpayers to seek compensation in the form of tax free fringe benefits rather than taxable compensation and to engage in other tax avoidance activities, including deductible expenses or deductible consumption, or even illegal tax evasion. Such distortions in consumption represent an efficiency loss to the economy" (IRS Taxpayer Advocate, 2012).

The creation of work and saving disincentives is an unavoidable side-effect of taxing income. Moreover, it can be shown that the economic cost of such disincentives increases with the square of the tax rate. There is, therefore, a sound policy rationale for striving to keep marginal rates of income taxation as low as possible consistent with raising needed revenue. The best way of accomplishing this objective is to tax income broadly at low rates instead of narrowly at higher rates.

Burman and Slemrod on the Work and Saving Effects of Income Taxes

Incentives to Work

Two decades ago, the conventional wisdom was that the labor supply of prime-age males hardly budges when tax rates changed; these men, often family bread-earners, have to work regardless of what their labor brought in. Some recent research has found a greater responsiveness, suggesting that a tax cut from 30 to 25% might raise labor supply by as much as 2 percent, still fairly small but enough to suggest significant economic costs from sharp increases in taxation. Most economists believe that the labor supply decisions of women are much more sensitive than men are to the after-tax wage, especially with regard to the decision to be in the labor force at all.

Incentives to Save

We know much less about the responsiveness of saving to the real after-tax rate of return....Over time there seems to be no clear correlation between this rate of return and aggregate personal saving rates. This doesn't necessarily mean that there is no relationship, as it could be that so many other factors affect savings that it is not possible to identify the effect of taxation alone. Thus, the economic argument against taxing the return to saving as a pure income tax, but a consumption tax does not, rests on a theoretical, not empirical, argument that any such effect is especially harmful to the long-run growth prospects of the economy.

Work Incentive Effects of the Earned Income Tax Credit

As was discussed in the section on the Connecticut state EITC, supporters of the EITC also give it high marks because of its effects on the incentive to work of at least some recipients. Specifically, EITC recipients who are on the so-called extensive margin – e.g. who before receiving the EITC are not in the work force --- face an unambiguous positive incentive to enter the labor force and to increase their hours worked. Other recipients, who are described as being on the intensive margin – e.g. who are already working --- face the conventional implicit tax rates on additional earnings that are characteristic of means-tested income support programs. There is considerable evidence that workers who are on the extensive margin increase their hours worked in the formal labor market in response to the EITC. Moreover, there is additional evidence that the positive effect on hours worked at the extensive margin offsets (or even more than offsets) the negative work effect for those on the intensive margin. As one website has noted, “(t)hat the EITC generates limited work disincentives is important, as such labor market distortions are one of the principal downfalls of safety net programs and tax policy alike.” (The Century Foundation, 2015).

Taxing Capital Gains³

By using Federal AGI as its starting point, the Connecticut income tax includes capital gains in its tax base. Although long-term capital gains are taxed at preferential rates under the Federal income tax, they are taxed at the same rate as all other income in the Connecticut income tax.

There has been a long-running debate in the tax policy literature concerning whether capital gains should be taxed at lower rates than other income sources. Although supporters and critics of cutting taxes on capital gains agree that lower taxes on capital gains would favor investments that pay out a large share of the total return in the form of capital gains. They disagree about whether such investments should be favored.

Supporters of cutting capital gains taxes point out that it will reduce the double tax on income from corporate equity and also make capital gains assets more attractive compared to assets such as housing, which are taxed very lightly or not at all. Reducing the differential between the taxation of corporate and noncorporate capital, and between housing and other assets tends to allocate capital more efficiently. In addition, supporters of lower capital gains taxes argue that current limitations on deductions for capital losses discourage risk-taking because the government shares fully in the rewards but not the potential losses of risky investments, particularly for entrepreneurs who are not likely to have diversified portfolios. Although the problem is addressed more directly by easing loss limitations rather than by lowering the tax rate, this may not be possible as long as capital gains are taxed on a realization basis. From this point of view, lower taxes on capital gains will encourage savers to

provide venture capital to risky start-up companies rather than to more established businesses.

Opponents respond that lower capital gains taxes encourage investors to prefer investments simply because they pay off in capital gains and to seek out ways of converting ordinary income into capital gains. A capital gains differential also encourages corporations to retain earnings rather than pay dividends, which may result in a less efficient allocation of investment. In addition, a capital gains preference would increase existing incentives to engage in interest-related tax arbitrage as discussed in Steuerle (1985) and U.S. Treasury (1985). Tax-motivated changes in behavior of this type tend to allocate capital less efficiently (U.S. Treasury, 1984).

Opponents doubt that cutting capital gains taxes would significantly encourage risk-taking. They point out that allowing capital losses to be deducted fully against capital gains may provide adequate risk-sharing for those investors with diversified portfolios. Moreover, if risky investments tend to pay off in capital gains, current tax treatment of capital gains already benefits such investments by deferring the tax until the gain is realized. In addition, opponents of cutting capital gains taxes cite data presented by the Treasury (1985) and Poterba (1989) that show a large share of the formally organized funds for venture capital comes from sources who do not pay individual capital gains taxes. Poterba's data suggest that only about 20 percent of organized venture capital comes from individuals, while another 30 percent comes from corporations sensitive to corporate tax rates on capital gains.

Less is known about how the tax system affects ventures in the earliest stages before outside funding is sought, such as when a potential entrepreneur considers starting a new firm rather than continuing to work for an established company. Supporters of lower capital gains tax rates argue that would-be entrepreneurs are deterred by the full taxation of nominal capital gains and limited loss offsets. There is some evidence that tax-sensitive investors may play an important role in bankrolling new enterprises before they seek financing in the organized venture capital market (Treasury, 1985; JACA, 1985). Opponents argue that other factors are more important, such as the unique opportunities presented by technological change, the personal desire to be one's own boss, or the preferential tax treatment of the foregone wage and salary earnings on the entrepreneur's human capital.

Tax Competition with Other States

A final issue has to do with the competitive position of the Connecticut personal income tax vis a vis income taxes in other states, especially neighboring states. Bourdeaux (2015) has provided a thorough discussion of the different ways in which Connecticut taxes compare with other states' taxes

along several dimensions; and Wasylenko (2015) provides a thorough review of the available evidence on the extent to which taxes “matter” in location decisions made by businesses and individuals.

Evidence on the state-by-state competitive effects of taxes can be grouped into three categories: (1) the effects of state level taxation on economic growth in general; (2) the effects of state level taxation on the location decisions of businesses; and (3) the effects of state level taxation on the location decisions of individuals. Two recent papers by Gale, et. al. (2015) and Wasylenko (2015) offer somewhat conflicting evidence on the relationship between state personal income taxes and state Gross Domestic Product (state GDP). Although both studies find that greater reliance on property taxes (as a means of financing basic government services) has a negative effective on the growth rate of state GDP, the studies split on the effect of state income taxes: Gale, et. al. find no statistically significant relationship between more reliance on state personal income taxes, while Wasylenko finds an effect of state income taxes comparable to that of property taxes.

In the case of taxes and business location decisions, the general scholarly consensus is that taxes affect location decisions mainly in an “other things held constant” context. That is, businesses are more apt to consider economic fundamentals, such as availability of labor, transportations costs, and gains from agglomerating with other related businesses, than they are to focus on tax treatment. However, once broad locational decisions have been made --- e.g. to locate in New England, or the Northeastern U.S. --- taxes do become more relevant for choosing where to locate within a regions.

Despite widely publicized stories about individuals choosing to move to states with low taxes, there is little statistical evidence that such behavior occurs on a large scale across states. For example, Bruce, et. al. (2010) finds no statistically significant evidence of an inverse relationship between a states’ personal income tax base and their personal income tax rate. As in the case of business location decisions, there is, however, one cannot rule out the possibility that differential tax treatment may affect individual location decisions along state borders.

Tax Foundation State Business Tax Climate Index

In the case of the income tax, the Tax Foundation’s State Business Tax Climate Index breaks out the income tax as one of its several components, allowing comparisons to be made between Connecticut’s income tax, and the income taxes of other states. As noted by Bourdeaux (2015)

The (SBTI) individual income tax rate sub-index is constructed by using the top marginal tax rate, the top tax bracket threshold, the number of brackets, width of brackets, income recapture, and the standard deductions and personal exemptions

for each state. The base is determined by marriage penalties, capital gains taxation, and several other factors, including whether states have adopted the federal government's definition of income. According to the authors, states that score well on this metric have a single low flat rate, and a base that avoids higher taxation of married couples and recognizes LLCs and S Corp revenues appropriately.

Looking at the component parts of the index, Connecticut's individual income tax standing has slipped between 2012 and 2015. The state's ranking declined from 31st to 34th, as its score dropped by 0.06 points or 1.3 percent, from 4.62 to 4.56. The state's individual income tax component score fares better than New York, New Jersey, Rhode Island and Vermont, and also better than Virginia, North Dakota and Ohio, but it performs slightly worse than Delaware (ranked 33rd), and is strongly outperformed by Massachusetts (13th) and (obviously) New Hampshire (9th) which has a very limited form of income tax.

Comparison of State Average Income Tax Rates

Table 9 below provides additional perspective by listing the main features of income taxes in Connecticut and its neighboring states. Table 10 then presents calculations of the comparative state tax liability for several hypothetical families using commercially-available tax preparation software.

Table 9: Comparison of State Tax Structures: 2014

STATE INDIVIDUAL INCOME TAXES

(Tax rates for tax year 2015 – as of January 1, 2015)

	TAX RATE RANGE		Number of Brackets	INCOME BRACKETS		PERSONAL EXEMPTIONS		
	Low	High		Lowest	Highest	Single	Married	Dependents
CONNECTICUT	3.0	- 6.99	6	10,000 (b)	- 250,000 (b)	14,500 (g)	24,000 (g)	0
DELAWARE	0.0	- 6.6	7	2,000	- 60,001	110 (c)	220 (c)	110 (c)
MASSACHUSETTS	5.15		1	—Flat rate—		4,400	8,800	1,000
NEW HAMPSHIRE	State Income Tax of 5% on Dividends and Interest Income Only							
NEW JERSEY	1.4	- 8.97	6	20,000 (o)	- 500,000 (o)	1,000	2,000	1,500
NEW YORK	4.0	- 8.82	8	8,200 (b)	- 1,029,250 (b)	0	0	1,000
RHODE ISLAND (a)	3.75	- 5.99	3	60,550	- 137,650	3,850	7,700	3,850
VERMONT (a)	3.55	- 8.95	5	37,450 (u)	- 411,500 (u)	4,000 (d)	8,000 (d)	4,000 (d)
DIST. OF COLUMBIA	4.0	- 8.95	4	10,000	- 350,000	1,675	3,350	1,675

Table 10: Comparing Relative Taxes Owed: Married Filing Jointly						
Taxable Income	\$1,000,000		\$510,000		120,000	
	Tax	Rank	Tax	Rank	Tax	Rank
Connecticut	100,500	2	31,318	3	5,859	3
New York	101,678	3	33,863	4	6,272	4
Massachusetts	77,542	1	26,042	1	5,906	1
New Jersey	117,328	4	28,525	2	3,745	2

VII. Conclusion

The personal income tax is the most important source of own-source state revenue in Connecticut. The taxable income base is Connecticut AGI which equals [Federal AGI + Connecticut Additions to AGI – Connecticut Subtractions from AGI]. The additions to Federal AGI mainly consist of income (such interest on tax-exempt debt issued by jurisdictions other than Connecticut) which is exempt from federal tax, but taxable in Connecticut. The subtractions from Federal AGI include items of income that Connecticut is constitutionally prohibited from taxing, (e.g. interest and/or dividends on debt issued by the federal government) as well as all or a portion of Social Security benefits, and all of Military Retirement Benefits.

The Connecticut PIT was assessed against four criteria that are widely used to evaluate the performance of particular taxes: (1) revenue adequacy, (2) tax fairness, (3) ease of administration and compliance, and (4) competitiveness with other jurisdictions. Because Connecticut currently taxes a relatively broad income base, with relatively few individual tax preferences, the Connecticut PIT performs reasonably well against each of the above criteria. Thus, there are no specific changes that would lead to a major improvement in performance. There are, however, a number of areas in which modifications of current practices could yield modest improvements, some of which might prove more significant at time goes on.

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Notes

¹ See Connecticut Department of Revenue Services (2014).

² Single filers with a federal AGI of \$50,000 or less, and joint filers with federal AGI of \$60,000 or less subtract 100% of social security benefits included in Federal AGI. Single and joint filers with incomes above these thresholds subtract 75% of Social Security benefits included in federal AGI.

³ This section is drawn from Auten and Cordes (1991).

Chapter 9

SALES & USE TAXATION IN CONNECTICUT

A Report Prepared for the Connecticut Tax Study Panel
Presented October 27, 2015

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EXECUTIVE SUMMARY

Findings: Basic Structure of the Tax

Connecticut relies less on the sales tax than the national norm, though Connecticut's sales tax dependence is broadly consistent with the region. Connecticut raises 25.0 percent of tax revenues with the sales tax versus 31.2 percent in the average state. Further, approximately 35 states have local sales taxes, which are not employed in Connecticut. The State's standard 6.35 percent sales tax rate is below the median state and local sales tax rate of about 6.9 percent that is imposed across the country. Connecticut's revenue elasticity is likely no more than 0.6, which means sales tax revenues grow much more slowly than the economy. The key reason is that the sales tax base falls relative to the economy over time, a pattern that exists across the country. The sales tax base breadth (defined as taxable sales divided by state personal income) appears narrower than the average state, but this may arise in part as buyers make many purchases out of state or online, since the definitions for what is taxable do not appear unusually narrow. Tax revenue elasticities have also been very volatile over the past ten years, indicating a relatively unstable tax.

Connecticut's sales tax structure is complicated in the sense that policy changes have been relatively frequent and a large number of tax rates are imposed. For example, most states have one or two sales tax rates while Connecticut has seven. Multiple tax rates require decisions both on whether the transaction is taxable and at what rate. The state has also adjusted the rate and the base frequently over the past several decades.

Finding: Intent to Tax Consumption

The sales tax is evaluated here as a levy on consumption in Connecticut. A wide range of 49 exemptions are included in statute to move the tax from a levy on all transactions to a base that is much closer to consumption. A consumption tax is imposed on final household purchases and not on intermediate purchases by businesses. Many of Connecticut's exemptions are for intermediate purchases, including, sales for resale and machinery for manufacturing. Connecticut also exempts sales where the item is shipped out of state, following the logic that the intent is to tax consumption in Connecticut and not sales to out-of-state residents and businesses. Both of these exemptions complicate the tax since they require different tax treatment depending on the purchaser in a transaction, but they are consistent with a tax on consumption and should not be seen as tax expenditures. Connecticut also imposes the use tax in an effort to collect tax on out-of-state purchases for consumption in the state.

As a general rule, intermediate inputs should be exempt from the Connecticut sales tax. Nonetheless, one estimate is that 35 percent of the State's sales taxes are currently collected on business-to-business transactions, which perhaps surprisingly, is a lower share than in many states. Taxation of intermediate purchases raises the cost of doing business in Connecticut, pyramids and therefore changes relative prices that affect consumption decisions, and potentially alters firm behavior through means such as by encouraging vertical integration. On the other hand, tax evasion and higher compliance and administration costs can result if exemption for business purchases is allowed because of the difficulty of determining which transactions are for business purposes. Also, the state would need a revenue neutral

sales tax rate greater than 8 percent if all intermediate inputs were exempt, though the necessary rate could be kept lower by expanding the base to more consumer goods and services. A significant rate increase could be politically difficult to achieve. Connecticut should continue to evaluate areas where intermediate purchases are being taxed to determine whether additional exemptions can be granted. In particular, goods and services that are almost exclusively sold to other businesses, such as employment agencies, should be exempted and exemption should be granted when taxation of transactions significantly alters business operations, through means such as causing firms to bring activities in house to avoid the tax.

Economists generally support taxing consumption as broadly as possible, though some consumption is exempted by states for reasons such as (1) reducing regressiveness of the sales tax, (2) compliance problems with the tax, (3) economic development/growth, and (4) political pragmatism. Nonetheless, these goals are often better achieved using other tax instruments and means. For example, vertical tax equity is better achieved by focusing on the individual income tax where fairness can be targeted to individuals. Allowing exemptions to achieve these other goals harms horizontal equity, requires a higher sales tax rate to raise any given amount of revenue, and changes people's consumption choices. The best policy for generating a specific amount of revenue from the sales tax is normally to tax consumption broadly at a low rate and allow as few exemptions of consumer goods and services as possible. Limiting additional exemptions of consumer purchases is the first step in creating a broad tax on consumption. The next step is to examine current exemptions of consumer goods and services to find areas where the base should be broadened to additional consumption. The report identifies some goods and services that are currently exempted and raises the issue of whether any of these exemptions should be eliminated. Examples are food for human consumption, the sales tax holiday, residential utilities and residential repairs and renovations. Connecticut should also continue to identify means of better imposing sales and use tax on purchases from out of state for consumption in the state.

Finding: Taxing the Changing Economy

The economy is constantly evolving and Connecticut needs to regularly analyze the tax structure to ensure that taxes are being imposed in a consistent, neutral manner. A key principle is that taxes should be levied the same on goods and services that are highly substitutable, regardless of the means or form in which they are obtained. E-commerce is one example, where it is important that tax is collected similarly on remote purchases and in-state purchases. Among the reasons are that in-state firms are disadvantaged, the tax likely becomes even more regressive, and tax rates need to be even higher to raise any given amount of revenue. Constitutional rulings limit the ability to enforce a collection responsibility on remote firms, but Connecticut should continue to seek ways to collect the tax in a more even manner, including working with other states.

The sharing economy is a second example where the goal should be to maintain neutral taxation regardless of the way in which households access or use goods and services. The sharing economy will continue to develop for some years and it is difficult to know all the forms it will take. Connecticut could take some additional steps to ensure similar taxation with the traditional economy, but this area must be monitored and changes made over the years as appropriate. Provision of digitized goods and services is another area where the state must stay current to ensure similar taxation of highly substitutable items,

such as books and e-books. The best ways for businesses to produce goods and services are also in transition and these must be followed and taxes kept consistent to limit impacts on good business practices. Taxes on services provided by a parent company for a partially owned subsidiary are one specific example, though a practical rule must be in place. Another is the provision of refunds for default on private label credit cards. Restricting the taxation of intermediate goods and services will help restrain effects of the sales tax on the ways that businesses operate.

Policy Recommendations

The policy options include several areas where the tax base can be broadened to cover more consumption and narrowed to reduce taxation of business inputs. This list of options is not intended to be all inclusive, but instead to evidence the type of base reforms that should be considered.

Policy Option 1: Reduce the number of sales tax rates. One rate is preferred, though the state may want to levy separate taxes on items purchased heavily by tourists, such as a hotel or rental car tax. A small number of rates is easier to comply with and limits the role that the sales taxes play in determining consumption choices. Connecticut can only have one general tax rate if it joins the Streamlined Sales Tax Governing Board.

Policy Option 2: Impose the sales tax on all food purchases, regardless of whether regarded as part of a meal. Purchases made with food stamps would remain exempt under any policy change. The sales tax is intended as a broad tax on consumption and should exempt as little consumption as possible to allow a lower revenue neutral tax rate and to limit the tax's impact on consumption choices. Tax equity should be achieved using other tax instruments, such as the personal income tax.

Policy Option 3: Eliminate the sales tax holiday. Arguments for this option are similar to Option 2.

Policy Option 4: Broaden the sales tax to more services used by consumers, including residential utilities and repairs to residential real property. Again, the sales tax is intended as a broad tax on consumption and should be structured with a base very similar to total consumption. Broader taxation of services could increase the sales tax elasticity if fast growing services are included in the base.

Policy Option 5: Reduce taxation of intermediate services and particularly employment and computer services. Many intermediate services are currently taxable, which is inconsistent with the intent to tax consumption, except in cases where the final good or service is not taxed. Taxing intermediate purchases raises the cost of doing business in Connecticut, likely alters relative prices as final products have supply chains of different length, and encourages vertical integration or bringing certain production in house. On the other hand, exemption of intermediate services requires a determination of whether the buyer is a business or a final consumer. Employment and most computer services are likely purchased only by other businesses.

Policy Option 6: Legislate a less stringent ownership rule for exemption when services are sold between a parent and a subsidiary. Tax should not be imposed on business-to-business transactions. Exemption is particularly important in cases where business behavior is altered by tax treatment and sales between related companies could be limited by taxing the sales. Current practice limits exemption to cases in which the parent owns 100 percent of the subsidiary, which is a high

standard and may limit efficient business practices. The parent should have substantial control and ownership of the subsidiary for this exemption, which suggests at least 50 percent ownership.

Policy Option 7: Eliminate the exemption for sales to not-for-profit organizations except when the purchases are used to produce goods and services that are sales taxed when provided to beneficiaries, or add a requirement that the organizations meet certain criteria evidencing that their work is in the public interest. Purchases by not-for-profit organizations should be exempt if the inputs are producing sales taxable final products, as should also be true for the for-profit sector. Exemption for other purchases that are not available for the for-profit sector subsidizes the buyers without any explicit decision on whether the use is in the broad public interest, encourages businesses to become part of the not-for-profit sector and narrows the tax base which requires higher tax rates.

Policy Option 8: Impose the sales tax on sales to government entities. Exemption for government purchases or sales subsidizes the public sector relative to the private sector. The after tax cost of purchasing inputs should be the same for both sectors so that decisions are made while facing the same relative prices.

Policy Option 9: Levy the sales tax on sales by government in cases where the public activities compete with the private sector. See Policy Options 7 and 8.

Policy Option 10: Join the Streamlined Sales Tax Governing Board. Connecticut should continue to seek ways to ensure that sales and use tax revenues are collected on sales from out of state vendors to Connecticut residents. This helps level the playing field between out-of-state and in-state vendors thereby improving the Connecticut economy, increasing the horizontal equity of the tax, and increasing the revenue elasticity. Other means of improving collection of tax on purchases from out-of-state should also continue to be sought out.

Policy Option 11: Connecticut should continue to investigate and where possible legislate a more expansive definition of nexus. Good sales tax policy collects tax on remote sales to Connecticut residents. Collection from vendors is much more effective than through use tax compliance by buyers. The State should aggressively seek to use sellers to collect the tax wherever possible because few options are available for enhancing collection through buyers.

Policy Option 12: Use companies organizing the sharing economy for enforcement and remittance of the sales tax. Sales tax compliance should be organized to limit compliance and administration costs. Organizing companies such as Airbnb and Uber are in a better position to remit the tax sales tax than are individual service providers such as Uber drivers and homeowners.

Policy Option 13: Tax digitized downloads for consumption, such as books, video and music at 6.35%. Highly substitutable forms of consumption should be taxed similarly, so the digitized versions and the physical items should be taxed the same. This enhances vertical and horizontal equity, helps maintain the sales tax base, and creates a level playing field between the digitized and physical providers. The tax may be difficult to enforce on some vendors since they may not have physical presence in Connecticut. Difficult decisions may also be required to make determinations of what are taxable sales.

Policy Option 14: Ask the Department of Revenue Services to carefully review the sharing economy to ensure that consistent taxation is occurring between the sharing and digitized economies and traditional economy. Enact legislation where necessary to ensure that neutral taxation is occurring. The sharing economy should be taxed similarly to the traditional economy,

particularly to the extent that they are highly substitutable, so that the two sectors are placed on a level playing field. The sharing economy is still developing so that it is early to make comprehensive decisions on the details of how to tax the entire sector. A comprehensive analysis should be conducted by the Department of Revenue Services over the next year to articulate current practice and appropriate changes.

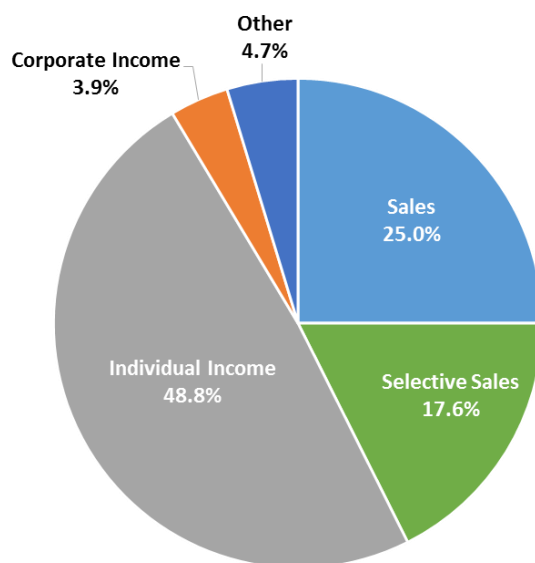
Policy Option 15: Allow a refund for the included sales tax when private label credit cards were used to finance a purchase that becomes a bad debt. The sales tax is intended to be imposed on paid consumption. The goods and services are obtained in cases where no payment takes place, such as home production or theft, but the sales tax is not collected. Default on private label credit card debt is another case where payment is not made and the State should not keep the sales tax. By statute, the tax is remitted by the vendor when the credit card is used for payment but the vendor and its associated financial institution are not provided with a refund. The firms lose the purchase price of the product but also effectively become the guarantor of the sales tax unless refund is made. This places the vendor at a disadvantage relative to other firms and potentially alters decisions on how credit cards are to be offered.

SALES TAXATION IN CONNECTICUT¹

I. INTRODUCTION

Connecticut is one of 45 states that employs a sales tax as a source of state tax revenue, having initiated the tax in 1947. The sales tax generated \$3.98 billion in 2014, or 25.0 percent of the state's tax revenues (see Figure 1). Connecticut's reliance on the sales tax is low on national standards though approximately the norm relative to the region (Figure 2). Sales taxes provided 31.2 percent of tax revenues in the average state.² Connecticut's use of the sales tax is in the middle of the region. Maine, Rhode Island and New Jersey generate a larger share of state tax revenue from the sales tax, and Massachusetts, New York, and Vermont raise smaller shares. New Hampshire is one of the five states with no sales tax.³

Figure 1: Percent Distribution of Connecticut Taxes



Source: <http://taxadmin.org/fta/rate/14taxdis.html>

Economists use the concept of revenue elasticity to describe the relationship between revenue growth and economic growth. The elasticity is simply the growth rate in tax revenues divided by the growth rate in the economy (often measured by state personal income). Revenue elasticities differ over the long term

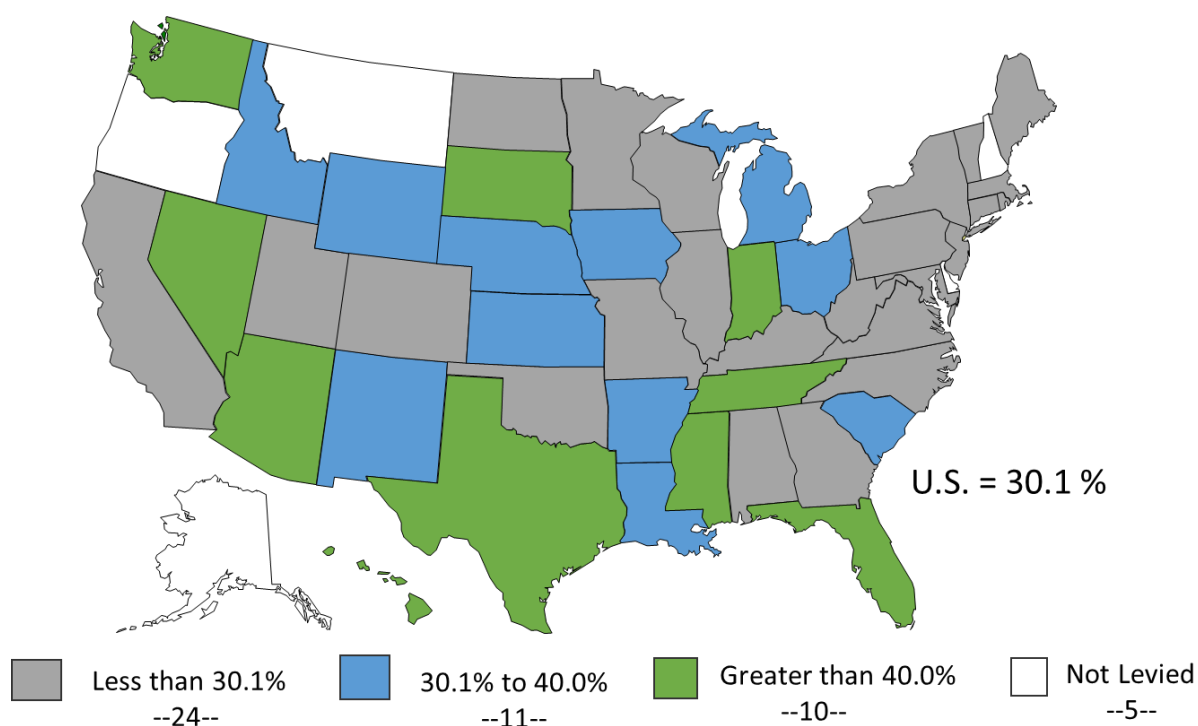
¹ The author is very grateful to Susan Sherman and other staff in the Department of Revenue Services and Office of Policy and Management for very detailed and helpful comments on an earlier draft of this paper. The author is responsible for all remaining errors.

² See <http://www.taxadmin.org/fta/rate/14taxdis.html>

³ Alaska, Delaware, Montana, New Hampshire, and Oregon do not have a state sales tax.

and short run. Sales tax revenues have grown at a modest compound annual 2.4 percent over the past decade. The growth rate is an even slower 1.8 percent when effects of the 2011 rate increase are adjusted out (even without accounting for base expansions that have occurred). By comparison, Connecticut's state personal income rose 3.3 percent annually over the past decade. Thus, a simple calculation of the rate adjusted revenue growth suggests a long run revenue elasticity of 0.57, which is very low. To make matters worse, the annual elasticities vary widely, ranging from negative calculations in three of the past 10 years to elasticities over 1 in others, suggesting considerable volatility in sales tax performance. The elasticities were particularly low in many years until 2010, and have been better during the past four years though this may be affected by the various base expansions. Bruce, Fox and Tuttle (2006) found higher revenue elasticities for Connecticut using a more sophisticated approach, but their work used data proceeding the decade applied for the above calculations.

Figure 2: State General Sales Taxes as a Percent of Total Taxes, 2013



This report to the Connecticut Tax Study Panel investigates six key aspects of the State's sales tax following this introduction. After this introduction, the report discusses the sales tax structure, including the sales tax rate and breadth of the sales tax base. Each is considered in the context of good sales tax policy and the sales taxes levied in other states. Third, some options for improving the tax base are addressed. Fourth, issues associated with taxation of remote sales, and particularly e-commerce, are discussed. Approaches used by states to address problems with collecting tax due on remote transactions are described and evaluated. Fifth, several topics related to the changing economy including taxation of the sharing economy and treatment of bad debt associated with private label credit cards are considered. Finally, how the sales tax affects economic activity is discussed.

II. TAX STRUCTURE

This section discusses Connecticut's sales tax rates, sales tax base and use tax. Each is placed in the context of sales taxes in the nation and the region.

Tax Rates

Connecticut imposes seven sales tax rates (including the admissions and dues tax), not including the 0 percent rate. Thirty-one states have more than one sales tax rate, including Maine, New York and Rhode Island, but the extent to which Connecticut has multiple tax rates is unusual and few if any states have as many as seven tax rates. Connecticut's standard rate has been 6.35 percent since July 1, 2011. In addition, a 15.0 percent rate is levied on hotel rooms;⁴ 9.35 percent rate on the rental of motor vehicles for 30 or less calendar days; 10.0 percent for admissions (6.0 percent for movie theaters);⁵ 7.75 percent for vehicles costing more than \$50,000, other luxury items such as jewelry costing more than \$5000 and clothing and footwear costing more than \$1000; 4.5 percent for the sale of a motor vehicle to a non-resident member (or family member) of the armed forces stationed in the state; and 1 percent on computer and data processing services.⁶ Connecticut's standard sales tax rate rose several times in the 1980's. The rate was 7 percent in 1980, 7.5 percent from 1981 until 1990 when it reached 8.0 percent. It was reduced to 6.0 percent when the personal income tax was adopted in 1992 and stayed at that level until 2011.

Connecticut's choice of rates appears to have several different motivations. One is intent to reduce regressiveness of the tax (such as the higher rates on certain luxuries and admissions). The rates also appear to be influenced by the intent to tax tourists more heavily (rental car and hotel rates) and by efforts to limit taxation of certain business purchases (computer tax rate).

The presence of multiple tax rates potentially raises compliance costs for vendors and creates confusion for buyers. Imagine a car dealer that needs to remit sales tax at one rate for low priced cars, a different rate for high priced cars, a third rate for cars purchased by non-resident military families, and then have the rate associated with parts and repairs. Other vendors, such as hotels, may also be subject to multiple tax rates. Indeed, individuals remitting the use tax (see below) may need to make payments at more than one tax rate.

Also, the high rate on expensive jewelry and clothing may not achieve the intended objective of taxing high income residents more heavily. It may expand out of state purchases of these items, and have less impact on sales tax revenues than would otherwise be anticipated. Further, multiple tax rates reduce the transparency for taxpayers who are unlikely to understand the large number of different tax rates with which they may be confronted. Finally, Connecticut would need to reduce the number of sales tax rates if it is to join the Streamlined Sales Tax Governing Board (see below). One rate is preferred, though the state may want to levy a separate tax on items purchased heavily by tourists such as a hotel or rental car tax.

⁴ Many other state or local governments add a separate hotel tax rather than impose a higher sales tax rate.

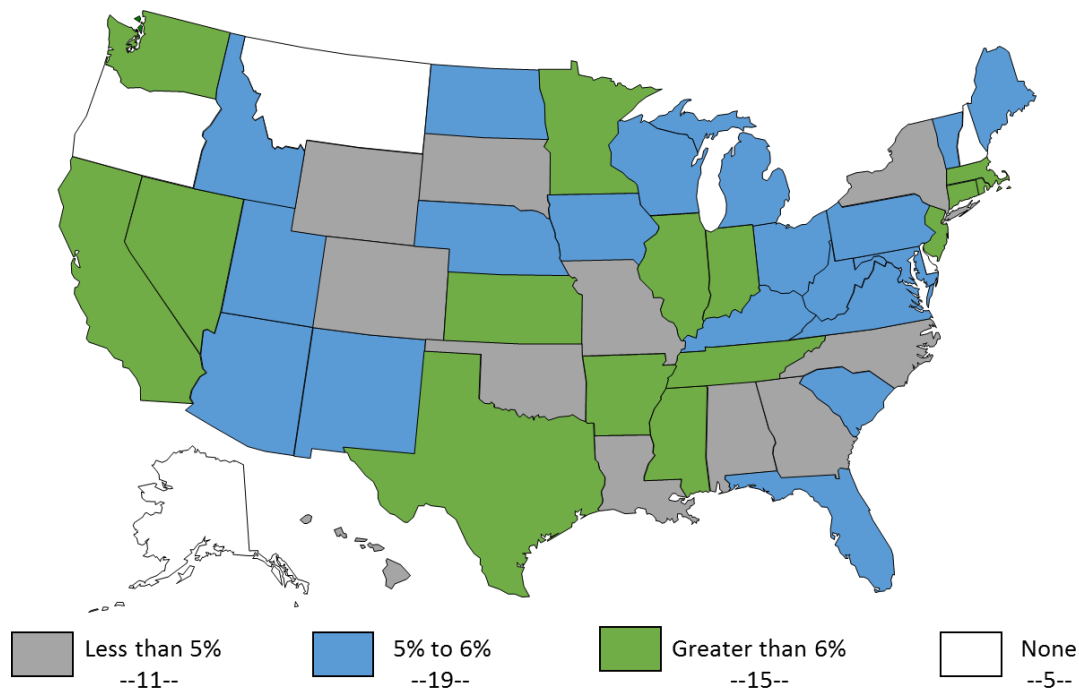
⁵ Admissions and dues are actually subject to the admissions and dues tax.

⁶ Legislation to increase the rate on computer services from 1 to 3 percent was recently repealed. Other recent changes include expanding the taxation of computer and data processing services to include creation, development, hosting, and maintenance of an Internet website and retaining the use tax exemption for computer services. See Teresa Callahan, *State and Local Taxes Weekly*, 07/06/2015.

Policy Option 1: Reduce the number of sales tax rates. One rate is preferred, though the state may want to levy a separate tax on items purchased heavily by tourists such as a hotel or rental car tax.

Connecticut's 6.35 standard sales tax rate is slightly above the median state rate of 6.0 percent, and is essentially the median rate for the region (see Figure 3). Local sales tax rates are also levied in at least 35 states, though on average they generate only about 11.7 percent of local revenues. New York is the only state in the region where significant local sales taxes are collected. The national median combined state and local sales tax rate is about 6.9 percent, above the rate levied in Connecticut. Several neighboring states tend to have similar tax rates, with Rhode Island at 7.0 percent and Massachusetts at 6.25 percent. The average combined state and local rate in New York is 8.45 percent.⁷

Figure 3: State Sales Tax Rates as of January 1, 2015



⁷ See <https://thestc.com/strates.stm>

Connecticut's Sales Tax Base

Approximately one-third of states levy their sales tax on buyers (though normally collected by sellers), one-third levy their tax on sellers, and the others use a mix of the two approaches.⁸ Connecticut imposes the sales tax as a privilege tax on retailers, lessors, and service providers, using gross receipts as the measure of the base. Sellers are entitled to add the tax to the purchase price and collect it from buyers.

Quantifying Connecticut's Sales Tax Base

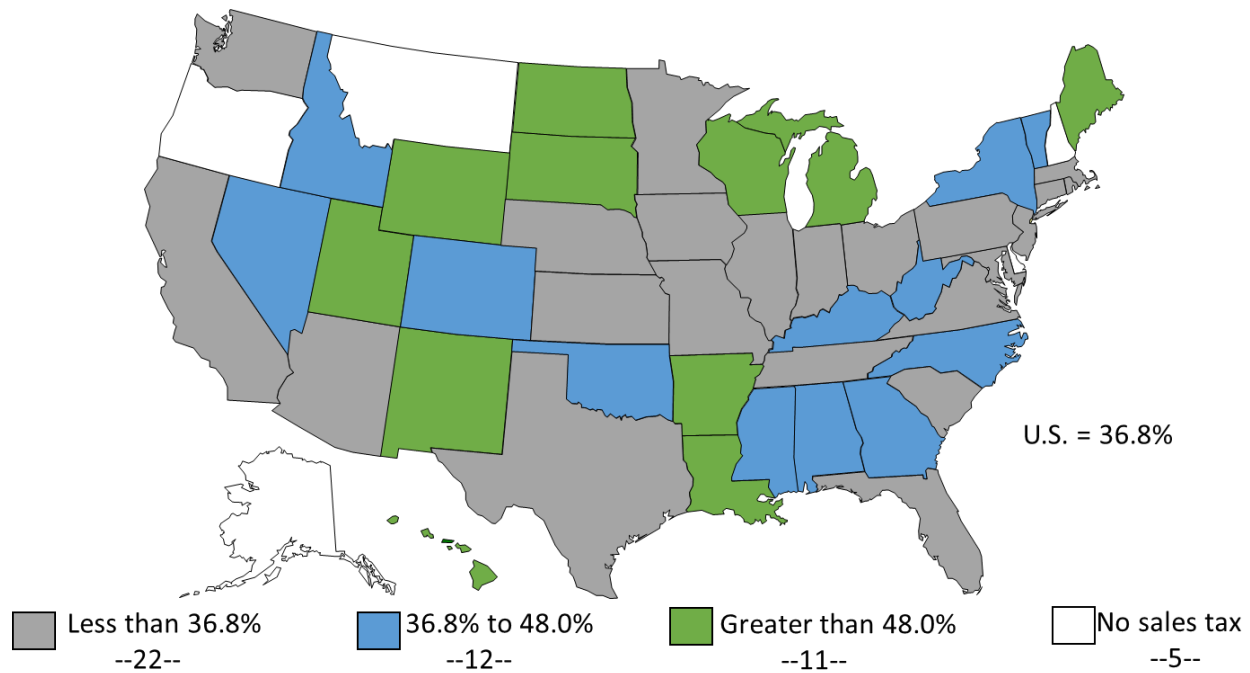
The character of every tax is determined by defining the set of taxable transactions. Comparing sales tax base breadth across governments is difficult because of differing consumption patterns, a very wide range of goods and services on which the tax can be levied, divergent definitions of specific goods and services in statutes, and so forth. The sales tax base as a percent of personal income is one comprehensive measure of the sales tax base breadth that accounts for both the size of the economy and sales tax characteristics. Connecticut's base was 27.9 percent of personal income in 2012.⁹ The sales tax base as a percent of personal income has been falling in recent years. For example, Connecticut's base was 35.1 percent of personal income in 1990 and rose somewhat to 40.5 percent in 1999, but has fallen nearly every year since. Sales tax bases in other states have also generally shrunk over the past 35 years so this is not unique to Connecticut. Some explanations for the narrowing sales tax bases include legislative actions that have narrowed the set of taxable transactions, movement of consumption away from goods and towards services (many of which are not taxable, such as health care), and the shift of transactions towards remote commerce. For example, services represented 47.4 percent of national consumption in 1979 but had risen to 66.2 percent by 2012.

Connecticut's sales tax base calculation of 27.9 percent is smaller than the average states' 36.8 percent, suggesting a somewhat narrower base than national norms (see Figure 4). At the same time, Connecticut's taxation of services is more expansive than the average state's (see discussion below). This may be suggestive that Connecticut consumers make relatively more of their purchases in other states or online where the sales tax is not collected, because the calculation measures the collected sales tax base and not the legislated sales tax base. Some states, such as Hawaii (with a base over 100 percent of personal income), South Dakota and New Mexico have sales tax bases that are much broader than national norms. The northeast generally has narrow tax bases since all states except Maine, with a 38.7 percent ratio, have a narrower tax base than Connecticut's. Vermont has the narrowest base at 19.9 percent. The specifics of what is included in the bases can vary significantly across governments regardless of the apparent expansiveness of the base and this is discussed in more detail below.

⁸ See Due and Mikesell (1994).

⁹ The sales tax base is proxied by dividing sales tax revenues by the standard sales tax rate. Multiple tax rates and late payments are among the reasons why this calculation differs to some degree from the actual base.

Figure 4: State Sales Tax Base as a Percent of Personal Income, 2012



Connecticut's Sales Tax Base Calculations

The actual sales tax base for a business in Connecticut is measured by adding its gross receipts plus its expenditures for items on which its suppliers will not remit the sales tax. Thus, companies doing business in Connecticut begin their sales tax calculation by totaling their gross receipts from the sales of goods, leases and rentals and labor and services (see Form OS-114). Use tax related expenditures are added to this total. A wide range of 49 deductions is permitted from these totals in the sales and use tax return. Some deductions are for intermediate purchases by businesses including:

- sales for resale¹⁰
- large trucks
- machinery used for manufacturing, commercial printing or publishing
- vessels and machinery used for commercial fishing
- some labor and services
- services between wholly owned business entities
- repair services.

¹⁰ Services must be for resale of a taxable service and must be an integral part of the resold service.

Businesses are also able to deduct sales to certain buyers including:

- out of state sales
- sales to charitable or religious organizations
- sales to federal, Connecticut or municipal agencies.

Further, receipts associated with certain types of sales are deducted including:

- food for human consumption
- prescription drugs
- trade-ins
- college textbooks
- renovation and repair to residential real property
- sales of electricity, gas, and heating fuel to residences
- aviation fuel.

In addition, cases where a sale may be deemed as never to have occurred, such as returns within 90 days of purchase, are not included as taxable sales. This provision allows sellers to adjust their return to exclude these sales and does not operate as an exemption.

The Connecticut Department of Revenue Services *2013-14 Annual Report* lists the value of exemptions that businesses take based on Connecticut Gen. Stat 12-412. These exemptions totaled \$239.2 billion from the base defined at 6.35 percent tax rate and \$4.4 billion from the base defined at the 7.0 percent rate. The Department concluded that this reduced revenues by \$15.6 billion, nearly four times greater than the actual collections.

It is important to recognize that most of these exemptions are appropriate to establish the sales tax as a levy on consumption and are not forgone revenue relative to the proper sales tax base. Over 70 percent of the exemptions fit in two broad categories where tax should not be imposed. Approximately \$106 billion of the exemptions are for business-to-business sales and should be exempt. Sales for resale are a large part of the exemptions, but there are many others, such as machinery and sales of tangible property to farmers. Also, about \$66 billion of the exemptions are for sales of goods and services and labor and rentals out of state. Combined, these two sets represent about 72 percent of the total reported by the Department of Revenue Services. Both sets of exemptions are consistent with the intent to impose a tax on Connecticut consumers.

Use Tax

This report generally treats the sales and use tax as one tax, but this section is an exception by providing some detail about the use tax. The sales tax is generally evaluated as a tax on consumption and to achieve this objective states must tax transactions at their destination and not at their origin. This has several implications. First, sales of items shipped out of Connecticut should be exempt from the State's

tax, and this is achieved with the exemption mentioned in the previous section. Second, out-of-state purchases should be subject to Connecticut's tax, and this is the purpose of the use tax.

Connecticut and all sales taxing states levy a corresponding use tax, which imposes tax when sales tax has not been collected by Connecticut or another state or is collected at a lower rate in another state. Specifically, the tax is on "the storage, acceptance, consumption, or any other use in Connecticut of tangible personal property purchased from any retailer; the acceptance or receipt of tangible services; and the storage, acceptance, consumption or any other use in Connecticut of tangible personal property that has been manufactured, fabricated, assembled or processed from materials by a person, either within or outside the state."¹¹ Purchases are exempt from the use tax if they are exempt from the sales tax. The use tax liability is the difference between the tax paid to another state and the Connecticut liability if tax was paid to a state with a lower tax rate. The Sales and Use Tax Return allows firms to include goods, leases and rentals and purchased services on which the use tax is due. Individuals can include their use tax liability with their income tax return or may submit the liability with a separate form. This is discussed further below. Connecticut collected about \$256 million from business use taxes in 2014.

The use tax is generally levied at the same rate as the sales tax. Use tax may be imposed at 1%, 6.35% or 7.75% depending on the transaction.

The best evidence is that use tax compliance is very poor relative to other state and local taxes. The State of Washington undertook random audits of a wide range of businesses every two years from 1996 to 2010 and found that noncompliance with the use tax is the greatest of any state tax paid by business, at between 23 and 25 percent.¹² Consumers are believed to have much lower compliance with the use tax except for items that must be licensed such as vehicles. Low use tax compliance explains much of the revenue loss from e-commerce that is discussed below.

Guidelines for Defining the Sales Tax Base

As noted above, the taxable base determines the character of every tax. Economists evaluate sales taxes as levies on consumption, but actual sales taxes often deviate from the standard in a number of ways as will be discussed here.¹³ Characteristics of a broad consumption tax are:

- All household purchases should be taxed. All purchases of goods and services by households are consumption and belong in a consumption tax base.¹⁴
- The tax should be imposed regardless of the vendor. Sales tax should be collected on the sales of both for profit and not-for-profit entities if the goal is to tax all consumption since the tax is intended to be on the consumer rather than on the seller. The argument then is that subsidies for not-for-profit vendors, should they be desired, could be legislated directly through the appropriations process and not through tax subsidies.

¹¹ See Commerce Clearinghouse State Tax Guide, 41,101.

¹² See for example http://dor.wa.gov/Docs/Reports/Compliance_Study/compliance_study_2010.pdf

¹³ Robert Cline, Andrew Phillips and Thomas Neubig, (2013) estimate that only 24 percent of consumption is taxed. Sales tax bases are generally larger shares of personal income because many business inputs are also taxed.

¹⁴ Durable goods consumption is spread over multiple years so an adjustment could be made for the timing of when consumption occurs relative to when the item is purchased, but this adds significant compliance difficulties.

- The tax should be imposed regardless of how the purchase is consummated. The tax should be levied on all purchases to be consumed in Connecticut regardless of whether purchased in Connecticut, bought via cross border shopping, or purchased via the Internet or mail order. The mode of purchase does not alter whether the purchase is for consumption.
- Tax should be imposed on consumption in Connecticut, meaning taxes should be levied on items brought into the state for consumption and out-of-state sales should be exempt.
- The tax should *not* be levied on any business-to-business transactions. Businesses purchase to produce and do not consume (even if the input is used up in the production process). Households purchase to consume and do not produce.¹⁵

This ideal consumption tax system offers many advantages. The broad base permits a low rate for any given amount of revenue to be raised.¹⁶ Further, it spreads the tax burden evenly across all consumption so that taxes are levied in proportion to consumption. The consumption tax structure has no effect on the relative prices of different goods or services so it does not encourage the purchase of one set of items relative to another. Further, the taxes would not alter business behavior.

Other Goals for Setting the Tax Base

No state fully follows the consumption tax prescription for a series of political, administrative, fairness, and economic reasons. For example, all states tax many business purchases and exempt a number of consumer purchases (with the possible exception of Hawaii). Many allow exemption for certain purchases by or sales by not-for-profits. The ability to impose tax on remote sales and cross border sales is limited by Constitutional restrictions and administrative feasibility, and so forth. Still, the criteria listed above are a standard against which Connecticut's tax structure can be compared.

A series of goals may cause states to narrow their sales tax base relative to a tax on all consumption. Several of these are briefly discussed below.

Fairness. Fairness is an important goal in setting tax structures. Connecticut's sales tax, as in all states, is regressive, particularly when measured against current income. For example, the Institute for Taxation and Economic Policy found that in 2015 households in the lowest 20 percent of the income distribution pay 4.6 percent of income in general sales taxes and households in the upper 1 percent pay 0.6 (see Figure 5).¹⁷ The Department of Revenue Services also analyzes incidence of the sales and use tax relative to current income (measured by Adjusted Gross Income).¹⁸ The tax is found to be regressive, with households in the lowest decile paying 5.81 percent of income in sales taxes, households in the 5th decile paying 1.56 percent of income in sales taxes, and those in the top decile paying 0.17 percent. The study concludes that the average household pays 1.7 percent of income in sales taxes.

¹⁵ Of course, self-production occurs in households when they perform services that they otherwise would purchase. Sales tax is seldom imposed on these activities, though it may be levied on inputs used in the production (such as paint for the walls, etc.).

¹⁶ Of course, taxation of intermediate inputs also allows a lower tax rate, but creates other problems. See below for further discussion.

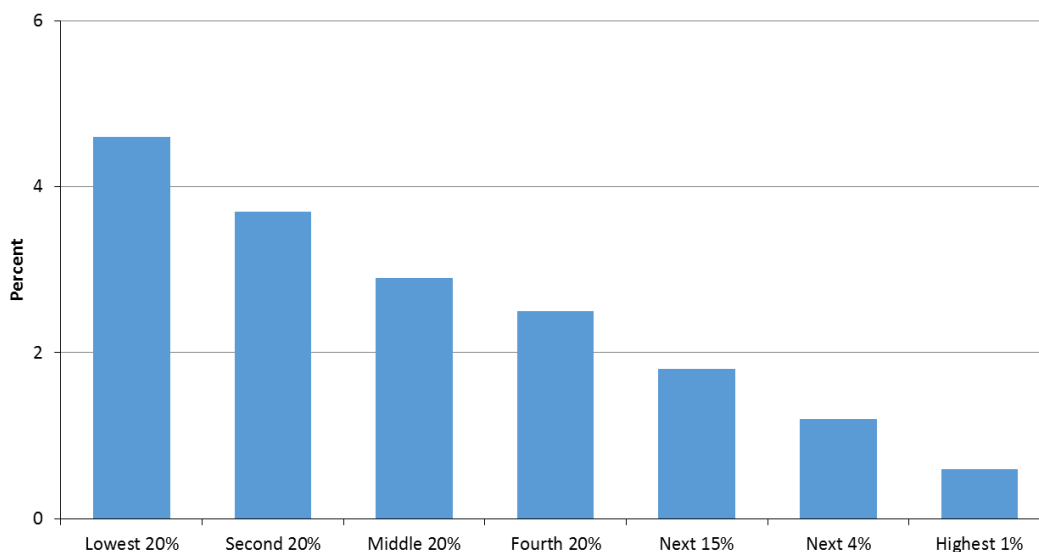
¹⁷ See <http://www.itep.org/pdf/whopaysreport.pdf> The analysis assumes full forward shifting of the sales tax to consumers and attempts to account for both tax on intermediate inputs and on final sales to consumers.

¹⁸ See "Connecticut Tax Incidence," Connecticut Department of Revenue Services, December 2014.

The regressiveness of sales taxes arises from several factors including: (1) failure to tax some purchases, such as professional services, that may not be as regressive in consumption, (2) very high consumption relative to income for households at the bottom of the income distribution, and (3) higher savings relative to income by higher income households.

Also, the tax structure is less regressive when the tax is compared with lifetime income rather than current income (as is done in the ITEP report).¹⁹ The idea is that some of the sales tax's regressivity arises because households are being evaluated at different times in their life cycle. Younger families may have high spending relative to their income (regardless of their income) as they equip a house and make purchases for their children. And, their incomes may be relatively low as they are early in their careers. These very same households may have relatively lower sales tax payments later in life as less additional expenditures are required to furnish the home and the children have grown up. At the same point the household's income may have risen. The regressivity in this case is associated partly with life cycle and not with household wellbeing. Lifetime income is a measure of what households can expect to earn in some average sense over their life and helps distinguish between differences based on stage of life and on overall income.

Figure 5: Sales Tax as Percent of Family Income, 2015



Source: ITEP.

Connecticut appears to be using two approaches to reduce regressivity – exempting items purchased more heavily by low income households and imposing higher rates on items purchased more frequently by upper income households. ITEP's and the Department of Revenue Services' estimates indicate that fairness is not achieved if the intent is to avoid a regressive tax. It is difficult to target fairness objectives with the sales tax because the tax is collected by vendors when transactions take place and not from

¹⁹ See Fox (2006) for discussion of differences in incidence between current and lifetime incidence.

means-tested buyers. Exempting food for consumption at home, for example, offers some tax reduction for low income households, but their purchases with food stamps would already be exempt because of federal policy. In all likelihood, relatively more of the actual tax reduction accrues to higher income households and tourists. Neither of these groups is likely the target of the exemption. Higher tax rates on luxury goods may reduce regressivity, but it may lead to more online purchases or cross border shopping where the tax often cannot be collected, meaning the intended objective is not achieved.

Presumably fairness goals are focused on overall tax payments relative to income rather than on the liabilities associated with specific taxes, such as the sales tax. This perspective allows the income tax to be used to achieve the desired overall tax fairness without distorting the sales tax structure with intent to improve equity. Income tax liabilities can be structured directly on the household and its overall demographics rather than using a poorly targeted sales tax change to achieve the goals. Difficulties of using the sales tax exemptions to improve equity are discussed more below in the section on exemption of food.

Limit effects of taxes on the location of production and sales. Some types of consumption can be difficult to tax because of evasion/avoidance through cross border shopping in Massachusetts, New York or another nearby state or by shopping on the Internet. Such concerns always exist, but the relatively small size of Connecticut and the nearness of several other states enhance the problem. The use tax is due on many of these purchases but Connecticut's capacity to enforce the tax is limited, particularly on individuals. Many large ticket items are easily purchased outside Connecticut and shipped in for use without the tax being collected. Services produced from outside Connecticut and items purchased online are examples where tax avoidance may be particularly easy and where attempts to tax the class of goods or services could significantly harm economic activity located in the state because the tax can only be collected on sales of these items when purchased from in-state sellers. In the extreme the tax could only be collected from domestic firms, making it hard for Connecticut firms to compete inside the state. Thus, the capacity to evade tax by purchasing elsewhere, and the resulting negative effects on production in Connecticut, must be taken into account when selecting the tax base. At the same time, this argument can be used as an excuse to tax favor certain businesses or industries, so considerable care must be taken in allowing exemptions for this purpose.

States are often inclined to exempt certain goods and services to encourage their production and purchase in the state. Sales tax holidays are such an example but the case is often made for exempting other goods and services as well. States are generally better off avoiding efforts to engineer economic performance by tax favoring one industry and set of products relative to another. Sales tax holidays are unlikely to achieve an improvement in the state's economy and are discussed more below. The tax can become a levy on consumption purchased from Connecticut producers because the tax is not collected on sales out-of-state or on purchases from out-of-state. The general approach should be on keeping the base broad by enforcing the tax on purchases from out of state. Exemptions should be considered in only the most extreme cases where production in Connecticut becomes a large problem.

Related exemptions are also given to encourage particular behaviors. Exemptions are given for purposes that the legislature wants to encourage, of which the exemption for weatherization purposes is an example. The other side is when higher tax rates are legislated to discourage consumption, such as is done with tobacco products and has been talked about in other states for sugary drinks. Even in cases where broad agreement might exist that the encouraged expenditure is laudable, such exemptions narrow the tax base and require a higher revenue neutral tax rate. Such policies also shift the tax system from its main purpose of raising revenues to regulatory functions.

Keep compliance and administrative costs low. Compliance and administration costs could be very high in collecting the tax on some goods and services. For example, some services are produced by very small providers or the costs of separating business buyers from consumers could be high. On the other hand, exemptions often require decisions on taxability based on the buyer (not-for-profits and governments), the use of the product (food versus meals), or location (in-state and out-of-state). As a result, exemptions raise the compliance and administration costs and expand the opportunities for evasion or misreporting of the taxability of transactions.

Relatively little is known about sales tax compliance costs but some data are available from PriceWaterhouseCoopers (2007), which estimated that sales tax compliance costs were 13.5 percent of tax revenues for small retailers, 5.2 percent for medium retailers, and 2.2 percent for large retailers. Bruce and Fox (2013) find the vast majority of e-commerce firms are small, suggesting significant compliance costs for these firms. These may not be sufficient reasons to exempt transactions, but are arguments for care in designing the structure.

III. ALTERNATIVES FOR IMPROVING THE TAX BASE

This section discusses some changes to the tax base that would make it more consistent with the consumption standard provided above. These include eliminating exemptions for certain consumer goods and services and some possible changes in the base to reduce taxation of business purchases. Expanding the base to currently exempt buyers is also addressed. The section does not raise all possible reforms, but discusses reforms by example. The tax base must be routinely re-evaluated because the economy is evolving and types and forms of consumption are changing.

Reducing Exemption of Goods

Connecticut's base is narrow on consumers compared with the standard described above and could be expanded. At the same time, it taxes some intermediate purchase and could be narrowed further on business purchases. Further, Connecticut's tax base has been shrinking over time as consumers purchase more non-taxable services and more remote purchases and when more exemptions are legislated. Several strategies can be used to reverse the pattern of narrowing tax bases. The first strategy to ensuring a good tax base is to avoid the seemingly continuous process, at least in some states, of expanding the set of exemptions. Thus, an important way to keep the base broad before worrying about potential expansions is to avoid new exemptions of consumer goods and services. Exemption of the tax on food was enacted in many states during the past decades and several states have expanded their exemptions for clothing in more recent years. This does not mean that no further exemptions should be granted, but further exemptions should be based on the criteria listed above (and the additional criteria below).

Second, Connecticut can broaden its base by either eliminating exemptions for consumer goods or identifying additional services to tax. This is not an argument for bigger government. A broader tax base with lower tax rates is very good policy, even if revenues are held constant. Economists generally lean towards taxing the broadest set of consumption purchases (as in the criteria above) at the lowest rate, but other factors, such as administrative and compliance capacity, should be considered in the detailed decisions on what to tax. Thus, decisions on whether to expand the base often must be made on a case-by-case basis rather than applying across the board determinations regarding whether each category of goods

and particularly services should be taxable. Ultimately, the best structure requires judgments that may vary across governments and these judgments often lead to structures that differ from a true consumption tax. Connecticut defines its base with a limited set of exemptions for goods purchased by individuals that has the effect of reducing taxation of consumption. Two examples of such exemptions are given to illustrate how the base could be expanded. Of course, such expansions can often be politically difficult to enact. Other exempt goods include prescription and non-prescription drugs, children's car seats, motor fuel, and residential weatherization products.

Food for Consumption at Home

Connecticut, like 31 states, exempts food for consumption at home from the sales tax.²⁰ In Connecticut the general approach is to exempt food but then impose the tax on certain meals.²¹ The exemption results in a narrower tax base, higher rates for any given amount of revenue that is raised, and additional volatility in revenues collected (since consumption of food is more stable than overall consumption). The exemption also requires decisions on what food constitutes a meal and is taxable or is exempt. The Department's Annual Report indicated that \$402.7 million was forgone by exemption of food. Of course, the actual potential revenue gain from expanding the base may be smaller since some people may choose to shop in neighboring states or to make some purchases online if Connecticut chose to tax food for consumption at home.

Exemption of food is normally justified on vertical equity grounds – to keep low income people from bearing tax on necessities – and because of the political benefits of granting exemptions. However, the benefits of exempting food are very poorly targeted to low income households since all households, including tourists, benefit from the lack of tax. Exemption of food only makes the sales tax less regressive to the extent that low income households spend a larger share of their income on taxable food than high income households. Many low income households receive food stamps, which are exempt throughout the country based on federal policy meaning the state exemption does not provide additional benefits for low income households buying food in this fashion. Further, much of the other tax savings accrues to higher income households or non-residents when they purchase food in Connecticut. Food could be taxed and low income households compensated with credits against the personal income tax (which in practice is a reduced income tax for lower income households not a sales tax exemption) or a smart card could be provided to low income households to use as payment of sales tax on food purchases. Exempting food for consumption at home raises compliance and administration costs since it requires additional decisions to be made. No neighboring state taxes food, so Connecticut retailers would be placed at a disadvantage relative to its neighbors if food was taxable.

Exempting food creates a number of undesired distortions and costs. For example, horizontal equity is likely worsened since households with the same level of consumption pay more tax if they purchase meals as opposed to food. Decisions must be made on what are taxable meals and what is exempt food. Purchasing meals is discouraged, which harms restaurants and others while food purchases are encouraged. A higher tax rate is required to generate any given amount of tax revenue, which creates many distortions such as encouraging more efforts to buy out-of-state without sales tax included for items that remain taxable and to purchase non-taxable items in-state.

²⁰ See <http://www.taxadmin.org/fta/rate/sales.pdf>

²¹ Alcoholic beverages are specifically excluded from this exemption in Connecticut.

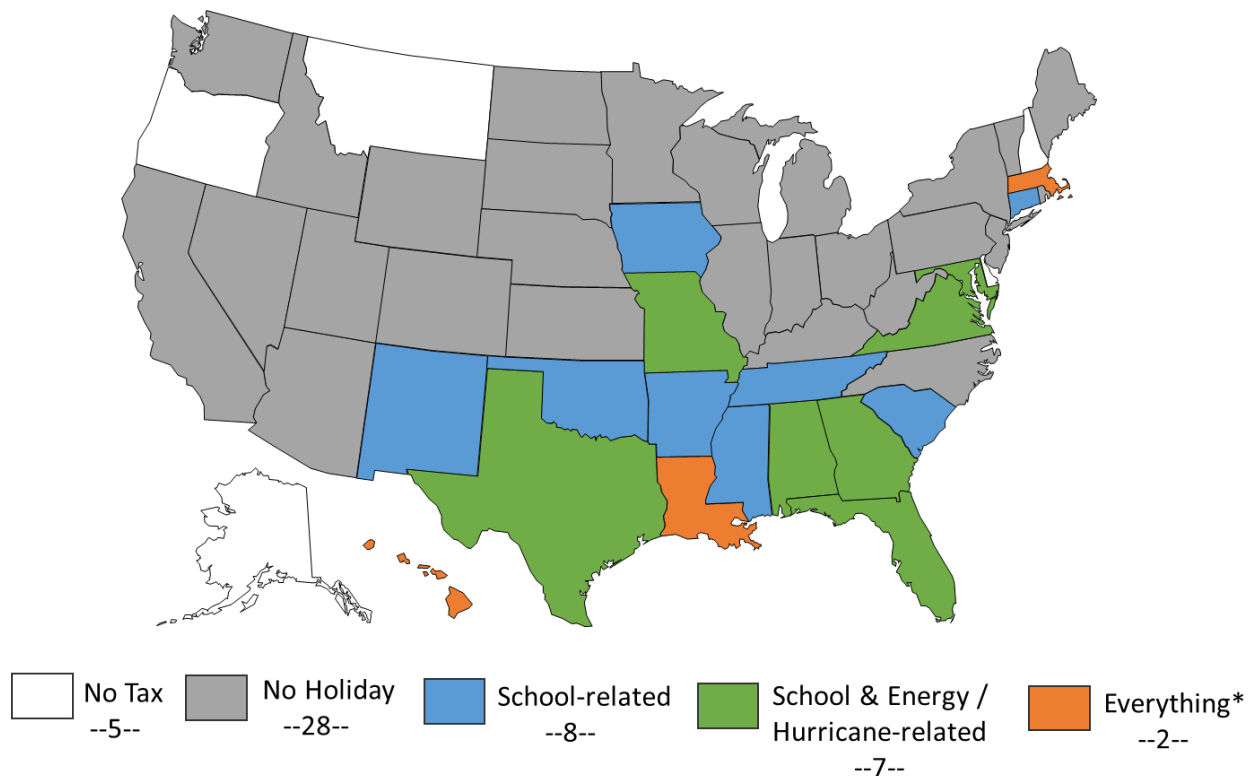
Policy Option 2: Impose the sales tax on all food purchases, regardless of whether considered as part of a meal. Purchases made with food stamps would remain exempt under any policy change.

Clothing and Footwear Sales Tax Holiday

Connecticut is one of 18 states that allows a sales tax holiday and along with Massachusetts is the only state north of Maryland with a holiday (see Figure 6). Connecticut allows a one week sales tax holiday in August for clothing and footwear costing less than \$100. The exemption amount was reduced from \$300 to \$100 this year and the complete exemption of clothing and footwear costing less than \$50 was eliminated. The 2013-14 Annual Report estimated the sales tax holiday reduced tax revenues by \$5.2 million. Reduction in the overall exemption of clothing and footwear, as was enacted earlier this year, is good policy and a better policy would be to eliminate the holiday entirely. Tax holidays are generally justified as a way to enhance vertical equity and stimulate the economy. In fact, tax holidays are unlikely to achieve these objectives and are generally weak policy because they:

- Are poorly targeted to low income households since they are widely available to all buyers. High income buyers, with greater capacity to time their purchases during the holiday, may make many of the purchases so the perceived regressiveness of the tax may not be improved or even be made worse.
- Are more likely to change the timing of purchases than the total amount of purchases. People purchase during the holiday instead of before or after the holiday, but the total amount of purchases may be unchanged. So, the Connecticut economy is not stimulated.
- Are more likely to result in higher profits for vendors than lower prices for buyers. For example, vendors may advertise the sales tax holiday rather than offer a back-to-school sale.
- Raise administration and compliance costs since they change practices for the brief period of time during the year.

Figure 6: States with Sales Tax Holidays, 2014



*Louisiana has 3 holidays: 1) hurricane prep; 2) hunting supplies; and 3) all tangible personal property.

Policy Option 3: Eliminate the sales tax holiday.

Imposing Tax on Additional Services

A consumption tax is levied on consumer services as well as goods, though services are less frequently taxed around the country. Connecticut is relatively expansive in taxation of services. A survey conducted by the Federation of Tax Administrators in 2007 lists Connecticut taxing 79 of 165 services, which is well above the national average of about 50 services.²² The state has added more taxable services since 2007.²³ Connecticut taxes more services than any state in the region. New Jersey is second highest at 74 services, followed by New York (57), Vermont (32), Rhode Island (29), Maine (25), and Massachusetts (18). Connecticut's broad taxation of services is generally good policy.

States often consider adding additional services to the sales tax base, particularly when revenues are tight or during a recession. Some extensions have been made across the country over the past several decades, but the issue often attracts more discussion than action. Florida's brief experiment with a major expansion of the base in 1986 has been widely discussed. Other states, such as South Dakota and Texas, have made relatively significant expansions and many other small expansions have been enacted. Connecticut, Florida and Rhode Island are among the only states that have extended the sales tax to

²² See <http://www.taxadmin.org/fta/pub/services/services.html>

²³ Also see the list of taxable services at <http://www.ct.gov/drs/cwp/view.asp?a=1477&Q=269930&drsPNavCtr=>

additional services since 2010, though frequently to limited services. Florida imposed the tax on telecommunications services linked to convention centers and civic centers and Rhode Island is now taxing non-veterinary pet care services. Connecticut's changes are more expansive including manicures, pedicures, spa services, intrastate livery services, coin operated and other car washes and others. But, services remain broadly exempt in most states. Professional services, health care services, business services, and certain personal services are commonly not taxed in many states.

As with goods, the focus should be on taxing services used by consumers rather than businesses. Care must be taken in expanding taxation of services without appropriate exemptions for business purchases. Some services, such as legal and accounting services, are frequently purchased by both businesses and individuals so broadening the base to these services may expand the extent of taxes levied on intermediate transactions or carefully crafted exemptions must be used to limit taxation of business purchases of the services. Exempt services frequently purchased by consumers in Connecticut include:

- Renovation and repair services to residential real property
- Marina service and towing
- Travel agents
- Residential utilities, including electricity, water and natural gas
- Barber shops and beauty parlors
- Doctors, nursing, dental and other health care services²⁴
- Bowling and billiards
- Automotive road and towing services

Broad taxation of sales to final consumers improves horizontal equity of the tax, reduces tax induced changes in behavior, allows a lower tax rate for any given amount of revenue to be raised, and often is easier to comply with because fewer decisions need to be made on whether the transaction is taxable. Further, the revenue elasticity could be increased if fast growing services are added to the base. Of course, this is in part an argument for taxing some health services. For example, residential utilities would generate \$238.9 million and renovation of residential property would generate \$28.0 million based on the Department of Revenue Services' estimates. Connecticut levies a gross earnings tax on utility sales to residential consumers, and no sales tax should be imposed if the gross earnings tax is viewed as a replacement for the sales tax.

Policy Option 4: Broaden the sales tax to more services used by consumers, including residential utilities and repairs to residential real property.

²⁴ Cosmetic medical services are taxable.

Exempting Intermediate Purchases

Business inputs (which are everything a business buys for its operations) should be free from taxation or at least taxation should be limited wherever possible. Taxing business inputs encourages vertical integration, raises the costs for businesses operating in Connecticut, and distorts prices to the extent that differential input taxes (because of differences in the length of supply chains) cascade into final product prices. Differing taxes included in product prices can alter decisions on what to buy and therefore make people worse off. The economic effects of taxing intermediate goods and services are discussed in some detail below.

Some intermediate transactions will remain taxable in practice despite the general intent for exemption. First, a strong case can be made for taxing intermediate purchases when the final sale is not taxed, such as with many health care services. Taxing the intermediate inputs effectively results in partial taxation of the final sales.²⁵ This is also a reason why many states have not allowed the same sale for resale exemption for producing services that generally exists for goods. Second, a common problem is that identifying business purchasers is difficult since sellers are being asked to determine taxability based on characteristics of the buyer, which opens up opportunities for evasion and raises compliance and administration costs. Taxation of some intermediate transactions *may* be necessary because of the difficulty of determining whether the buyer is a consumer or a business. Certain professional services, such as legal services, may be examples where determining whether the transaction is for business or personal purposes is simply too difficult to allow exemption for the sales (should it be included in the taxable base). On the other hand, the case for exemption of some services may rest in part on the difficulty of determining whether sales are for intermediate purposes. Finally, intermediate goods may not have been exempted because of the political difficulty of explaining why household purchases are taxable and business purchases are not. Or, the related political issue that taxes on intermediate inputs are less transparent and the revenue neutral statutory tax rate on household purchases alone would be politically very difficult to achieve. Connecticut's sales tax rate would need to be at least 8 percent if all intermediate inputs were exempt and the same revenue was to be collected. Broadening the base to additional consumer goods and services while reducing taxation of intermediate transactions could allow for a revenue neutral tax rate that is lower than 8 percent.

Many intermediate purchases, such as sales for resale, are specifically exempted as discussed above. Connecticut exempts many business services as well, some of which may also be used by households. Exempt services that would often be used by business include most fabrication, installation and repair services, professional services (legal, architecture, accounting, and engineering services), and business services such as advertising.

Other intermediate purchases that should be considered for more limited taxation include:

- Employment services and agencies
- Computer services
- Lobbying and consulting services
- Business analysis and management services provided by a general partner to a limited partner

²⁵ Economic research on optimal tax structures also allows for taxation of intermediate inputs as an exception to the general case of their exemption when the final product is not taxable.

Policy Option 5: Reduce taxation of intermediate services and particularly, employment, consulting and computer services.

Connecticut's exemption for services between a parent and wholly owned subsidiary makes sense, but consideration could be given to reducing the ownership requirement below 100 percent since good business practices could result in subsidiaries being owned by several partners. The parent should have substantial control and ownership of the subsidiary for this exemption based on ownership, which suggests at least 50 percent ownership.

Policy Option 6: Legislate a less stringent ownership rule for exemption when services are sold between a parent and a subsidiary.

Taxing Sales and Purchases by Not-For-Profit Organizations

Businesses are one example where exemption arises based on the buyer, but others exist as well. States vary in their tax treatment towards the purchase and sale of goods and services by not-for-profits. These firms are of two types, philanthropic (such as food banks) and service providing (such as hospitals). Exemption of non-profit organizations is usually based on the expectation that they provide goods and services that benefit society, such as helping low-income individuals or delivering services that the public sector would otherwise provide. Service providing firms often sell a service, similar to for-profits firms. The tax exemption is effectively a subsidy to not-for-profit organizations, which can be questioned despite the benefits that many not-for-profits offer. Several points are made here for the Tax Panel to consider with the possibility of recommending tight restrictions on when not-for-profit purchases are exempt and allowing very few cases. First, a stronger case exists for exempting purchases by not-for-profits (as is done by Connecticut) than sales by not-for-profits. Purchases by non-profits should be exempt if they are producing and selling goods and services, just as they should be for for-profit firms. Also, a case can be made for exempting purchases where the provider is philanthropic and substantial benefits to the public are expected from its activities. The case is weaker for exempting sales by service providing not-for-profits because the tax is intended to be levied on the buyer not the seller. Exemption of sales to not-for-profits and taxation of sales by not-for-profits parallel good practice and the general treatment of profit making businesses.

Second, exemption of sales to not-for-profits is a subsidy if the firm is not selling goods and services. Direct cash subsidies could be provided by the public sector rather than the indirect subsidies through the tax system, which would allow the State to more carefully evaluate the benefits of each subsidy. Third, exemptions of the sales by not-for-profits advantage not-for-profits in their direct competition with for-profit firms. Hospitals are a case where the state generally does not collect tax on the sales of goods and services. Very few states tax health care services, but this exemption could extend to gift shops, cafeterias, parking lots and other activities that are more peripheral to the main purpose of the hospitals. A report found that four for-profit higher education institutions recently shifted to not-for-profit status to avoid the regulatory structure of the for-profits.²⁶ Tax treatment may also have been a factor, though this is not the focus for the research. Founders of the schools potentially benefit in other ways, though users of goods and services provided by not-for profits may receive many of the benefits through lower prices since the evidence is that sales taxes are reflected in higher consumer prices. Exemptions for the sales by

²⁶ See "Research Raises Questions about Colleges that Shift from For-Profit to Nonprofits," *Chronicle of Higher Education*, Mary Ellen McIntire, October 6, 2015.

not-for-profits explain part of the rapid expansion of the not-for-profit sector relative to the for profit sector in the U.S.

Fourth, not-for profit firms determine the size of the subsidy by their level of activity rather than the State determining the size of any subsidies through its budget process. Specifically, not-for-profits have a 6.35 percent subsidy on their purchases and the more they purchase the bigger the subsidy. Fifth, not-for-profit firms receive the subsidies even if the State's population does not value the services since no direct evaluation is taking place of the benefits of the not-for-profits. Next, compliance costs rise because sellers must determine which sales are exempt, and these decisions raise the potential for fraud and abuse. Finally, imposing taxes on not-for-profits can ensure they face similar after tax prices when making decisions as do for-profit firms.

Connecticut generally taxes parking in lots of 30 or more and recently eliminated the exemption for non-metered parking spaces of 30 or more at not-for-profit hospitals. This is an example of the type of exemptions for not-for-profits that Connecticut should continue to identify and eliminate unless a strong public policy case can be made for their retention.

Policy Option 7: Eliminate the exemption for sales to not-for-profit organizations except when the purchases are used to produce goods and services that are sales taxed when provided to beneficiaries, or add a requirement that the organizations meet certain criteria evidencing that their work is in the public interest.

Taxation of Federal, State and Local Government Purchases

The case for exempting purchases or sales by government is similar to not-for profits. Most states do not tax sales to state and local governments.²⁷ Exemption provides an additional opportunity for fraud as sellers report sales for taxable purposes as sales to governments. Ensuring the governments and their consumers face the same after-tax prices as purchases by for-profit businesses is an important reason to consider sales taxing the public sector similarly to the private sector. Connecticut cannot tax federal government purchases, but likely can tax the revenues received by firms that sell to the federal government (as some other states such as New Mexico do). Imposing the tax on government sales and purchases levels the playing field to the extent that they compete with the private sector. The tax also causes governments to face the same after tax input prices as the private sector, which can help ensure that efficient decisions are being made throughout the economy. Exemption further subsidizes government delivered services. Connecticut recently extended the sales tax to parking at state parks, which is consistent with imposing tax on services that are similar to those being provided by the for profit sector. The Department's Annual Report lists exemptions for government sales as \$13.7 billion. Of course, taxing government purchases collects tax revenues that must then be used to pay taxes on government purchases so there is little or no revenue generation to the overall public sector.

Policy Option 8: Impose the sales tax on sales to government entities.

Policy Option 9: Levy the sales tax on sales by government in cases where the public activities compete with the private sector.

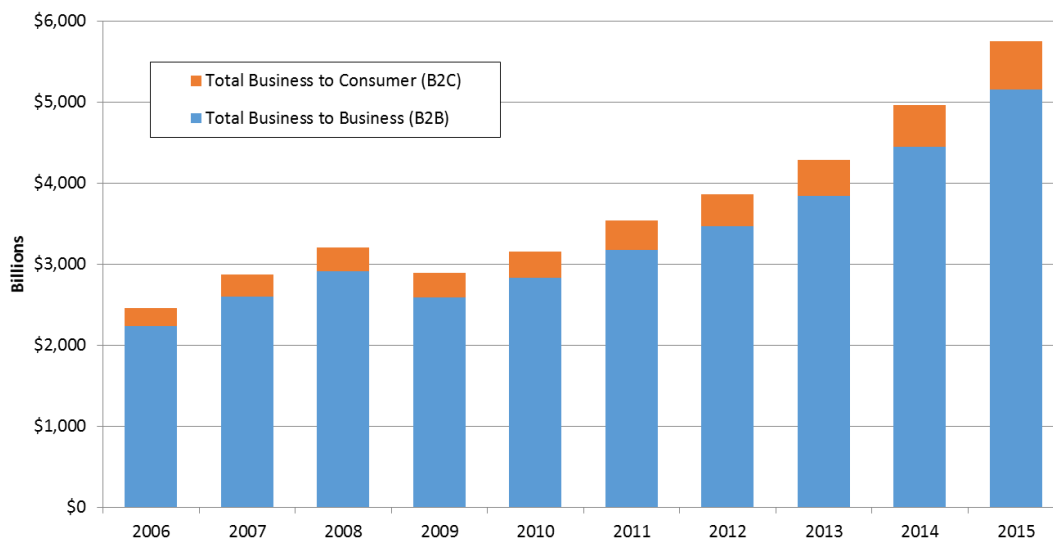
²⁷ Due and Mikesell (1994) report that eight states impose tax on sales to state and local governments.

IV. THE SALES TAX AND E-COMMERCE

The sales tax and the corresponding use tax are generally intended to tax sales at their destination, where consumption occurs, rather than at the origin of the transaction. The advent of e-commerce together with other remote sales including via catalogs and cross border shopping creates significant challenges for Connecticut and other states in enforcing the tax on a destination basis. This section focuses on e-commerce, but cross border shopping (driving to Massachusetts, New York, Rhode Island and other states and bringing purchases back or having them shipped back to Connecticut) is an unusually large concern given the relatively small space and the other states' close proximity.

E-commerce has expanded rapidly over the past 15 years and has become a significant and growing share of the remote sales problem. The U.S. Census Bureau reports that e-commerce sales totaled \$1.06 trillion in 2000 and grew at a compound annual rate of about 14 percent through 2013 when they reached \$5.14 trillion.²⁸ Figure 7 illustrates the rapid growth in e-commerce. About 87 percent of e-commerce sales are made by manufacturers and wholesalers, with retailers and service firms accounting for the rest. Most, but not all sales by manufacturers and wholesalers are intermediate transactions and some sales by retailers are to other businesses, so intermediate sales probably dominate e-commerce.

Figure 7: Estimated Total E-Commerce Sales



*Sales-taxing states only.

State efforts to collect tax on remote sales are limited by *Quill v. North Dakota* (504 US 298 (1992)), which only permits states to require vendors with physical presence in a state to collect and remit its sales tax. The result has been lost sales and use tax collections, distortions in the ways that businesses operate, and changes in consumer behavior. For example, Bruce, Fox and Luna (2009) in a widely quoted report estimate that state and local governments lost a combined \$11.4 billion in sales tax collections in 2012 because of the inability to collect tax that is due on e-commerce transactions. These losses do not include catalog sales and cross border shopping in other states. States were unable to collect about \$23 billion when catalog sales are added to e-commerce, but this still omits cross border shopping. In more recent analysis they find that the loss for state and local governments likely will exceed \$17 billion in 2015.

²⁸ Author's calculations based on data taken from <http://www.census.gov/econ/estats/2013/all2013tables.html>

Connecticut is expected to lose over \$100 million in uncollected sales and use taxes in 2015. Nonetheless, it is important to remember that most tax on e-commerce sales is collected, perhaps over \$300 million in total for Connecticut during 2015. The tax is collected on many remote sales because the selling vendor has taxable presence in the State, but much remains uncollected as well. B2B and B2C catalog, TV and other remote sales are also expected to result in significant revenue losses.

The inability to enforce sales/use tax collection on many online purchases is expected to alter how some sales are consummated and to change some business practices. A key conclusion is that the higher the sales tax rate the greater the incentive to make online purchases where tax is not collected. This provides a strong incentive for a broad sales tax base and a low rate. Several academic papers have determined that remote purchases are very responsive to the inability to collect the sales tax. The inability to collect the tax effectively means the tax rate is 0 percent on certain purchases versus the 6.35 percent (or one of the other rates) that is imposed on purchases in Connecticut.²⁹ The papers generally find a “home state effect,” which means buyers have a tendency to purchase more from firms (even e-commerce firms) with in-state presence than otherwise would be anticipated, all else equal. Still, the sales tax creates a tendency to buy more remotely than would be expected, particularly in states with higher sales tax rates. Ellison and Ellison (2009) only analyze online purchases of memory sticks, but find that a one percent sales tax rate increase raises online purchases to evade the tax by 6 percent. Einav et al. (2013) study a wide range of purchases through EBay and find that every one percent increase in the sales tax rate raises online purchases by almost 2 percent and reduces online purchases from in-state sellers by over 3 percent.

Anecdotal evidence shows business behavior is altered by current sales tax enforcement limitations. Amazon and at least some other firms appeared to be selecting locations only after careful consideration of the implications for nexus, and to plan corporate structures in an effort to avoid nexus for online retail firms. One example is decisions by Amazon to locate distribution centers in South Carolina, Tennessee, and Texas but only after agreements were reached to limit sales tax collections, at least for a period of time. More recently Amazon appears to be accepting nexus in an increasing number of states as it alters its business model. Amazon, after collecting for only five states for several years, is collecting for at least 16 states including Connecticut. In one research paper on the subject, Bruce, Fox, and Luna (2015) examined the determinants of the states where firms establish nexus and concluded that firms are more likely to create nexus in larger states (consistent with the home state effect observed by Ellison and Ellison and Einav et al.) and to some extent less likely in states with higher sales tax rates.

Russo (2005) examined effects of extending the sales tax to Internet sales. He finds that state economies would be slightly larger and the level of wellbeing higher if all Internet sales could be taxed. Presumably this is because the incentives to avoid the tax by purchasing out of state via the Internet are eliminated. The result is also consistent with the conclusion that low sales tax rates are better for Connecticut’s economy because it reduces the incentive to buy outside.

Efforts to Enhance Collection of Sales Tax on Remote Sales

Efforts have been made both in Congress and in a number of states to expand sales tax collections on remote sales. The court ruled in *Quill v. North Dakota* that requiring remote vendors to collect and remit the sales tax would hamper interstate commerce because these firms would be subject to an undue compliance burden. Specifically, the decision, made prior to e-commerce and current technologies, was

²⁹ The online purchasing option often allows buyers a zero tax alternative. Shopping in neighboring states offers the other state’s rate on many purchases unless the item is shipped to Connecticut. So, the online channel is often more intense tax competition than the neighboring states.

heavily based on the argument that the costs for remote vendors to comply with the sales tax in multiple jurisdictions were greater than the compliance costs for local firms in a single state. The PriceWaterHouseCoopers report also finds that costs of complying with the sales tax in multiple states exceeds the cost in a single state, though with some economies of scale. This section discusses federal and state efforts to expand the capacity to collect taxes on remote sales. Federal legislation or reconsideration of the Quill case by the Supreme Court are the only ways to make large headway in allowing states to enforce the sales tax effectively on remote commerce, though other options are also discussed here.

Federal Activity

Congress can regulate interstate commerce, so it can enact legislation that allows states to require remote firms to collect the tax. Three bills to extend state nexus to at least some remote sales were introduced in Congress during 2011,³⁰ the Marketplace Fairness Act of 2013 was introduced in 2013 with 23 sponsors in the Senate and 48 in the House of Representatives and several more bills were introduced in 2014 and 2015. An advisory vote taken in the Senate in 2013 passed 75 to 24 to allow states to collect tax on remote sales. Subsequently, several procedural measures passed in the Senate by strong margins and the Senate passed the Marketplace Fairness Act 69 to 27. The bill was never introduced in the House and died.

The Marketplace Fairness Act would have allowed states that adopt the simplification criteria built into the Streamlined Sales Tax Agreement or that enact a set of specified simplification steps to require remote vendors to collect their sales tax. The simplifications included:

- providing firms with advance notification of sales tax rate changes
- using a single tax collection agency for both state and local sales taxes
- creating a uniform sales tax base for the entire state
- using destination sourcing
- providing free sales tax compliance software
- relieving remote sellers of any liability associated with incorrect compliance because of errors made by a certified software provider.

The legislation included a small seller exception that only permitted states to impose the compliance responsibility on firms with at least \$1.0 million in *online U.S.* sales. Bills that have been introduced more recently raise the small seller exception (for example, to \$10 million), at least in the initial years. Even a \$1.0 million small seller exception leaves out significant remote sales, though the various proposed pieces of legislation require aggregation of businesses based on ownership relationships. Bruce and Fox (2013) concluded that there are millions of e-commerce firms and fewer than 2000 would have been covered by the Marketplace Fairness Act Of 2013. For example many bricks and mortar retailers that have significant sales may not have a collection responsibility for their e-commerce activity because their online sales are below the threshold.

³⁰ The Main Street Fairness Act (S. 1452, 112th Cong., 1st Sess. (2011); H.R. 2701, 112th Cong., 1st Sess. (2011)), the Marketplace Fairness Act (S. 1832, 112th Cong., 1st Sess. (2011)), and the Marketplace Equity Act (H.R. 3179, 112th Cong., 1st Sess. (2011)) were all introduced.

Passage of federal legislation would generate significant new revenues for Connecticut, but likely much less than the \$100 million estimated loss mentioned above (see Bruce and Fox, 2013). It is important to remember that the loss estimates were not intended as a revenue estimate associated with a particular bill in Congress. First, the small seller exception limits the collection responsibility for many firms and provides an incentive for firms to plan their structures to avoid the collection responsibility. More than one-third of the revenue loss will likely continue because of the small seller exception alone (even at \$1.0 million). Second, non-compliance can remain an issue. The approaches to enforcing any piece of legislation have not been articulated but they could hamper the states to some extent. For example, who would audit online firms operating in multiple states? How would people alter their behavior towards either non-compliant firms, or firms below the threshold? Thus, state budgeters should estimate new revenue gains cautiously, particularly until the details of any federal legislation are more clearly available.

State Activity

States have followed four avenues to expand collections on remote sales in the current national environment: work cooperatively, define the meaning of physical presence (nexus) more inclusively, collect more information and enforce use tax compliance more effectively, and potentially re-litigate the Quill decision.

Working Together

The Streamlined Sales Tax Governing Board (SSTGB) is a cooperative effort by states to simplify the sales tax so that Congress is more likely to enact legislation allowing states to require collection by remote vendors. The streamlined sales tax project has been underway for more than a decade and 24 states are currently in full compliance with the Streamlined Sales and Use Tax Agreement (SSUTA). Connecticut is not a member and the Connecticut Streamlined Sales Tax Commission recommended in 2008 that the state postpone its decision on joining until after federal legislation is passed.

Connecticut could join the SSTGB, but would need to undertake a number of simplifications, such as reducing the number of sales tax rates. Two benefits can be expected from becoming a member of SSTGB: additional revenue and simplification of the sales tax. In addition, Connecticut could join with other states in creating an environment where the capacity to collect tax on remote sales becomes more likely. Connecticut could expect some additional revenues from the voluntary compliance program, which appears to be concentrated in firms that already have nexus in a number of SSTGB states and not to the wide range of firms with more limited connection to these states. More than 1900 firms have voluntarily complied with the SSUTA, and combined they have provided an additional \$1.2 billion in collections since 2005.³¹ Significant revenues can only be expected from the SSUTA if Congress enables members of SSTGB to require remote vendors to collect the sales tax.

Policy Option 10: Join the Streamlined Sales Tax Governing Board.

Defining Nexus

The Quill case indicates that physical presence is necessary to require a collection responsibility, but does not define physical presence.³² Nexus clearly is established through any form of owning or leasing real or personal property but a number of states have legislated more expansive definitions of physical

³¹ Daniel C. Vock, "States Rack Up Victories in Bids to Collect Online Sales Taxes," *Stateline*, April 2013.

³² See Bruce, Fox, and Luna (2015) for a broader discussion of sales tax nexus concepts.

presence. States have asserted nexus based on having company owned vehicles in a state or relying on third party distributors to ship or deliver goods in the state. Some states have also asserted that having a local phone number, being listed in the phone book or having a bank account or a P.O. Box in the state is sufficient presence. Some states also argue that nexus is established by having employees in a state, including to make sales calls or provide repair services.

States have also been more aggressive in asserting nexus using concepts of attributional and affiliate nexus. Affiliate nexus generally ignores corporate structures and focuses on the relationships between in-state retailers and remote vendors, such as shared ownership or trademarks. Affiliate nexus has been argued in cases where the in-state seller provides any services for the remote firm. For example, a statute considered in Florida would establish nexus if a person, other than a common carrier:

- Sells a similar line under a different name
- Maintains an office, warehouse, etc. to facilitate delivery or services sold by the dealer
- Uses trademarks that are the same or substantially the same as the dealer
- Delivers, installs, assembles, or maintains for the dealer
- Facilitates the dealer's delivery of property
- Conducts any other activities that are significantly associated with the dealer's ability to maintain a market in Florida.³³

Click-through-nexus, enacted through what have been termed Amazon laws, has been enacted by at least 12 states including Connecticut, New York, and Rhode Island.³⁴ Another 12 states may seek to assert nexus based on administrative pronouncements. These laws attribute nexus to remote firms in circumstances where affiliates with physical presence in the state direct more than a de minimus amount of sales to the remote firm in exchange for a percent of the sales price. In these cases the affiliates do not have shared ownership or products. New York law presumes the seller is doing business in the state if the seller "contracts with New York residents and pays them a commission for referring customers to its website."³⁵ Amazon challenged the New York law arguing that the law violated the commerce clause because it requires firms without physical presence to collect and remit sales taxes. The New York court denied the claim and said that physical presence did not need to be substantial and can be met by economic activities performed on behalf of the seller. Effectively, the court ruled that the relationship between Amazon and the affiliates was sufficient to establish substantial nexus. Click-through-nexus was not upheld in Illinois, but over procedural grounds.

Click-through-nexus only affects a small number of relatively large firms that have these affiliate relationships. Amazon and Overstock have threatened to eliminate the affiliate relationships in states that adopt the legislation and in some cases have done so – though not in the large states such as New York where the litigation has taken place and California where an alternative agreement was reached. Connecticut has enacted click-through-nexus. Any other nexus changes must be considered in light of

³³ "Florida Bill would Amend Definition of "Mail-Order Sale" to Include Internet Sales," *CCH State Tax Review*, March 27, 2013, Volume 74, No. 13.

³⁴ See <http://www.taxrates.com/blog/2014/05/07/24-states-with-click-through-nexus-policies/>

³⁵ Shonda Humphrey, "New York's Highest Court Rejects Challenge to Amazon Law," *State Tax Notes*, April 1, 2013, pp 12-13.

how affected firms may choose to respond, in addition to potential new revenues and ensuring even taxation of remote and bricks and mortar vendors.

It is important to remember that the dormant Commerce Clause is also a constraint on states' abilities to define nexus. Only remote vendors with sufficient contacts, as defined by federal law and the courts, can be required to collect a state's sales tax. Thus, the various expansive definitions of nexus potentially test the boundaries of nexus and are subject to potential review through the courts; the Supreme Court in the *Quill* case recognized this but noted the controversy and confusion associated with making such determinations. Remote vendors can challenge the nexus definitions but this is an expensive and risky endeavor because the court may affirm the definition.

The next step could be for states to require firms such as Amazon (referred to as marketplace providers) to collect sales tax for all firms operating on the platform. New York considered such legislation this past year but decided not to proceed.³⁶ A larger state such as New York may need to be the first mover for this new direction in asserting nexus.

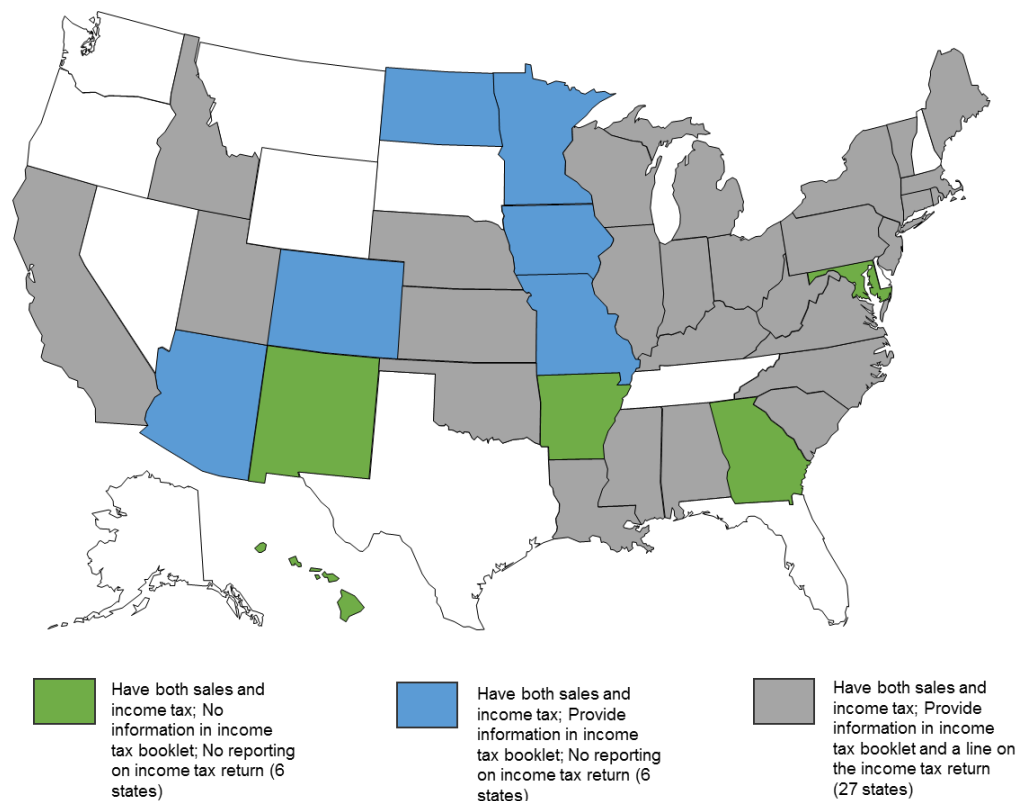
Policy Option 11: Connecticut should continue to investigate and where possible legislate a more expansive definition of nexus.

³⁶ See Jennifer DePaul, "Hecht Says Sales Tax Nexus for Small Vendors is Next Big State Tax Issue," *State Tax Notes*, 78(1) October 5, 2015, p. 21.

Encouraging Sales and Use Tax Compliance

Buyers are required to remit the use tax in circumstances where the sales tax has not been collected. As noted above, use tax compliance is generally regarded as the weakest of any state tax and this has been confirmed by audits conducted by Washington State. At least 27 states, including Connecticut and almost all states in the eastern half of the US, seek to enhance compliance by including a line on the individual income tax return requiring tax filers to report use tax due (see Figure 8).³⁷ Connecticut is successful relative to most states in collecting use tax revenue through the income tax return, but the amounts are still small. Manzi reports that New York received the greatest amount of revenue from this provision at \$33.5 million in 2012. California (\$18.6 million), Connecticut (\$13.5 million)³⁸ and Illinois (\$11.9 million) are the only other states to collect more than \$10 million in use tax payments on the income tax return. Twelve of the states obtain less than \$2.0 million. Connecticut only received use tax payments from 0.9 percent of income tax returns, which is a lower share than 16 states. But, Connecticut receives much higher revenue per return (\$876 per return) than any other state (California is second at \$154 per return). Manzi observes that Connecticut receives a very high share of use tax payments from income tax returns with more than \$1.0 million in adjusted gross income.

Figure 8: States with Use Tax Reporting on Individual Income Tax Returns



³⁷ See Nina Manzi “Use Tax Collection on Income Tax Returns in Other States,” Policy Brief, Research Department, Minnesota House of Representatives, April 2015.

³⁸ Income tax returns included \$11.9 million of use tax and the remaining \$1.6 million was collected through the individual use tax return.

Source: Manzi, Nina. Policy Brief: Use Tax Collection on Income Tax Returns in Other States. Research Department, Minnesota House of Representatives, April 2015. Retrieved from <http://www.house.leg.state.mn.us/hrd/pubs/usetax.pdf>.

The effectiveness of the line on income tax returns has not been subject to careful research but states like Louisiana, Massachusetts and Michigan saw significant growth in use tax revenues after the line was added to returns. State provisions differ to some extent and Connecticut's use of several may help explain the high payments per positive liability, though use tax responses in Connecticut are mostly inconsistent with Manzi's general observations. Connecticut was one of 14 states that require income taxpayers to specifically indicate that they have no liability. Also, Connecticut is one of 13 states that provide a lookup table for the use tax liability given various purchase levels. Manzi finds that slightly more returns include sales tax liability and the amount is slightly higher in states requiring taxpayers to clearly indicate no liability if they have none.

Also, several states have enacted legislation requiring remote retailers to provide buyers with notice that use taxes might be due on the transactions. Colorado, Oklahoma, South Dakota, Vermont and most recently Kentucky have enacted such legislation. Some questions have been raised about the constitutionality of such provisions and a court ruled that Colorado's reporting requirements were unconstitutional. The Colorado case is being reconsidered through the appeals process. South Dakota and Vermont's legislation appears to have no penalties for vendors who fail to comply.

Amazon agreed to provide an email to all Tennessee customers reporting their amount of purchases made during the previous year and noting that there may be a use tax liability. A significant increase occurred in the number of returns filed during the month of the email and the effect persisted for several months afterwards. But, the number was still very small relative to the overall population and the amount of revenues collected was also small.

Returning to Court

States may ultimately seek to have the Supreme Court reconsider the Quill case arguing that the simplifications implicit in the SSUTA plus other changes in technology and retailing have resulted in a sales tax that is no longer an impediment to interstate commerce. Supreme Court Justice Kennedy recently argued in a case linked to the Colorado information requirement that the Quill decision should be reconsidered (*Direct Marketing Association v. Brohl*, 134 S. Ct. 2901 (U.S. 2014)). Perhaps hoping the Quill decision would be overturned, the Alabama Department of Revenue has proposed a regulation requiring remote retailers to collect tax on sales to Alabama customers if they have substantial economic presence in the state, regardless of whether they meet the physical presence required by the Quill decision. The Quill case has not been reconsidered as yet, but it is a future possibility. If so, states or businesses will use the Alabama regulation or some other specific case to raise the issue to the courts.

V. SALES TAXATION AND THE CHANGING ECONOMY

Sales taxes, like all taxes, are affected by the changing economy and the structure must evolve with new practices and technologies. Rapid evolution has raised a series of issues that Connecticut should consider and several are briefly addressed here, including digitization of tangible personal property (such as electronic delivery of books, video and music), the sharing economy and bad debt deductions and the changing form of credit cards. These are not the only topics that could be raised, but they are indicative of the kind of changes that are underway.

The Sharing Economy

This report summarizes a few of the issues raised in the excellent discussions on the sharing economy provided by LeAnn Luna (2016) and Janet Nellen (2015). The sharing of capital and other resources (and particularly labor) through peer-to-peer arrangements is the key attribute of the sharing economy. Examples include the ride sharing services offered through Uber and the room sharing services offered through Airbnb. Others are concierge type services such as shopping and meal delivery services. Luna mentions a PwC report that estimates the sharing economy at \$15 billion today and with the potential to reach \$355 billion in a decade, suggesting that the tax implications could become large. It may not be possible at this point to determine what will ultimately be the best approaches to taxing these services as they are still developing and the companies are adding new services (such as delivery services by Uber). The best (and possible) approaches to taxing the sharing economy may need to move with the industry and the challenges of taxing this industry have been noted by others.³⁹ But, some thoughts can be given on how to think about the issue and a good starting point for taxation.

Two basic rules should be considered when deciding appropriate taxation of the sharing economy. First, the sales tax is intended as a levy on consumption, so the sharing economy should be taxable to the extent that it represents consumption. Second, goods or services that are highly substitutable with one another should be taxed the same regardless of the form or the way they are ordered or obtained. The arguments for taxing goods and services offered through the sharing economy parallel the arguments for taxing goods and services delivered through e-commerce in the same manner as those delivered through traditional means. The intent is to place alternative means of acquiring access to assets and services (transportation, for example) on a level playing field and to ensure horizontal and vertical equity in the sales tax. This would make the tax neutral in its treatment of the sharing and traditional economies. Appropriate taxation of the sharing economy will also help maintain the sales tax base. Thus, the sharing economy should be taxable when similar services are taxable. Much of the sharing economy involves renting assets, and rentals are generally taxable in Connecticut. Hotel rooms and lodging are generally taxable suggesting that rental of rooms should be taxable. Current statute applies a 15 percent tax on rooms rented for 30 days or less, which should include most Airbnb rooms. Currently, the tax is due from the homeowners which likely means that enforcement is going to be difficult in many cases.

Connecticut imposes tax on intra-state livery services and rental cars are taxable. The Department of Revenue Services is currently examining any tax treatment that is appropriate for Uber. This means that Uber could be exempt while Zip Car is taxable; raising the question of what is good policy in this case. Or, certain Uber services may become taxable but not others. For example, transportation charges via Uber could be taxable while delivery services are not, so the taxability could depend on how various

³⁹ See Jennifer DePaul, “Unified Taxation of Sharing Economy is Problematic for State Tax Officials,” *State Tax Notes*, 78(1), October 5, 2015, p.24.

services are bundled. Tennessee recently passed legislation that is specific to issues that arise for companies that digitally connect riders and drivers and may provide an example.

There are, of course, subtle issues in applying these broad principles. For example, many of the shared assets may have been subject to sales taxation when acquired, though they may have been exempt from sales tax if acquired solely for rental purposes. This would be true if a taxi or car obtained through a rental company is purchased without sales tax while a personal car used for Uber is sales taxed when purchased. Thus, it is possible that the sharing economy could be subject to more levels of tax than comparable services acquired through other means. But, exemption from sales tax for any car used for ride sharing purposes could lead to significant avoidance opportunities as drivers provide very limited services so that no sales tax is due.

Also, some of the shared economy may be viewed as bundled transactions, such as when Shipt provides shopping services and the delivery of tangible goods. Could the bundling result in tax on some but not other parts of the shared economy? Decisions must be made on how to tax the items when taxable and non-taxable activities are occurring at the same time. High compliance and administration costs could arise with the sharing economy, depending on the way in which the tax is enforced. The sharing economy may be characterized by a large number of small vendors – many Uber drivers who each provide a modest number of rides, people who rent out rooms for a limited number of nights, and so forth. Relatively high compliance costs could result relative to the revenues collected if the tax is remitted by individual vendors rather than by the larger company. The compliance and administration costs could be kept lower and enforcement enhanced if Lyft, for example, remits the tax rather than the drivers. Collection of the room tax in Connecticut would almost certainly be improved if Airbnb could be required to collect the tax. Precedent is already in place since Airbnb recently agreed to begin collecting both state and local lodging taxes for the State of Washington effective October 15, 2015, and is already collecting tax for North Carolina, Oregon and Rhode Island.⁴⁰ The problem can become much more intense if individual workers in the sharing economy choose to provide services through more than one company. Imagine a person who offers rides via Lyft, shops and delivers groceries via Shipt, and provides ice cream via Uber. Some of these services might be performed at the same time. Can such a person be expected to know which services are taxable and at what rate(s)?

Further, decisions must be made on how to think about the shared activity. In this regard, it may be helpful to consider staying in a room as a series of attributes including size of the room, various amenities, how the room is obtained, where the room is located and so forth. This type of analysis may be necessary to make decisions such as are services like Zipcar and Uber better thought of as car rentals or limousine services? The answers to these questions could help decide on the taxability of the transaction. But even this is complicated by the possibility that a single Uber service might include both a taxable and non-taxable component (a taxi service and package delivery). Further, should the bundling of various services affect their taxability?

Policy Option 12: Use companies organizing the sharing economy for collection of the sales tax.

Digitized Transactions

Digitized transactions can be considered using the same logic as the sharing economy. The intent should be to tax all consumption and to tax highly substitutable items similarly. This suggests that

⁴⁰ See Jennifer DePaul “Airbnb to Collect and Remit Lodging Taxes Statewide,” *State Tax Notes*, 78(1), October 5, 2015, p. 51.

downloaded music should be taxed the same as a CD, digitized movies the same as DVDs and so forth. Digital downloads are currently taxed in Connecticut as computer services at 1%.⁴¹ New York City recently estimated that it would collect \$21 million with a tax on digital purchases.⁴² The tax on digital downloads of books, movies and so forth should be at similar rates as the 6.35% on physical versions with which they are highly substitutable.

Policy Option 13: Tax digitized downloads for consumption, such as books, video and music at 6.35%.

Policy Option 14: Ask the Department of Revenue Services to carefully review the sharing economy to ensure that consistent taxation is occurring between the sharing and digitized economies and traditional economy. Enact legislation where necessary to ensure that even taxation is occurring.

Credit Card Default⁴³

Changes in business practices can also influence the sales taxability of different types of transactions, though good sales tax policy is to levy the sales tax so that it does not alter how businesses behave. This section provides an example where the issue arises. Another example, mentioned above, may be when services are provided by a parent company to a subsidiary when there is a less than 100 percent ownership relationship.

A very strong trend away from company credit cards and towards private label credit cards has occurred over the past 15 years. Retailers often work with financial institutions that issue private label credit cards, which are branded with the name of the retailer and can be used at the retailer and its affiliates. Private label and company credit cards differ in who processes the credit and who holds the portfolio, but otherwise are quite similar. A key sales tax issue is the treatment of sales taxes when default on the credit occurs. Connecticut provides for refunds to the retailer in the event that buyers default on payments associated with the use of company credit cards. Connecticut, like other states, provides for refund because the intent is to impose sales tax on paid consumption.⁴⁴ However, the refunds do not extend to other forms of payment such as private label credit cards, even though the credit cards are generally used both to finance purchase of items and the associated sales tax.

Fox (2015) argues that refunds should also be allowed in cases of default on private label credit cards. This ensures that the sales tax is a tax on paid consumption. Also, this would ensure neutral tax treatment between private label and company credit cards, allowing retailers to choose the best business model without the potential distortion from the sales tax. Further, under current practice, Connecticut has made retailers and the associated financial institutions the guarantors of sales tax payments even when payment does not take place for either the tax or the purchase. Finally, the refund would help level the playing field between retailers using private label credit cards and other retailers.

At least seven states allow refunds in the event that default occurs on private label credit cards. For example, Texas passed legislation that allows the retailer or an assignee a credit for the sales tax on the portion of debt that is determined to be bad. Texas requires the seller to determine that the debt is bad,

⁴¹ Email communication from Susan Sherman, Department of Revenue Services, October 9, 2015.

⁴² See Eric “Yauch, “City Loses by Not Taxing Digital Goods, Brief Says,” *State Tax Notes*, 78(1), October 5, 2015, p. 27.

⁴³ See William Fox (2015) for broader discussion of private label credit card debt and sales tax refunds.

⁴⁴ Other forms of non-paid consumption include services produced at home and stolen goods.

enter the unpaid portion as bad debt on its books and claim the bad debt as deduction for federal tax purposes.

Policy Option 15: Allow a refund for the included sales tax when private label credit cards were used to finance a purchase that becomes a bad debt.

VI. INFLUENCE OF SALES TAXES ON THE ECONOMY

This section discusses the relationship between sales taxation and the economy in order to provide context for the Tax Panel's analysis and conclusions. Sales taxes induce several potential effects on economic activity:

- they raise the cost of producing or selling in Connecticut
- they discourage the purchase of goods relative to services, since the former is taxed more heavily, or at least to untaxed versus taxed purchases
- they encourage purchases online, via catalog or through cross border shopping because the tax is more effectively collected when sales are made in bricks and mortar stores.

Tax Pyramiding and Effects on Business

A considerable portion of sales tax revenue in Connecticut comes from taxing business-to-business transactions. This tax on business inputs has the potential to impact how firms behave, such as where they locate or whether they vertically integrate. The Council on State Taxation estimates that \$1.4 billion of Connecticut's 2013 sales taxes were levied on intermediate goods purchases by businesses, representing about 35 percent of sales tax collections.⁴⁵ The share paid by business is small relative to the share that has been estimated for many other states.⁴⁶ This section describes the types of distortions in business behavior that can arise and the limited research on the likely magnitude of the influences.

Economists almost uniformly oppose taxes on business-to-business transactions. One reason is that the sales tax is intended as a tax on consumption, but businesses do not consume, they produce.⁴⁷ It is reasonable to presume that everything businesses purchase is necessary to produce and sell their product (regardless of whether the firm is a manufacturer, wholesaler, or retailer) and does not fit within the conceptual framework of a consumption tax. An exception is that an argument can be made to impose the tax on business inputs in cases where the final output is not taxed through the sales tax (such as with medical services). Indeed, a tax on all inputs is comparable to a tax on the output. But, even in this case taxing the inputs may discourage production of some goods and services in Connecticut, depending on how similar activity is taxed in other states.

⁴⁵ See Council on State Taxation and Ernst & Young and Cline, Phillips and Neubig (2014).

⁴⁶ Also, see Birkland and Ring (2014) who estimated that in-state consumers pay 53 percent of the sales tax in the average state and that the in-state consumer share has fallen over the past 15 years.

⁴⁷ This statement ignores any propensity to use a company to make purchases of goods that are intended for personal consumption. This can be a form of tax evasion that is intended to lower sales and income tax liabilities, and is not associated with business production.

Second, taxes on business inputs can potentially alter business behavior and harm the State's economy as firms seek to limit the amount of tax they pay. Firms can substitute non-taxable inputs for taxable ones, to the extent that taxability differs and input substitution is possible. Alternatively, firms can vertically integrate and bring more production within a single company, that is, they can self-provide intermediate inputs. For example, a firm can hire its own accountants and lawyers to avoid a tax on purchased services. Firms' costs net of taxes will rise to the extent that taxes alter the way that business operates, since firms would bring the lawyers and accountants into the firm without the tax if this were generally the lowest cost way to operate.⁴⁸ No evidence exists on the extent to which firms vertically integrate to lessen their tax burdens, but the largest responses are expected from big firms, which are best able to vertically integrate. Not only are smaller businesses less able to vertically integrate but they may also be hurt as larger companies outsource less in response to tax on transactions between firms.

Third, input taxes raise the cost of producing in the state, which can cause some firms to locate their production in states that impose lower tax burdens on business transactions. No empirical research directly examines the extent to which taxes on business inputs harm a state's economy, though some research considers whether higher sales taxes (measured by the tax rate) generally harm a state's economy. For example, Bruce, Deskins, and Fox (2007) find that Gross State Product falls as states increase their sales tax rates. They argue that the effects of taxes on location are growing because technology makes it increasingly easy for firms to geographically separate their production from their markets. Carroll and Wasylenko (1994) examine how a number of fiscal variables, including the sales tax, affect total employment and manufacturing employment in a state. They observe no relationship between sales taxes and total employment. They found that states with higher sales tax rates had lower manufacturing employment in the years between 1967 and 1983, though the effects were no longer present when they studied 1984 to 1988. This suggested that the effects of taxes on business location are diminishing, the opposite conclusion of Bruce, Deskins, and Fox. But, the Carroll and Wasylenko study entirely predates recent technology and the Internet and may be less applicable to today's more mobile economy.

The research described here does not directly examine the key issue of whether firms move their production activity in response to states' decisions to tax business inputs and to tax them at higher rates. Still, it is reasonable to presume that bigger taxes on business purchases reduce the propensity for firms to locate or produce in Connecticut, whether the firms are in manufacturing, retailing, or service production. Further, these effects are likely largest for those firms purchasing the greatest amount of taxable inputs and those firms that can most easily separate their point of production and their markets (such as many firms producing for national or international markets). Thus, the effects are likely to vary across industries and sizes of firms.

Fourth, the sales tax on business purchases pyramids as tax is collected at several levels of the production process and on final sales. This means that effective rates on some purchases exceed 6.35 percent. The extent of pyramiding depends on the complexity of the production process (how many levels of production a good or service goes through), the tax treatment of the various business transactions, and the propensity to vertically integrate in the industry. Though a gross receipts tax differs somewhat from a sales tax, the State of Washington found that gross receipts taxes pyramided an average of 2.5 times. But importantly, the extent of pyramiding differed significantly by type of good.

⁴⁸ Of course, vertical integration is the best business model for some activities in some firms even without the encouragement from taxes.

Connecticut limits pyramiding through some of its exemptions for intermediate purchases. Examples include exemptions for sales for resale, large trucks, and various types of machinery. Still, pyramiding exists and varies significantly across economic sectors. Assuming that business purchases of capital equipment, communications equipment, utilities, and office supplies are taxable, Hawkins (2002) finds that the sales tax is imposed on inputs equal to 14.7 percent of the revenues of electric producers, 11.2 percent for firms taking fees and admissions, and 11.5 percent for firms providing non-shelter lodging. The cascading can have important economic effects as it raises the relative price of some goods and causes people to purchase less of these goods. Hawkins finds that the loss in wellbeing in a state as a result of differential effective tax rates because of pyramiding is small in states with broad based taxes, and the losses are much larger if states adopt narrow tax bases.⁴⁹ This conclusion follows because the sales tax distortions other than from pyramiding are smaller for states with broad based sales taxes. The Hawkins' pyramiding estimates are for an average state and do not necessarily fit Connecticut. The very open economy in which Connecticut operates will increase the economic effects of high effective tax rates resulting from pyramiding because the relative prices of some goods will be high for the region.

Firms may limit pyramiding by purchasing inputs from lower tax jurisdictions, buying online and not paying the use tax, or changing their behavior to purchase fewer taxed inputs. From a policy perspective, reducing taxation of business input purchases is the best means available to limit pyramiding. But reducing taxation of business purchases is often difficult because of the problem of distinguishing between businesses and consumers when purchases are made.

The Sales Tax and Consumption

The sales tax can affect consumer behavior in two key ways given that consumers bear the tax on local purchases and may not pay on remote purchases. First, they can alter *where or how* they buy, as was discussed in the section on e-commerce above.

Second, sales taxes can change *what* consumers buy since the relative price of exempt items (or items where the tax cannot be collected) is lower than for taxable items. Also, the relative prices of goods and services are changed to the extent that taxes pyramid more into one set of goods than another. The effects on behavior and tax revenues depend on how responsive consumers are to the price of the exempt versus the taxable goods. Merriman and Skidmore (2000) indirectly investigated this question by studying how the sales tax rate affected the allocation of expenditures between retail activity and service activity between 1982 and 1992. This is a reasonable test of the effect that sales taxes have on exempt versus non-exempt purchases since many services are exempt in most states and many goods are taxable in most states. Merriman and Skidmore find evidence that the share of the economy in the retail sector fell, and the share in the service sector rose in high sales tax rate states. This suggests, as would be expected, that sales taxes alter consumption behavior by increasing the quantity demanded for exempt items compared with taxable items. Thus, adding services to Connecticut's base can be expected to reduce the amount of service purchases and to increase goods purchases, at least to some extent, or to shift some service purchases outside the State. But, these effects result from leveling the playing field across types of consumption.

⁴⁹ Effects on a state's wellbeing are measured by changes in the excess burden of the tax.

VII. CONCLUSION

Connecticut should continue to fashion its sales tax more like a levy on consumption. A broad consumption tax allows the burden to be shared across households according to their amount of consumption, does not tax favor one set of products relative to another, and has little effects on how businesses choose to operate. A broad base allows the tax rate to be kept low, which reduces the incentives to purchase out-of-Connecticut to evade the sales tax or to purchase non-taxed items. A broad sales tax base will be horizontally equitable in the sense that all consumption is taxed the same. Even a broad sales tax base will be regressive.

A consumption tax entails several key elements including a) taxing goods and services consumed by Connecticut households and visitors in the state, b) limiting taxation of intermediate goods and services used by businesses in producing/delivering their goods and services, c) exempting sales that are delivered out-of-state, and d) imposing tax on goods shipped into Connecticut for consumption. Efforts to achieve other goals, such as enhancing the economy or improving equity, are usually better addressed in other ways and if appropriate using other tax instruments. For example, achieving strong economic growth for Connecticut is generally better attained by allowing the private sector to allocate capital in order to maximize returns with very limited efforts by government to engineer planned outcomes, particularly through means such as sales tax exemptions.

The sales tax is imposed on broad sets of goods and services sold by businesses and cannot easily be targeted to the situation of individual purchasers and households. Connecticut can view vertical equity as a goal for the tax system rather than a goal for each tax, and then use taxes linked directly to households, such as the personal income tax, to achieve the vertical equity goals. Exemptions from the sales tax create horizontal inequities, since they almost always mean the tax burden depends on what households purchase as well as how much they purchase. Efforts to achieve other goals through exemptions from the sales tax require a higher tax rate for any amount of revenue. Higher tax rates create a series of perverse effects such as a) encouraging more online purchases to evade the Connecticut sales tax (which probably helps higher income households most and makes the tax more regressive), b) encouraging additional purchases of non-taxed items, and c) providing greater incentives for sellers to evade or avoid the sales tax.

The economy and business practices are continuously evolving so Connecticut must consistently examine its sales tax structure to ensure that it is not harming traditional goods and services providers relative to emerging industries and is providing a level playing field. Many examples can be given for where such problems can arise. Remote sales including e-commerce must be taxed in a neutral way relative to traditional commerce, digitized goods and services the same as their physical counterparts and the sharing economy the same as highly substitutable goods and services. Failure to create the level playing field is most likely to disadvantage traditional Connecticut businesses and retailers and harm the State's economy. Further, sales tax statutes must be kept current so they do not prevent firms from adopting modern practices that help Connecticut firms be more productive and successful. Carefully thought out decisions are necessary to ensure that neither evolving nor more traditional activities are tax advantaged relative to one another.

Connecticut is limited in its ability to create a perfect sales tax on consumption because of the broader environment in which it operates. The Quill case prevents the state from requiring many remote firms to collect the sales tax, which hampers enforcement. The State operates in a highly competitive, limited geographic space where consumers and businesses can easily locate or purchase out-of-state. The economy is evolving rapidly making it difficult to keep tax practices current. But, the Tax Panel can advocate for improved practices including movement towards more taxation of consumption and less taxation of intermediate purchases plus careful monitoring of the sales tax as changes in the overall environment are occurring. Through these means Connecticut can enhance the sales tax structure in the second best way in which tax policy must be designed and implemented.

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Chapter 10

GENERAL BUSINESS TAXATION: AN EVALUATION OF CONNECTICUT'S CORPORATE INCOME TAX AND ITS ALTERNATIVES

A Report Prepared for the Connecticut Tax Pane;
Presented October 13, 2015

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AN EVALUATION OF CONNECTICUT'S CORPORATE INCOME TAX

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AN EVALUATION OF CONNECTICUT'S CORPORATE INCOME TAX

Executive Summary

Connecticut has one of the highest corporate income tax rates in the region at 9 percent including the temporary surcharge. Despite the surcharge (which applies to firms with over \$100 million in gross income or those filing combined/unitary returns) and limits on the extent to which credits can offset income taxes due (currently limited to 50.01 percent of pre-credit tax liability), corporate income tax collections dropped by more than \$125 million between 2006 and 2012. The tax is a small contributor to the overall finances of the state.

We were engaged to evaluate the existing corporate income tax in Connecticut, compare and contrast it with both its neighbors and with national trends, and to suggest possible steps that will both stabilize corporate tax revenues and enable long-term economic growth. Below is a summary of the current system, how it compares to the tax regimes in nearby competing states, and our findings and suggestions for reform.

Findings: The Current Regime

Connecticut levies an income tax on C Corporations, but does not levy an entity-level income tax on pass-through entities such as S Corporations, LLCs, LLPs, partnerships, etc.¹ Firms pay the greater of the net income tax, the alternative capital base tax, or the \$250 minimum tax. In 2012, 41,290 corporate taxpayers filed returns compared to 44,277 in 2003. In 2012, approximately 97 percent of corporate taxpayers (40,290 firms) filed single entity returns, with the remainder filing combined (998) or unitary (232) returns. Connecticut uses a broad nexus standard that asserts taxing authority on all corporations with property or payroll in the state or with at least \$500,000 in sales in the state, whether or not the corporation has property or payroll in the state. For most corporations, income is apportioned to Connecticut using a three-factor formula of property, payroll and double weighted sales. Manufacturers, financial service companies and broadcasters use the single factor sales formula. A small number of sectors confront unique apportionment rules. Sales of services are sourced to Connecticut when the services are performed in Connecticut, and are not based where the customer resides. Connecticut levies a preference tax on taxpayers who file combined returns. Businesses subtract the combined tax liability of businesses filing as separate entities from the tax liability of the combined group and pay the difference, up to a maximum limit, as a preference tax. For tax years beginning on or after January 1, 2016, Connecticut will have mandatory combined

¹ Connecticut imposes an entity level tax—the Business Entity Tax—on pass-through entities at \$250 every other year.

reporting for entities that are part of a unitary business. Connecticut requires addbacks of related party interest and intangible expenses.

The Connecticut corporate tax regime is complex but in many respects similar to the structures in other states in the northeast region. Tax rates in the region range from 7.1 percent in New York and 7.0 percent in Rhode Island (roughly comparable to the Connecticut rate of 7.5 percent without the surcharge) to 10 percent in Pennsylvania. The surcharge creates a progressive rate structure; the only other state in the region with a progressive corporate income tax rate structure is Maine. One notable difference is that several states in the region (e.g. Pennsylvania, New York, Delaware, Maine, Massachusetts and Rhode Island) source services based on the location of the customer, instead of where the services are performed. This market-based sourcing method if adopted in Connecticut would exclude from Connecticut tax any exported services and will tend to decrease the income tax burden of in-state firms providing services in other states. Market-based sourcing will levy a destination tax on services consumed in Connecticut but produced in other states.

Findings: Tax Credits

Tax credits are a significant element of the Connecticut corporate tax structure. They lead to revenue erosion, add complexity to the system and policy changes lead to instability and uncertainty in business tax liabilities. Business taxpayers claimed approximately \$150 million in tax credits in 2012, a significant increase from the \$93 million claimed in 2003. More significant, Connecticut taxpayers are carrying forward an estimated \$2.5 billion in tax credits, almost four times the total net corporate income tax receipts in 2014. To stem the magnitude of lost revenue, the state passed legislation in the summer of 2015 that limits tax credits for years beginning on or after January 1, 2015 to 50.01 percent (down from 70 percent) of pre-credit tax liability. Furthermore, while the number of taxpayers claiming tax credits has declined by about 50 percent from 2003 through 2012, the value per credit increased by 225 percent during the same period to approximately \$42,000 per credit and \$151 million in total credits claimed in 2012. Elimination of all credits in 2012 would have supported rate reduction of 1.9 percentage points. The annual use of credits and the large overhang of credit carryforwards will put downward pressure on corporate income tax collections for the foreseeable future.

Findings: Revenue Performance

Connecticut is ranked 19th nationally in total corporate income tax collections which is broadly consistent with its GDP ranking of 23rd in the country. Compared to the northeast region, Connecticut collects less per person and relies on corporate income taxes for a smaller share of total revenues than its nearby competing states. Also consistent with most corporate income

tax systems, the tax is highly volatile and more volatile than other revenue sources, with collections booming in economic expansion, peaking most recently at approximately \$900 million in 2007, but then plummeting to less than \$450 million in 2009 according to Census data. Furthermore, revenues have been flat or declining on a long-term basis despite a number of piecemeal fixes in recent years, such as restricting the use of credits, introduction of the surtax in 2003, an increase in the maximum preference tax for combined returns in 2003, and the introduction of economic nexus for corporate filers in 2009. These measures have helped stem losses from the corporate income tax but indicate a growing and long-term problem with the corporate income tax as a stable and dependable source of revenue for Connecticut. Corporate income tax collections were only 3.9 percent of overall state tax collections in 2014 and would have been far less without the special provisions mentioned previously that have enhanced yield. For neighboring states, corporate tax collections represent larger shares of total tax revenue, and range from approximately 6.3 percent of total collections in New York to around 9 percent for Delaware and Massachusetts.

Policy Recommendations: Existing Corporate Income Tax

The corporate income tax system is intended to be a benefit tax and raise revenue to compensate for service demands imposed on the state. However, it must also be neutral if not competitive with the tax systems in other states for economic development purposes. With these competing goals in mind, below are suggested policy changes that will simplify the system, potentially broaden the base and therefore allow for lower rates, and partially address declining corporate income tax receipts without harming the business environment in Connecticut. We discuss the following policy recommendations in greater detail in the report.

- 1. Eliminate the capital base tax system.** The requirement to calculate tax liabilities under two systems (the net income and capital base methods) and pay the higher of the two leads to higher administrative and compliance costs and creates taxpayer uncertainty regarding tax liabilities. Any revenue losses could be made up by raising the rate and/or placing limits on the future issuance of credits; base broadening would be a superior solution.
- 2. Clarify the corporate tax rate via elimination of the corporate surtax.** The surcharge should be embedded as a statutory rate in the regular corporate income tax rate schedule. A flat tax rate would be preferred to a progressive rate structure of 7.5 percent and 7.5 percent plus the surcharge. This would enhance policy stability, reduce tax-induced distortions and improve the transparency of the system.
- 3. Eliminate the proliferation of tax credits.** The credit system narrows the base, is complicated, and subject to ongoing change which creates tax liability and tax revenue

uncertainty. Further, many of the credits are used only by a small number of firms. In some cases the credits simply reward businesses for decisions that they would have made regardless of the structure of taxation. The state continues to implement tax credits that erode corporate revenue performance while at the same time placing restrictions on their use. Base broadening could be undertaken to support corporate rate reduction.

4. Evaluate whether tax credits are achieving their objective. If tax credits are intended to provide corporate tax relief, then broaden the base by phasing credits out and lower the statutory tax rate. If tax credits are intended to promote economic development, then greater efforts should be made to identify policies that can promote economic growth at lower revenue costs to the state.

5. Enact a market-based sourcing rule in lieu of the current cost-of-performance rule for apportionment of the sales factor for service providers. This can minimize distortions through taxation at destination rather than at origin and harmonize sourcing with the treatment of tangible goods.

6. Unitary groups for combined reporting should be as inclusive as possible. Include nontaxable entities such as insurance subsidiaries and foreign subsidiaries in a broadly defined list of tax havens. This can reduce distortions and opportunities for tax planning.

7. Broaden addback statutes by including management fees. This can reduce opportunities for tax planning.

8. Eliminate the election to report combined reporting on a water's edge, worldwide, or federal affiliated bases. Eliminating elections will reduce administrative and compliance costs.

9. Impose single factor sales apportionment for all taxpayers. This will help realize numerous policy goals including simplicity and neutrality and lower the tax cost on in-state production.

Business Tax Options: Major Structural Reform and Elimination of the Corporate Tax

The states have taken numerous steps in recent years to shore up the corporate income tax, including the introduction of combined reporting. However, due to base erosion and the volatility of the traditional corporate income tax, a number of states have moved to business taxes that tax business activity rather than profits or taxable income. These alternatives are best thought of as options on a continuum with the options varying by the deductions allowable under each system. On one end is the corporate income tax that allows all "ordinary and necessary" expenses as deductions, has a relatively small tax base of profits, and relatively high rates. On the other end is a gross receipts tax that includes all or most business receipts in

the tax base and allows for few or no deductions. This results in a larger and more stable base than the corporate income tax and allows for far lower tax rates (typically less than 1 percent) to raise revenues comparable to the corporate income tax. Between the two extremes are value-added taxes and gross margin taxes that allow for some deductions such as purchases from a third party in the case of a subtraction value-added tax and material and labor typically part of cost of goods sold for some existing gross margin taxes. These exclusions create administrative and compliance costs, enable tax planning and necessitate a higher tax rate. Generally these taxes are levied on all businesses, rather than just corporations.

Any variant of the currently-implemented activity taxes would be a dramatic change in the approach to business taxes and would set Connecticut apart from its competitors in the region. These activity-based taxes have several important advantages over the corporate income tax. The taxes are levied on a much larger base and thus support much lower rates, which reduces distortions including the payoff for many tax planning efforts (since it is more difficult to shift sales than net income); are more stable during expansions and recessions; show stronger base growth over time; and fall on virtually all businesses in the state. However, the disadvantages are that the tax can pyramid as goods move through the supply chain, with a tax potentially levied at each step - raw materials, finished goods, wholesaler, retailer, etc. This advantages vertically integrated firms and may encourage consolidations within a supply chain. The low tax rates would help minimize this distortion. The tax also will comparatively disadvantage high turnover, low profit margin businesses such as discount retail outlets and grocers versus high profit margin businesses such as retailers of luxury goods and many service providers. The presumption is that the tax will be shifted forward and firms in similar sectors will operate on a level playing field. Transitioning to an activity-based tax will pose transitional problems due to the presence of net operating loss carryovers and the large income tax credit carryforwards in Connecticut. These problems have been effectively addressed in other states.

Estimates developed for Connecticut indicate that a revenue neutral gross receipts tax (based on pre-credit corporate tax collections) would have required a 0.22 percent rate in 2012 while an addition VAT would have required a rate of 0.64 percent. The resulting simplifications and the lower rates would enhance the state's attractiveness as a place to do business. The gross receipts tax and VAT bases were more stable and showed stronger growth than corporate tax collections between 2007 and 2012. Stronger base growth would mitigate the need for ongoing structural changes that have been intended to enhance corporate income tax yield.

AN EVALUATION OF CONNECTICUT'S CORPORATE INCOME TAX

The Structure of Connecticut's Corporate Tax System

Forty-four states and the District of Columbia tax corporate net income, each with its own rates and definition of the tax base. Only Nevada, Ohio, South Dakota, Texas, Washington, and Wyoming do not impose broad corporate income taxes. State corporate income tax rates for the top bracket vary from a low of 4.0 percent in Kansas to a high of 12.0 percent in Iowa. The median state imposes a rate of approximately 7 percent. Connecticut's tax is the greater of 7.5 percent tax on net income or 3.1 mills per dollar of capital holding (maximum tax of \$1 million). A 20 percent income tax surcharge for 2015 brings the top rate to 9.0 percent for affected companies and produces a nominally-progressive corporate tax structure. The surcharge applies to companies that have more than \$250 in corporate tax liability and either (1) have at least \$100 million in annual gross income or (2) file combined or unitary returns, regardless of the amount of annual gross income. Recent legislation extended the surcharge two additional years to 2016 and 2017, with a 10 percent surcharge (maximum effective rate of 8.25 percent) being imposed for the 2018 income year. The surcharge will be fully phased out for subsequent years. The presence of the surcharge creates a significant wedge between taxation at the corporate versus pass-through level of reporting and thus increases the potential returns from tax planning. There is also a \$250 minimum tax that applies to corporations. Financial service companies pay a tax equal to the greater of 7.5 percent of net income (plus surcharge if applicable) or \$250. Insurance companies are exempt from the income tax but pay a separate tax; insurance company taxation is beyond the scope of this report.

Among neighboring states, corporate income tax rates are higher than Connecticut's 7.5 percent rate in Massachusetts, New Hampshire, Vermont, New Jersey and Pennsylvania, and are slightly lower in New York and Rhode Island (see Figure 1). Connecticut's 7.5 percent rate plus the surcharge places it among the highest tax rate states in the region. Three of Connecticut's neighboring states have higher personal income tax rates (New York, Vermont, and New Jersey) (see Figure 2). Massachusetts, Pennsylvania, and Rhode Island's rates are lower than that of Connecticut, and New Hampshire only imposes the personal income tax on interest and dividends. A recent report that focuses on industry-specific burdens notes that the state has an above average burden that has increased over time.²

The Connecticut corporate business tax is imposed on all corporations as a tax on the privilege of exercising a corporate franchise or engaging in corporate activities in Connecticut. Like other states, Connecticut can only levy income tax on businesses with a taxable presence, or

² The Tax Foundation and KPMG, *Location Matters: The State Tax Costs of Doing Business*, 2015.

nexus in the state. Federal law places some limits on the ability of states to subject certain businesses to the income tax. For example, Public Law 86-272 prohibits states from taxing business income when the only connection with the state is the solicitation of sales of tangible personal property to customers in the state. In the past, most states required some physical connection, such as an office or permanent employees, to assert nexus. However, many states have broadened their nexus standards to assert income taxing authority when the entity has an “economic nexus” and tax corporations with only customers or intangible assets located in the state. Connecticut has adopted a broad nexus standard, and for income years beginning on or after January 1, 2010, a corporation is subject to the Connecticut business tax if it has a substantial economic presence in Connecticut or derives income from sources in the state.³ Several states, including California, Colorado, Connecticut, Michigan, New York, Ohio, Tennessee, and Washington, have adopted a “bright-line” receipts factor presence standard in which a taxpayer is deemed to establish income tax nexus if the taxpayer’s gross receipts from the state exceed an established threshold. Connecticut has partially adopted the Multistate Tax Commission (MTC) model for factor presence nexus standard such that nexus is established if the business has any property or payroll in the state, or \$500,000 or more in Connecticut sales even when the business has no other presence in the state.

Connecticut currently allows combined reporting but does not require it. However, for tax years beginning on or after January 1, 2016, Connecticut will have mandatory combined reporting for any company that is part of a unitary business.⁴ Partnerships and S Corporations may be considered unitary if they meet certain criteria. The combined group’s net income and apportionment factors will be determined on a water’s edge basis but include affiliated corporations that are incorporated in a tax haven.⁵ However, worldwide and/or federally-defined affiliated group elections are available. Insurance companies remain exempt from the income tax, and are not included in a unitary group as a non-taxable member. Financial services companies are included with non-financial service company members.

Allowing entities to elect between combined reporting versus affiliate group basis is generally not the preferred policy option as a firm will always choose the method that minimizes its tax burden, creating potential horizontal inequities. Further, allowing such elections increases administration and compliance costs because both the state and businesses must administer two different sets of rules. In the Northeast region, Maine, New Hampshire, Vermont,

³ Prior to 2010, Connecticut used a physical presence test.

⁴ See Fox and Luna (2010) for a detailed discussion of combined reporting. The report was commissioned by the NCSL Task Force on State & Local Taxation of Communications and can be found at <http://www.ncsl.org/documents/standcomm/sccomfc/combinedreportingfinaldraft.pdf>

⁵ It may be difficult to determine which members to include in the combined report as it will be dependent on the listing of tax haven countries, which will be determined by the Connecticut Department of Revenue Services.

Massachusetts, New York, and Rhode Island also have mandatory combined reporting. Within the past decade, eight states have adopted combined reporting in an effort to combat tax planning and limit revenue erosion. Existing research doesn't offer clarity on whether combined reporting will enhance or erode state tax collections.

The starting point for determining Connecticut taxable income is federal net income, and with a few exceptions, the rules conform to the federal law. Additions to federal income include certain payments (interest and intangible costs) to related corporations, section 199 qualified domestic production activities deduction, Connecticut state income or franchise taxes, bonus depreciation, dividends paid by a captive real estate investment trust (REIT), and interest from federal, state, or local government obligations.

Addbacks for related party expenses have been a common approach to combat abusive tax planning. Nearly two dozen states require some type of addback for intercompany expenses. Some combined reporting states also have addback statutes to apply to related party expense paid to a member not in the combined group (i.e., foreign company). Some state statutes are very narrow, requiring only intercompany royalty payments. Others require royalties and intangible interest, while some require royalties and all interest, including intercompany interest. Finally, a few require addback of all intercompany expenses, including management fees. Connecticut requires the addback of related party interest and intangible expenses, unless the corporation can provide convincing evidence that the adjustments are unreasonable and the intercompany transactions were not for tax avoidance purposes.

Most states follow the UDITPA approach to determine business and nonbusiness income, with the former apportioned and the latter allocated to the situs of the corporate headquarters. However, in Connecticut, a corporation's entire net income is subject to apportionment. States vary dramatically in how they apportion corporate income (see Table 1). Connecticut has two main apportionment formulas--the three factor formula with property, payroll, and double-weighted sales and the single-factor sales formula. Apportionment formulas that place extra weight on the sales factor are intended to promote economic development by reducing tax liabilities related to in-state property and payroll. The single sales formula applies to manufacturers, financial service companies and broadcasters. Most other Connecticut firms use a three factor formula of payroll, property and double weighted sales. For both methods, sales are sourced using the destination method and are sourced to Connecticut if delivered to an in-state purchaser. Under the new combined reporting rules, each member of the combined group will calculate its own apportionment based on the formula applicable to that member. Pass through entities (that may be part of a unitary group) use the traditional three factor

formula, but each factor is single weighted instead of double weighting of sales as with corporate taxpayers.

With the exception of Delaware, all states in the northeast and mid-Atlantic regions have moved away from the traditional 3-factor equal weighting formula (see Figure 3). Only Vermont, New Hampshire and Massachusetts double weight sales; all other states in the region use a single sales factor formula. Connecticut should consider harmonizing the apportionment rules so a single set of rules applies to all business taxpayers regardless of form or line of business. In-state businesses with significant sales outside the state favor single factor formulas because the method disregards their in-state property and payroll, and will generally result in lower overall income apportioned to Connecticut. However, the single factor formula will tend to increase apportioned income for out of state businesses selling into Connecticut. Multiple apportionment formulas increase tax complexity and thus administrative and compliance costs and may affect the relative attractiveness of different organizational forms.

Connecticut sources multistate service revenue using the traditional cost of performance rules, so services performed in Connecticut are sourced to Connecticut, regardless of location of the customer. However, as the U.S. has evolved into a service-based economy, many states are moving away from these rules and are adopting market-based sourcing for multistate service revenue. Fox and Yang (2015) show that this can increase tax revenues. Cost of performance is often criticized for being too difficult to determine, for penalizing in-state companies (i.e., origin taxation), and unfair when using an all or nothing approach. Market-based sourcing seeks to assign revenue based on the location of either the service provider's customers or where the customers receive benefit from the service provided, yielding destination-based taxation. The cost of performance rule is looked at as an all or nothing type rule because the majority state gets assigned all of the revenue. Under market-based sourcing, the destination of the service revenue is important, not where the revenue is earned. Market-based sourcing allows states to tax out-of-state service providers with customers within the respective state. States lose revenues from in-state companies due to lower sales factor apportionment but generate more revenues from out-of-state firms performing services.

While destination taxation is generally preferred, the term "market" can vary substantially across the states, and the location of the benefit can be difficult to determine, particularly if the service is not site specific (e.g., management consulting, accounting services, custom software). This problem also exists in the sales tax arena, and it is common for sellers of software or information services to ask customers to specify where the service will be used. Reliance on customers' information will lead to inconsistencies. For example, one customer may think the benefit is received at the company headquarters while another may think the benefit is

received in all jurisdictions where the company has operations. More guidance from states using market-based sourcing is needed.

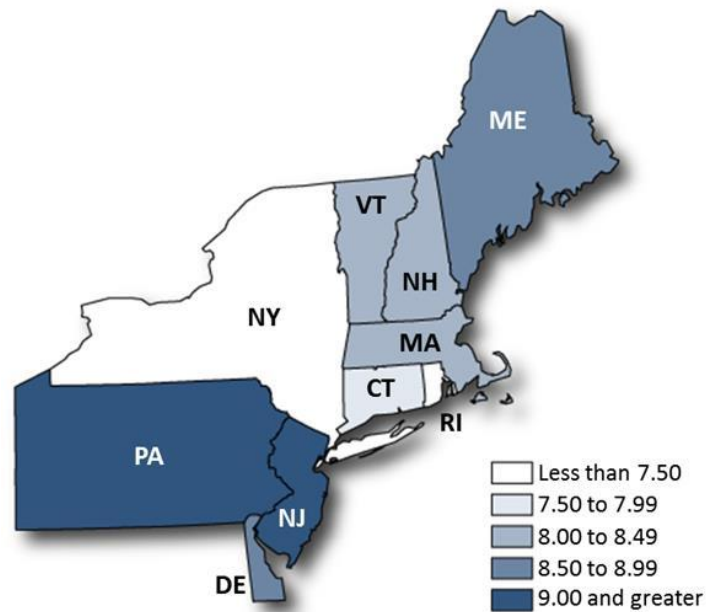
Most of Connecticut's neighbors have moved to market-based sourcing for services; New Jersey, Vermont, New Hampshire continue to use cost of performance (see Figure 4). States also have special rules for sourcing royalties from holding companies and software services. The combination of cost of performance rules in one state and market-based sourcing in another state can lead to "nowhere" income or double taxed income. For example, Connecticut firms providing services to a state with market based sourcing (State M) may be taxed under Connecticut's cost of performance standards, and in the destination state under market based sourcing rules. Alternatively, a service provider located in State M providing services to Connecticut businesses may avoid income tax on the entire amount of the services provided (nowhere income).

An important feature of the state corporate income tax in Connecticut is the presence of a variety of non-refundable credits that businesses may use to offset their corporate tax liability. Connecticut is certainly not unique in its use of credits, but its scope of use is higher than other states, at least in terms of the number of credits offered through the corporate income tax code. To provide perspective, Table 2 shows the total number of refundable and nonrefundable corporate income tax credits in 2014 for those states with the traditional corporate income tax structure. These data show Connecticut having 30 credits compared to an average of just over 25 across all states. The only state in the region with more credits embedded in the corporate income tax is New York with 54. What these data do not reveal is how extensively the states actually employ the various credits and their consequences for foregone revenue. We discuss credits in more detail below.

Recent legislation will impose limits on net operating loss (NOL) carryforwards and tax credits. Beginning with the 2015 tax year, the amount of the NOL deduction will be limited to 50 percent of Connecticut net income. An alternative limit is available for corporations that are part of a combined group with over \$6 billion in unused NOLS from tax years prior to 2013. Tax credits used to reduce corporate tax liability will be limited to 50.01 percent (currently 70 percent) of the amount of tax due in any income year prior to the application of credits.

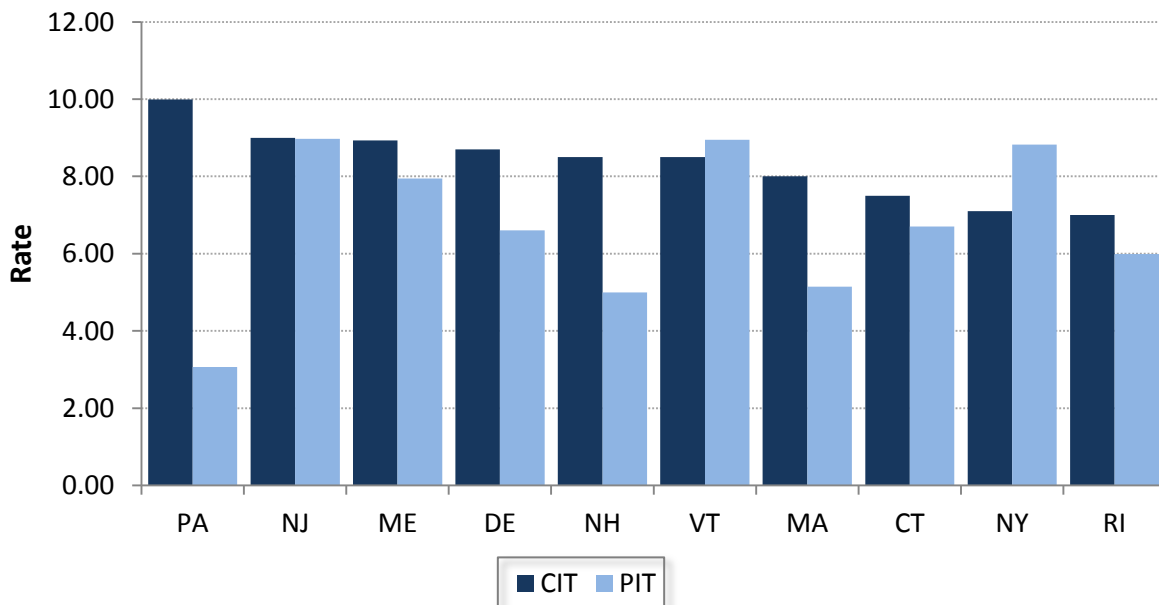
Similar to most states, Connecticut treats the LLC as a pass-through entity with income subject to tax on the members' corporate or individual income tax returns. Rather than trying to collect the required tax from a nonresident owner, many states impose an entity-level tax or a withholding tax on the distributive share of income of nonresident members. In the northeast, most states waive the nonresident partner withholding requirement if a composite return is filed and quarterly estimated payments are made. Connecticut LLCs and LLPs pay tax on nonresident noncorporate partners' distributive shares of Connecticut-source income at the highest individual marginal rate.

FIGURE 1: Northeastern State Corporate Income Tax Rates, January 1, 2015



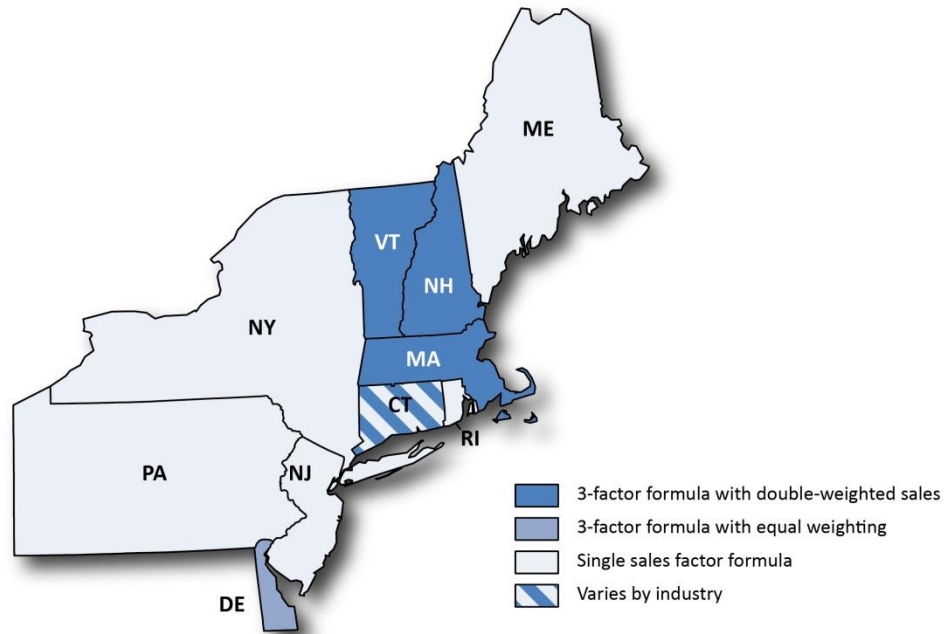
Source: RIA Checkpoint

FIGURE 2: Corporate and Personal Income Tax Rates for Neighboring States, January 1, 2015



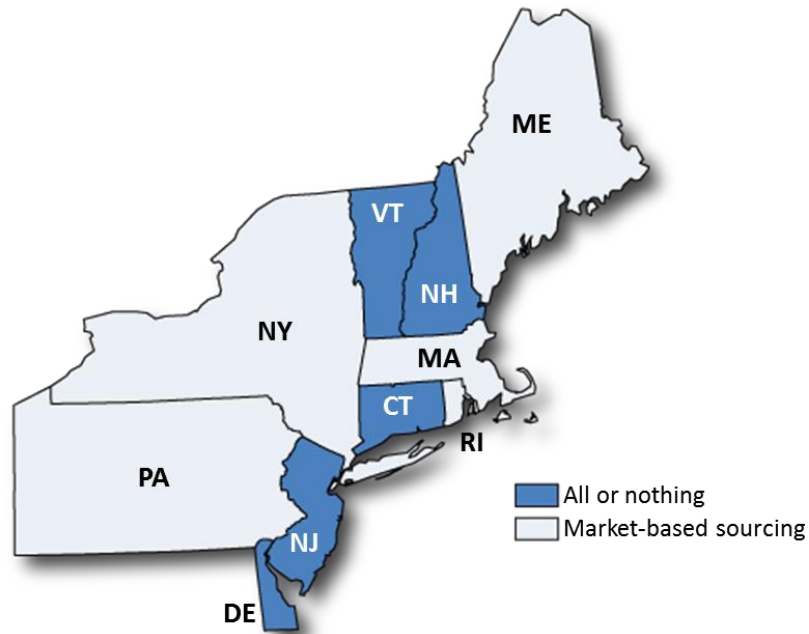
Source: The Federation of Tax Administrators from various sources. Does not include 20 percent Connecticut corporate surcharge which yields a 9.0 percent total rate for 2015.

FIGURE 3: Apportionment Formulas for Northeastern States



Source: RIA Checkpoint

FIGURE 4: Northeastern States that Source Service Revenue Using A Market-Based Approach



Source: RIA Checkpoint

TABLE 1: State Apportionment of Corporate Income as of January 1, 2015

State	Formula	State	Formula
Alabama *	Double wtd Sales	Montana *	3-Factor
Alaska *	3-Factor	Nebraska	Sales
Arizona *	Double wtd Sales/90percent Sales, 5percent Property & 5percent Payroll	Nevada	No State Income Tax
Arkansas *	Double wtd Sales	New Hampshire	Double wtd Sales
California *	Sales	New Jersey	Sales
Colorado *	Sales	New Mexico *	3 /Triple wtd Sales b
Connecticut	Double wtd Sales/Sales	New York	Sales
Delaware	3-Factor	North Carolina *	Double wtd Sales
Florida	Double wtd Sales	North Dakota *	3-Factor
Georgia	Sales	Ohio	n.a. c
Hawaii *	3-Factor	Oklahoma	3-Factor
Idaho *	Double wtd Sales	Oregon	Sales
Illinois *	Sales	Pennsylvania	Sales
Indiana	Sales	Rhode Island	Sales
Iowa	Sales	South Carolina	Sales
Kansas *	3-Factor	South Dakota	No State Income Tax
Kentucky *	Double wtd Sales	Tennessee	Double wtd Sales
Louisiana	3-Factor	Texas	Sales
Maine *	Sales	Utah	Sales
Maryland	Sales/Double wtd Sales	Vermont	Double wtd Sales
Massachusetts	Sales/Double wtd Sales	Virginia	Double wtd Sales/Sales
Michigan	Sales	Washington	No State Income Tax
Minnesota	Sales	West Virginia *	Double wtd Sales
Mississippi	Sales/Other a	Wisconsin *	Sales
Missouri *	3-Factor	Wyoming	No State Income Tax
		Dist. Of Columbia	Sales

Source: Compiled by Federation of Tax Administrators from state sources.

Notes:

The formulas listed are for general manufacturing businesses. Some industries have a special formula different from the one shown.

* State has adopted substantial portions of the UDITPA Uniform Division of Income Tax Purposes Act).

Slash (/) separating two formulas indicates taxpayer option or specified by state rules.

3-Factor = sales, property, and payroll equally weighted.

Double wtd Sales = 3 factors with sales double-weighted

Sales = single sales factor

1. Mississippi provides different apportionment formulas based on specific type of business. A single sales factor formula is required if no specific business formula is specified.
2. New Mexico is phasing in a single sales factor for manufacture business through 1/1/2018.
3. Ohio Tax Department publishes specific rules for situs of receipts under the CAT tax.

TABLE 2: Refundable and Nonrefundable Corporate Tax Credits: 2014

State	Number	State	Number
Alabama	14	Nevada	n.a.
Alaska	7	New Hampshire	8 *
Arizona	25	New Jersey	19
Arkansas	44	New Mexico	19
California	18	New York	54
Colorado	18	North Carolina	48
Connecticut	30	North Dakota	26
Delaware	9	Ohio	n.a.
Florida	22	Oklahoma	44
Georgia	32	Oregon	36
Hawaii	21	Pennsylvania	14
Idaho	14	Rhode Island	14
Illinois	21	South Carolina	57
Indiana	40	South Dakota	n.a.
Iowa	33	Tennessee	8
Kansas	32	Texas	n.a.
Kentucky	24	Utah	19
Louisiana	58	Vermont	13
Maine	18	Virginia	29
Maryland	30	Washington	n.a.
Massachusetts	18	West Virginia	27
Michigan	1	Wisconsin	17
Minnesota	6	Wyoming	n.a.
Mississippi	29		
Missouri	60	Average for	
Montana	22	states with	
Nebraska	11	CIT	25.2

Source: *Corporate Tax Incentives: Charting State Tax Credits*, Larry R. Garrison and Heather Evanoff, *Journal of Multistate Taxation and Incentives* 24(2014).

n.a. not applicable

*Business Profits Tax Credits only. Six credits under Business Enterprise Tax have direct counterparts under Profits Tax.

Note: Generally includes franchise and excise tax credits.

Corporate Income Tax Filers and Taxes Paid

Business taxpayers in Connecticut may file as pass-through entities with income taxed at the individual level under the personal income tax or choose the corporate form for reporting purposes.⁶ Businesses must calculate tax on a net income basis and on a capital basis, as noted above, and then pay tax on the higher of the two measures; if the tax liability is below \$250 for each method, the minimum tax of \$250 is to be remitted. The net income tax is the most important component of the corporate tax system, yielding 85.6 percent of collections in 2012. The capital base method produced 10.9 percent of post-credit taxes compared to just 3.4 percent for the minimum tax.

In 2012, a total of 41,290 corporate taxpayers filed business tax returns as either single filers, combined filers or unitary filers.⁷ Single filers dominated and accounted for 40,060 or 97.0 percent of the returns filed, compared to only 998 combined filers and 232 unitary filers. In 2012, 20.9 percent of non-exempt business tax filers paid the net income tax, 12.1 percent paid the capital base tax and a sizable 57.6 percent paid the minimum tax.

The overall trend of business tax return filing by filer type is shown in Figure 5. There were 44,277 business tax returns filed in 2003 and 41,290 returns filed in 2012, reflecting a decline of 2,987 or 6.7 percent. The number of single filers (inclusive of exempt returns) fell 3,122, combined filers fell by 75 and the number of unitary filers rose by 210 returns. The decline in corporate tax returns likely reflects, at least in part, an ongoing shift to pass-through personal income tax reporting at the individual level. The number of single filers appears to have been affected by the onset of the Great Recession which occurred at the end of 2007. The rate of decline subsequently slowed and in 2012 the number of single filers showed the first growth since 2006. Combined filers show only a very small decline during the period of the recession, with slight growth emerging in 2010. The number of unitary filers shows slow, steady growth over the 2003-2012 time frame.

While single filers have considerable dominance in terms of the number of returns filed, the amount of tax paid per return is lower than for combined and unitary filers. In 2012, single filers accounted for 60.4 percent of taxes paid (after credits) compared to 29.2 percent for combined filers and 10.3 percent for unitary filers. In 2003, single filers contributed 59.6

⁶ Pass-through entities have grown significantly and now account for over one-half of all business income at the federal level. The income is concentrated among high-income earners. Cooper et al. (2015) estimate that partnerships and sole proprietorships have much lower tax rates than regular corporations under the federal income tax.

⁷ Data on business filers are taken from the *Annual Report*, Connecticut Department of Revenue Services, various years. See <http://www.ct.gov/Drs/cwp/view.asp?a=1442&q=266020&drsPNavCtr=percent7C49946percent7C>

percent of post-credit tax revenue versus 39.7 percent for combined filers and only 0.7 percent for unitary filers.

Combined filers potentially confront a unique preference tax. In 2003, the maximum preference tax was increased to \$250,000 from \$25,000. Combined filers must calculate tax as if they were reporting separately as well as if they were to file as a combined entity. The difference between these two tax liabilities—up to the preference cap—is the preference tax liability. Under the lower cap, preference tax revenues were only \$7.8 million in 2002. However, under the revised cap of \$250,000 preference tax revenues jumped to \$34.6 million in 2003. Combined filers nonetheless saved \$195.4 million in taxes in 2003 by not filing separate returns. The preference tax cap was increased to \$500,000 in 2009. In 2012, preference tax revenue totaled \$34.8 million and combined filers saved \$467 million in taxes compared to filing separately.

A significant share of corporate revenue is derived from a small number of firms. For example, in 2012, 11 taxpayers paid 20 percent of all pre-credit taxes or 15.3 percent of post-credit taxes. On the other hand, 37,381 firms, representing 98.2 percent of all filers, paid the bottom 20 percent of pre-credit taxes and 23.7 percent of all post-credit taxes. The pattern was roughly similar in 2008.

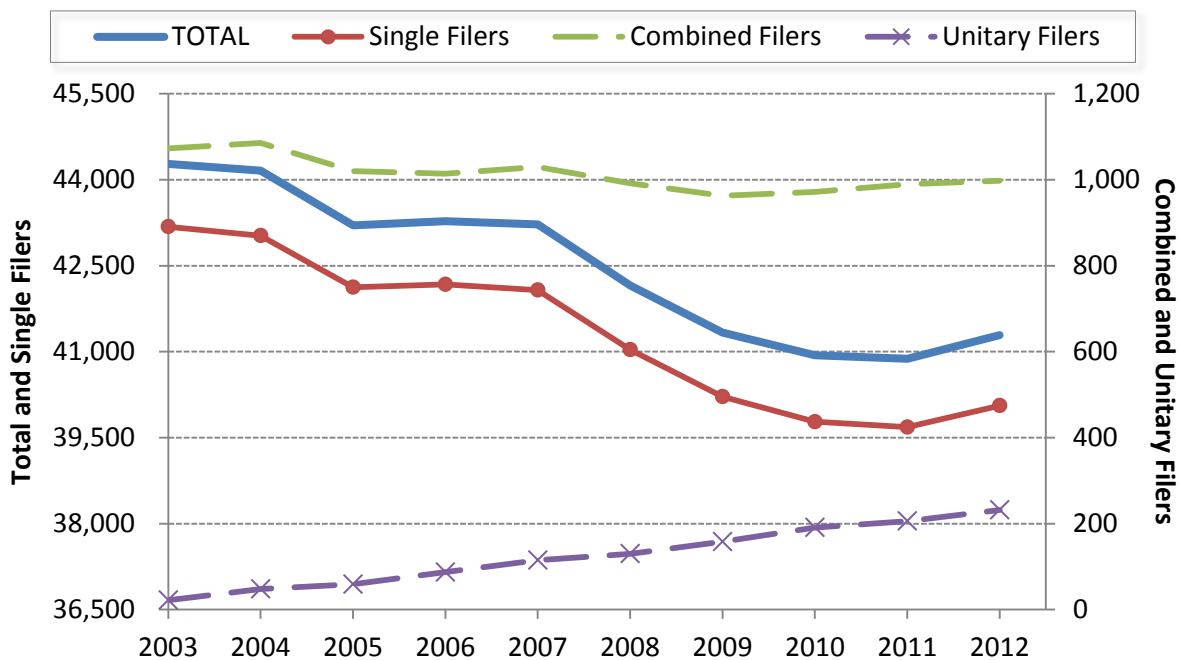
A corporate surtax was in place in 2003, 2004, 2006, and 2009-2015 and is scheduled to remain in place until 2018. The surtax, which applies to *pre-credit* tax liabilities as well as the minimum tax, produced \$40.2 million in 2010, \$38.6 million in 2011 and \$77.5 million in 2012. The rates have ranged from a low of 10 percent in 2009-2011 to a high of 25 percent in 2004. The surtax is 20 percent through 2017 and 10 percent for 2018.

The number of returns filed for 2006 and 2012 by industry sector is reported in Table 3.⁸ (Tables 10 and 11 below present data on taxes and credits by industry.) The largest number of returns in 2012 came from the professional, scientific and technical services sector (6,238), followed by manufacturing (3,871) and real estate and rental leasing (3,787). A total of 4,570 returns were not assigned to a specific sector. The number of returns filed fell 4.6 percent between 2006 and 2012. The decline was broadly based, with only professional, scientific and technical services, management of companies and enterprises and the unassigned category showing growth. The largest percentage decline was in the small mining sector (35.4 percent), which accounted for only 0.2 percent of returns in 2006 and 0.1 percent of returns in 2012. The construction sector saw the largest numerical decline, totaling 949 returns.

⁸ Business tax returns by industry sector are not reported prior to 2006.

The Connecticut Department of Revenue Services effectively administers two rather complex business tax systems for those firms reporting under the corporate umbrella—the net income tax and the capital base tax. Connecticut is among a minority of states that impose a capital base tax and its rate is relatively high. The system is complicated further by the allowance for differing filing status which adds additional layers of complexity. This is especially noteworthy when only a very small number and share of returns are submitted by unitary and combined filers. The requirement that businesses calculate tax under the multiple systems adds appreciably to the compliance costs and administrative burden of the corporate tax system in Connecticut. The preference tax and the surtax are additional elements of the system which add further complexity and uncertainty due to ongoing policy changes.

FIGURE 5: Number of Taxpayers by Filing Status



Source: State of Connecticut, Department of Revenue Services, Annual Report, various years.

TABLE 3: Corporation Business Tax Returns by Industry

Industry Sector	Number of Returns		
	2006	2012	Growth 2006-12
11 Agriculture, Forestry, Fishing & Hunting	162	146	-9.9%
21 Mining	65	42	-35.4%
22 Utilities	114	96	-15.8%
23 Construction	4,000	3,051	-23.7%
31-33 Manufacturing	4,347	3,871	-11.0%
42 Wholesale Trade	2,873	2,561	-10.9%
44-45 Retail Trade	3,937	3,564	-9.5%
48-49 Transporting & Warehousing	940	762	-18.9%
51 Information	1,074	914	-14.9%
52 Finance & Insurance	3,024	2,683	-11.3%
53 Real Estate & Rental & Leasing	4,211	3,787	-10.1%
54 Professional, Scientific & Tech Services	6,032	6,238	3.4%
55 Management of Companies & Enterprises	816	895	9.7%
56 Administrative & Support Services	1,467	1,306	-11.0%
61-62 Education, Health Care & Social Assistance	2,220	1,787	-19.5%
71 Arts, Entertainment, & Recreation	517	431	-16.6%
72 Accommodation & Food Services	1,126	956	-15.1%
81-92 Other Services	3,815	3,630	-4.8%
999999 Not Yet Assigned	2,535	4,570	80.3%
TOTAL	43,275	41,290	-4.6%

Source: State of Connecticut, Department of Revenue Services, *Annual Report*, various years.

Corporate Tax Revenue and Yield Performance

The most recently-available data from the U.S. Census Bureau show Connecticut's corporate income tax yield to be \$627.4 million in 2014. As shown in Table 4, this places Connecticut 19th in the nation among those states with a traditional net income tax, roughly in line with their GDP ranking of 23rd in 2014. Among Connecticut's neighbors, Delaware, Maine, New Hampshire, Rhode Island and Vermont all collect less corporate income tax revenue, while Massachusetts, New Jersey, New York and Pennsylvania all collect more revenue. The latter states find themselves in the top ten of all states in the size of corporate income tax collections.

State corporate income tax revenues tend to be more volatile than other revenue sources over short-run boom-bust business cycles. Figure 6 shows the historical pattern of revenue performance for Connecticut's corporate income tax as well as *total* tax collections. The level of corporate tax revenue collections was especially volatile during periods centered around the 1990-91, 2001 and 2007-09 recessions. Figure 7 looks at annual percent changes in Connecticut corporate tax collections and *non-corporate tax* collections; a similar pattern of volatility emerges. Simple coefficients of variation indicate that corporate tax revenue in Connecticut was more volatile than other states between 1975 and 2014.⁹

Longer-term corporate tax revenue growth is typically measured in terms of *buoyancy* and *elasticity*. Revenue buoyancy is the growth in revenue over time in response to economic growth, inclusive of structural changes to tax rates and tax bases. Elasticity, on the other hand, measures the responsiveness of taxes to economic growth, *net* of rate and base changes. The reporting behavior of business is embedded in both concepts. Connecticut's corporate tax revenue buoyancy was relatively high in the 1980s because of federal policy changes that expanded the taxable base at the state level. Over the past ten years buoyancy was high because of a series of state policy changes that enhanced revenue performance, including restrictions on the use of credits (2002), introduction of the corporate surtax (2003), an increase in the maximum additional preference tax for combined returns and introduction of interest addback provisions (2003), and a further increase in the maximum preference tax liability and introduction of economic nexus for corporate filers (2009). It is not clear how corporate revenues would have performed absent these policy changes.

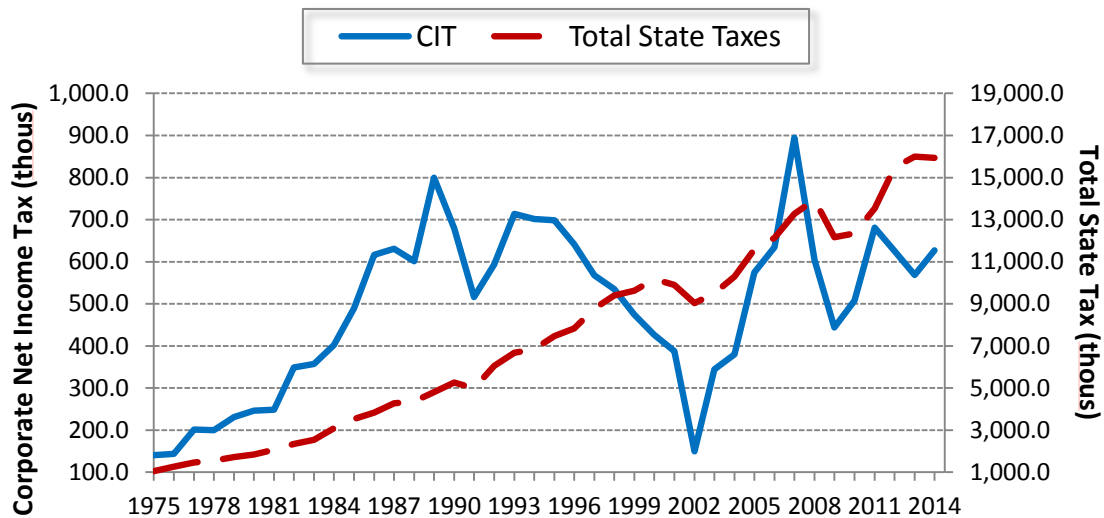
Corporate income tax elasticity is difficult to measure because it requires complicated adjustments to actual revenue series to net out the influence of policy; the policy changes lead to behavioral responses on the part of taxpayers that are exceedingly difficult to isolate. The

⁹ The coefficient of variation is the mean divided by the standard deviation. Normalizing by the standard deviation allows comparability across states with different levels of corporate income tax collections.

corporate income tax is generally viewed as being inelastic which means the underlying base grows more slowly than the economy. Business tax planning is considered to be one reason for a relatively low corporate income tax elasticity. As businesses see their tax liabilities grow, they arrange their affairs to utilize provisions of the tax code that allow them to legitimately reduce their taxes. The growth of pass-through businesses also has had a significant dampening effect on corporate revenue yield and elasticity in Connecticut and other states as the corporate tax base has migrated to the personal income tax. While some of the revenue yield lost from the corporate income tax is captured by the personal income tax, the magnitude is not known.

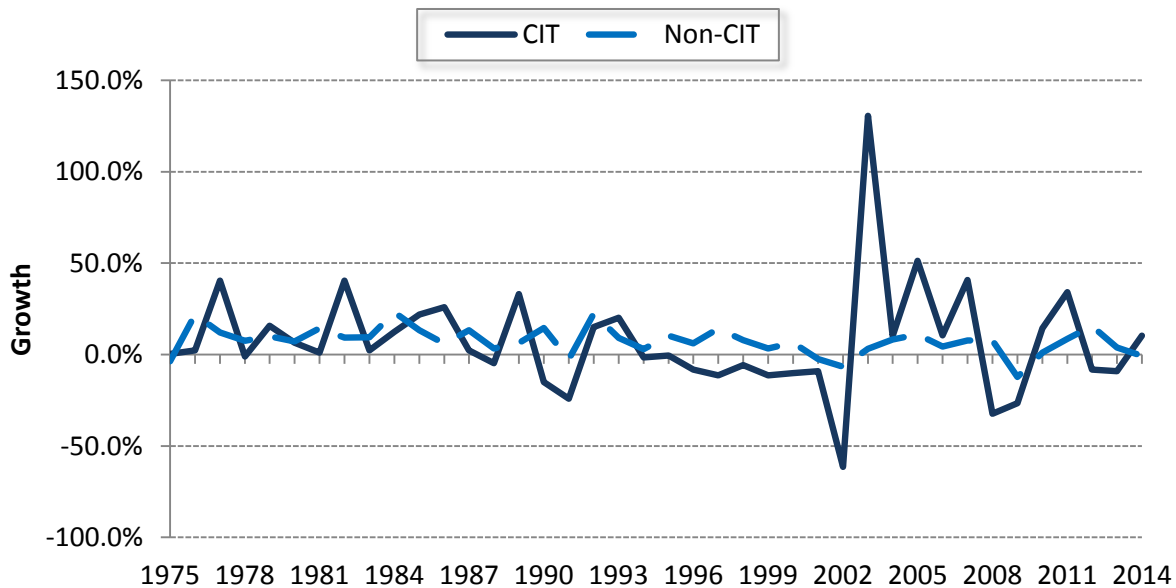
High revenue volatility and low revenue elasticity each have important implications for the state budget and reliance on other taxes. In the short run, highly-volatile corporate income tax revenues mean sharp reductions in collections during recessionary periods when there is significant stress on other revenue sources and the ability to support public service expenditures through the state budget. Exceptionally strong corporate tax revenue growth during subsequent periods of expansion may cause taxpayers to seek relief as they sense rising tax liabilities. The same strong growth in collections can also create the false illusion of a healthy and vibrant tax instrument in the eyes of the public and policymakers. Together this environment gives rise to pressures that could lead to implementation of provisions that diminish corporate revenue yield (e.g. tax credits) and/or increase public expenditures. Low revenue elasticity means that revenues may grow more slowly than public expenditure demands. Over the longer term, this creates pressures to implement policy changes to increase corporate collections and/or increase reliance on other revenue sources.

FIGURE 6: Connecticut Corporate Income and Total State Taxes: 1975 to 2014



Source: U.S. Census Bureau, *Annual Survey of State Government Tax Collections*, various years.

FIGURE 7: Annual Percent Change in Connecticut Corporate Income and Non-Corporate State Taxes: 1975 to 2014



Source: U.S. Census Bureau, *Annual Survey of State Government Tax Collections*, various years.

TABLE 4: Corporate Income Tax Revenue by State, 2014

State	Collections		State	Collections	
	(\$ thous)	Rank		(\$ thous)	Rank
Alabama	406,408	26	Montana	150,139	41
Alaska	408,938	25	Nebraska	306,591	34
Arizona	575,180	20	Nevada (a)	—	—
Arkansas	398,493	27	New Hampshire	542,847	21
California	8,858,498	1	New Jersey	2,368,068	4
Colorado	717,506	17	New Mexico	205,702	37
Connecticut	627,358	19	New York	4,861,687	2
Delaware	278,872	35	North Carolina	1,360,628	8
Florida	2,043,750	7	North Dakota	250,438	36
Georgia	943,806	13	Ohio (b)	—	—
Hawaii	126,045	42	Oklahoma	397,290	28
Idaho	190,002	39	Oregon	495,134	23
Illinois	4,284,646	3	Pennsylvania	2,301,589	5
Indiana	866,747	15	Rhode Island	120,112	43
Iowa	388,699	29	South Carolina	327,809	32
Kansas	330,181	31	South Dakota (a)	—	—
Kentucky	674,464	18	Tennessee	1,176,971	10
Louisiana	481,212	24	Texas (c)	—	—
Maine	182,928	40	Utah	307,910	33
Maryland	982,784	12	Vermont	105,817	44
Massachusetts	2,194,620	6	Virginia	740,511	16
Michigan	881,011	14	Washington (a)	—	—
Minnesota	1,315,762	9	West Virginia	203,508	38
Mississippi	526,302	22	Wisconsin	986,464	11
Missouri	357,724	30	Wyoming (a)	—	—

Source: U.S. Census Bureau, *2014 Annual Survey of State Government Tax Collections*.

- a. No corporate income tax
- b. Ohio no longer levies a tax based on income (except for a particular subset of corporations), but instead imposes a Commercial Activity Tax (CAT) equal to \$150 for gross receipts situated to Ohio of between \$150,000 and \$1 million, plus 0.26% of gross receipts over \$1 million. Banks continue to pay a franchise tax of 1.3% of net worth. For those few corporations for whom the franchise tax on net worth or net income still applies, a litter tax also applies.
- c. Texas imposes a Franchise Tax, otherwise known as margin tax, imposed on entities with more than \$1,030,000 total revenues at rate of 1%, or 0.5% for entities primarily engaged in retail or wholesale trade, on lesser of 70% of total revenues or 100% of gross receipts after deductions for either compensation or cost of goods sold.

Revenue Portfolio and Corporate Revenue Reliance

In most states, corporate income tax collections account for a relatively small single-digit share of overall tax collections. As shown in Table 5, corporate tax collections in Connecticut accounted for only 3.9 percent of overall state tax collections in 2014, compared to 5.4 percent for all states and the District of Columbia. Corporate tax collections in Connecticut represent a much smaller share of overall tax revenue than most neighboring states, including Delaware (8.8 percent), Massachusetts (8.7 percent), New Jersey (8.0 percent), New York (6.3 percent) and Pennsylvania (6.7 percent). On the other hand, Connecticut's personal income tax accounted for 48.8 percent of total tax collections, well above the 35.8 percent national average. Of the neighboring states, only Massachusetts and New York placed greater reliance on the personal income tax than Connecticut. Connecticut's sales tax generates 25.0 percent of tax revenue versus 31.2 percent for all states and the District of Columbia.

Over time, Connecticut has seen a major shift in its revenue portfolio due in part to the adoption of the personal income tax, but also because of falling corporate tax revenues from the early 1990s to 2002. Corporate taxes as a share of total state taxes are illustrated in Figure 8. The volatility of the corporate income tax is apparent especially in the pre-1990 window. Following adoption of the personal income tax, the corporate income tax's contribution to total revenue collections bottomed out at just under 2.0 percent in 2002. Following a pre-recession spike in 2007, corporate income taxes have stabilized at about 4.0 percent of total collections.

Revenue reliance is commonly measured by taxes per capita or taxes as a share of personal income. The latter is generally the preferred measure because it reflects both the ability to pay taxes and the size of a state economy.¹⁰ In the context of business taxation, both measures are somewhat problematic because corporate income taxes may be paid by out-of-state taxpayers.¹¹ Nonetheless, analysis of tax reliance across states and across time typically rely on population and personal income to normalize the size of tax collections to facilitate as close to apple-to-apple comparisons as is possible.

Connecticut's corporate income tax revenue per capita stood at \$174 in 2014, placing it 14th in the nation. (See Table 6.) Delaware, New Hampshire, New Jersey, New York and Pennsylvania all placed greater reliance on the corporate income tax on a per capita basis. Because Connecticut has the highest per capita income in the nation, its ranking of corporate tax

¹⁰ Personal income is a resident-based measure that includes wages and salaries, rental income, dividends, interest income, proprietors' income and transfer payments. A resident adjustment is used to account for out-of-state income earned state by residents, as well the accrual of in-state income by nonresidents which must be allocated to their state of residence.

¹¹ Corporate income taxes may also be shifted backwards to labor or other factors of production or shifted forward to final consumers or through the supply chain.

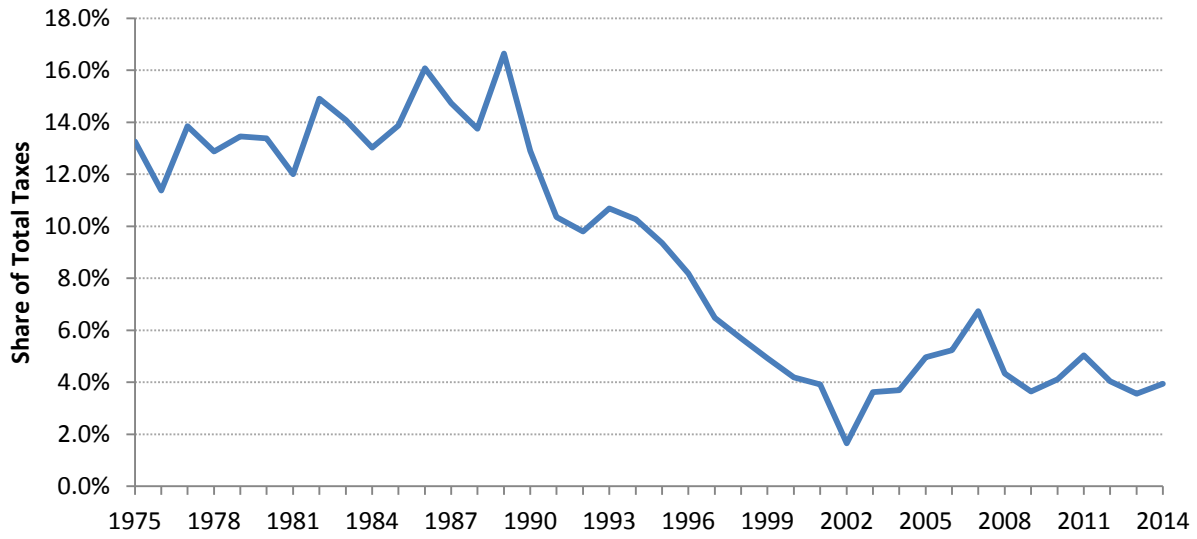
reliance as a share of personal income will be lower than its ranking of per capita reliance. In 2014, corporate taxes as a share of state personal income were 0.28 percent, placing Connecticut at 27th among all states. All neighboring states other than Rhode Island placed greater reliance on corporate income tax revenues as a share of personal income.

Figure 9 illustrates per capita corporate income tax reliance dating back to 1975. Per capita reliance rose steadily from under \$50 in 1975 to \$244 in 1989. As noted above, federal policy changes that affected the state corporate income tax base contributed to the rising burden in the 1980s. Subsequently declining corporate tax collections, again caused in part by federal policy changes, caused per capita reliance to return to roughly the level that prevailed in 1975 by 2002. State policy changes noted above contributed to rising per capita reliance which peaked at \$254 in 2007. Reliance then fell before returning to \$174 in 2014.

Between 1974 and 1999, corporate taxes as a share of personal income in Connecticut hovered between 0.4 percent and 1.0 percent, as shown in Figure 10. The upward movement in reliance as a share of personal income is smaller than the increase in per capita reliance because of relatively strong growth in state personal income. Reliance slipped to 0.1 percent in 2002 and in the years following fell in the 0.2-0.5 percent range. Non-corporate taxes—all state taxes other than the corporate income tax—have seen increased reliance over time. Standing at 4.7 percent of personal income in 1974, non-corporate tax reliance trended upward reaching a peak of 7.3 percent in 1998. In subsequent years, reliance has been between 5.9 percent (2002) and 7.1 percent (2012 and 2013).

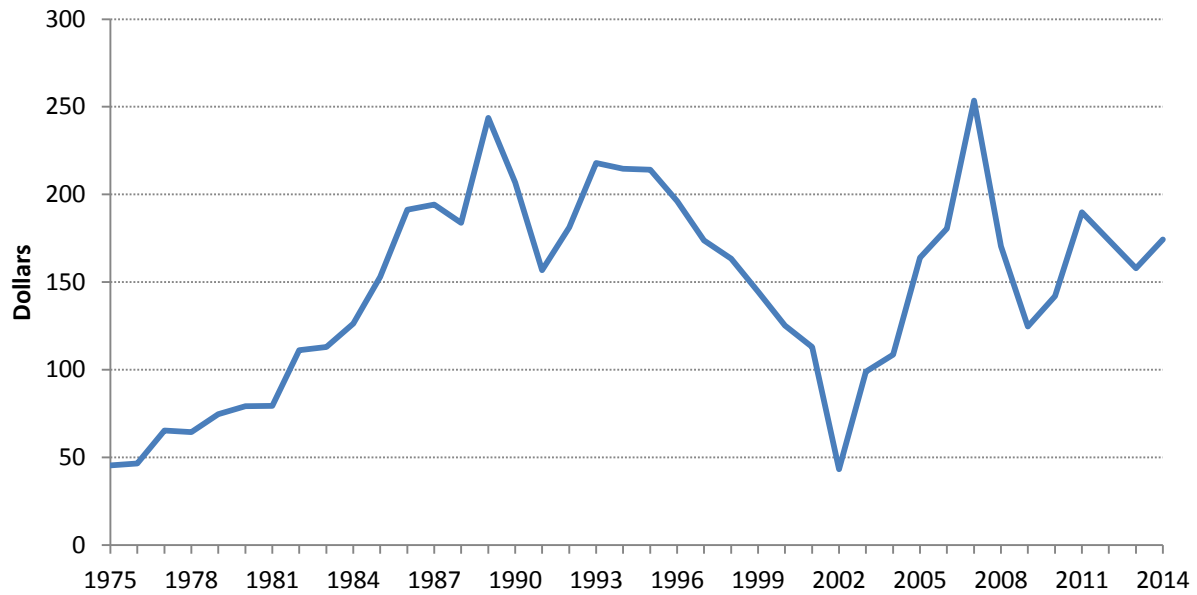
Together this discussion shows that Connecticut's corporate income tax has an above-average yield compared to other states but collections as a share of total taxes are well below the national average. The tax is much more volatile than other revenue sources over the ups and downs of the business cycle and its underlying elasticity is likely quite modest. Corporate tax revenue growth was relatively strong over the last decade because of rate and base changes that have enhanced revenue yield. Over the long term 1974-2014 time frame, corporate income tax collections have grown more slowly than non-corporate revenues; over the shorter 2005-2014 time frame, corporate tax collections per capita were up only 6.3 percent compared to 35.5 percent growth in non-corporate tax revenues. Additional policy changes will likely be required to maintain revenue yield in the years ahead, leading to policy uncertainty for taxpayers and ever-changing costs of administration and compliance.

FIGURE 8: Connecticut Corporate Income Tax as a Share of Total Taxes, 1975 to 2014



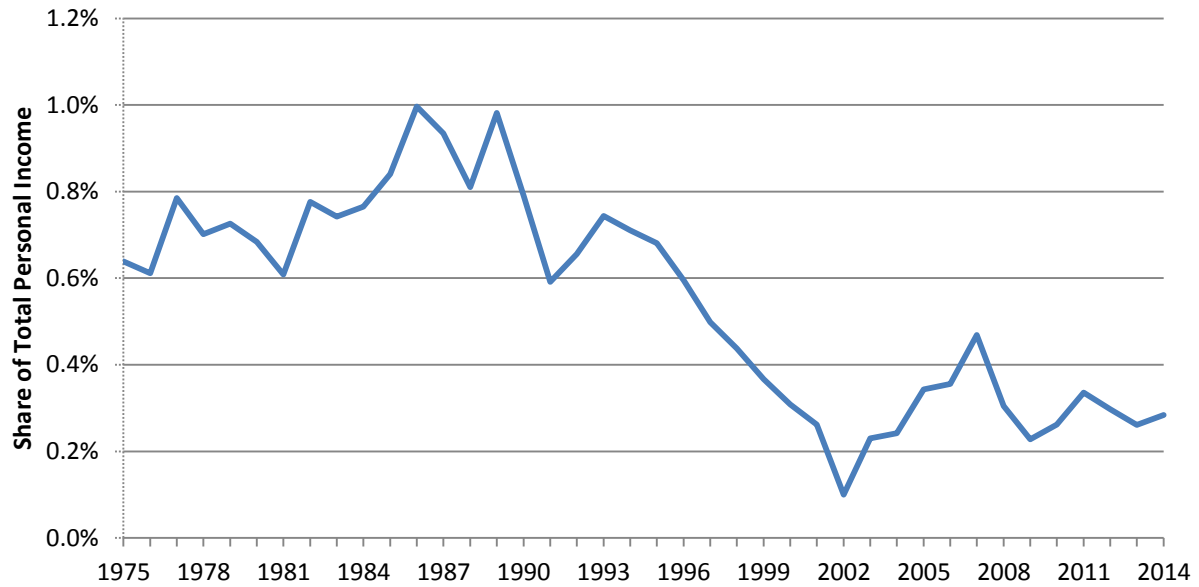
Source: U.S. Census Bureau, *Annual Survey of State Government Tax Collections*, various years.

FIGURE 9: Connecticut Corporate Income Tax Per Capita, 1975 to 2014



Source: U.S. Census Bureau, *Annual Survey of State Government Tax Collections*, various years; and U.S. Census Bureau, *Annual Population Estimates*, various years.

FIGURE 10: Connecticut Corporate Income Tax as a Share of Total Personal Income, 1975 to 2014



Source: U.S. Census Bureau, *Annual Survey of State Government Tax Collections*, various years; and Bureau of Economic Analysis, *State Personal Income*.

TABLE 5: 2014 State Tax Collections by Source (percentage of total)

	Property	Sales	Selective Sales*	Individual Income	Corporate Income	Other
Alabama	3.5	25.8	26.0	34.5	4.4	5.8
Alaska	3.8	--	7.6	--	12.1	76.6
Arizona	6.3	45.8	13.5	26.5	4.4	3.5
Arkansas	12.1	35.0	13.4	29.1	4.5	6.0
California	1.6	27.0	9.3	49.2	6.4	6.5
Colorado	--	22.3	15.8	48.1	6.1	7.7
Connecticut	--	25.0	17.6	48.8	3.9	4.7
Delaware	--	--	15.1	32.8	8.8	43.3
Florida	0.0	60.7	21.4	--	5.8	12.1
Georgia	4.2	27.5	11.7	48.1	5.1	3.3
Hawaii	--	46.8	16.9	28.9	2.1	5.2
Idaho	--	37.4	12.2	36.4	5.2	8.8
Illinois	0.1	21.7	18.5	41.0	10.9	7.7
Indiana	0.0	41.6	20.1	29.1	5.1	4.0
Iowa	--	32.1	13.5	38.7	4.7	11.0
Kansas	1.1	40.7	12.4	34.2	4.5	7.1
Kentucky	5.1	28.2	20.0	33.8	6.1	6.9
Louisiana	0.6	30.2	22.6	28.4	5.0	13.3
Maine	0.9	31.0	18.7	36.8	4.8	7.9
Maryland	3.8	22.2	20.2	41.1	5.2	7.5
Massachusetts	0.0	21.9	9.6	52.5	8.7	7.4
Michigan	7.7	33.9	15.7	31.7	3.6	7.3
Minnesota	3.6	23.5	18.7	41.2	5.7	7.3
Mississippi	0.3	43.6	18.5	22.0	6.9	8.6
Missouri	0.3	29.2	14.5	47.7	3.2	5.1
Montana	10.1	--	20.7	40.0	5.7	23.5
Nebraska	0.0	36.2	11.1	43.6	6.3	2.9
Nevada	3.6	53.6	26.4	--	--	16.4
New Hampshire	16.8	--	38.4	4.1	23.8	16.9
New Jersey	0.0	29.9	13.0	40.3	8.0	8.7
New Mexico	1.8	36.5	12.2	22.5	3.6	23.4
New York	--	16.5	14.1	55.8	6.3	7.3
North Carolina	--	25.0	17.7	44.4	5.8	7.1
North Dakota	0.0	21.6	8.6	8.1	4.1	57.5
Ohio	--	37.8	20.0	31.2	--	11.0
Oklahoma	--	28.6	15.3	32.5	4.4	19.3
Oregon	0.2	--	14.9	68.7	5.1	11.1
Pennsylvania	0.1	27.8	23.2	31.6	6.7	10.6
Rhode Island	0.1	30.9	21.9	36.7	4.0	6.4
South Carolina	0.2	37.7	14.1	38.3	3.7	6.0
South Dakota	--	56.9	23.7	--	1.5	17.8
Tennessee	--	52.4	21.7	2.0	10.0	13.8
Texas	--	58.5	24.3	--	--	17.2
Utah	--	28.9	13.6	45.8	4.9	6.9
Vermont	33.3	12.0	22.3	22.8	3.6	6.1
Virginia	0.2	18.8	13.2	57.4	3.9	6.5
Washington	10.2	60.5	17.7	--	--	11.6
West Virginia	--	22.7	24.9	32.9	3.8	15.7
Wisconsin	1.0	28.2	16.6	41.4	6.0	6.8
Wyoming	13.3	33.8	7.1	--	--	45.8
Dist. of Columbia	32.5	17.8	7.3	26.3	6.5	9.6
U.S. Total	1.9	31.2	16.1	35.8	5.4	9.6

Source: U.S. Bureau of the Census.

--- tax not levied at state level.

* Selective sales taxes are state Excise taxes (i.e., motor fuel, alcoholic beverages, etc.)

TABLE 6: Corporate Income Tax Collections Per Capita and as Share of Total Personal Income by State, 2014

State	Per Capita CIT Collections		CIT as a Share of Total Personal Income		State	Per Capita CIT Collections		CIT as a Share of Total Personal Income	
	(\$)	Rank	(%)	Rank		(\$)	Rank	(%)	Rank
Alabama	83.94	42	0.23	39	Montana	147.31	20	0.37	16
Alaska	554.87	1	1.08	1	Nebraska	163.49	18	0.35	20
Arizona	86.06	41	0.23	38	Nevada (a)	—	—	—	—
Arkansas	134.51	24	0.36	18	New Hampshire	409.78	2	0.79	2
California	229.39	10	0.47	10	New Jersey	265.33	7	0.47	9
Colorado	135.02	23	0.28	29	New Mexico	98.60	36	0.27	31
Connecticut	174.36	14	0.28	27	New York	246.52	8	0.45	12
Delaware	299.72	6	0.66	4	North Carolina	137.49	22	0.35	19
Florida	103.50	34	0.25	34	North Dakota	342.28	3	0.64	5
Georgia	93.95	37	0.24	35	Ohio (b)	—	—	—	—
Hawaii	89.12	39	0.20	41	Oklahoma	102.78	35	0.24	36
Idaho	117.02	28	0.32	23	Oregon	125.38	27	0.31	24
Illinois	332.52	4	0.70	3	Pennsylvania	180.03	12	0.38	15
Indiana	131.65	25	0.34	21	Rhode Island	113.93	29	0.24	37
Iowa	125.40	26	0.28	30	South Carolina	68.26	43	0.19	42
Kansas	113.86	30	0.25	32	South Dakota (a)	—	—	—	—
Kentucky	153.06	19	0.42	13	Tennessee	180.43	11	0.45	11
Louisiana	103.72	33	0.25	33	Texas (c)	—	—	—	—
Maine	137.60	21	0.33	22	Utah	105.35	32	0.28	28
Maryland	164.96	17	0.30	26	Vermont	168.85	16	0.36	17
Massachusetts	326.23	5	0.56	6	Virginia	89.24	38	0.18	43
Michigan	88.95	40	0.22	40	Washington (a)	—	—	—	—
Minnesota	241.89	9	0.50	8	West Virginia	109.89	31	0.31	25
Mississippi	175.84	13	0.51	7	Wisconsin	171.55	15	0.39	14
Missouri	59.09	44	0.14	44	Wyoming (a)	—	—	—	—

Source: U.S. Census Bureau, *2014 Annual Survey of State Government Tax Collections*; Bureau of Economic Analysis, *Table SQ1. Quarterly Personal Income*; U.S. Census Bureau, Population Division, *Table 1. Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2014 (NST-*

- a. No corporate income tax
- b. Ohio no longer levies a tax based on income (except for a particular subset of corporations), but instead imposes a Commercial Activity Tax (CAT) equal to \$150 for gross receipts situated to Ohio of between \$150,000 and \$1 million, plus 0.26% of gross receipts over \$1 million. Banks continue to pay a franchise tax of 1.3% of net worth. For those few corporations for whom the franchise tax on net worth or net income still applies, a litter tax also applies.
- c. Texas imposes a Franchise Tax, otherwise known as margin tax, imposed on entities with more than \$1,030,000 total revenues at rate of 1%, or 0.5% for entities primarily engaged in retail or wholesale trade, on lesser of 70% of total revenues or 100% of gross receipts after deductions for either compensation or cost of goods sold.

Evaluation of Corporate Tax Credits

Pre-Credit and Post-Credit Tax Collections

As shown in Figure 11, the *number* of credits claimed by Connecticut corporate taxpayers has declined over the last decade, falling to 3,639 in 2012. However, the *value* of credits has trended up from \$93.1 million in 2003 to \$151.4 million in 2012, an increase of 62.6 percent. The value of credits carried forward to the 2013 tax year was a staggering \$2.5 billion. This carry-forward value is almost four times actual corporate tax collections in 2014 and will lead to years of corporate revenue erosion. In order to restrain the magnitude of lost revenue, the state passed legislation in the special session in the summer of 2015 to limit the amount of credits that corporations could claim. This restriction goes into effect on January 1, 2015 and limits the amount of credits to 50.01 percent of the tax due in any year; the previous limit was 70 percent of tax due. Business taxpayers were very disappointed to see this change in policy because it creates an uncertain business climate and can affect returns on previously-made investments.

Table 7 provides annual detail on the number of credits claimed, the value of credits claimed and the average amount claimed per credit. As can be seen from the table, the 62.6 percent growth in the value of credits claimed has overwhelmed the 49.9 percent decline in the number of firms taking credits, producing 224.7 percent growth in the value per credit. So while utilization is declining, the value of credits to business taxpayers has nonetheless been rising in the aggregate and on a per-use basis as well. It is not clear the extent to which this pattern is an artifact of policy (intentional or unintentional) versus discretionary use by business taxpayers.

Pre-credit and post-credit tax liability per corporate tax filer is shown in Figure 12. These data include all business filers, regardless of whether they have actually made use of credits. Per-filer tax liabilities grew steadily between 2003 and 2006, advancing at a 79.7 percent rate. Tax due before credits subsequently fell until 2008 and then trended back upward, likely reflecting the effects of the 2007-2009 recession. Per-filer tax due after credits shows the same general pattern. However, the gap between pre- and post-credit tax liabilities rose indicating a rising value of credits claimed for each filer consistent with the pattern identified in Table 7.

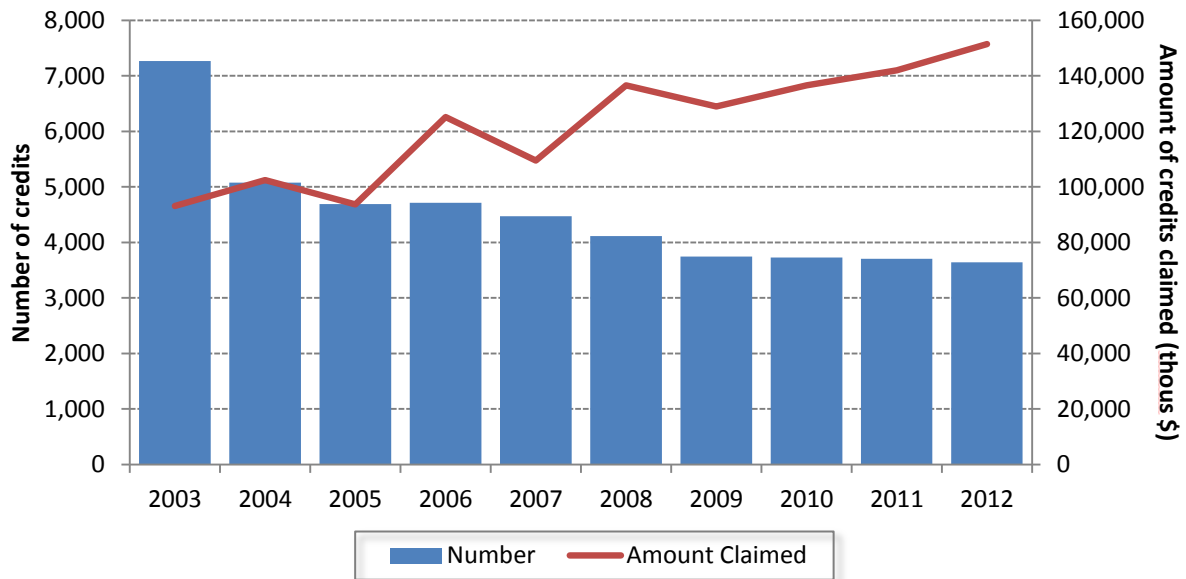
Not surprisingly, large taxpayers account for a large share of credit usage. In 2012, the 11 firms in the top quintile of pre-credit tax liabilities utilized 35.2 percent of all tax credits. In contrast, the 37,381 firms in the bottom quintile used only 7.9 percent of all credits for the tax year.

Tax due per filer before the application of credits saw 61.9 percent growth between 2003 and 2012 while tax due after credits was up at the slower rate of 58.1 percent, as shown in Table 8.

Taxpayers with different filing status have seen a different pattern of pre-credit and post-credit tax liability over time. Pre-credit tax due per filer was up 147.7 percent for unitary filers, 61.1 percent for single filers and only 22.1 percent for combined filers between 2003 and 2012. Credits had their largest impact on reducing the growth of tax liabilities for unitary filers—tax due before credits rose 147.7 percent and tax due after credits was up at the lower rate of 99.3 percent.

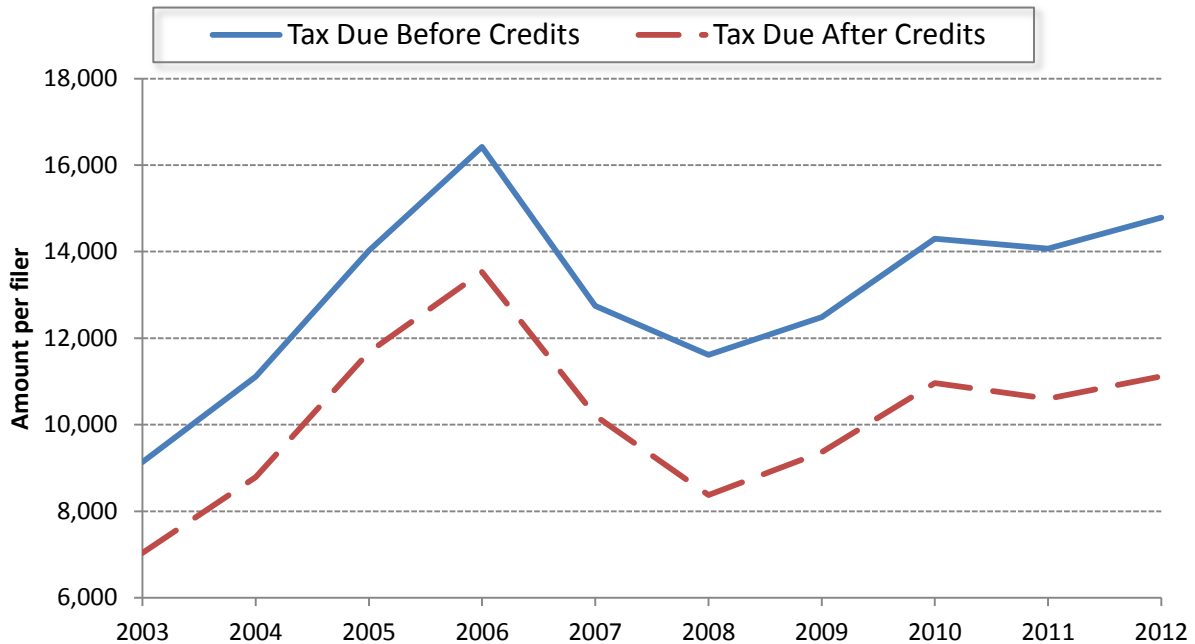
While credits have helped unitary taxpayers, the growth in tax liability per unitary filer has nonetheless been significant. On a compound annual basis, post-credit tax liabilities jumped 8.0 percent for unitary filers in the 2003-2012 interval. For all filers, the compound growth rate was 5.2 percent over the same period. These growth rates are well in excess of rates of gross domestic product and personal income growth between 2003 and 2012.

FIGURE 11: Number and Amount of Tax Credits Claimed



Source: State of Connecticut, Department of Revenue Services, *Annual Report*, various years.

FIGURE 12: Pre-Credit and Post-Credit Tax Liability per Filer



Source: State of Connecticut, Department of Revenue Services, *Annual Report*, various years.

TABLE 7: Credits Claimed on Corporation Returns

Year	Number of Credits	Amount of Credit Claimed	Average Credit Claimed
2003	7,266	93,096,165	12,813
2004	5,074	102,436,324	20,188
2005	4,689	93,688,163	19,980
2006	4,711	125,104,265	26,556
2007	4,468	109,511,768	24,510
2008	4,112	136,551,409	33,208
2009	3,742	128,892,313	34,445
2010	3,724	136,559,915	36,670
2011	3,704	141,906,635	38,312
2012	3,639	151,376,542	41,598
Growth, 2003 to 2012	-49.9%	62.6%	224.7%

Source: State of Connecticut, Department of Revenue Services, *Annual Report*, various years.

TABLE 8: Pre-Credit and Post-Credit Taxes per Taxpayer by Filing Status

Year	Single Filers		Combined Filers		Unitary Filers		TOTAL	
	Tax Due Before Credits	Tax Due After Credits	Tax Due Before Credits	Tax Due After Credits	Tax Due Before Credits	Tax Due After Credits	Tax Due Before Credits	Tax Due After Credits
2003	4,978	4,299	174,139	115,092	122,426	102,649	9,136	7,033
2004	6,070	5,315	199,668	137,935	264,428	203,922	11,112	8,792
2005	5,858	5,121	289,278	229,978	329,636	292,797	12,991	10,822
2006	7,940	7,089	343,766	260,982	312,161	251,325	16,420	13,529
2007	6,725	5,911	230,351	167,968	266,592	170,542	12,745	10,211
2008	6,533	5,512	195,184	112,380	214,856	118,737	11,615	8,376
2009	6,591	5,865	207,235	118,612	325,372	234,690	12,484	9,366
2010	7,243	6,368	243,526	156,683	317,595	226,737	14,301	10,965
2011	7,895	6,841	211,633	123,555	254,111	191,734	14,070	10,599
2012	8,190	6,926	212,550	134,585	303,256	204,568	14,788	11,122
Growth, 2003 to 2012	64.5%	61.1%	22.1%	16.9%	147.7%	99.3%	61.9%	58.1%

Source: State of Connecticut, Department of Revenue Services, *Annual Report*, various years.

Tax Credits by Type of Credit and Use by Industry Sector

Tax credit policy is subject to ongoing legislative change in Connecticut. Business taxpayers took advantage of 23 credits in the 2012 tax year. Several credit categories have seen a relatively broad pattern of use while others are used by only a small number of firms. As reported in Table 9, only one taxpayer took advantage of the Computer Donation tax credit and only one utilized the Small Business Guaranty Fee credit. The amounts claimed were only \$702 and \$148, respectively. On the other hand, some of the credits with limited use had relatively large values on a per-credit basis. For example, in 2012 only two Digital Animation credits were claimed with an average value of \$342,118; three Film Production Infrastructure credits were claimed with an average value of \$492,588. Twelve credit categories were employed fewer than ten times.

A small number of tax credits were used rather extensively by corporate taxpayers in 2012. There were 1,128 Electronic Data Processing credits utilized, with a total credit value of \$10.7 million and per credit value of \$9,508. The Fixed Capital credit was used on 1,727 occasions, with \$63.1 million in credits claimed at \$36,552 per credit. These two credits alone accounted

for 48.8 percent of the value of all credits claimed in 2012. The Film Production credit accounted for 17.0 percent of credits claimed while the Research and Experimental credit represented 13.7 percent of credit value.

Table 10 demonstrates the importance of tax credits to different industry sectors of the economy. The manufacturing sector claimed the largest volume of credits in 2012 (\$42.7 million), followed by management of companies and enterprises (\$20.4 million) and information (\$20.0 million). Manufacturing accounted for 28.2 percent of all credits claimed in 2012. The most rapid growth in credit use between 2006 and 2012 took place in the agriculture, finance and insurance and arts sectors, each of which saw growth well in excess of 100 percent.

The final columns of Table 10 illustrate the value of credits as a share of gross tax. On average, credits represented 24.8 percent of gross-tax liability in 2012. The utilities and arts sectors each had credits that exceeded one-half of total gross tax. The mining, construction, real estate, accommodation and food services and other services sectors had aggregate credits that were less than 10 percent of gross tax liability.

As shown in Table 11, firms in the manufacturing sector contributed the largest share of post-tax-credit revenue of any sector in 2012 (19.0 percent), followed by finance and insurance (13.8 percent), retail trade (9.4 percent) and management of companies and enterprises (8.8 percent); unassigned returns accounted for 13.5 percent of all post-credit corporate tax revenue in 2012. The average amount of post-credit tax liability per return was \$11,122 across all sectors. On a per-return basis, the utility sector paid the highest amount of post-credit tax (\$102,248), followed by management of companies and enterprises (\$44,909) and information (\$36,067). Manufacturing firms saw their share of post-credit taxes rise from 14.7 percent to 19.0 percent between 2006 and 2012. This was the largest percentage point increase of any sector.

TABLE 9: Credits Claimed on 2012 Corporation Returns

Type of Credit	Credits		Credits Claimed		Average Credit Claimed
	Number	Share of Total	Amount	Share of Total	
Apprenticeship Training	9	0.2%	146,089	0.1%	16,232
Computer Donation	1	0.0%	702	0.0%	702
Digital Animation	2	0.1%	684,235	0.5%	342,118
Donation of Land	3	0.1%	5,929	0.0%	1,976
Electronic Data Processing	1,128	31.0%	10,725,356	7.1%	9,508
Film Production	27	0.7%	25,796,631	17.0%	955,431
Film Production Infrastructure	3	0.1%	1,477,765	1.0%	492,588
Financial Institutions	2	0.1%	2,341	0.0%	1,171
Fixed Capital	1,727	47.5%	63,125,737	41.7%	36,552
Historic Homes Rehabilitation	3	0.1%	24,648	0.0%	8,216
Housing Program Contribution	4	0.1%	377,550	0.2%	94,388
Human Capital	116	3.2%	1,869,913	1.2%	16,120
Job Expansion	111	3.1%	2,223,373	1.5%	20,030
Machinery and Equipment	62	1.7%	439,783	0.3%	7,093
Manufacturing Facility in Targeted Investment Community or Enterprise Zone	16	0.4%	847,382	0.6%	52,961
Neighborhood Assistance	72	2.0%	2,284,116	1.5%	31,724
New Jobs Creation	6	0.2%	754,792	0.5%	125,799
Qualified Small Business Job Creation	5	0.1%	21,329	0.0%	4,266
Research & Development	145	4.0%	5,392,832	3.6%	37,192
Research & Development Grants to Institutions of Higher Education	2	0.1%	123,469	0.1%	61,735
Research & Experimental Expenditures	180	4.9%	20,681,089	13.7%	114,895
Small Business Guaranty Fee	1	0.0%	148	0.0%	148
Urban and Industrial Site Reinvestment	14	0.4%	14,371,333	9.5%	1,026,524
Total	3,639	100.0%	151,376,542	100.0%	41,598

Note: These data show business tax credits applied against the corporation business tax. Many of the credits can be sold and claimed against different taxes (e.g. the insurance tax). As a result, the table understates the impacts of these credits on state business tax revenue.

Source: State of Connecticut, Department of Revenue Services, *Annual Report*, various years.

TABLE 10: Corporation Business Tax Returns and Tax Credit Utilization by Industry

Industry Sector	Gross Tax		Amount of Tax Credits		Tax Due After Credits		Distribution of Tax Credits by Industry		Tax Due After Credits Per Return		Tax Credits as a Share of Gross Tax	
	2012	Growth 2006-12	2012	Growth 2006-12	2012	Growth 2006-12	2006	2012	2012	Growth 2006-12	2012	Growth 2006-12 (pts)
11 Agriculture, Forestry, Fishing & Hunting	745,819	-44.8%	200,975	190.9%	544,844	-57.5%	0.1%	0.1%	3,732	-52.9%	26.9%	21.8
21 Mining	767,454	-57.7%	24,785	-69.6%	742,669	-57.1%	0.1%	0.0%	17,683	-33.7%	3.2%	-1.3
22 Utilities	22,384,245	74.0%	12,568,404	77.9%	9,815,841	69.3%	5.6%	8.3%	102,248	101.0%	56.1%	1.2
23 Construction	6,149,270	-53.6%	335,758	-24.5%	5,813,512	-54.6%	0.4%	0.2%	1,905	-40.5%	5.5%	2.1
31-33 Manufacturing	129,775,757	9.2%	42,742,939	30.4%	87,032,818	1.2%	26.2%	28.2%	22,483	13.6%	32.9%	5.3
42 Wholesale Trade	34,191,938	-18.2%	5,430,771	60.7%	28,761,167	-25.2%	2.7%	3.6%	11,230	-16.1%	15.9%	7.8
44-45 Retail Trade	58,766,357	9.0%	15,660,460	47.4%	43,105,897	-0.4%	8.5%	10.3%	12,095	10.0%	26.6%	6.9
48-49 Transporting & Warehousing	9,860,731	-4.4%	2,406,910	66.8%	7,453,821	-16.0%	1.2%	1.6%	9,782	3.6%	24.4%	10.4
51 Information	52,987,640	-40.2%	20,022,090	11.8%	32,965,550	-53.4%	14.3%	13.2%	36,067	-45.2%	37.8%	17.6
52 Finance & Insurance	70,783,394	-38.9%	7,372,995	123.4%	63,410,399	-43.7%	2.6%	4.9%	23,634	-36.6%	10.4%	7.6
53 Real Estate & Rental & Leasing	11,823,562	-24.8%	460,687	-2.1%	11,362,875	-25.5%	0.4%	0.3%	3,000	-17.1%	3.9%	0.9
54 Professional, Scientific & Tech Services	40,406,171	4.2%	7,424,745	49.8%	32,981,426	-2.5%	4.0%	4.9%	5,287	-5.7%	18.4%	5.6
55 Management of Companies & Enterprises	60,552,149	-25.6%	20,358,999	48.6%	40,193,150	-40.7%	10.9%	13.4%	44,909	-45.9%	33.6%	16.8
56 Administrative & Support Services	16,550,669	65.7%	1,815,967	27.0%	14,734,702	72.2%	1.1%	1.2%	11,282	93.4%	11.0%	-3.3
61-62 Education, Health Care & Social Assistance	7,999,913	-35.7%	1,418,509	17.9%	6,581,404	-41.5%	1.0%	0.9%	3,683	-27.3%	17.7%	8.1
71 Arts, Entertainment, & Recreation	1,766,568	-10.1%	936,541	153.0%	830,027	-48.0%	0.3%	0.6%	1,926	-37.6%	53.0%	34.2
72 Accommodation & Food Services	4,147,938	19.5%	181,843	-14.5%	3,966,095	21.8%	0.2%	0.1%	4,149	43.4%	4.4%	-1.7
81-92 Other Services	7,205,434	-36.2%	490,844	7.5%	6,714,590	-38.0%	0.4%	0.3%	1,850	-34.8%	6.8%	2.8
999999 Not Yet Assigned	73,724,717	-4.0%	11,522,321	-54.3%	62,202,396	20.6%	20.2%	7.6%	13,611	-33.1%	15.6%	-17.2
TOTAL	610,589,725	-14.1%	151,376,542	21.0%	459,213,183	-21.6%	100.0%	100.0%	11,122	-17.8%	24.8%	7.2

Source: State of Connecticut, Department of Revenue Services, *Annual Report*, various years.

TABLE 11: Distribution of Corporation Business Tax Returns, Gross Tax Liability and Tax Due After Credits, by Industry

Industry Sector	Number of Returns		Gross Tax		Tax Due After Credits	
	2006	2012	2006	2012	2006	2012
11 Agriculture, Forestry, Fishing & Hunting	0.4%	0.4%	0.2%	0.1%	0.2%	0.1%
21 Mining	0.2%	0.1%	0.3%	0.1%	0.3%	0.2%
22 Utilities	0.3%	0.2%	1.8%	3.7%	1.0%	2.1%
23 Construction	9.2%	7.4%	1.9%	1.0%	2.2%	1.3%
31-33 Manufacturing	10.0%	9.4%	16.7%	21.3%	14.7%	19.0%
42 Wholesale Trade	6.6%	6.2%	5.9%	5.6%	6.6%	6.3%
44-45 Retail Trade	9.1%	8.6%	7.6%	9.6%	7.4%	9.4%
48-49 Transporting & Warehousing	2.2%	1.8%	1.5%	1.6%	1.5%	1.6%
51 Information	2.5%	2.2%	12.5%	8.7%	12.1%	7.2%
52 Finance & Insurance	7.0%	6.5%	16.3%	11.6%	19.2%	13.8%
53 Real Estate & Rental & Leasing	9.7%	9.2%	2.2%	1.9%	2.6%	2.5%
54 Professional, Scientific & Tech Services	13.9%	15.1%	5.5%	6.6%	5.8%	7.2%
55 Management of Companies & Enterprises	1.9%	2.2%	11.5%	9.9%	11.6%	8.8%
56 Administrative & Support Services	3.4%	3.2%	1.4%	2.7%	1.5%	3.2%
61-62 Education, Health Care & Social Assistance	5.1%	4.3%	1.8%	1.3%	1.9%	1.4%
71 Arts, Entertainment, & Recreation	1.2%	1.0%	0.3%	0.3%	0.3%	0.2%
72 Accommodation & Food Services	2.6%	2.3%	0.5%	0.7%	0.6%	0.9%
81-92 Other Services	8.8%	8.8%	1.6%	1.2%	1.9%	1.5%
999999 Not Yet Assigned	5.9%	11.1%	10.8%	12.1%	8.8%	13.5%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: State of Connecticut, Department of Revenue Services, *Annual Report*, various years.

Assessment of Corporate Tax Credits

Economic development goals, unique industry-specific considerations and desires to remain competitive with other states commonly motivate policymakers to develop special provisions of the tax code to stimulate economic activity. In practice, all states use economic development incentives and all states use the tax code to pursue their goals. But special provisions of the tax code lead to revenue erosion, complexities of tax administration and compliance and in some instances, perceptions of unfairness on the part of different taxpayers. Moreover, there are ongoing concerns that tax-based incentives are simply not effective means of promoting economic development.¹² In some instances, credits may simply reward firms for decisions that they would have made even in the absence of credits. Because the business response to taxes is generally small, significant revenues can be lost with little or no economic development benefit being realized.

The triennial reports of the Connecticut Department of Economic and Community Development illustrate many of the shortcomings of the state's incentive programs, including corporate tax credits.¹³ The same reports, along with the academic literature, point to the challenges in evaluating the effectiveness of economic development incentives. The most fundamental problem is the inability to observe the counterfactual: what would have happened in the absence of the incentive? The fact that a firm utilized an incentive provides no evidence that the incentive actually stimulated new economic activity.

This fundamental problem motivates a pragmatic approach to the utilization of incentives. If incentives do promote economic development, they may do so through two channels: (i) lower costs for business or (ii) improved business competitiveness. Lowering business costs represents a race to the bottom as states and localities chase the same economic activity. And lower costs alone do not improve the underlying competitiveness of the firm. The alternative strategy is to focus incentives on key factors of production that can directly yield benefits for Connecticut while at the same time potentially enhancing the capacity of a firm to compete in the marketplace. This means focusing incentives on job creation, human capital investment,

¹² Research on the effects of state taxes on economic growth and development generally find small-to-modest economic effects. See, for example, the comprehensive reviews undertaken by Michael Wasylenko (1997) and Bartik (1991). A recent paper by Gale, Krupkin and Reuben (2015) finds little evidence that state taxes affect economic growth. Bruce, Liu and Murray (2015) find no evidence that state taxes consistently influence entrepreneurship using a variety of measures of taxes and entrepreneurial activity. Luna and Murray (2010) examine how features of state personal and corporate income tax systems affect business organizational form. While they find some evidence that taxes matter, the impacts are small.

¹³ See *An Assessment of Connecticut's Tax Credit and Abatement Programs*, Department of Economic and Community Development, September, 2014. Available at http://www.ct.gov/ecd/lib/ecd/decd_sb_501_sec_27_report_revised_2013_final.pdf

private sector capital investment and infrastructure investment. Incentive programs built with this focus still require ongoing evaluation to ascertain their effectiveness.

Business taxpayers are frustrated with limits that have been placed on Connecticut's tax credit programs. The business community feels that they have earned these credits in good faith, only to encounter legislative restrictions that limit their use and the scope of tax relief. As noted above, in 2002, the state imposed a restriction that confined credit relief to no more than 70 percent of a taxpayer's liability, while in the special summer session in 2015, the state placed a tighter restriction on credit use of 50.01 percent of a firm's tax liability. The restrictions have been imposed at the same time that the state has continued to use the corporate surtax (applied to pre-credit liabilities) on top of the regular corporate income tax rate.

The amount of revenue foregone because of credits is substantial and amounted to 24.8 percent of aggregate corporate tax liability in 2012. The state's financial exposure is substantial in light of the enormous volume of credits that have been carried forward.

If the credits are to be maintained to pursue economic development objectives, consideration should be given to reducing the number of credits, especially those that have been found to be less effective and those that are used by a small number of firms. Emphasis should fall on credits that broaden and deepen private capital, human capital and infrastructure investments rather than simply tax concessions to specific firms. On the other hand, if the credits are intended to simply offer taxpayer relief, then one alternative would be to simply phase existing credits out and lower the overall corporate income tax rate. A reduction in the tax rate from the current 7.5 percent to 6.6 percent would have been roughly revenue neutral rate in 2012 in the absence of all corporate tax credits and deductions. This would be a very attractive corporate tax rate in the region surrounding Connecticut.

Business Tax Options Beyond the Corporate Income Tax

Many states are rethinking their approach to the taxation of business for two interrelated reasons. First, the income tax is complex, imposes significant compliance and administration costs, and creates deadweight economic losses (i.e. economic distortions). The deadweight losses are potentially significant since they rise with the square of the corporate income tax rate. Second and perhaps more importantly, revenues from the corporate income tax are shrinking, for a variety of reasons. There are a number of factors affecting the declines in revenue, but numerous studies have not been able to isolate precisely the relative roles played by the factors. Fox and Luna (2005) find that part of this overall decline in corporate income tax collections is likely due to the growing popularity of pass through entities like S-corporations,

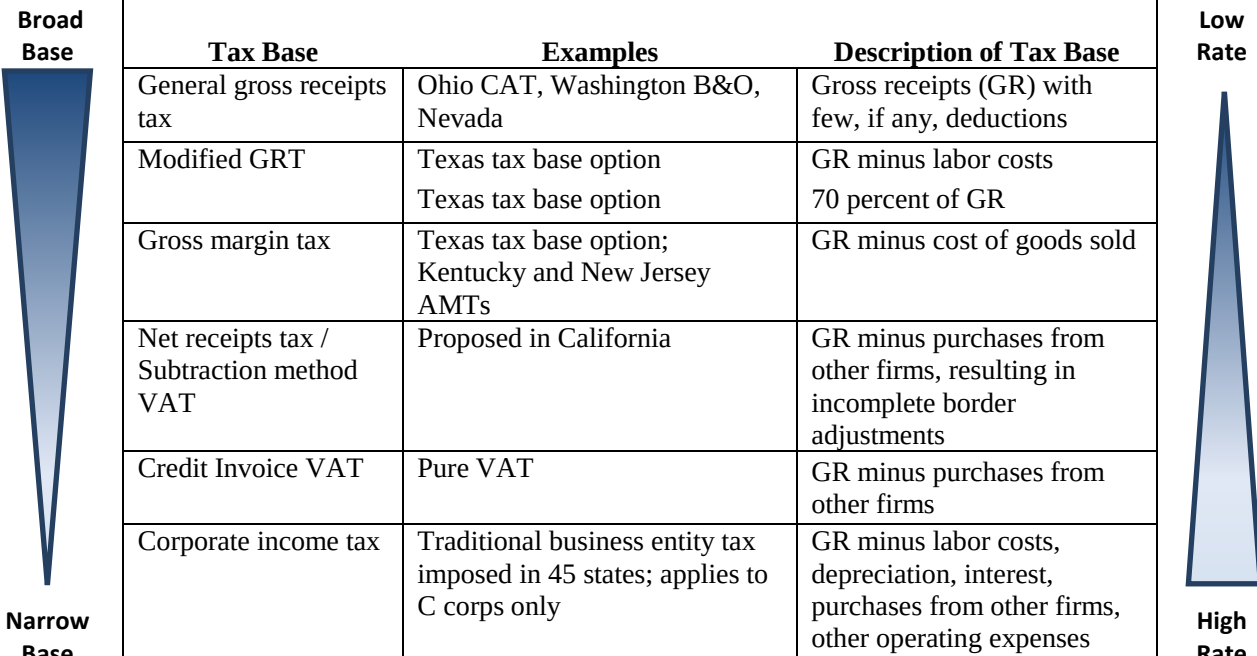
partnerships, LLCs and LLPs, which often results in the profits being taxed on individual returns. They find three additional factors that offer explanations for state corporate tax base erosion, including changes in the federal tax base, state tax policy actions, and aggressive tax planning strategies¹⁴ (Fox and Luna 2002). They note that the trend decline in tax revenues relative to corporate profits as suggestive that tax planning is a reason for some part of the decline in the effective corporate tax rate.

In response to declining revenues, many states have tried to plug holes in their traditional corporate tax systems, which has proven to be an ongoing struggle. On the other hand, several states have abandoned the traditional income tax and replaced it with other taxes on business activity rather than business profits. These taxes both expand the base and allow for much lower tax rates, but come with their own problems, as discussed more fully below. When considering these options, it is perhaps most useful to consider them as points on a continuum (See Figure 13). All taxes begin with gross receipts or gross income, and vary depending on what income is included in the tax base and what deductions are allowed. On one end are pure gross receipts taxes that levy a tax at a very low rate on all business receipts (although they often exclude investment income such as interest and dividends). Few, if any, deductions are allowed. On the other end is the corporate income tax that allows deductions for all “ordinary and necessary” business expenses. Because of the allowable deductions and narrower tax base compared to a gross receipts tax (including fewer taxpayers), the income tax rate must be significantly higher than a gross receipts tax that raises the same amount of revenue. Between these extremes are taxes like the Texas gross margin tax, which taxes all receipts minus some measure of cost of goods sold and the business value added tax, which permits a deduction for business inputs and services purchased from other firms. We describe the gross receipt tax and value added tax options below and provide some examples of states using these taxes today.¹⁵

¹⁴ Tax planning can be abusive, but much of it is firms making appropriate decisions to lessen their tax payments.

¹⁵ Refer to Luna, Murray, Yang (2012) for more detail on these business activity taxes and a review of related research.

FIGURE 13: Taxonomy of Business Taxes



Tax Base	Examples	Description of Tax Base
General gross receipts tax	Ohio CAT, Washington B&O, Nevada	Gross receipts (GR) with few, if any, deductions
Modified GRT	Texas tax base option Texas tax base option	GR minus labor costs 70 percent of GR
Gross margin tax	Texas tax base option; Kentucky and New Jersey AMTs	GR minus cost of goods sold
Net receipts tax / Subtraction method VAT	Proposed in California	GR minus purchases from other firms, resulting in incomplete border adjustments
Credit Invoice VAT	Pure VAT	GR minus purchases from other firms
Corporate income tax	Traditional business entity tax imposed in 45 states; applies to C corps only	GR minus labor costs, depreciation, interest, purchases from other firms, other operating expenses

Source: We draw this table from the article by Cline, R. and T. Neubig, "Future State Business Tax Reforms: Defend or Replace the Tax Base," State Tax Notes, January 21, 2008, Table 4, p. 187, and have updated it for recent reforms.

Gross Receipt Taxes

A gross receipt tax (GRT) typically taxes all business receipts, such as sales of tangible and intangible property, services, rents, and lease payments. In practice, most GRTs do exclude from the tax base the proceeds from most financial transactions – interest, dividends and proceeds from the sale of stocks, bonds and other financial instruments. In many cases, the GRT taxable base is simply the numerator of the sales factor apportionment formula (i.e. total sales in that state) commonly used for apportioning taxable income for purposes of the traditional income tax.

The advantage to such a broad-based tax is primarily the very large taxable base. Typically the GRT not only taxes all business receipts, including goods and services, but it also frequently levies the tax on a broad range of businesses including corporations, partnerships, LLCs and

individuals operating sole proprietorships. States often argue that the nexus threshold for a broad-based gross receipts tax is lower than that for income or sales taxes and therefore states can more aggressively assert nexus on out of state businesses making taxable sales into the state. Gross receipts taxes are privilege taxes and not subject to the restrictions imposed by Public Law 86-272. The broad base allows for very low rates, often one percent or less, compared to corporate income tax rates that average closer to 7 percent nationwide. The low rates reduce distortions and thus the excess burden of the GRT relative to the corporate income tax. Compliance and administration costs are low because the base is easily defined and tracked. Furthermore, the very low rate lowers the expected return for tax evasion and tax avoidance through tax planning, making such actions less profitable for taxpayers and therefore less likely. A state-defined GRT also decouples the taxation of business from changes in the federal corporate income; states commonly make corporate income tax policy changes in reaction to changes in the federal corporate income tax. A state GRT means that dividends distributed to individuals are not taxed twice. Finally, a base equal to gross sales requires firms to shift business activity out of a state to lower the GRT.

On the other hand, the primary advantage of the GRT is also the source of the primary disadvantage of the tax. The GRT is a tax on turnover, and there are no deductions or exclusions for business purchases of previously taxed items. Accordingly, the tax can cascade as an item passes through the various stages of production from raw materials to finished goods, and then from manufacturer to wholesaler to eventual retailer. This cascading effect will provide incentives for vertical integration, and give vertically integrated firms a distinct competitive advantage over firms concentrating their efforts at one point of the manufacturing and distribution cycle.¹⁶ To reduce tax pyramiding, states have a provision for intercompany transactions between related entities. For example, the Ohio Commercial Activity Tax includes an election that allows commonly-owned entities to file a consolidated return. The consolidated return includes all income sourced to Ohio of all commonly owned-entities within the group and intercompany transactions are eliminated.¹⁷ These vertically integrated businesses will pay tax only at the final sale, with intermediate transactions tax free. Legislators recognize that most firms cannot control the entire production cycle, and some states levy a lower rate on wholesalers and other middlemen. Lower rates are also sometimes levied on traditionally low margin, high volume industries such as grocers. The GRT is also criticized for

¹⁶ Cascading may also arise with higher-rate sales taxes since a considerable share of the sales tax is derived from the taxation of business inputs. We are not aware of any empirical evidence that the sales tax or gross receipts taxes leads to the vertical integration of firms.

¹⁷ Alternatively, an Ohio taxpayer may elect to file a combined return that excludes entities that do not have nexus with Ohio but is not permitted to exclude intercompany transactions.

taxing firms which may have no profit, but the same firms would also pay sales and property taxes regardless of profitability.

Value-Added Taxes

As suggested by the name, value added taxes (VATs) use one of various methods to tax only the value added by each business in the production and distribution cycle of both goods and services. Conceptually, value added is simply the selling price of a good minus the cost of inputs (tangible goods and services) purchased from other firms. There are three broad methods of levying a VAT. In theory, all three arrive at the same taxable base but use different methods. Most of Europe imposes a consumption type VAT, which levies a tax each time a good or service changes hand, with the seller allowed a credit (in a credit invoice system) for VAT previously paid along the supply chain. The final sale to a non-business consumer is subject to the VAT, but the purchaser (typically a household consumer) cannot claim any credits. Therefore, all VAT paid by businesses is in principle rebated along the way, and a VAT is functionally equivalent in results to an ideal retail sales tax levied only at the final non-business sale.

While the credit invoice VAT has received the attention of some academics and policy analysts, there has been no serious discussion about actually implementing such a tax in the U.S. at the Federal level or among the states. Accordingly, we will focus our attention on variants of the addition and subtraction VATs imposed by some states on business activity. The addition VAT arrives at the tax base by adding the firm's costs that produce value added, namely labor (in-house payroll), rent paid, interest paid, and a measure of profits. The obvious practical problem with this approach is the calculation of the profits share of the tax base retains many of the existing problems of existing corporate income tax systems which include complicated rules on what is and is not deductible for the purpose of arriving at a profits figure and the apportionment of profits across state taxing jurisdictions.

The subtraction method VAT begins with gross receipts and subtracts all purchases from other businesses, but not in-house labor or services. Notably, VAT systems typically recognize as deductions to 'value added' both direct and indirect inputs and so would include the components of cost of goods sold in an income tax regime (minus in-house labor) as well as indirect costs such as computer equipment, office furniture, supplies and all other purchases from businesses. The result is the value added by that firm.

For both methods, states have to determine how to treat capital assets and inventory. Under the income variant (IVAT) expenditures for inventory and capital assets are treated like they are in the traditional income tax – capitalized and deducted when sold in the case of inventory or depreciated over time in the case of capital assets. Under the consumption variant, all

purchases including those for inventory and capital assets are deductible immediately from the tax base. In the addition VAT, capital purchases are fully deductible for purposes of the profits portion of the VAT base, and in the subtraction VAT are deductible from gross receipts.

The subtraction method VAT is most conceptually similar to the traditional income tax but there exist many important differences. First, the VAT typically excludes interest, dividend, and capital gain income from the taxable base. In-house wages are deductible for income tax purposes but not for the VAT. Further, most business VATs allow for immediate expensing of capital assets, although this is a policy option and states can require capital assets to be capitalized and depreciated similar to existing income tax regimes.

Current Examples of Business Activity Taxes

There are currently four states with a GRT: the Ohio commercial activity tax, the Washington business and occupation (B&O) Tax, the Delaware gross receipts tax, and most recently, the Nevada commerce tax¹⁸. These are similar taxes but with a few notable differences. Ohio and Delaware are in addition to a traditional personal income tax and do not tax returns on capital (i.e. interest, dividends or capital gains) but that income will be taxed by the states' existing income taxes. Washington State does not have an income tax, but its GRT does tax returns on capital. B&O rates range from 0.138 percent to 3.30 percent, but rates for retailing, wholesaling and manufacturing are about 0.5 percent. Services are taxed at 1.5 percent. Delaware's tax is extremely broad and allows for no deductions, but it does allow for a monthly exemption of \$80,000, and it only applies to manufacturers with gross receipts exceeding \$1 million annually. Rates range from 0.1006 percent to 0.7543 percent with manufacturers taxed at 0.1886% and retailers at 0.7543 percent. Texas has a gross margin tax, which allows cost of goods sold as a deduction but excludes most other deductions. The tax rate is 0.50 percent for retailers and wholesalers, and 1 percent for all other taxpayers, although the rates are reduced somewhat if revenue goals are met. The new Nevada commerce tax base is gross revenue apportioned to Nevada with a \$4,000,000 standard deduction. There are exclusions and deductions from gross revenue; however, there is no deduction for cost of goods sold or other expenses incurred. Tax rates vary from 0.051 percent (mining, etc.) to 0.331 percent (rail transportation) with manufacturing taxed at a rate of .091 percent, and retail trade at 0.111 percent.

These taxes enjoy the advantages of a very broad and relatively easily defined base (gross sales with few exemptions or deductions) and low nominal rates. The most commonly cited problem is the taxes are assessed at each step as goods move through the business pipeline, and so the taxes will tend to cascade for firms that are not vertically integrated. For this reason, states

¹⁸ The Nevada Commerce tax (signed into law on June 10, 2015) is effective July 1, 2015.

typically assess tax at lower rates for retailers, wholesalers and manufacturers versus firms who do not tend to purchase inputs from other businesses. However, these concessions still disadvantage stand-alone firms versus those who are vertically integrated and so provide a tax incentive to consolidate supply chains. The low tax rates help mitigate this problem. Furthermore the taxes are a larger share of profits for those businesses (e.g. grocery stores and discount stores) that operate on very thin margins and are assessed against firms that are losing money, including startups that traditionally experience losses in early years. The general presumption is that businesses will shift the tax forward to consumers. Firms operating in the same industry will generally be on a level playing field.

New Hampshire has an addition VAT (called the business enterprise tax or BET), with the base equal to in-house compensation plus interest and dividends paid, taxed at a rate of 0.75 percent. Addition VATs normally include a measure of profits in the tax base, but because New Hampshire also imposes a separate business profits tax, profits are not included in the VAT base.

Transitioning to these broad-based taxes poses a number of practical problems. One significant one is that NOL carryforwards generated under an income tax are not directly transferrable to a tax on business activity because the tax rates are so much lower and the tax base broader. The potential tax savings from existing NOLs applied against a broad tax base drops precipitously. In Ohio, the compromise reached with taxpayers was to convert NOLs to tax credits that could offset a maximum of 50 percent of the pre-credit tax each year. After 30 years, the remaining NOLs could be used in full. This compromise still represented significant tax benefit losses for some companies because while an NOL could eliminate all taxable income until exhausted, tax credits could only offset half of the pre-NOL credit liability.

Conclusion: Policy Evaluation

Policy Criteria

The evaluation of state tax systems is traditionally built on a set of well-established policy criteria commonly referred to as the *requirements of a good tax system*. These criteria, as approved by the Tax Study Panel at the May 2015 meeting provide a systematic and structured basis for tax system analysis. The discussion that follows presents the policy criteria and then applies them to various facets of the corporate business tax system in Connecticut. The discussion of policy closes with consideration of major structural reforms in Connecticut that could replace the current corporate tax system.

Criteria for Judging a High Quality System in the Context of General Business Taxation

- 1. Benefit Tax-Public Service Nexus.** The taxation of business is typically predicated on the *benefit principle* where taxes are imposed to compensate government for the public service benefits provided to business taxpayers. If tax costs are relatively high compared to public services, firms will be discouraged from conducting business in the state; if taxes are lower than the value of public services provided, then the gap must be made up by other taxpayers or services must be reduced. To the extent possible, tax payments from businesses should align with the benefits they receive from the state. In this context benefits are understood to be generalized benefits that range from the specifics of judicial and public safety services to the public sector's provision of a public infrastructure that directly and indirectly subsidizes the business enterprise.
- 2. Neutrality.** Taxes should be neutral and not distort the choices made by firms, including where to conduct business, the capital/labor/land mix in the production function, and the business structural form (e.g. the corporate form versus a pass-through entity).
- 3. Ease of Administration and Tax Compliance Simplicity.** All taxes give rise to costs of administration and costs of compliance. In general, these costs rise as the tax system becomes more complex. The corporate income tax is notorious for its complexity and relatively high costs of administration and compliance. This complexity stems inherently from the need to measure the net income base. There is simply no practical way to avoid complexity in the design of a net income tax for businesses. Complexity also arises through special provisions of the tax code which are intended to provide relief to specific taxpayers or taxpayer groups. Connecticut's corporate tax credits are an example of such special provisions. (Credits have an additional element of complexity since they are intended to

promote specific economic development objectives and their effectiveness must be evaluated accordingly.)

- 4. Certainty, Predictability and Transparency.** Tax policy must be dynamic and adapt to evolving expenditure requirements and changes in the market environment wherein taxes are imposed. This is especially important for general business taxes since the traditional corporate income tax was developed in an era when factors of production were relatively immobile, manufacturing was paramount and services were a small share of the economy, and tax planning was not prominent. At the same time, policy changes should display some element of certainty and predictability and retroactive policy changes in particular should be avoided. (Mandatory unitary combined reporting was initially to be made retroactive to January 1, 2015 but the final law made it applicable effective January 1, 2016.) Transparency of the tax system is also important so that taxpayers feel that they are treated fairly by the state. Firms make business decisions based on market conditions, the tax structure and other factors, with the expectation of realizing a return on their investment. Changes in business tax policy can alter the returns to investments that have already been made and thus weaken state's attractiveness as a place to do business. In general, tax structure uncertainty, volatility and opaqueness can hamper investment growth and job creation.
- 5. Revenue Performance.** Revenue performance is multifaceted and includes (i) revenue yield; (ii) revenue elasticity and buoyancy; and (iii) revenue stability. Revenue yield reflects the level of revenue collected. Elasticity measures revenue growth over time in response to economic growth, net of policy changes that affect the tax base and tax rates. Tax systems that are relatively elastic—i.e. responsive to economic growth—tend to be desirable because revenues grow to support expenditure needs that tend to rise with population and economic growth. Buoyancy is the growth in revenue over time in response to economic growth, inclusive of policy changes that affect revenues. A relatively inelastic tax can be made buoyant through increases in tax rates or expansions of the tax base, though these changes must work their way through the political process which can be contentious. Revenue stability is the performance of revenues over the ups and downs of the business cycle.
- 6. Fairness.** Fairness in the context of business taxation refers to horizontal equity and the equal treatment of firms across sectors and across organizational form.

Findings

The review of Connecticut's business tax structure presented above reveals a highly complex and nuanced system that includes multiple tax structures, different reporting mechanisms for firms with different organizational structure and an extensive set of costly-to-administer tax credits that provide taxpayer relief at the expense of collections. In principle the system is similar to the structure in other states. But the Connecticut structure is arguably more complicated. State policy changes over the last decade have been significant, including the introduction of the corporate surtax (which has been volatile), the introduction of the preference tax for combined reporters (which has been subject to change) and changes to the credit structure that have increasingly limited taxpayer relief even as new credits have been introduced. Revenue yield is small compared to overall state tax collections. Over the long term, corporate revenue performance has been highly volatile and much more volatile than non-corporate tax revenues. Revenue yield and buoyancy have been sustained largely through policy changes, including the corporate tax surcharge which applies to pre-credit tax liabilities, the preference tax and limitations on tax credit use.

Based on the analysis above, along with the requirements of a good tax system, the following policy considerations are offered to policymakers and the business community. As possible, revenue neutrality is used to guide the policy considerations. It is important that lawmakers consider the impact of policy reforms on firm financial statements, especially major structural reforms. Changes in the law will impact deferred tax liabilities and have potentially adverse effects on reported income for the year of change.

1. Eliminate the capital base system. The requirement to calculate tax liabilities under two systems (the net income and capital base methods) and pay the higher of the two leads to higher administrative and compliance costs and creates taxpayer uncertainty regarding tax liabilities. The net income tax produced over 85 percent of post-credit corporate tax collections in 2012; the minimum tax, which produced only 3.4 percent of post-credit collections in 2012, is viewed as punitive by the business community. This system is likely in place to ensure that all corporate taxpayers pay something in tax and that net-operating losses and other factors do not cost the state too much in revenue. By eliminating the capital base system and placing reliance on the net income tax, the minimum tax could be retained to ensure all firms pay tax. Revenue losses could be made up by raising the corporate tax rate and/or placing limits on future issuance of tax credits; broadening the base would be a superior means of making up for any foregone revenue.

2. Clarify the corporate tax rate via elimination of the corporate surtax. The regular corporate statutory tax rate in Connecticut is 7.5 percent. However, the rate structure includes an element of progressivity and has changed markedly over time because of the volatility of the corporate surtax which has varied between zero and 25 percent. The surcharge rate is slated to fall to 10 percent in 2018 and may then be eliminated entirely. The surcharge should be embedded as a statutory rate in the regular corporate income tax rate schedule. The preferred approach would be to have a single flat rate rather than the progressive system created by application of the surcharge to high gross income firms (and combined/unitary files). This would enhance policy stability, reduce tax-induced distortions (including tax planning opportunities) and improve the transparency of the system.

3. Eliminate the proliferation of tax credits. The credit system narrows the tax base, is complicated and is subject to ongoing change, including the creation of new credits and limitations on their use. This leads to a higher tax rate, policy and tax liability uncertainty, changing incentives for investment and job creation, and a lack of transparency. Placing restrictions on credit use is a form of retroactive policy change that affects the rate of return on previously-made investments. Many of the credits are used only by a small number of firms and yield limited tax savings for businesses; these credits could be eliminated. The credit system is also costly to the state in terms of revenue yield and there is a huge volume of credits outstanding that will lead to future revenue losses to the state. In some cases the credits may alter investment incentives. But in other cases they may simply reward businesses for decisions that they would have made regardless of the structure of taxation. This means that revenue losses are incurred for no economic development gain. Base broadening would serve as an opportunity to reduce the corporate tax rate.

4. Evaluate whether tax credits are achieving their objective. If tax credits are intended to simply provide corporate tax relief, then broaden the base by phasing out tax credits and lower the statutory tax rate. Elimination of credits (and all deductions) for the 2012 tax year would have supported nominal rate reduction from 7.5 percent to 6.6 percent, benefiting all business taxpayers. On the other hand, if tax credits are intended to promote economic development, then greater efforts should be made to identify policies (including non-tax policies) that can promote economic growth at lower revenue cost to the state.

5. Enact a market-based sourcing rule in lieu of the current cost-of-performance rule for apportionment of the sales factor. The traditional approach to interstate apportioning of the sales factor associated with services is based on the cost of performance in the state(s) from which the service is sourced. In principle this aligns with the benefit tax view where public services are provided in support of production activities. However, in practice cost of

performance is difficult to measure, especially when service provision comes from multiple states. Moreover, the cost-of-performance rule translates into origin-based taxation—i.e. taxation at the source of production—and can distort where production activities occur. A market-based rule would harmonize policy with the treatment of tangible goods and allocate sales to the destination of consumption and use.

6. Unitary groups for combined reporting should be as inclusive as possible. The unitary group should include non-taxable entities, such as insurance companies and subsidiaries in a broadly defined list of foreign tax havens. This will reduce distortions and tax planning.

7. Include management fees in addback provisions. Connecticut’s current addback provisions could be enhanced through the inclusion of management fees. This would reduce distortions that induce tax planning activities. A small increase in revenues might be anticipated from this policy change.

8. Eliminate taxpayer elections. Under the newly-implemented mandatory uniform combined reporting system, taxpayers will be allowed to elect to report on a water’s edge, worldwide, or federal affiliated basis. This will significantly increase the cost associated with administration and compliance of the corporate tax system. The state should evaluate this new structure to determine if a single reporting regime would be adequate.

9. Impose single factor sales apportionment for all taxpayers. Connecticut has a variety of different apportionment formulas for corporations engaged in different types of economic activity, and members of a combined or consolidated group may use different apportionment formulas. It also applies different apportionment formulas for corporations than for pass-through entities. This leads to different incentives for different firms, sectors and organizational structures. A single factor sales tax for all entities will achieve numerous policy goals including simplicity and neutrality as well as lower the tax cost on in-state production. A corporate income tax with 100 percent weighting of sales is similar to a gross receipts tax.

Major Structural Reform

The policy recommendations presented above are all reflective of the current structure of business taxation in Connecticut. As such, they represent small-to-modest changes to an already highly-complex system of taxation. They are generally consistent with the requirements of a good tax system and may help on the margin but nothing presented in the discussion above, other than the elimination of credits, would fundamentally change the characteristics or outcomes of the business tax structure in Connecticut. It is likely that ongoing policy changes will be required to sustain the performance of the corporate income tax even with mandatory unitary combined reporting.

1. **Eliminate the corporate income tax and require all reporting to take place at the pass-through level of the personal income tax.** This would dramatically simplify the system but would lead to significant revenue losses to the state from non-residents; no other state has chosen to eliminate the corporate income tax and tax business entities exclusively through the personal income tax. This option is not considered in further detail here.
2. **Replace the corporate income tax with an alternative business tax system.** The options include a value-added tax (VAT) or a gross receipts tax (GRT). Each of these options is discussed more fully below.

There is precedent for a VAT at the state level, including Michigan's single business tax (which has been eliminated) and New Hampshire's business enterprise tax (which is still in existence). Gross receipts taxes have long been a staple of state and local tax systems, though traditional revenue reliance has been modest. There are exceptions, including Washington's longstanding business and occupations tax and the relatively new and somewhat differentiated GRTs in Ohio, Texas and Nevada, which have served as replacements for the traditional net income tax.

A VAT or GRT could be imposed on corporate taxpayers as a business entity (activities) tax. A business entity tax would not be subject to the constraints of Public Law 86-272 and so nexus would be more easily established for businesses penetrating Connecticut's markets. This would promote neutrality. In principle, consistent with the benefit tax view, the VAT should be a production tax and capture value-added in the production process, including wages and salaries, proprietor's profits, interest paid, dividends paid, and rents paid. (Capital purchases would be deductible under profits.) The GRT would be a destination-based tax and apply to the sale of services and tangible goods that are situated in the state. Some receipts could be exempted from a GRT, including returns to capital, with returns taxed at the individual level.

Depending on their design, VATs and GRTs can produce significant improvements in the business tax structure. First, they can be simpler taxes to administer and comply with. This can be seen by comparing the instructions and tax returns for the business enterprise tax in New Hampshire and the commercial activity tax in Ohio against the same information for the corporate tax in Connecticut.¹⁹ (It is noteworthy that the Ohio CAT return is smaller than a single page.) Both systems produce a more stable tax base by relying on value added or gross receipts instead of profits, in part because profits reflect the reporting decisions of businesses.

¹⁹ See <http://revenue.nh.gov/forms/business-tax.htm>, http://www.tax.ohio.gov/commercial_activities.aspx and http://www.tax.ohio.gov/portals/0/forms/CAT/2012/CAT_CAT12_FI.pdf, and <http://www.ct.gov/drs/cwp/view.asp?a=1509&q=449532>

And both systems appear to have a stronger underlying elasticity than the corporate income tax because they are less prone to tax planning. Perceptions of fairness may be enhanced by including a larger set of firms in the tax base and treating firms with similar receipts similarly. A stronger business tax-public service (i.e. benefit tax) linkage would be established through a measure of the base that aligns more closely with public service benefits than profits.²⁰ Both instruments are more transparent as business taxes due to the clarity of their respective bases. Finally, VATs and GRTs, by virtue of their large base, can support lower rates and thus reduce tax-induced distortions and excess burdens. The rate of the Ohio commercial activity tax was phased in over five years and reached 0.26 percent in April, 2009; the rate has not since changed. The New Hampshire business enterprise tax rate is 0.75 percent.

Of course, each alternative tax instrument also has weaknesses. Unfortunately, some of the criticisms levied against these alternatives are often presented in a vacuum that ignores the inherent weaknesses of the corporate income tax.

One weakness of the VAT is lack of taxpayer familiarity and association of the tax with the high-rate consumption VATs in Europe. While production and consumption VATs are conceptually similar, the production VAT proposal presented here has modest revenue objectives and can support very low rates compared to the traditional corporate income tax and the VATs that are in place abroad.

A common criticism of gross receipts taxes is that they can lead to tax pyramiding across the production chain that can in turn distort business choices. This is the most vocal argument presented against the GRT. However, sales taxes, which have much higher rates and fall on a significant share of business input purchases, can in principle have the same effect. Yet there is no empirical evidence suggesting that the sales tax or existing gross receipts taxes induce vertical integration. Evidence from New Mexico's gross receipts tax—which is a broad-based sales tax with a relatively high rate—suggests that 32 percent of revenues came from pyramiding (del Valle, 2005). A study of Washington's business and occupations tax, which has much lower rates, indicates that on average taxes pyramided 2.5 times (i.e. applied to an average of 2.5 transactions), with significant variation across industries (Washington, 2002). Significant variation currently exists in corporate tax liabilities across sectors of the Connecticut economy. With a low rate GRT, this pyramiding would not be expected to create significant distortions.

²⁰ Gugl and Zodrow (2015) show that production taxes like an origin VAT or a GRT with deductions for the cost of purchased inputs are superior benefit tax instruments produce fewer distortion than capital (i.e. net income) taxes.

A criticism of both alternative structures is that businesses without a profit must nonetheless remit tax. However, this is already the case with the Connecticut corporate tax structure—if firms owe no tax under the net income method, then the capital base alternative or the minimum tax applies. Moreover, Connecticut businesses must remit property taxes, sales taxes and fees regardless of their profitability. Firms without a profit nonetheless benefit from public services provided by the state.

The production VAT can be criticized as an origin-based tax, but its intent is to serve as a benefit tax. A GRT would also impose tax on inputs used in production and as a result exports from the state would potentially have tax embedded in their price. (Sales delivered out of state would not be subject to gross receipts taxation.) Elements of origin-based taxation already exist under the current corporate income, property and sales taxes. Low VAT and GRT tax rates would help minimize these possible distortions.

Only the VAT would require interstate apportionment. The apportionment rules could be very straightforward. For a production VAT, this would require apportionment of Connecticut's share of total value-added that accrues across a firm's market states. Apportionment of profits, wages and salaries would be straightforward since these can be relatively easily assigned to the state of production. However, other forms of value added like interest and dividends may be derived from both in-state and out-of-state activities of a multistate firm. In these instances, alternative rules could be established. New Hampshire, for example, pragmatically apportions interest income using a property factor and apportions dividends using a sales factor.

A GRT requires the sourcing of receipts from the sale of tangible goods and services. This could simply be based on the Connecticut share of multistate receipts. Decisions would have to be made on how to treat some receipts like interest and dividends.

Major structural reform would lead to transitional issues, especially for the treatment of net-operating losses and corporate tax credits. One option would be to allow taxpayers the opportunity to carryforward the credits and net-operating losses until they are gone. In Ohio, taxpayers were allowed to carry their credits forward under the commercial activity tax and NOLs were converted to credits for many firms.

Estimates of a revenue-neutral GRT and VAT have been developed for Connecticut with each instrument serving as a potential replacement for the current corporate tax structure. The revenue neutral estimates presented here should be viewed as suggestive rather than definitive. Pre-credit corporate tax revenue is the reference point for these estimates.

Data from Ohio's commercial activity tax are used as a foundation for estimation of the base and rate of a GRT for Connecticut.²¹ The starting point is taxable gross receipts by industry for the Ohio commercial activity tax. This is a policy neutral measure of the base in the sense that it does not reflect anything other than the measure of potentially taxable gross receipts situated in the state. In practice, Ohio excludes some business activity from the commercial activity tax, notably insurance companies and financial institutions. These and other exemptions mean that net taxable receipts in 2014 were 87.9 percent of taxable gross receipts. Note that exemptions from the base will necessitate a higher tax rate unless the exempt activity is subject to an alternative tax instrument.

Gross domestic product data by industry sector for each state are used to calculate ratios of Connecticut-to-Ohio gross domestic product. These ratios are applied to Ohio taxable gross receipts yielding a proxy for the sectoral tax bases of a Connecticut GRT. A revenue neutral tax rate is then determined that produces a yield commensurate with Connecticut corporation business tax revenues due before application of credits.

For the VAT, the starting point is a recent study evaluating a federal VAT for the U.S. (Toder, Nunns and Rosenberg, 2012). While the study considers a consumption VAT, the conceptual similarities to a production VAT allow application to Connecticut. The broad base of the VAT is estimated to be 39.8 percent of U.S. GDP. This figure is applied to Connecticut's GDP to arrive at an estimate of the state production VAT base.

Table 12 shows the pre-credit revenue neutral tax rates as well as the Connecticut corporate income tax rate inclusive of the corporate surcharge for 2006-2012. The revenue neutral GRT rate in 2012 is estimated to be 0.22 percent and the VAT rate is estimated to be 0.64 percent. Both of these rates compare very favorably to the 9.0 percent corporate income tax rate. It is important to note that the variability of the VAT and GRT rates reflects the variability of corporate income tax collections since these are constructed as revenue-neutral rates.

The estimated distribution of the 2012 GRT tax liability across industry sectors is presented in Table 13, along with the 2012 distribution of pre-credit corporate tax liability. Some sectors, like wholesale and retail trade, are estimated to have significantly larger tax liabilities under the GRT than the current corporate income tax. Other sectors, including finance and insurance and the management of companies and enterprises would see falling liabilities.

While it has not proven possible to provide a detailed breakdown of estimated sectoral liabilities under the VAT alternative, suggestive evidence based on GDP data is presented in Table 14. The government sector would not be taxed under either alternative and thus is

²¹ See http://www.tax.ohio.gov/tax_analysis/tax_data_series/cat/publications_tds_cat.aspx

omitted. Similarly, the education, health and social assistance sector has been removed from the state GDP data since most of this sector would presumably be exempt. Together the remaining sectors represent about 80 percent of GDP, which is much larger than the simulated VAT at 39.8 percent of GDP.

An important question is whether the bases of the VAT and GRT alternatives are more or less responsive to economic growth than the corporate income tax. This question cannot be answered definitively since a measure of the corporate income tax base is not available. However, corporate income tax collections had a -0.2 percent compound annual growth rate between 2007 and 2012. In contrast, the GRT base grew 1.5 percent and the VAT base grew 0.4 percent over this same time period. (As measured here, the VAT base is total GDP minus government and minus education, health and social assistance. Simply using 39.8 percent of GDP would produce growth rates commensurate with GDP growth.)

Another important consideration is the relative stability of the respective tax instruments. All taxes showed volatility over the 2007-2012 period because of the Great Recession. Connecticut corporate income tax revenue was highly volatile over this time frame with a 32.4 percent contraction in 2008 and a 34.2 percent jump in 2011. The GRT base showed its strongest growth in 2008 (11.2 percent) and sharpest contraction in 2010 (10.6 percent); corporate tax collections were more volatile than the GRT base in five of six years. The VAT base had peak growth of 2.5 percent in 2012 and its largest setback of 2.0 percent in 2009. (Again, the VAT base as measured here is total GDP minus government and minus education, health and social assistance.) The VAT clearly offers the more stable base over this short window of time.

TABLE 12: Corporate Tax Rates and Revenue Neutral VAT and GRT Rates

	2007	2008	2009	2010	2011	2012
VAT Tax Rate	0.589%	0.531%	0.571%	0.633%	0.618%	0.640%
GRT Tax Rate	0.215%	0.172%	0.190%	0.242%	0.226%	0.221%
CIT Tax Rate*	7.500%	7.500%	8.250%	8.250%	8.250%	9.000%

*Includes surcharge tax rate.

Source: Bureau of Economic Analysis.

TABLE 13: Revenue Neutral Gross Receipts Tax: Liabilities by Sector

Industrial Sector	Corporate Income Tax		Gross Receipts Tax	
	Revenues	Share of Total	Revenues	Share of Total
Agriculture, Forestry, Fishing & Hunting	\$745,819	0.12%	\$1,243,784	0.20%
Mining	767,454	0.13%	734,716	0.12%
Utilities	22,384,245	3.67%	10,004,699	1.64%
Construction	6,149,270	1.01%	29,932,330	4.90%
Manufacturing	129,775,757	21.25%	121,650,730	19.92%
Wholesale Trade	34,191,938	5.60%	96,549,990	15.81%
Retail Trade	58,766,357	9.62%	116,192,148	19.03%
Transporting & Warehousing	9,860,731	1.61%	9,787,274	1.60%
Information	52,987,640	8.68%	46,909,184	7.68%
Finance & Insurance	70,783,394	11.59%	16,385,062	2.68%
Real Estate & Rental & Leasing	11,823,562	1.94%	21,768,065	3.57%
Professional, Scientific & Tech Services	40,406,171	6.62%	44,030,126	7.21%
Management of Companies & Enterprises	60,552,149	9.92%	27,064,636	4.43%
Administrative & Support Services	16,550,669	2.71%	7,791,309	1.28%
Education, Health Care & Social Assistance	7,999,913	1.31%	25,696,653	4.21%
Arts, Entertainment, & Recreation	1,766,568	0.29%	2,277,281	0.37%
Accommodation & Food Services	4,147,938	0.68%	13,634,882	2.23%
Other Services	7,205,434	1.18%	7,312,574	1.20%
Unclassified	73,724,717	12.07%	11,624,282	1.90%
TOTAL	610,589,725	100.00%	610,589,725	100.00%

TABLE 14: Connecticut Gross Domestic Product, Distribution of Selected Sectors, 2012
(millions \$)

Industry	Amount	Share
Agriculture, Forestry, Fishing, Hunting	332	0.2%
Mining	185	0.1%
Utilities	3,484	1.8%
Construction	7,051	3.7%
Manufacturing	27,126	14.2%
Wholesale Trade	14,229	7.4%
Retail Trade	12,636	6.6%
Transportation & Warehousing	4,318	2.3%
Information	11,080	5.8%
Finance & Insurance	34,708	18.2%
Real Estate & Rental & Leasing	36,529	19.1%
Professional, Scientific, & Technical Services	14,885	7.8%
Management Of Companies & Enterprises	6,499	3.4%
Administrative & Support Services	6,634	3.5%
Arts, Entertainment, Recreation	1,772	0.9%
Accommodation & Food Services	4,894	2.6%
Other Services	4,792	2.5%
Total	191,154	100.0%

Source: Bureau of Economic Analysis. Excludes the government and education, health and social assistance sectors.

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Chapter 11

THE CONNECTICUT ESTATE AND GIFT TAX

A Report Prepared for the Connecticut Tax Panel
Presented October 27, 2015

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Executive Summary

The passage of the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA), the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (TRUIRJCA), and the American Taxpayer Relief Act of 2012 (ATRA) fundamentally altered the structure of the federal estate tax. Gone was the state pick-up tax, which allowed for a federal tax credit for state Estate, Inheritance and Gift (EIG) taxes paid. The federal estate tax exemption has been raised from \$675,000 to \$5.43 million, and is now indexed to inflation. The federal estate tax and gift tax are now unified, so that any gifts given beyond the annual limit (currently \$14,000 per recipient) count against the exemption. Portability, which allows a spouse to use any unclaimed exemption by his/her deceased spouse, is now a permanent feature of the tax code.

For the states, the immediate effect of the loss of the pick-up tax was a loss in revenues. Some states responded by decoupling their EIG tax from the federal code in order to maintain the tax; by not decoupling, other states effectively let their EIG tax fade away. Other states went one step further by officially eliminating their EIG tax altogether. Currently, 20 states, including Connecticut, impose some sort of EIG tax.

With the elimination of Minnesota's gift tax in 2014, Connecticut is the only state imposing a stand-alone gift tax. Similar to federal law, Connecticut's gift tax is a unified tax; all gifts that exceed the annual tax-free limit count against the amount that is exempt from eventual estate taxation. The current estate exemption level of 2 million dollars places Connecticut in the middle of all states nationally. Its highest tax rate of 12% is the second lowest in the nation. Connecticut has one of the lowest tax impacts in the Northeast for large estates. Connecticut's EIG tax is the most progressive tax Connecticut maintains, which is a consideration for a state that we find ranks 4th in income equality, a measure that has worsened both absolutely and relatively through the years.

EIG tax revenue is notoriously volatile and hard to predict. Not only does the tax depend on people dying, but it also can be paid many years later than the year death occurs. This means that in a given year, EIG revenue is raised from both the estates of recently deceased, as well as those who deceased in years past, which can span numerous years. Since 2001, Connecticut's EIG tax revenue as a share of total tax revenues has exhibited a decreasing trend, from a high of 2.5% to currently below 1%. Only in 2013 is there a significant departure from this trend path.

We evaluate the impact of Connecticut's EIG tax on the state through a variety of means. In a migration context, we utilize data from the Census and the American Community Survey (ACS) to show that Connecticut has experienced a fairly steady net-outflow of elderly migrants since 1980. Moreover, the states Connecticut loses migrants to have also remained stable over this time. Given that EIG tax policies have changed a great deal during this period, the stability of these migration patterns suggest they are influenced little by EIG taxes. We also find that the behavior of high income elderly migrants (those most likely to face EIG taxes) have been similar to the general elderly migrant population. These stable patterns are verified in data from the Internal Revenue Service (IRS), and is consistent with the established literature that shows little

to no migration effects from EIG taxes. We also see no evidence of migration effects from data on federal estate tax returns or Connecticut personal income tax filings.

Connecticut's EIG tax also appears to have limited impact on annual economic growth in the state, regardless of how growth is measured. Connecticut growth falls in line with all its neighboring states and does not appear affected by changes in its EIG tax policy. Even in comparison to Southern states that have experienced large amounts of population growth over the last 30 years, Connecticut's per capita growth rate would not be considered an outlier. A similar pattern emerges when Connecticut is compared to Midwestern states without EIG taxes. Connecticut's growth appears to be more volatile than some states, but that pattern has been consistent since 1978, making it hard to blame EIG taxation for any growth pattern we witness.

The report ends with six policy recommendations for the panel to consider. They include:

- 1) *Retain the Current EIG Tax.* The EIG tax is only one of two progressive taxes in the Connecticut tax system and the total (federal + Connecticut) tax on estates is lower currently than it has been at any time in recent history. Connecticut has already enacted (in 2009) the critical reform of removing the 'cliff,' whereby estates just exceeding the exemption faced a disproportionately large tax burden. While only 20 states impose an EIG tax, nearly all of the states in the region do so and Connecticut's tax is near the bottom in terms of tax liability; however, this policy is in flux and so the landscape could change rapidly. Nearly all other options will reduce revenues that are unlikely to be made up via retaining rich residents or increased economic growth.
- 2) *Allow for a state-specific QTIP election.* Currently, Connecticut does not allow for a state specific QTIP election. For situations where the value of the estate is more than the Connecticut exemption but less than the federal exemption, the lack of a state specific QTIP election prevents married couples from deferring state taxes without forgoing the full federal exemption when the first spouse dies. Allowing a state specific QTIP will simplify estate planning for Connecticut residents.
- 3) *Conform to the Federal Estate Tax.* Connecticut already conforms with the federal unified gift tax. Two other ways to conform include:
 - i) Increase the exemption level to the federal limit (currently \$5.43 million, indexed to inflation), and
 - ii) Adopt the 'portability' feature in which one spouse may claim the unused exemption of a deceased spouse.

Conforming to the federal estate tax would simplify estate tax planning, fully exempt from taxation the large number of currently-taxable, smaller estates, and lower significantly the tax burden on all estates. These changes would also substantially reduce EIG tax revenues.

- 4) *Increase the Marginal Tax Rate on Federally Taxable Estates.* The deductibility of state EIG taxes from the federally taxable estate affords the state the opportunity to capture a portion of federal revenues, as it did under the 'pickup' tax. Estates below the federal threshold do not

enjoy this benefit and so, despite an increasing *statutory* marginal tax rate, Connecticut's *effective* marginal tax rate actually declines (and is sometime negative) for medium to large estates. This option is the only one considered that could increase revenues. It could therefore be considered in combination with other reforms in an effort to be revenue neutral on balance.

5) *Eliminate the Gift Tax*. The gift tax generates a relatively small amount of revenue (about 4% of all EIG tax revenues in 2013-14). Eliminating the gift tax increases the opportunity for 'deathbed' gift planning, in which large transfers are made in contemplation of death to avoid the estate tax, although the federal unified gift tax law would still apply to larger estates. Eliminating the gift tax will therefore likely significantly reduce EIG tax revenues, especially if no other 'gifts-in-contemplation-of-death' rules are enacted.

6) *Eliminate the Estate (and Gift) Tax*. Connecticut EIG taxes are a relatively small portion of total tax revenues (<2%), with revenues equaling \$207 million in 2013-14. Connecticut would join the majority of other states without EIG taxes and be the only state in the region besides New Hampshire without one.

Introduction

State estate, inheritance and gift (EIG) taxes have a long and volatile history, one that is intricately linked to that of the federal estate tax law. The last fifteen years are a prime example. In response to a key change in federal estate tax law in 2001, many states effectively increased or brought back their EIG taxes, only to subsequently decrease or eliminate them. The 2010s have seen many additional changes to state EIG taxes; Illinois, Iowa and Oregon implemented an estate tax, 8 states have increased the exemption before an EIG is triggered, and 5 have eliminated them altogether¹. To aid in determining the best course of action, if any, for Connecticut, we first provide a broad overview and brief history of EIG tax law at the federal and state level and then for Connecticut in particular. We then discuss the possible effects and issues of EIG taxes, following with an examination of the evidence regarding Connecticut's EIG tax law's effect on possible migration and economic growth. We close with a discussion of policy options to consider.

General Background

State EIG (sometimes referred to as “death”) taxes are comprised of three types of taxes: Estate, Inheritance (or Succession), and Gift taxes. Both estate and inheritance taxes are levied upon the transfer of wealth upon death. Estate taxes apply to the decedent's estate, whereas inheritance taxes apply to the bequests made to beneficiaries. Both often exclude bequests given to spouses or charity. The key difference is that inheritance taxes are legally imposed on the heirs (though paid by the estate) and apply varying tax rates and exemptions according to the type of beneficiary; more distant relatives and unrelated individuals typically face higher rates. Gift taxes are imposed on wealth transfers prior to death and help prevent individuals from avoiding estate and inheritance taxes by transferring their wealth prior to death. Absent a gift tax, individuals can avoid paying estate or inheritance taxes by giving their assets away while alive. Currently, 13 states plus DC have an estate tax², 4 have an inheritance tax and 2 have both; both Connecticut and the federal government currently impose a unified estate and gift tax.³

State and federal EIG taxes have a long and intertwined history. The federal estate tax became permanent in 1916, and the vast majority of states already had EIG taxes by that time. As early as the 1920s, however, states began to reduce and eliminate their EIG taxes in the hope of attracting or at least retaining their wealthiest residents (Cooper, 2006). Partially in response to this tax competition, Congress in 1924 provided a tax credit against the federal estate tax liability for state EIG taxes paid, up to a certain amount. This dollar-for-dollar tax credit allowed the states to impose an EIG tax without increasing the overall tax burden (federal + state) imposed; this so-called ‘pick-up’ or ‘soak-up’ tax allowed states to receive a share of federal revenues. All states took advantage of this provision. As early as the 1950s, a few states, most notably Florida,

¹ Oregon replaced its pick-up tax for a standalone estate tax, and Tennessee repealed its inheritance tax effective January 1, 2016.

² This tally includes Nebraska, whose tax is imposed by local counties and not the state.

³ A unified estate and gift tax is where the same exemption and tax rates apply to both, and lifetime taxable gifts count against both the gift and the estate tax exemptions. Gifts are only taxable once they exceed the annual, per-recipient federal exemption (\$14,000 in 2015; see Michael 2014, p. 11).

chose to impose *only* the pick-up tax. In practical terms, such states can be considered as not having a ‘true’ estate tax; they simply receive a portion of the federal tax liability. The mid-1970s saw the beginning of another wave of state tax competition as many more states began eliminating any *additional* EIG taxes beyond the pickup tax. By 2000, 33 states had only the ‘pickup’ tax, including all of Connecticut’s neighbors as well as Vermont and Maine (Conway and Rork 2004). Connecticut continued to have an additional tax (a succession tax).

Federal estate tax law has seen many changes since 2000, summarized in Table 1. Foremost is the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA), which made many changes to the federal estate tax that affected the states. EGTRRA phased out the state tax credit and replaced it with a deduction, which is less valuable, in 2005.⁴ It also steadily increased the exemption from \$675,000 to \$3.5 million and decreased the top tax rates from 55% to 45% by 2009. It eliminated the federal estate tax completely for deaths occurring in 2010, but then returned to the federal law in place in 2001 (pre-EGTRRA) for 2011.

As has been noted by many (e.g., Michael 2014, Francis 2012, Cooper et al 2004), the sudden loss of revenue combined with the uncertainty of whether the credit would return in 2011 led to a myriad of state EIG tax policy responses.⁵ Many states did nothing and thus lost the revenues from the pickup tax; for states that had *only* a ‘pick-up’ tax, that meant that EGTRRA effectively eliminated or, perhaps more accurately, rendered dormant their entire EIG tax system. Florida, a popular destination for retirees including those from Connecticut, falls in this category.⁶ Some states, including Arizona, went a step further and repealed all reference to the estate tax (Francis 2012). Still other states ‘decoupled’ from the federal system by referencing the estate tax at a certain date (prior to EGTRRA), thereby preserving the old revenue source but also now effectively imposing a new, additional tax burden on the estate.⁷ Finally some states enacted new, ‘stand-alone’ estate taxes whereby the state set its own exemption level and tax rate.

With EGTRRA’s provisions expiring at the end of 2010, the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (TRUIRJA) was enacted in December 2010, which made temporary changes, followed by the American Taxpayer Relief Act of 2012 (ATRA) enacted in January 2013 and making permanent changes.⁸ Several of the changes resulting from these federal laws have implications for state EIG taxes (Michael, 2014). First, the exemption amount increased to \$5 million and was indexed to inflation. Second, the

⁴ A tax credit reduces the tax liability dollar for dollar. A deduction reduces the tax base and thus reduces the tax liability by the marginal tax rate (MTR) x deduction amount. For example, at a MTR of 50% a deduction is worth only half as much as a credit of the same amount.

⁵ Many of these studies also assert that the state tax credit was eliminated as a way for Congress to pay for the loss of revenues caused by the reduction in the federal estate tax. See Cooper et al (2004) for a thorough explanation of the different types of state responses.

⁶ A recent report links Rhode Island’s increased out-migration after 2004 to Florida’s “elimination” of the estate tax, which reveals the lack of understanding and degree of misinformation about these taxes (Moody and Felkner, 2011). As noted above, Florida has not imposed a ‘real’ EIG tax for at least 50 years prior to 2004.

⁷ The degree of decoupling can get complicated as some states referenced the state tax credit schedule of an earlier date but tied the exemption to the current federal law. As discussed shortly, Connecticut fell in that category during 2005-2009. It then enacted its own, stand-alone estate tax beginning in 2010.

⁸ One such change was to retroactively apply a \$5 million exemption for estates in 2010, rather than being completely exempt from taxation as under EGTRRA.

tax rate decreased to 40%. These two changes further reduce the value of the federal deduction for state EIG taxes by having fewer estates subject to tax and by reducing the value of the deduction for those estates that are subject to the tax (because the mtr is lower; see footnote 2).

It also made the federal exemption ‘portable’ in that the deceased spouse’s unused exemption can be passed to a surviving spouse. For example, suppose John dies and leaves a \$6 million estate to his wife Mary. Mary will pay no federal (nor state, in the vast majority of states) estate tax, even though the \$6 million estate exceeds the \$5.43 million exemption, because of the spousal exemption. Portability means that when Mary dies, she will not only have the exemption in place in that year but she will also get John’s unused portion. Instead of having \$5.43 million (+ inflation) of her estate exempt from taxes, more than \$10 million will be exempt.⁹ (Without portability, John would have an incentive to leave up to \$5 million to his other heirs, to take advantage of the exemption.) As discussed in the next section for Connecticut, this has tax implications for QTIPs in states with estate tax exemptions lower than the federal tax. A QTIP is a qualified terminable interest property, a trust in which John can designate who receives the assets upon Mary’s death, but Mary has the right to all income generated by the QTIP while alive. In essence, it allows John to transfer his assets to Mary while also specifying how the remaining assets are allocated after Mary’s death.

Finally, the federal exemption and the gift exemption are now unified. This means that any gifts made by a donor to a given recipient beyond the annual exemption amount (currently \$14,000) count against the federal exemption amount (currently \$5.43M) upon death of the donor.

As a result of all of these federal rule changes and the belief since 2013 that the federal law is now permanent, state policies are currently being revised and debated in many states. Table 2 summarizes the EIG tax status of each state, as of this writing. Figure 1 reveals that states with EIG taxes are clustered geographically and that estate taxes are common in the region around Connecticut.

The federal estate and state EIG taxes have therefore been subject to many policy changes over the years and yet both are relatively small in terms of their importance to revenues. Figure 2 shows that state EIG taxes make up a very small (< 3%) and generally declining fraction of total state tax revenues. With the current wave of state EIG tax reductions, this fraction seems almost certain to decline further.

EIG Taxes in and around Connecticut

At the time EGTRRA was enacted, Connecticut had a succession (inheritance) tax as well as an additional estate/‘pickup tax’ that was designed to ‘pick up’ any unused portion of the federal tax credit. Transfers to spouses and immediate family members were already exempt, and taxation on all other transfers were set to be phased out by 2006 (2001-2 Annual report). Thus, Connecticut was on track to become a ‘pickup tax only’ state. EIG tax collections equaled \$260,832,767 (or 2.7% of total state revenue sources) in FY2000, falling to \$173,040,623 (1.9%)

⁹ Only Hawaii currently allows for such portability in its estate tax law and Maryland will allow it starting in 2019.

in FY 2002.¹⁰ By FY 2006, EIG collections were \$203,457,505 and accounted for only 1.6% of state revenue sources.

In 2005, Connecticut replaced the separate ('pickup') estate tax and separate gift tax with a unified gift and estate tax; it also repealed its succession tax. The unified estate and gift exemption was \$2 million and the tax rates ranged from 5.085% to 16% for estates over \$10.1 million. (Figure 3 shows the exemptions for Connecticut and the federal law since 2000.) Connecticut therefore became like several other states that enacted estate taxes based largely on the dormant federal tax credit and, as a result, had a 'cliff' or 'bubble' marginal tax rate on estates valued just over the exemption (Estate Tax Report 2008, Michael 2014). These cliffs arise because once the estate exceeds the exemption level, the entire estate is subject to the tax rather than only the amount that exceeds the threshold. This peculiarity seems to have arisen because states impose a tax liability based on the pre-EGTRRA state death tax credit laws on estates exceeding the exemption; as states increase the exemption level, the cliff becomes higher (see footnote 11 below).

Laws enacted in 2008 and 2009 significantly reduced the Connecticut tax on estates and created a 'stand-alone' estate tax not based on the old credit. These laws increased the exemption to \$3.5 million, lowered the tax rates on all estate levels (top rate was now 12%) and removed the cliff by making only the portion of the estate above the exemption level subject to tax.¹¹ For example, a \$3 million estate that would have paid \$182,000 in estate taxes in 2009 would pay nothing in 2010; a \$4 million estate would have paid \$280,400 in 2009 and only \$38,400 in 2010. In 2011, Connecticut changed its estate tax law again to where it stands today (reported in Table 3). The exemption returned to its prior level of \$2 million and estates in the \$2 – 3.5 million range face a tax rate of 7.2%, the rate that had been imposed on estates between 3.5M and 3.6M previously. Because the cliff has been removed, these smaller estates still face a lower tax liability than in 2009, despite the higher tax rate (7.2 vs. 5.085). For example, a \$2.1 million estate would have paid \$106,800 in 2009 but would only pay $.072 \times \$100,000 = \$7200$ in 2011.

In sum, during this period Connecticut saw its EIG tax revenues decline (in real terms) as the state death tax credit ('pickup tax') was phased out. Conversely, Connecticut residents experienced an increase in the additional estate tax liability imposed by the state above that of the federal law, because they could no longer deduct their state EIG taxes dollar for dollar from their federal liability and instead could only claim a deduction. The removal of the cliff and the reduction in tax rates beginning in 2010 reduced significantly this tax liability (and revenues generated). However, at the same time, the dramatic increase in the federal exemption to its current level of \$5.43M means that estates below that amount face no federal tax and therefore lose the deduction. Nonetheless, one must note that the total estate tax liability (federal + Connecticut) is far lower today than it has been at any time in recent history.

¹⁰ The numbers for FY2000 and FY 2002 are taken from the 2001-2 Annual reports, p. 18, and are the sum of the 'Connecticut Estate Tax,' the 'Gift Tax' and the 'Succession Tax'.

¹¹ Note that only changing the exemption level pushes the cliff further out and makes it even steeper. For instance, only increasing the \$2 million exemption to \$3.5 million would mean that estates just over \$3.5 would now pay tax on the entire amount of the estate whereas estates just under \$3.5 million would pay nothing.

Comparison to Other States

Other states in the region have followed a similar path in the years since EGTRRA.

Connecticut's three neighbors (NY, MA and RI) as well as Maine, Vermont and New Jersey all 'decoupled' and continued to base their EIG taxes on the dormant state tax credit.¹² As such, bubbles and cliffs were created in these states as well. Several states have also taken recent actions to change their laws, including:

- **New York** = in 2014, it began increasing its \$1 million exemption by \$1.0625M a year, such that it is currently \$3.125M and will reach \$5.25M by April 2017. From 2019 on, the exemption equals the federal exclusion. However, due to the way the tax is calculated, its tax rate bubble remains.¹³ It follows the tax rate schedule from the old state tax credit and has a top rate of 16% on estates greater than \$10.1M.
- **Rhode Island** = in 2014, it has increased its exemption level and indexed it to inflation, such that it is \$1.5M in 2015. It also eliminated its cliff tax by taxing only the portion of the estate above the exemption level. It follows the tax rate schedule from the old state tax credit and has a top rate of 16% on estates greater than \$10.1M.
- **Vermont** = in 2011, it increased its exemption to \$2.75M. Its cliff tax remains. It follows the tax rate schedule from the old state tax credit and has a top rate of 16% on estates greater than \$10.1M.
- **Maine** = in 2012, it created a stand-alone estate tax with an exemption of \$2M and three tax brackets ranging from 8% (\$2M – 5M) to 12% (above \$8M). It no longer has a cliff tax. Legislation passed in 2015, effective January 1, 2016, increase the exemption to the federal annual exclusion level with tax brackets ranging from 8% - 12%.

Massachusetts and **New Jersey** have made no significant changes to their tax laws as of this writing. Figures 4a-c show the current exemption levels, the maximum tax rate, and the estimated amount paid on a \$20 million estate for all the states in the region. These figures reveal that Connecticut's exemption is among the higher in the region, and its top tax rate and amount paid on a \$20 million estate among the lowest. Thus, while the majority of states no longer impose EIG taxes, Connecticut's policies are similar to those of its neighbors, and its tax burdens fall in the lower range of those in the region. More generally, Connecticut is fairly similar to other states that continue to impose EIG taxes, as evident from Table 4, which shows the exemption levels and range of tax rates for all states with EIG taxes in 2015. However, that conclusion comes with the caveat that, as our brief review here shows, state EIG taxes are changing a great deal and are definitely in flux.

¹²As noted shortly, effective in 2016 Maine changed its exemption level to conform to the federal law. New Hampshire did not decouple and so effectively eliminated its EIG tax with the 2005 phase out of the credit. Pennsylvania has a broad-based inheritance tax and New Jersey has both an inheritance and an estate tax.

¹³New York's tax is not a technically a cliff because the entire estate is not subject to tax once the estate exceeds the exemption level by 1 dollar; instead, the amount subject to tax is rapidly phased in, thus leading to a very steep hill but not a cliff *per se*.

Current Features of Connecticut's EIG Tax

Table 3 reports the current Connecticut estate & gift exemption and statutory tax rates, and Figure 5a and 5b show the estimated EIG tax liability and average tax rate in 2014, taking account of the federal deduction, by the size of the estate. Estates that exceed the federal exemption level (currently \$5.43M) can deduct the state EIG taxes paid, which has the effect of reducing the additional tax liability due because of the state law until all of the state EIG taxes are deductible. For every dollar the estate exceeds \$5.43M, it can deduct an additional dollar of state EIG taxes paid and thus reduce its federal tax bill by as much as \$.40; as a result, the net (or additional) state tax liability is actually negative (\$.09 in additional state EIG taxes minus \$.40 reduction in the federal liability = -\$0.31). This is the downward-sloping portion of the 'after federal offset' line in the figures. Once the estate exceeds the federal exemption by enough that all state EIG taxes can be deducted, the net state tax liability begins to increase again with the size of the estate, but at a slower rate – because each additional \$.09 paid in state taxes will reduce the federal tax bill by $0.4 \times \$0.09 = \$0.036$ as it is deducted. For example, an \$11 million estate would be able to deduct the full amount of the state EIG taxes paid (\$856,200) from its federally taxable estate, thus reducing its federal tax liability by $0.4 \times \$856,200 = \$342,480$.¹⁴ This example illustrates how states can still, in effect, gain a piece of the federal estate tax revenues as they did in the past with the 'pickup tax.' This piece is the gap in the two lines in Figure 5a. For this reason, it may make sense for the states to levy higher tax rates on estates that are subject to the federal tax, as they can obtain another dollar of revenue while only increasing the decedent's total (state+ federal) tax liability by \$.60.

Estates that are large enough to pay a state EIG tax but fall below the federal level do not receive this tax benefit because they face no federal tax liability. These estates are also affected by the state's QTIP laws, which can significantly complicate estate planning. Connecticut (along with New York, New Jersey, Vermont and DC) does not allow a separate state QTIP election, although Connecticut does allow a state QTIP election if no federal QTIP election is made. By choosing a QTIP equal to the amount for the federal exemption, one creates an estate tax burden at the state level. By choosing the lower state exclusion, however, one might end up wasting the federal exemption and pay more federal tax when the surviving spouse dies. 10 states allow a state QTIP to differ from the federal QTIP, which allows the creation of a QTIP equal to the federal exclusion without paying additional state tax at the time the first spouse dies. As stated in Michael (2014), the allowance of a state specific QTIP election allows married couples to defer the payment of state tax without forgoing the full federal exemption when the first spouse dies. It also prevents the executor from having to make guesses as to what state and federal estate taxes will look like in the future when choosing QTIP elections.

Connecticut also differs from all other EIG tax states in that it is the only state with a unified gift tax. Thus, all taxable gifts (defined as gifts exceeding the federal amount of \$14,000 per donor to a given recipient per year) are treated as part of the estate. While Connecticut is unique in this regard, many states with EIG taxes have laws to prevent EIG tax avoidance by transferring

¹⁴ Note that because the federal tax liability cannot be negative, smaller estates will not gain the full mtr*EIG tax paid value of this deduction. Rather, taking this deduction will render their estate exempt from federal taxation.

wealth while still alive. These laws often entail a ‘look back’ period in which taxable gifts made in the last few years before death (three years is a common window) are included in the estate.¹⁵ As a practical matter, then, Connecticut differs from other states by considering gifts made a longer period of time prior to death.

Finally, starting in January, 2016, Connecticut Public Act 15-244 places a cap of \$20 million on total EIG taxes paid by a given estate.

Issues to Consider in Evaluating an EIG tax

An evaluation of any tax should include its distributional implications and its effects on incentives and behaviors – and by extension, the tax revenues generated and economic growth effects. Compliance and administrative costs of the tax should also be considered. Gale and Slemrod (2000) provide an excellent overview of the many issues involved in evaluating the estate and gift tax (primarily at the federal level).

Distributional Considerations

Almost by definition EIG taxes are desirable from an ‘ability to pay’ viewpoint, especially at the current high exemption levels. Clearly, current EIG taxes reach only the very top of the wealth distribution. In contrast, the top 24% of households would have paid state EIG taxes in the vast majority of states in 1962 (Conway and Rork, 2006). EIG taxes have long been justified as taxing according to ability to pay and as a way of reducing the concentration of wealth. We note that the reduction in EIG taxes at both the federal and state level has occurred while US income and especially wealth inequality have grown. Connecticut has followed this general pattern of declining wealth taxation. In 2000, 9.17% of Connecticut deaths faced a Connecticut EIG tax, whereas in 2013 only 1.75% did so.

However, concerns about ‘ability to pay’ have been raised in regards to small family businesses and farms. In these cases, the assets comprising the estate may not be very liquid, and beneficiaries may feel forced to sell the business/farm (liquidate the assets) to pay the EIG tax liability. As a result, several states with EIG taxes have special provisions for small businesses and farms (see Figure 1).

Behavioral Effects

The most common concerns raised about EIG taxes – and therefore arguments for their reduction and elimination – have to do with their effects on behaviors. As Gale and Slemrod (2000) point out, how EIG taxes affect the behavior of the one leaving the estate (the decedent or ‘donor’) depends upon the motive for leaving an estate. With an uncertain life span, one cannot rule out that bequests are ‘accidental’ – i.e., the donor is saving for precautionary reasons and will thus be likely to have assets leftover when he or she dies. In the case of such accidental bequests, the estate tax has no effect on donor behavior. However, it seems unlikely that very large estates – the only ones facing a tax now -- are purely accidental.

¹⁵ Michael (2014, table 6) reports these rules for each state.

Rather, large estates seem likely to be a deliberate intergenerational transfer, and a rich literature has explored the various motives for giving such transfers. Explanations include altruism, whereby altruistic parents want to improve the well-being of their children, and exchange motives, in which the transfer is ‘payment’ for a good or service provided by the children. The behavioral implications of both types of motives have been tested empirically with mixed results. A further complication in predicting the behavioral effects of EIG taxes is that the heirs’ behaviors may also be affected – both before and after the donor’s death. Prior to the donor’s death, heirs may behave in such a way as to maximize their likely inheritance, which in turn depends upon the donor’s motive.¹⁶ Receiving the inheritance may further affect the heirs’ behavior, with larger inheritances perhaps leading them to work less and accumulate less of their own wealth through work and investment. These considerations reveal that it is possible for EIG taxes to have behavioral effects that are either beneficial or detrimental to economic growth.

Migration

For state EIG taxes there is the additional behavioral effect that donors may reduce their EIG taxes by moving to a state with a lower tax burden. This effect is the one most heavily emphasized in state EIG tax policy debates, and it has been studied extensively. However, it too is not completely straightforward. As before an ‘accidental’ donor would have no incentive to move because they are not planning to leave an estate. Even for intentional donors, however, moving to a new state likely entails large psychic and pecuniary costs and the tax burden is only one of many state characteristics to consider. Besides the rest of the tax system and the public services provided with those revenues, individuals may consider natural and cultural amenities as well as the location of family and friends. Such behavior also presumes that individuals are rational in confronting their own death, an assumption that has been challenged by empirical research (Slemrod, 2003). Even if they are rational, one typically cannot predict the timing of one’s death and so may delay moving until it is too late.

Empirical research on the migration effects of EIG taxes focuses on the migration decisions of the elderly since they are the group most likely to have accumulated substantial wealth and to be contemplating making a transfer of that wealth upon their death. The elderly are also much less likely to be making location decisions based on their jobs. Most of these studies use census-based data where migration is inferred by comparing their current residence to where they report having lived in the past.

Census data reveals that interstate elderly migration is a fairly rare occurrence; less than 1% move in a given year and that percentage has been declining in recent years, if anything. The geographic patterns have been very stable for decades as well (Conway and Rork, 2011). Thus, while EIG tax policy has changed a great deal since the 1970s, elderly migration patterns have not – which suggests that such policy is likely not the driving force in elderly migration behavior.

¹⁶ For example, if the donor is purely altruistic, she will leave a larger inheritance to the child with the least resources because it will improve their well-being the most. This behavior may discourage wealth accumulation among the heirs (the so-called ‘Samaritan’s dilemma’). Conversely, the exchange motive encourages the heir to provide services to the donor to maximize their inheritance.

Recent research investigates this question more directly by estimating statistical models that identify the factors most strongly associated with changes in elderly migration over time. Such research consistently finds little or no effect of EIG taxes (Conway and Rork, 2006, 2012).¹⁷ However, there are limitations to this research. One is that it is difficult to observe reliably the behavior of the very wealthy – given their small number – within census data designed to represent the entire population. Still, other types of research likewise suggest little or no response to such tax policies. One study examines the effect of state EIG tax policy changes on federal estate tax returns filed, a proxy for the number of wealthy people living (and dying) in the state (Bakija and Slemrod, 2004). While that study finds evidence that higher EIG taxes leads to lower federal estate tax filings, the effects are modest and do not substantially diminish the revenues yielded by an EIG tax. Another study considers the effects of EIG tax policy on revenues, using data from Switzerland (Brulhart and Parchet, 2014). Switzerland is an interesting case study because each canton – a small municipality within this small country – has its own EIG tax. Given the short distances Swiss taxpayers would have to move to lower the EIG taxes, one would expect to find evidence of tax-induced migration – and yet they do not.

Another type of evidence investigates the effect of targeted income taxes or tax breaks on migration. Income taxes are paid every year and by a much larger proportion of the population, so one would expect greater migration responses. And yet, two recent studies find little effect of ‘millionaire taxes’ on the migration of millionaires (Young and Varner, forthcoming, 2011). Similarly, Conway and Rork (2012) find that income tax breaks targeting the elderly (such as exempting pension income) has no effect on their migration behavior. The few studies that do find evidence of a migration response to income taxes focus on a narrow type of individual, such as inventors (Moretti and Wilson, 2015) and star athletes (Kleven et al, 2010). A final piece of evidence comes from the Health & Retirement Study, a longitudinal, national dataset that surveys individuals over the age 50 every two years. The survey contains a (followup) question asking those individuals who have moved their reason for doing so. The survey offers 62 possible responses and state taxes are not one of them; respondents are allowed to respond ‘other’ and give a different response. Calvo et al (2009) find that family reasons are the top reason for moving.

Overall, then, the empirical evidence for EIG taxes having a meaningful effect on the decision to move is weak at best. This is not altogether surprising, given the potentially large costs of moving and the many motives the elderly have for moving, including for assistance or to be close to family.

Economic Growth, Revenues and Other Issues

¹⁷Older research often looked at migration patterns and policies at one point in time, such as from one US census. These studies sometimes find evidence that EIG taxes were associated with less in-migration. The more recent studies that investigate the effects of *changes in policy over time*, such as the recent ‘millionaire’ tax in New Jersey or the changes in EIG taxes since the 1970s, enable researchers to separate the effects of tax policy from other state amenities such as climate, cost of living and quality of life. (Low tax states have historically been in southern, low cost states.) They also answer more directly the question asked in policy debates – if EIG taxes are reduced, will migration patterns change?

The concern about these behavioral effects typically derive from the impact they may have on economic growth. To our knowledge, only one study investigates the effects of EIG taxes on economic growth, and it is preliminary (Brewer et al 2015b). This study follows the empirical approach of the broader literature that explores the effects of tax policies more generally on state economic growth. Its preliminary results suggest no effect of EIG taxes on the per capita growth rates of states. This result is not surprising given that 1) the behavioral effects of EIG taxes have been found to be either weak or mixed, and 2) the effects of the overall tax burden on economic growth have likewise been found inconclusive (e.g., Reed, 2008 finds it decreases growth whereas Gale et al, 2015 finds it does not).

Presumably taxes are imposed to obtain revenues. As shown in Figure 2, EIG taxes have historically contributed a very small proportion of states' overall tax revenues. EIG revenues are also notoriously volatile and difficult to connect with the tax policy in place. They are volatile because one very large estate can have a strong impact on EIG tax revenues in the year in which the liability is paid. It is difficult to connect EIG tax revenues received with the tax policy in place because it can take several years for an estate to be settled and all taxes to be paid. While estates must typically pay an estimated amount of taxes within a short time (6-9 months) of death, this payment can span two different calendar years. Furthermore, the estate may have to pay additional taxes – or receive a refund – when the estate is eventually settled. Both the volatility and the sometimes long period of time before estates get settled make it highly questionable to attribute short-term changes in EIG tax revenues to changes in policy.¹⁸ For this reason, in the next section we do not try to use revenue numbers to investigate the revenue effects of past EIG tax policy changes nor do we try to project revenue estimates under different policy scenarios.

One last consideration is compliance and administration costs. These are costs that harm both the taxpayer and the state government. Thus, any policy reform should also consider the effects on these costs. In the case of Connecticut, two elements appear outside the norm for state EIG taxes. The first is the 6 month deadline for filing an estate tax return (most states have a 9 month deadline); the second is the substantial increase in probate costs enacted this year to finance the court system. Because the first is a matter of administrative policy and the second is a user fee and neither is directly related to the size and effects of the EIG tax liability, they are beyond the scope of our review.

The Effect of EIG taxes in Connecticut

None of the aforementioned studies focus on Connecticut specifically. In this section, we examine data on distributional effects, migration, and economic growth for Connecticut, as well as other states for comparison, to see how each outcome appears to be related to EIG tax policy.

¹⁸ Our discussions with Susan Sherman and other members of Connecticut's DRS confirm that any attempt to link changes in EIG tax revenues to specific changes in EIG tax policies is unwise, that the revenues received in any one year are only weakly connected with the actual deaths occurring – and thus facing the tax – in that year.

This allows us to explore if the recent changes in state EIG tax policies appear to be have had an effect on these different outcomes.

Distributional Effects

An often-cited advantage of EIG taxes is their progressive nature; they accrue most heavily to those with the most ‘ability to pay.’ A recent study by the Connecticut Department of Revenue Services (2014 Tax Incidence report) estimates the incidence of nine different elements of the Connecticut tax system as of 2011.¹⁹ The study finds the EIG tax is by far the most progressive tax and is one of only two progressive taxes in the system.²⁰ The study reports that the tax is paid entirely by the top three deciles of the income distribution and that 98% of it is paid by the top two (p. 53).

Much has been written about growing income inequality in the United States. In preliminary work, Brewer et al (2015a) calculate Gini coefficients, a measure of inequality in which 0 is perfect equality and 1.0 is perfect inequality, using decennial census data for every state in 1990 and American Community Survey data in 2013. The authors find that the Gini has increased from an average of 0.48 to 0.56, confirming the observation of increased inequality. Connecticut experienced the largest increase in its Gini of all the states and D.C., from 0.482 in 1990 to 0.601 in 2013, and now has the fourth highest Gini coefficient in the country. Connecticut also does not appear to be losing its high income elderly during this time period. In 2013, it ranked 5th in the country in terms of the percent of the elderly population that is in the top 10% of the national income distribution. That percentage has grown slightly since 1990, even though its rank slipped one spot (it was 4th in the 1990).²¹ The percentage of the elderly in the bottom 25% of the national income distribution has grown as well, which is consistent with the growing level of income inequality revealed by the Gini coefficient.

Reducing or removing the EIG tax would therefore almost certainly increase the regressivity of the overall Connecticut tax system, at a time when income inequality in Connecticut is high and growing, although its small size suggests the impact would be small.

Migration

As noted above, a few different measures of migration exist. The 2008 Estate Tax Report, conducted by the Connecticut DRS, as well as a 2015 report from the Yankee Institute (Janowski and Bates, 2015), use migration data from the IRS over several years. To be comparable with that work, we investigate that data as well. However, we note that the IRS data has several important limitations that leads us to rely primarily on census-based data. The IRS data is

¹⁹ The 9 taxes considered are property, personal income, sales and use, excise, corporation business, gross earnings, insurance, gift and estate (EIG), and real estate conveyance.

²⁰ The report uses the Suits Index, which ranges from -1.0 (most regressive) to 1.0 (most progressive). The EIG tax is 0.76 and the personal income tax is 0.11. The rest of the taxes all have Suits Indices below 0 and the overall system has an index of -0.22, suggesting that the overall system is “slightly regressive” (p.14). See Table II-D on p. 15.

²¹ These numbers are in Table 2 and Appendix Table 1 in Brewer et al (2015a).

constructed by looking at the state in which a return is filed; when the state changes, migration is inferred to have taken place. The publicly available IRS flow data, however, does not permit us to focus on one age group (e.g., the elderly) or income group (e.g., high income) and instead is reported for all taxpayers only. Another problem is that it only includes those individuals who file tax returns by late September; it therefore misses late returns, which tend to be the more complicated returns of high income, elderly taxpayers (Gross, 2011).

Beginning in 2011-12, the IRS began releasing a new kind of migration data based on nearly the full universe of returns (Pierce 2015). This data reports the number of returns, exemptions and adjusted gross income (AGI) moving into (in-migration) and out of (out-migration) of each state by age and AGI group. It does not report the migration *flow* (how many move between each pair of states). While much more useful for studying the migration behavior of the high income elderly (the oldest age group is 65+ and the top AGI group is \$200,000+), it is only available for the last three years (2011-12, 2012-13, 2013-14) when EIG tax policy has changed little. We therefore cannot use it to see if migration behavior *changes* when policy *changes*, the key question here.

Decennial census data and data from the American Community Survey contain individual characteristics, such that we can examine the migration behavior of the elderly in general and the high income elderly, in particular. We can also study these behaviors over a long span of time when EIG policy changed a great deal. For this reason, we emphasize that data in our analyses.

Table 5 reports the top 10 states to which Connecticut elderly have moved (out-migrants and their top destinations) over the last several decades.²² We can see that Florida has been the top destination, by far, since the late 1970s. Other prominent destinations are Connecticut's neighbors, Massachusetts and New York. Among potential retirement destinations, California seems to have been replaced by the Carolinas and Georgia. However, such out-migration patterns can be misleading because it tells only half of the story; many of these same states also *send* elderly to Connecticut. The second panel in Table 5 reports the top 10 states *from* which new Connecticut elderly residents have moved (in-migrants), and many of the same states appear. It is difficult to argue that EIG taxes are causing people to move to Florida when a large number of people are moving *from* Florida.

The clearest measure of migration – and by extension, the desirability of a state to its residents – is net in-migration, which is the number of in-migrants (people moving in) minus out-migrants (people moving out) for each state. The bottom of Table 5 shows that Connecticut has been losing more elderly than it has been gaining since at least the late 1970s. Connecticut's net in-migration rate (in-migrants minus out-migrants divided by elderly population) has fluctuated from -1.20 in 1976-80 to -3.94 in 1986-90 (Conway and Rork, 2015, Table 2). As noted above,

²² The decennial census long form asks where the individual lived 5 years ago, so our measures capture migration during the 5 years leading up to the census. The census long form was replaced in the 2000s with the American Community Survey, which is conducted every year and asks where they lived 1 year ago. Given its much smaller size, its annual estimates are very unreliable. We therefore aggregate the annual data into a 5-year 'counterpart' to the older decennial data (2006-2010) for comparison. To get an idea of the most recent migration patterns, we also aggregate the most recent years that are available (2011-13).

elderly migration patterns have been quite stable for the country as a whole, with the same states consistently losing or gaining the elderly since the 1970s. Connecticut follows the typical northern (and especially northeastern) state pattern of losing more than it gains. New Jersey, New York, and Massachusetts all display similar patterns.

The top panel of Table 6 reports the top 10 states that Connecticut loses its elderly to, on net, and the top 5 states that it gains them from. Not surprisingly, this panel reveals that far more Connecticut elderly move to Florida – and other temperate states (California, Arizona, the Carolinas) – than move into Connecticut. It also reveals, however, that this pattern has persisted for decades, even as state EIG taxes have changed a great deal. Connecticut also loses its elderly, on net, to Maine and Massachusetts, which have EIG taxes, as well as New Hampshire, which eliminated its inheritance tax in 2005. At the other extreme, we see that Connecticut gains the most elderly, on net, from New York, as well as New Jersey and, depending on the year, Massachusetts. These patterns, also, are fairly stable. At the bottom of the panel we report the total number of Connecticut elderly residents ‘lost’ to migration on net (the total number of net in-migrants). There appears to be no clear pattern over time.

Next, we compare these net-migration patterns to those for the high income elderly (which we define as being in the top 25% of national income), reported in the bottom panel of Table 6.²³ The migration measures will be more volatile for this group because the numbers get quite small; we have cut the sample by 3/4ths and recall that less than 1% of the elderly typically migrate in a given year. Even so, we see very similar patterns. This suggests that the high income elderly – who are more likely to face EIG taxes – behave in a similar way as the general elderly population.

Table 7 compares these patterns to the other extreme – all taxpayers (of all ages and incomes) via the IRS data used by other studies. Here again, we see very similar patterns. Moreover, given that the elderly typically migrate at much lower rates than the working population, these patterns must be driven by younger individuals – who seem less likely to be considering EIG taxes in their migration decisions.

We confirm the similarity between these disparate migration measures by finding very high correlations between the different data (census elderly, census high income elderly, census non-elderly, IRS data). If there is a group that is very different from the rest, it is the low income elderly (bottom 25%) who are least likely to be impacted by EIG taxation.

This evidence is therefore consistent with previous studies for the US as a whole. Connecticut elderly migration is very stable over time and does not seem to differ substantially for the high income elderly (most likely affected by EIG taxes) or taxpayers of all ages and incomes (least likely affected by EIG taxes). A final piece of evidence is that Connecticut’s migration patterns are quite similar to other states in the region, as well as other cold weather states that do not have

²³ While ideally we would narrow our sample to even a smaller slice of the income distribution (e.g., 10%), even at 25% the numbers of migrants becomes small, owing to the very low rate of interstate migration. The numbers are sometimes small enough that we do not report the full top 10 or bottom 5 for them in Table 6. Shrinking the sample even further would make detecting any geographic patterns questionable.

EIG taxes. These analyses and comparisons therefore suggest it is unlikely that EIG taxes are playing a significant role in the decision to move into or out of Connecticut.

These analyses are limited, however, in that EIG taxes affect primarily the very rich, a small number of individuals who may not be well captured by such broad data sources. We therefore also look at federal estate tax returns filed in Connecticut versus other states, a similar measure as used in Bakija and Slemrod (2004). This indirect measure of migration has serious drawbacks of its own, including that the individual must have moved to the state and died there before they will show up as a ‘migrant.’ Additionally, the number of federal estate tax returns filed is also changing because of the many changes in the federal law, especially EGTRRA in 2001. The number of estates subject to federal tax is going to decline and the size of the estates filed are going to increase as a result of the steadily increasing federal exemption (recall Figure 3). A state with a disproportionate number of extremely wealthy individuals (and very large estates) will therefore show a smaller decline, over time, than a state with more moderately wealthy individuals. And of course any economic event (such as the Great Recession) is going to affect the level of estates subject to tax.

With these caveats in mind, Figures 6-8 report the trends over time in the federal estate tax returns filed in Connecticut versus other states from 1998 to 2011.²⁴ Figure 6a reports the total number of federal estate returns filed in each of the states in the region and 6b reports the percentage change from the year before. These figures show the steep decline that came after EGTRRA, as well as the declines due to the recession and the large increase in the federal exemption in 2009. These figures also make clear that Connecticut’s federal estate tax returns behaved in a similar fashion as the rest of the states in the region, including New Hampshire (which eliminated its inheritance tax during this time period).

Figures 7a and 7b report the same statistics for Connecticut compared to the southern states. These other states include some of the top destinations reported in Table 5 and none have an EIG tax. Figures 8a and 8b perform the same exercise, this time including cold weather states that did not have EIG tax. These figures show that federal estate tax returns filed in these states all follow the same general pattern as those for Connecticut. This is true in spite of the fact that Connecticut created a stand-alone EIG tax in 2005, which it then reduced in 2010. And yet we see no evidence that Connecticut’s federal tax returns behaved differently from these other states in the years following these changes.

Finally, we look at what has happened to the number of Connecticut income tax returns, by income level and a proxy for whether the household is elderly (whether they filed for an adjustment due to social security benefits).²⁵ This data is only available back to 2007, so we cannot see the possible effects of the new estate law in 2005. However, we can look for effects

²⁴ The federal estate tax return by state and *year of death* is only available in select years and the last year available in 2011. Identifying the return by year of death, rather than year filed, is critical due to the delay in filing estate tax returns we noted above.

²⁵ We recognize that filing for an adjustment due to the receipt of social security benefits is a very imperfect measure of the age of the household, but no other measure of age is available. We thank Connecticut’s Department of Revenue Services for performing this special tabulation for us.

of the law that removed the ‘cliff’ or ‘bubble’ effective in 2010. It suffers a similar problem as the federal estate tax return, as it is an indirect measure. The number of returns in a certain income category can change because individuals moved, died, or had a change in their income. The latter effect is especially important for the very high income elderly who likely draw most of their income from investments, which are affected by the performance in the financial market.

To try to control for these confounders, we report the total number of Connecticut income tax returns that included a social security benefit adjustment from line 42 (referred as SS returns going forward) by income category in Figure 9a and the percentage of all returns that are SS returns, by income category in Figure 9b. Figure 9a shows the steep decline in high income SS returns in 2008 and 2009, rebounding strongly afterwards; this pattern could be suggestive of a response to the change in the EIG tax law but is likely also due to the Great Recession. Figure 9b controls for this somewhat by reporting the percentage of each income category that are SS filers (and thus are our measure of elderly and likely concerned with the EIG tax). Even so, we would expect the elderly, especially those retired from the work force and drawing social security, to have suffered bigger declines in their incomes as a result of the financial crisis than other households whose incomes more likely come from earnings. Indeed that is what we see; the percentage of high income filers who are ‘elderly’ declined steadily through 2008 and 2009 and has rebounded since, with the unexplained exception of 2013. While both the number and percentage of high income SS filers have increased strongly since 2009, which might suggest a response to the change in laws, it is still below where it was in 2007 when Connecticut’s EIG tax was substantially higher. In our judgment the decline and subsequent rebound is far more likely due to the effects of the Great Recession.

In sum, no measure of migration is perfect, and the very high income households who may face the EIG tax are especially difficult to observe. We therefore present numerous pieces of evidence, each with its strengths and weaknesses, to investigate if Connecticut’s migration appears to be influenced by EIG tax laws. None of these analyses provide convincing evidence that it is. Connecticut’s migration patterns have been fairly stable for decades, at the same time that EIG tax policy has changed a great deal. One indirect measure of migration, federal estate tax returns, show patterns that are consistent with other states with very different EIG policies, including many of the states that attract Connecticut residents, and reveal no marked change during periods when Connecticut changed its policies. The other indirect measure of migration, the income tax returns filed by high income households likely to be elderly, show mixed results that are likely due to the strong effects of the Great Recession.

Economic Growth

Concerns about behavioral effects such as migration ultimately come down to a concern about the effects EIG taxes may have on economic growth. The two standard measures of economic growth are the annual percentage changes in per capita personal income (PI) and gross state product per capita (GSP), adjusted for inflation.²⁶ Using per capita measures captures the well-

²⁶For example, see Reed (2008) and Gale et al (2015). The 2008 DRS report on estate taxation also used these measures, although it is not clear whether total or per capita measures were used. The report also focused on a narrow period (2004-7), and examined measures of employment and population growth as well.

being of the average Connecticut resident; it also makes the measures more comparable across states of different sizes. As many factors may affect economic growth, we examine the trends in Connecticut's growth over time, especially during periods when EIG tax policy has changed (2005, 2009-10), and as compared with other states.

Figures 10a and 10b report the growth in income and GSP per capita, respectively, for each state in the Northeast region including Connecticut. Connecticut's growth follows very closely that of these other states throughout the period, even in the late 1990s and early 2000s when it was the only state with an EIG tax beyond the pickup tax. Likewise, Connecticut's growth was higher, if anything, in 2005 when it enacted its new EIG tax and lower in 2009 when it decreased its EIG tax, which is the opposite of what one would expect if higher EIG taxes suppressed growth. More generally, Connecticut's growth pattern seems to make it more volatile than other states in the region, but it seems to follow the same overall time trend.

Next we compare Connecticut's growth patterns over time to those of the southern states, many of which are popular destinations for CT residents and most of which have not had EIG taxes for decades (see Figures 11a and 11b). Connecticut's growth patterns seem to once again follow roughly the patterns of these states. There also does not appear to be any special pattern occurring around the time of EIG policy changes; Connecticut's growth is again higher than most southern states in 2005 and immediately afterwards and is in the lower middle around the 2009 policy change.

These figures report the growth rates for each individual state and so may sometimes be difficult to read. Figures 12a and 12b simplify the comparison by reporting the average for three types of states – other states in the Northeast, the South and northern states without EIG taxes during the time period (primarily in the Midwest). These figures reinforce the conclusions drawn from the others. Connecticut follows the patterns of these other types of states although tends to experience more volatility; recent EIG policy changes do not seem to be affecting economic growth in a manner consistent with EIG taxes having a negative effect.

Policy Options to Consider

Both the evidence presented here for Connecticut and the general literature on the economic effects of EIG taxes suggest that EIG taxes have little effect on migration or economic growth. Reports by the Connecticut DRS reveal that the EIG tax is the most progressive tax in the Connecticut tax system and that it makes up a very small portion of total tax revenues. As such, it appears unlikely that changing the EIG tax would have significant effects on the Connecticut economy or the state budget. We nonetheless discuss here several policy options.

1. Retain the Current EIG tax

Connecticut has already made significant reductions and reforms to its EIG tax when it eliminated the “cliff” in 2009. As Figures 4a-4c revealed, Connecticut has among the lowest estate tax burdens in the Northeast region, with a higher exemption, lower maximum rate and lower overall tax burden on large estates (\$20 million) than almost all of the other states. Several

of these states continue to have ‘cliff’s or ‘steep hills’ as well. With the lack of evidence that EIG taxes have a meaningful impact on either migration or economic growth, maintaining – or possibly even increasing – the current EIG tax seems a viable option. It is also worth noting that the vast majority of estates pay far less in estate taxes (federal + Connecticut) currently than at any time in recent history.

One caveat is that Connecticut’s position of having one of the lowest EIG taxes in the region may be diminished as Rhode Island and especially New York continue to reduce their EIG taxes by increasing their exemptions. Nationally, some states that currently have EIG taxes have enacted laws to phase them out or are considering doing so. The landscape for state EIG taxes has the potential to change rapidly.

2. *Conform with Federal Estate Tax Law*

Federal law has three key features that distinguish it from most state with EIG taxes: 1) a higher exemption level (currently \$5.43 million), which increases each year, 2) portability (such that a married couple effectively faces an exemption twice as large), and 3) a unified gift tax. Currently, Connecticut has only the third feature and it is the only state that does. Changing Connecticut law to conform to the federal law would simplify estate tax planning and therefore likely reduce compliance costs.

Matching the federal exemption level would put Connecticut in line with New York, Delaware and Hawaii; the rest of the states with EIG taxes currently have lower exemption levels. Increasing the exemption would almost certainly reduce estate tax revenues by a substantive amount. The only revenue data available is for estate tax returns *received* in a given year (rather than for year of death, which allows identification of the specific policy in place), which means we can only offer illustrative calculations.²⁷ According to 2013-14 information provided in the 2013-14 DRS report, 395 of the 520 returns had a taxable estate below \$5 million; these returns made up \$27,240,460 of the \$206,115,002 taxes received or about 13.2%. These estates would therefore not be subject to tax if the current federal exemption were in place the year of death. Estates above the increased exemption level would also have their estate tax liabilities reduced. Specifically, in 2015, increasing the exemption to \$5.43M would reduce the tax liabilities of estates above the exemption by \$267,900 each.²⁸ The 2013-14 estate tax revenue data lists 520-395=125 returns above \$5 million, such that total revenues would be further reduced by approximately $125 \times \$267,900 = \$33,487,500$. These illustrative calculations therefore suggest reduced revenues of $(\$27,240,460 + \$33,487,500) = \$60,727,960$ or 29.46% of the revenues received if the Connecticut exemption were raised to the 2015 federal exemption. The decreased revenues will grow over time as the federal exemption level continues to increase and a larger number of estates are pushed over the \$2 million exemption level by inflation as well as real growth in wealth.

²⁷ See p. 41 of the 2013-14 report. As noted earlier, these revenue numbers refer to when the estate tax payments are actually received, and so reflect deaths – and the EIG tax policy in place – from several years preceding the current year. These calculations are therefore only illustrative of the possible revenue effects of such a change.

²⁸ This number comes from p. 40, showing that estates over 5.1M pay \$238,200 plus 9.0% of the excess over \$5.1M; thus, the tax liability will be reduced by $\$248,200 + .09 \times (\$5.43\text{M} - \$5.1\text{M}) = \$267,900$.

Adopting portability would further increase the effective exemption level faced by the estates of married couples; only Hawaii currently allows portability and Maryland has plans to do so beginning in 2019. Recall that portability allows the surviving spouse to use any part of the exemption not used by the deceased spouse. The specific effect of this policy varies depending on the year in which the deceased spouse died, whether or not he or she made bequests to other heirs (and thus used up a portion of the exemption), and whether or not a QTIP was set up; these complexities make it difficult, if not impossible, to predict its effects on tax liabilities and revenues. One simple calculation would be to assume that both spouses die in the same year, the first leaves everything to the surviving spouse and there is no QTIP. In that event, portability would double the size of the exemption; if done in combination with matching the federal exemption, only estates over $\$5.43\text{M} \times 2 = \$10.86\text{M}$ would be subject to tax in 2015. Using the same 2013-14 information on estates filed, this higher exemption would exclude at least 477 of the 520 returns, which account for $\$68,802,570$ (or 33.38%) of the taxes due.²⁹ The remaining 43 estates would see a reduction in their tax liabilities of $\$839,400$ each.³⁰ Using this simplified example therefore results in a total revenue loss of $(\$839,400 \times 43 =) \$36,094,200 + \$68,802,570 = \$104,896,770$ or 50.89% of EIG revenues.

We caution that these calculations are merely illustrative; estate tax revenue is quite volatile and is not measured in a way that allows us to link revenues with the policies in place at the time of death. Portability is even more difficult to predict as its effects depend on several events and choices. Nonetheless, we conclude that conforming to the federal law with respect to the exemption and/or portability will result in a significant proportionate reduction in EIG tax revenues and that the reduction will grow over time. Given the apparent distribution of Connecticut estates, where the majority of estates are below $\$5$ million and the vast majority below $\$10$ million, either change will exempt a large portion of the estates currently paying taxes. They will also significantly reduce the estate taxes paid by all estates.

3. Allow for a Different QTIP Election

Currently, Connecticut is one of 5 states that does not allow a separate state QTIP election. As stated earlier this creates additional tax liability for estates that fall in between the federal and Connecticut exemption amounts. By allowing for differing QTIP elections at the state level, Connecticut will allow for married couples to defer the payment of Connecticut tax without forgoing the full federal exemption. The advent of federal portability, however, has lessened the need for a state-specific QTIP election, since the state exemption amount could be put in the QTIP and portability could transfer the remaining unused federal exemption to the surviving spouse. That said, the allowance for a state-specific QTIP would align Connecticut with most states that impose an estate tax, while sparing the executor from making assumptions about the future state of taxation when making election decisions upon the death of the first spouse,

²⁹The table classifies estates into different categories according to the state EIG tax brackets, which do not align perfectly with the federal exemptions. Since it only classifies returns as being above or below $\$10.1\text{M}$, we assume all returns above 10.1M are also above 10.86M .

³⁰This number comes from p. 40, showing that estates over 10.1M pay $\$748,200$ plus 12% of any excess above 10.1M .

thereby making estate planning easier in the state. Revenues will be lower as a result, but given the rise of portability, the loss seems minimal as QTIP's fall out of favor.

4. *Increase the Marginal Tax Rate on those Paying Federal Estate Taxes*

The deductibility of state EIG taxes from the federally taxable estate allows states to capture a portion of federal revenue, as they used to under the old 'pickup' tax. Once the estate exceeds the federal limit, state EIG taxes reduce the federal liability and in effect receives a subsidy. The exact 'subsidy' from this provision depends on the state EIG tax in place. Obviously, residents in states without EIG taxes cannot claim this deduction and will pay the full, federal marginal tax rate on every dollar of the estate above the federal threshold. For states with EIG taxes, however, it depends upon whether the state exemption is less than or equal to the federal one.

Under the current Connecticut EIG tax, the additional state EIG tax liability net of federal taxes actually declines once estates become federally taxable (recall Figures 5A and 5C.) This decline is due to the fact that the estate has already paid a sizable amount of state EIG taxes once it reaches the federally taxable threshold. Thus, each dollar of the estate beyond the threshold is offset with a dollar paid in Connecticut EIG taxes, which effectively saves the taxpayer up to \$.40 in federal estate taxes.³¹ By avoiding federal estate taxation and because the Connecticut marginal tax rate is well below the federal one, the estates just above the federal threshold actually face a *negative* (federal + state) marginal tax rate.

If the state exemption instead matched the federal one, then both state and federal EIG taxation would begin once the threshold was passed. Each dollar paid in state EIG taxes would reduce the federal tax liability by the federal marginal tax rate. Using the top federal rate of 40% (which sets in once the taxable estate exceeds the threshold by \$1 million), the effective marginal tax rate of the state EIG tax is actually $(1-0.40)*\text{mtr}$ or only 60% of the statutory rate. For Connecticut, that means its top rate of 12% is actually only $0.6*12 = 7.2\%$.

These two scenarios reveal that having an estate large enough to face federal taxation changes considerably the true additional costs of paying a state EIG tax. They also reveal how states can effectively receive a portion of federal estate tax revenues, as they did under the old 'pickup tax,' albeit no longer dollar for dollar. Increasing the marginal tax rate on estates facing the federal estate could generate additional state revenues while having more minimal impacts on the total (federal + state) tax liability owed on the estate and retaining low effective marginal tax rates that increase with estate tax size, rather than the decline experienced by medium to large estates in the current system.

5. *Eliminate the Gift Tax*

Connecticut is the only state with a stand-alone gift tax, meaning that the gift is potentially taxable regardless of when it is made. It is also a unified gift tax, meaning that all gifts in excess of the annual limit (currently \$14,000 per recipient) count against the \$2 million exemption for

³¹The top marginal tax rate of 40% sets in fairly quickly. While the first \$10,000 of taxable estates are taxed at only 18%, rate quickly rises such that once over \$100,000 the rate is 28% and it reaches the top rate at \$1 million. For simplification, we therefore use the 40% rate in these calculations and our general discussion.

the estate. The federal gift tax is also a unified tax, so in this way Connecticut is conforming to the federal system, albeit at a lower exemption level.

Gift taxes are typically imposed to avoid ‘deathbed transfers,’ in which assets are transferred just before or in contemplation of death in order to avoid estate or inheritance taxation. The few states that imposed stand-alone gift taxes have eliminated them in recent years (Michael 2014). However, nine states have ‘gift-in-contemplation-of-death’ rules that make a portion of gifts made within some time period before death (typically two or three years) subject to tax (Michael 2014, Table 6). Additionally, in some states that base their estate taxes on the old ‘pickup’ tax lifetime taxable gifts may reduce the available exemption (Massachusetts is one; see Michael 2014). The bottom line is that while Connecticut is the only state with a stand-alone gift tax, many other states with EIG taxes have some provision to tax gifts to prevent deathbed transfers.

If Connecticut eliminated its gift tax without making any other changes, it would lose its gift tax revenues, which equaled \$8,764,162 in 2013. However, this number likely substantially underestimates the gift tax revenue generated in a typical year because of a onetime spike in gifts the previous year. At the end of 2012, households had an incentive to increase their gifts as a hedge against the uncertainty about possible increases to the federal estate tax; ATRA 2012 was not actually enacted until early January 2013. This behavioral response is evident in the much higher gift tax revenues reported for 2012 of \$218,412,943. Looking at previous years, we see gift tax revenues of \$65,259,774 in 2011, \$24,098,980 in 2010 and \$24,629,845 in 2009. We therefore expect that the loss in gift tax revenues would be at least \$24 million and would likely be significantly higher.

Eliminating the gift tax would also open the door to deathbed gift-planning strategies, which could substantially reduce the estate taxes it collects as well. To prevent such tax-avoidance strategies, the state may want to consider enacting gifts-in-contemplation-of-death rules like other states have done.

6. Eliminate the Estate and Gift Tax

Eliminating the Estate and Gift Tax renders the rest of these changes moot. It will eliminate both the gift and estate tax revenues collected, which in 2013-14 equaled \$206,115,002. Connecticut would join the majority of states without EIG taxes and be the only state in the region besides New Hampshire without one.

Summary of Effects and Interactions of Different Policy Changes

Several of these policy options are not mutually exclusive and the effect of one often depends on another. As already noted, the effect of both portability and increasing the marginal tax rate on federally taxable estates depend on the exemption level Connecticut chooses. Likewise, the effects of the current unified Gift tax (and thus the effects of eliminating it) depend on the exemption level as well as the marginal tax rate. Finally, a higher exemption lessens the impact of the QTIP modification and adopting portability mostly eliminates its effect.

All of these proposed changes to the existing system will likely result in a significant loss of revenues, with the exception of increasing the marginal tax rate on federally taxable estates. Past

research and the evidence presented here for Connecticut suggests it is highly unlikely that such reduced revenues would be made up for with increased tax revenues elsewhere (through greater retention of rich residents or stronger economic growth, for example). These foregone revenues would therefore necessitate increased taxes or reduced expenditures elsewhere in the Connecticut state budget.

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Glossary of terms

Cliff (or bubble) – If a range of estates faces zero estate taxation, a cliff occurs if a slightly larger taxable estate is taxed on the full amount of the estate, including the amount that would not be taxed if it were slightly smaller. Results in significantly large marginal tax rates.

Estate Tax – a tax calculated based on the net value of property owned by a deceased person on the date of death

Gift Tax – a tax calculated based on the transfer of assets from one person (the donor) to another (the donee) while the donor is alive. Currently, a donor may gift a donee \$14,000 annually under the federal annual gift tax exclusion amount. Any amount above that counts toward the federal estate tax exemption.

Gini coefficient (or Gini index)—a statistical measure used to represent the income distribution of a state (or nation), thereby capturing income inequality. Ranges from 0 (completely equal) to 1 (completely unequal)

Inheritance Tax – a tax calculated based on who receives a deceased person’s property.

Pick-Up Tax (or soak-up tax) – a tax imposed by states based on the federal estate tax credit for estate/inheritance taxes paid at the state level. It was a mechanism for states to share in estate tax revenues with the federal government, and hence added no additional tax burden to the deceased’s estate. The passage of EGTTRA phased this out in 2005.

Portability – Allows a surviving spouse to use a deceased spouse’s unused estate tax exclusion. First introduced as part of TRURJCA 2010, made permanent feature of federal estate taxation after the enactment of the American Taxpayer Relief Act of 2012.

Progressivity/Regressivity—describes a tax system in which as a person has more income, they pay a higher (lower) percent of their total income in taxes.

QTIP -- also known as a qualified terminable interest property. A trust in which spouse A designates who receives the assets upon Spouse B’s death, but Spouse B has the right to all income generated by the trust while alive. QTIP’s qualify for the marital exclusion, and are commonly used by blended families.

Suits Index – a measure of tax progressiveness, similar in nature to the Gini index. Ranges from -1 (the poorest person pays all taxes) to 1 (the richest person pays all taxes), so that positive (negative) numbers indicate progressivity (regressivity).

Unified estate and gift tax – when the gift tax exclusion and estate tax exclusion are one in the same.

TABLE 1: MAJOR CHANGES TO FEDERAL ESTATE TAXES SINCE 2000

Year	Federal Exemption Level	Top Tax Rate	Notes
2000	\$675,000	60%	
2001	\$675,000	55%	EGTRRA enacted. Phases out state tax credit and replaces with a deduction by 2005. Gradually lowers top estate tax rate to 45% and raises exemption from \$675K to \$3.5M.
2002	\$1,000,000	50%	
2003	\$1,000,000	49%	
2004	\$1,500,000	48%	
2005	\$1,500,000	47%	Federal state death tax credit fully expires. State estate taxes are effectively repealed in many states.
2006	\$2,000,000	46%	
2007	\$2,000,000	45%	
2008	\$2,000,000	45%	
2009	\$3,500,000	45%	
2010	\$5,000,000	35%	Estate tax temporarily allowed to expire. TRUIRJCA temporarily re-instates tax, which is retroactively applied to all deaths in 2010.
2011	\$5,000,000	35%	
2012	\$5,120,000	40%	ATRA 2012 enacted. Exemption now \$5M, indexed to inflation. Gift tax exemption raised to that of the estate tax. Decreases tax rate to 40%. Introduces portability.
2013	\$5,250,000	40%	
2014	\$5,340,000	40%	
2015	\$5,430,000	40%	

TABLE 2: CHANGES TO EIG TAXES AT THE STATE LEVEL 2000-2015

Before EGTTTRA is enacted in 2001, these 17 states had a separate EIG tax				
CT	IN	MT	OK	VT
DC	KY	NE	PA	
HI	LA	NJ	SD	
IA	MD	OH	TN	
Currently, these 15 States Have Decoupled or Created a Stand Alone Estate Tax post-EGTRRA				
CT	HI	MD	NJ	RI
DC	IL	ME	NY	VT
DE	MA	MN	OR	WA
Currently, these 30 States have not decoupled and collect no EIG tax revenue				
WI	WY	IN*	LA	MT
OH*	OK*	SD	AL	AK
AR	AZ*	CA	CO	FL
GA	ID	KS	MI	MS
MO	NH	NM	NC*	ND
SC	TX	UT	VA	WV
*indicates state has repealed their state EIG tax				
These 6 States did not Decouple but Collect a State Inheritance Tax				
IA	KY	MD	NE	NJ
PA	TN			
Tennessee's state inheritance tax expires Jan 2016				
Maryland and New Jersey have both an inheritance and an estate tax				
Nebraska collects no state inheritance tax but has a county inheritance tax				

TABLE 3: SUMMARY OF CONNECTICUT ESTATE TAX CHANGES SINCE 2005

<u>Year</u>	<u>Exemption Amount</u>	<u>Cliff Apply?</u>	<u>Range of Tax Rates</u>	<u>Estate Tax Due on Estate Worth</u>		
				<u>\$2.1 million</u>	<u>\$4.1 million</u>	<u>\$8.1 million</u>
2001-2004	\$200K - \$600K	no	12.87%-20.02%	varies	varies	varies
2005-2009	\$2 million	yes	5.085%-16%	\$106,800	\$290,800	\$786,800
2010	\$3.5 million	no	7.2%-12%	\$0	\$46,200	\$418,200
2011-present	\$2 million	no	7.2%-12%	\$7,200	\$154,200	\$526,200

NOTE: Prior to 2005, Connecticut has a succession tax and pick-up tax. Rates and exemptions depend on recipient.

Starting in 2005, these were replaced with a stand alone estate tax.

Starting in 2016, Connecticut has enacted a cap on EIG taxes paid of 20 million.

TABLE 4: SUMMARY OF STATE EIG TAX PARAMETERS in 2015

State	Exemption Amount	Maximum Tax Rate
CT	2 M	12%
DE	5.43 M [a]	16%
DC	1 M [b]	16%
HI	5.43 M [a]	16%
IL	4 M	16%
IA	25000 [c]	15%
KY	1000 [c]	16%
ME	2 M	12%
MD	1.5 M [d]	16% estate, 10% inheritance
MA	1 M	16%
MN	1.4 M	16%
NE	40000 [e]	18%
NJ	675,000	16% estate and inheritance
NY	3.125 M [d]	16%
OR	1 M	16%
PA	3500 [c]	15%
RI	1.5 M	16%
TN	5 M	9.50%
VT	2.75 M	16%
WA	2.054 M	20%

[a] indexed to inflation going forward

[b] as of 2015, DC allows for increase to estate tax exemption, dependent on revenue targets

[c] for those inheritors who face the inheritance tax

[d] exemption increases annually until matches the federal exemption in 2019

[e] imposed by counties, not the state

TABLE 5: TOP INFLOWS AND OUTFLOWS FOR CONNECTICUT in the ACS, by YEAR

TOP DESTINATIONS FOR CONNECTICUT RESIDENTS

<u>1976-1980</u>		<u>1986-1990</u>		<u>1996-2000</u>		<u>2006-2010</u>		<u>2011-2013</u>	
1 FL	8680	FL	13591	FL	9476	FL	12205	FL	8480
2 CA	1680	NY	2055	MA	2010	NY	3760	MA	1527
3 NY	1520	MA	1700	NY	1624	SC	1975	NY	1491
4 MA	1520	CA	1240	NC	1239	MA	1730	NC	1083
5 PA	760	SC	1035	CA	1201	NC	1625	SC	795
6 ME	680	NC	984	ME	1168	GA	1520	NV	771
7 NC	640	ME	818	SC	817	NH	1250	RI	664
8 RI	640	VA	690	VA	787	PA	1085	MI	509
9 NJ	600	RI	647	AZ	765	ME	785	MD	489
10 AZ	600	PA	645	PA	740	CA	775	NJ	442
TOTAL:	22040		29250		25980		34230		18850

TOP ORIGINS OF NEW CONNECTICUT RESIDENTS

<u>1976-1980</u>		<u>1986-1990</u>		<u>1996-2000</u>		<u>2006-2010</u>		<u>2011-2013</u>	
1 NY	5880	NY	4249	NY	6235	NY	7815	NY	3739
2 MA	1680	MA	1887	FL	2985	FL	6635	FL	2661
3 FL	1560	FL	1462	NJ	1276	MA	2380	NJ	1135
4 NJ	1160	NJ	1191	MA	1023	RI	1195	MA	1055
5 CA	560	CA	565	PA	732	NJ	825	CA	591
6 PA	560	PA	417	CA	553	TN	570	MD	560
7 RI	320	IL	372	RI	430	CA	470	PA	410
8 ME	320	RI	365	NC	250	VA	430	SC	408
9 VT	280	ME	323	VA	230	NJ	430	AZ	364
10 MD/VA	200	VA	216	ME	230	PA	395	TN	313
TOTAL:	14280		13321		16744		23575		14295
NET									
CHANGE:	-7760		-15929		-9236		-10655		-4555

TABLE 6: NET INFLOWS TO CONNECTICUT in the ACS, BY STATE AND YEAR

ALL ELDERLY										
Net Rank	1976-1980		1986-1990		1996-2000		2006-2010		2011-2013	
1	FL	-7120	FL	-12129	FL	-6491	FL	-5570	FL	-5819
2	CA	-1120	SC	-962	NC	-989	SC	-1945	NV	-719
3	NC	-520	NC	-783	MA	-987	GA	-1410	CA	-515
4	AZ	-520	CA	-675	ME	-938	NH	-1175	MA	-472
5	GA	-440	ME	-495	SC	-668	NC	-800	SC	-387
6	NH	-360	VA	-474	CA	-648	MI	-750	RI	-356
7	ME	-320	NH	-392	AZ	-575	ME	-705	MI	-223
8	RI	-320	MD	-377	WA	-557	PA	-690	AZ	-130
9	SC	-280	AZ	-333	NH	-438	AZ	-460	NH	-122
10	TX	-240	RI	-282	TN	-374	MD	-405		
44	MO	120					MN	320		
45	IA	120	IL	123	MI	102	TN	380	WV	193
46	MA	160	MA	187	MO	134	RI	635	PA	257
47	NJ	560	NJ	634	NJ	860	MA	650	NJ	693
48	NY	4360	NY	2194	NY	4611	NY	4055	NY	2248
Net Change:		-7760		-15929		-9236		-10655		-4555

RICH ELDERLY (TOP 25% of NATIONAL INCOME)

Net Rank	1976-1980		1986-1990		1996-2000		2006-2010		2011-2013	
1	FL	-2800	FL	-8224	FL	-2885	FL	-3235	FL	-1876
2	CA	-480	NC	-701	MA	-544	SC	-915	NV	-296
3	AZ	-240	SC	-677	NC	-431	CA	-425	MI	-258
4	MA	-200	CA	-636	CA	-358	NC	-390	AZ	-241
5	ME	-160	ME	-316	ME	-293	MI	-380	NH	-173
6	GA	-160	NH	-315	AZ	-254	GA	-340	SC	-140
7	VT	-160	MD	-226	NH	-239	TX	-315		
8	NC	-120	AZ	-215	SC	-171	AZ	-205		
9	SC	-120	RI	-178	TN	-159	NV	-200		
10			PA	-171	VA	-147	NH	-150		
44							AL	150	NY	62
45							OH	235	WV	89
46	NJ	120	MA	351			MN	245	MA	198
47	PA	160	NJ	524	NJ	130	NJ	260	MD	255
48	NY	1360	NY	1132	NY	1346	NY	1565	NJ	274
Net Change:		-2880		-10761		-5132		-4335		-2236

Blanks occur when the number of observations become too small to report

TABLE 7: NUMBER OF MIGRANTS TO/FROM CONNECTICUT, BASED ON IRS FILINGS

RETURNS													
	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
IN	36282	37081	36639	34583	35446	35435	33929	35116	33501	31207	32680	37511	38055
OUT	41607	39934	38954	41849	42600	43591	42742	42274	39347	36489	39062	44180	46496
NET	-5325	-2853	-2315	-7266	-7154	-8156	-8813	-7158	-5846	-5282	-6382	-6669	-8441

EXEMPTIONS													
	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
IN	65889	66536	66349	62973	64680	63819	60398	61862	58211	53751	56971	64832	66985
OUT	71714	69149	67495	73808	75942	77171	74838	72974	66701	61070	65076	75623	81493
NET	-5825	-2613	-1146	-10835	-11262	-13352	-14440	-11112	-8490	-7319	-8105	-10791	-14508

NET MIGRATION FROM/TO CT, BY TOP STATES, ACCORDING TO IRS FILINGS ON EXEMPTIONS

	2001-2005		2006-2010		2011-2013	
1	FL	-33690	FL	-23173	FL	-13929
2	NC	-6880	NC	-11038	NC	-4866
3	VA	-5227	TX	-5873	TX	-3829
4	GA	-4751	GA	-5574	MA	-3809
5	ME	-3310	SC	-4908	CA	-2955
6	AZ	-2769	VA	-4344	SC	-2939
7	SC	-2719	CA	-3804	GA	-2226
8	VT	-2261	MA	-3573	VA	-1920
9	PA	-2108	PA	-3188	ME	-1372
10	CA	-1884	AZ	-2453	PA	-1249
44	IL	917				
45	MA	974	NJ	1094	MO	35
46	RI	1825	RI	1086	KS	165
47	NJ	2766	MI	2452	NJ	700
48	NY	38207	NY	27435	NY	16498
NET						
CHANGE:		-31681		-54713		-33404

FIGURE 1: STATUS OF STATE EIG TAXATION in 2015

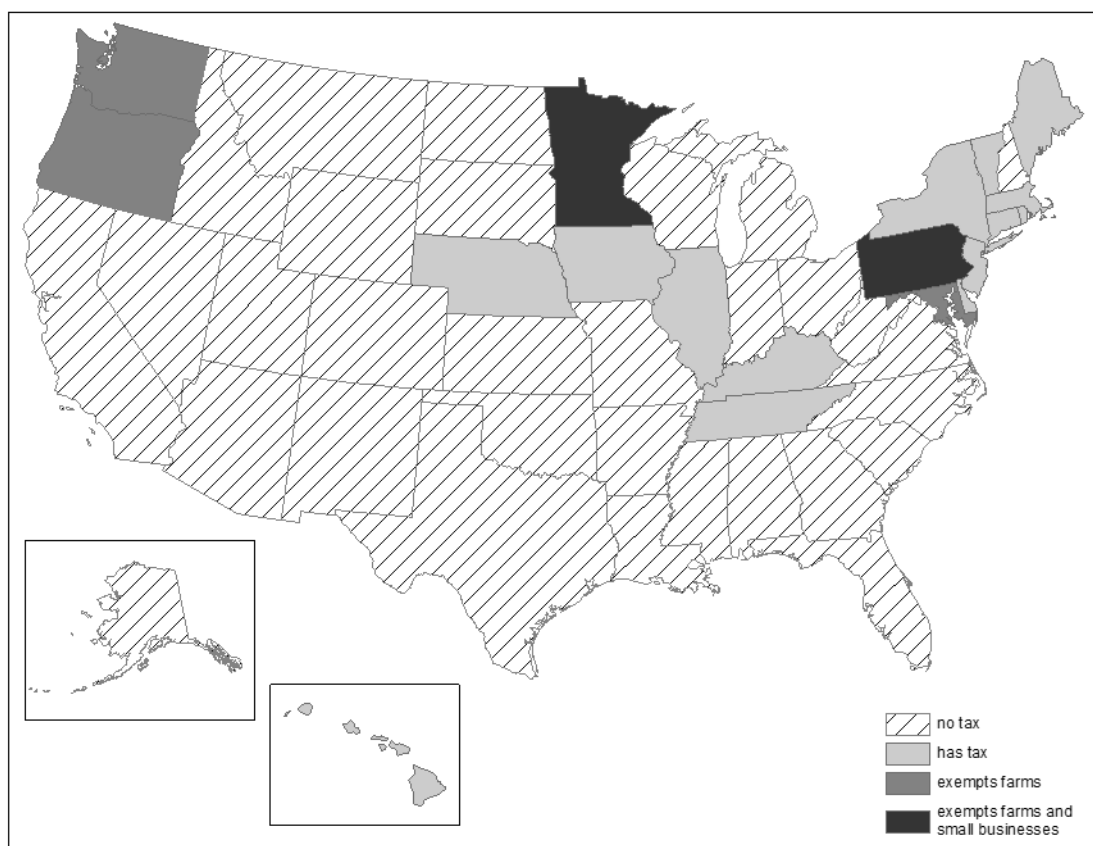


FIGURE 2: EIG REVENUES AS A PERCENTAGE OF TOTAL TAX RECEIPTS, BY SELECTED STATES AND YEARS

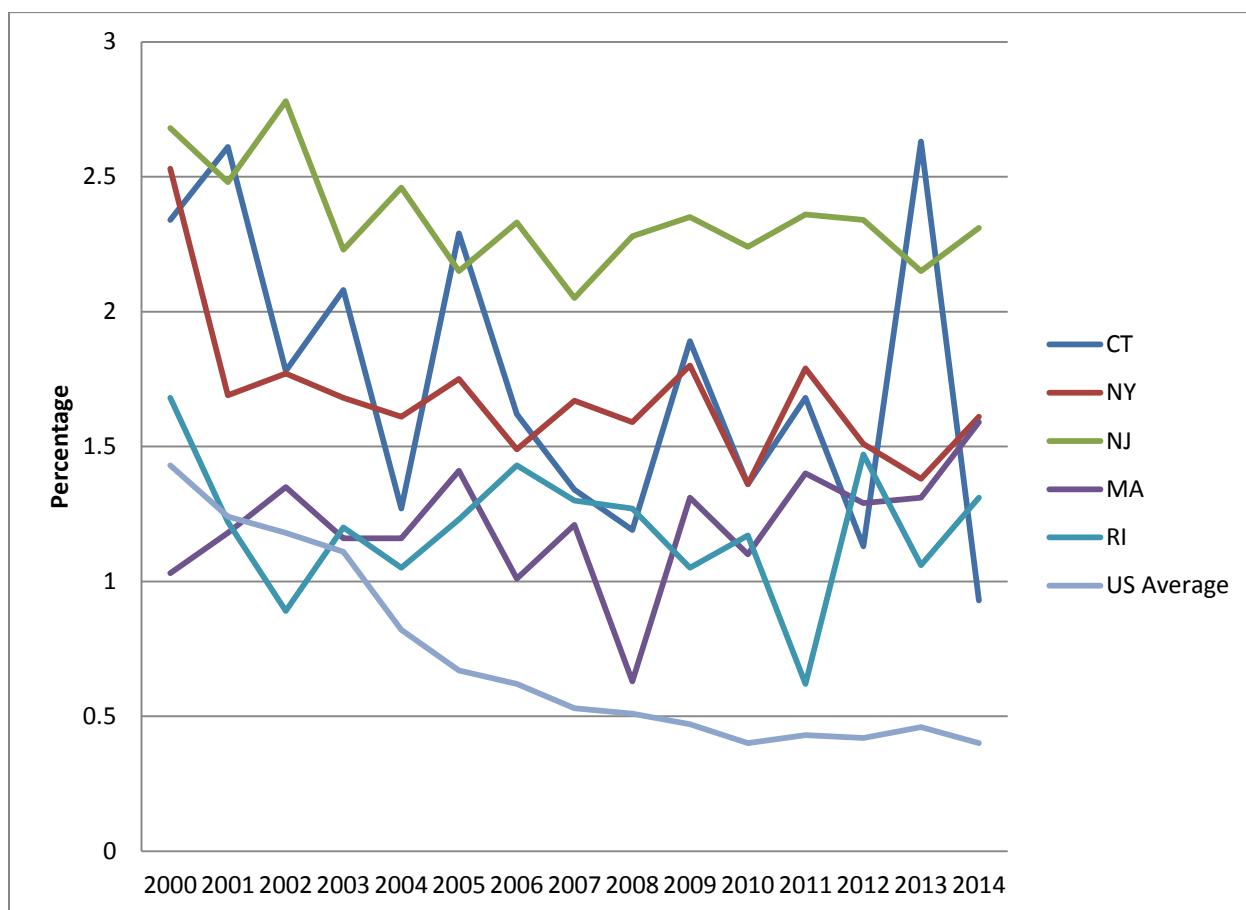


FIGURE 3: FEDERAL AND CONNECTICUT ESTATE TAX EXEMPTION AMOUNTS, BY YEAR

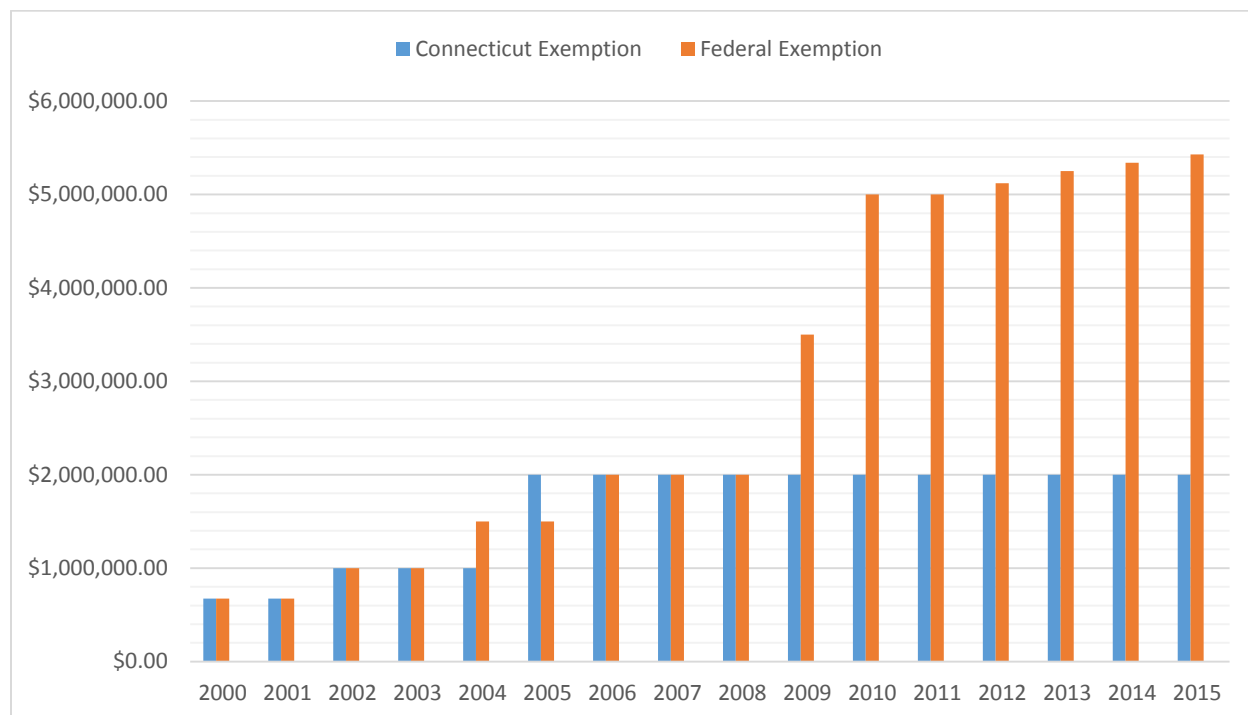


FIGURE 4A: ESTATE/INHERITANCE TAX EXEMPTIONS, BY STATE, in 2015

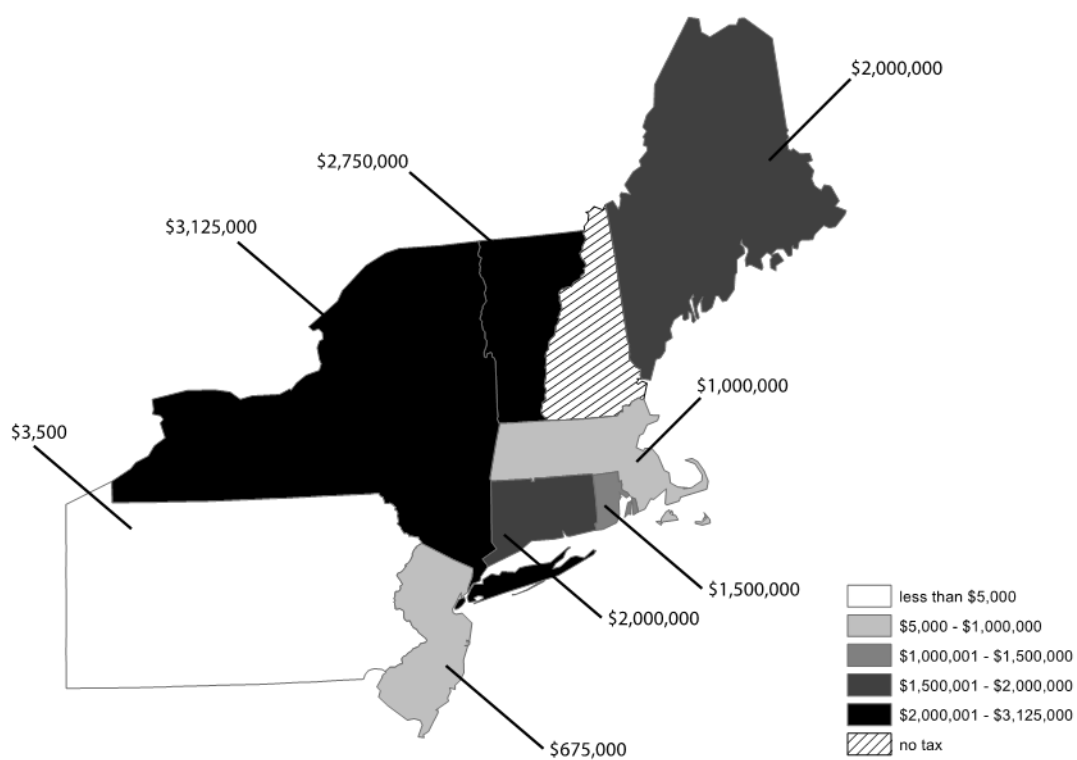


FIGURE 4B: HIGHEST ESTATE/INHERITANCE TAX RATE ONE CAN FACE, BY STATE, in 2015

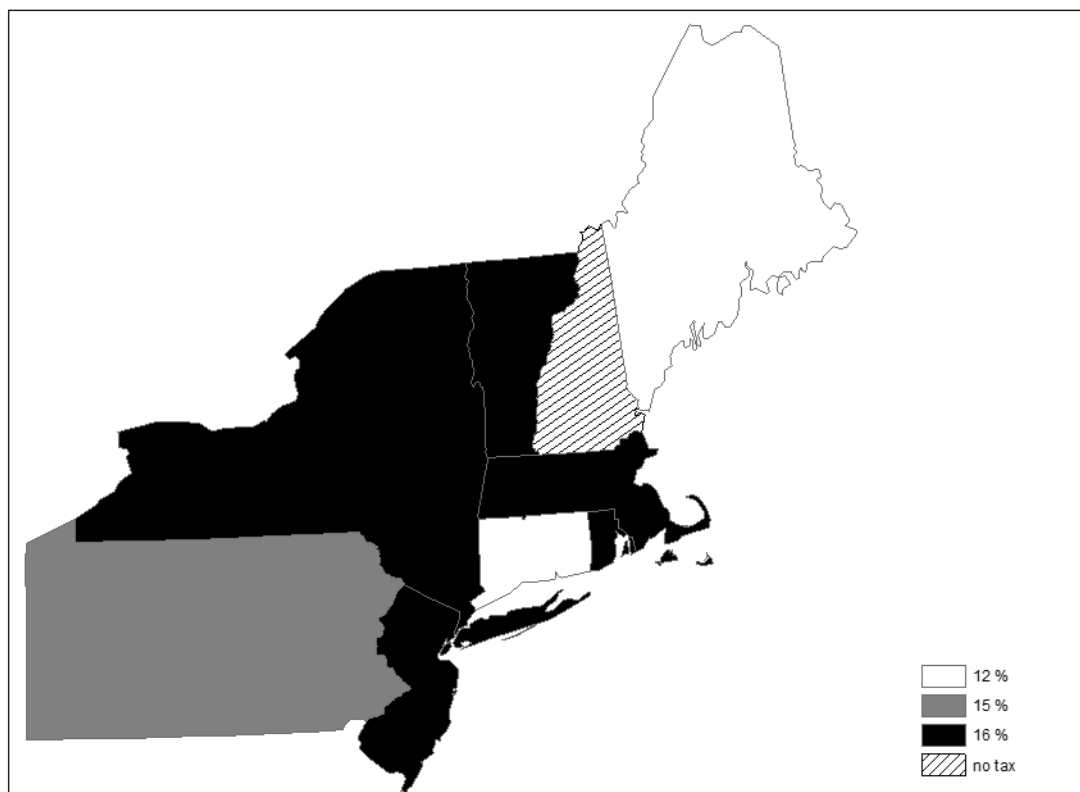


FIGURE 4C: TAX BILL ON 20 MILLION DOLLAR ESTATE, BY STATE, in 2015

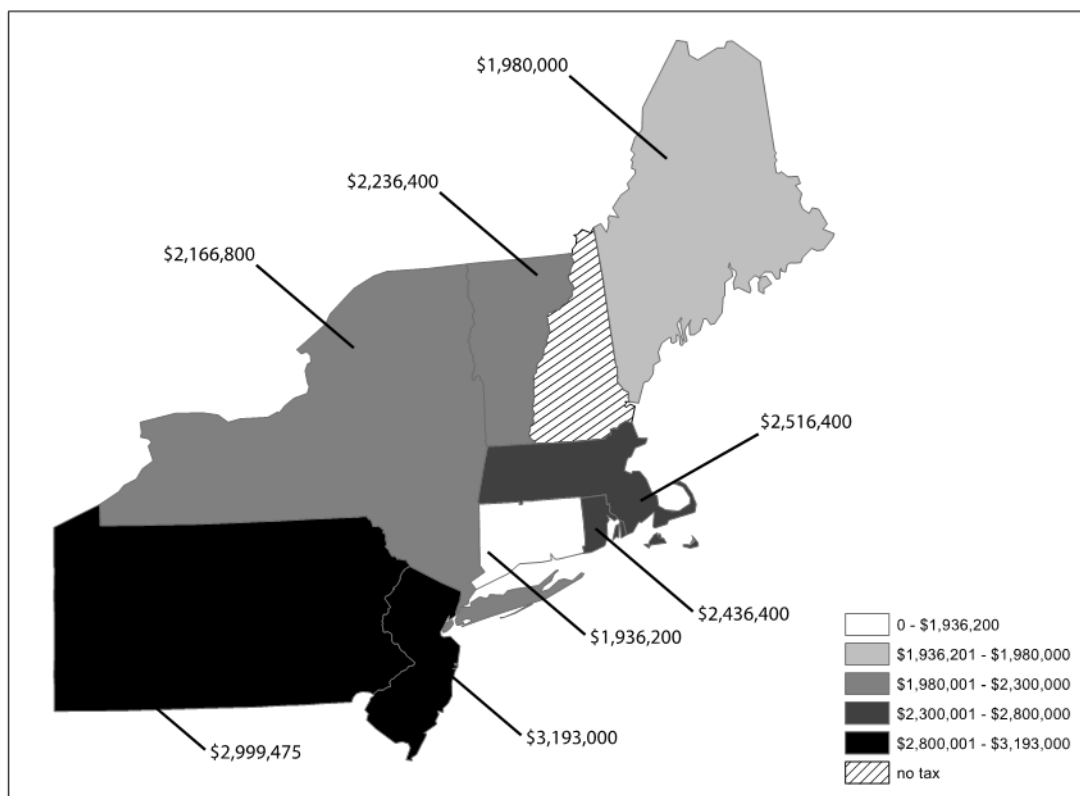


FIGURE 5A: NET CONNECTICUT ESTATE TAX BURDEN AFTER FEDERAL DEDUCTION OF CONNECTICUT'S ESTATE TAX in 2014

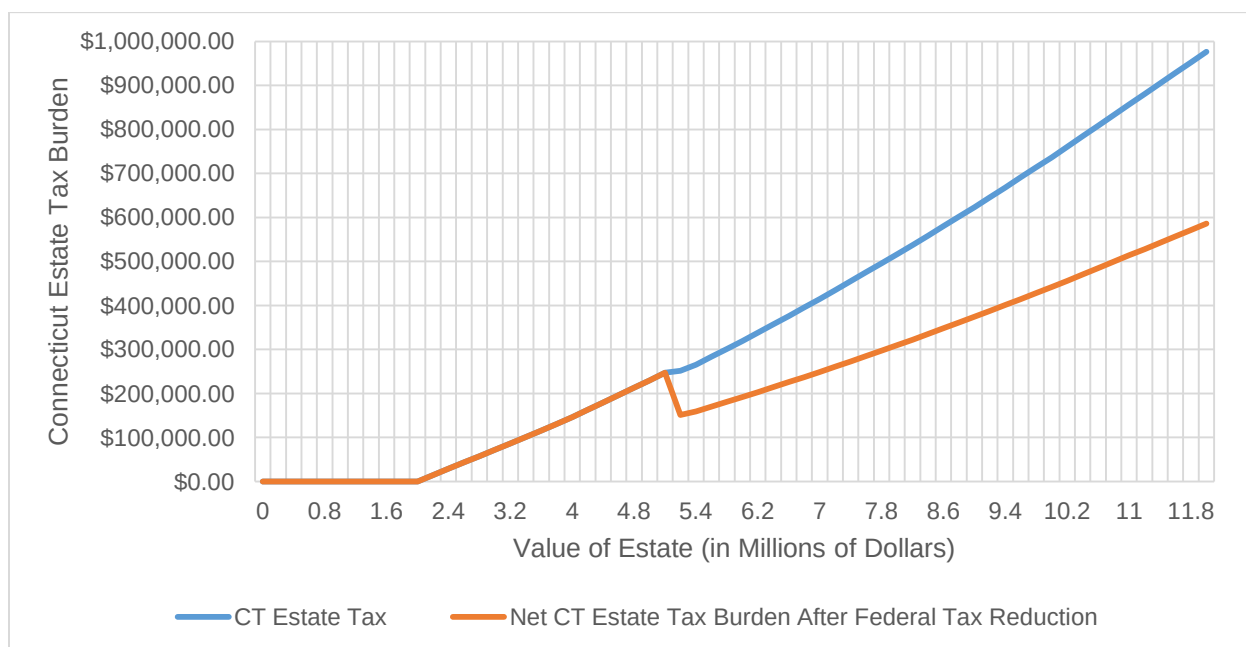


FIGURE 5B: AVERAGE TAX PER DOLLAR OF CONNECTICUT ESTATE in 2014



FIGURE 6A: TOTAL NUMBER OF FEDERAL ESTATE TAX RETURNS, BY NORTHEAST STATES

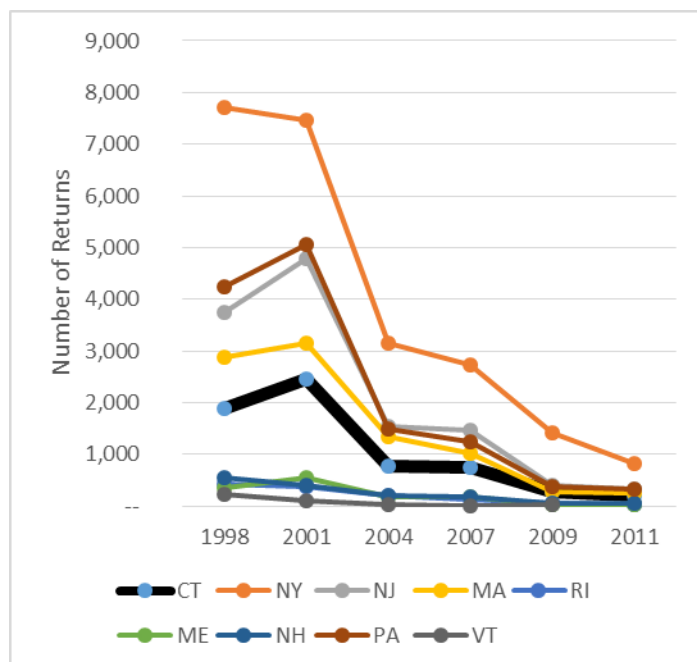


FIGURE 6B: TOTAL FEDERAL ESTATE RETURNS AS PERCENTAGE OF PREVIOUS YEAR OF DATA, NORTHEAST STATES

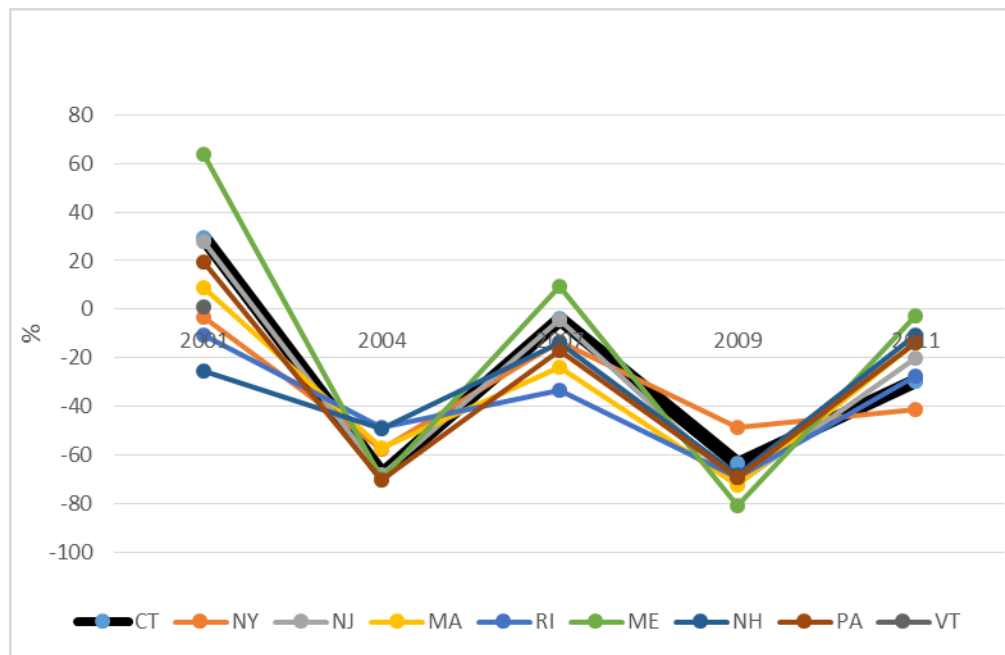


FIGURE 7A: TOTAL FEDERAL ESTATE TAX RETURNS, FOR SOUTHERN STATES AND CONNECTICUT

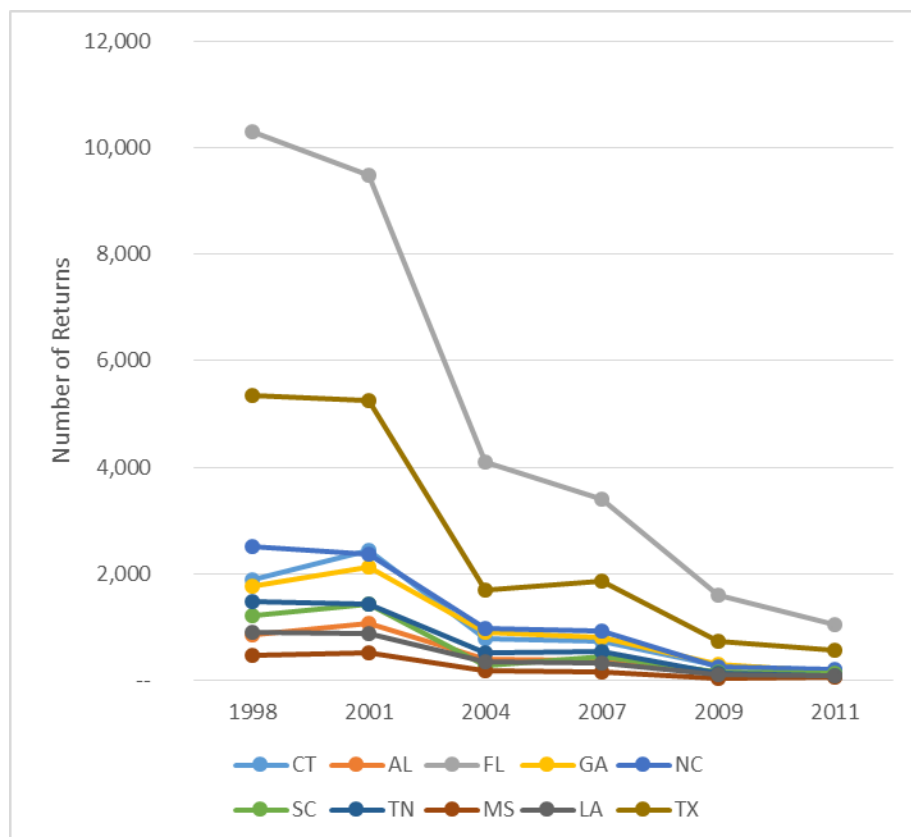


FIGURE 7B: TOTAL FEDERAL ESTATE RETURNS AS PERCENTAGE OF PREVIOUS YEAR OF DATA, FOR SOUTHERN STATES AND CONNECTICUT

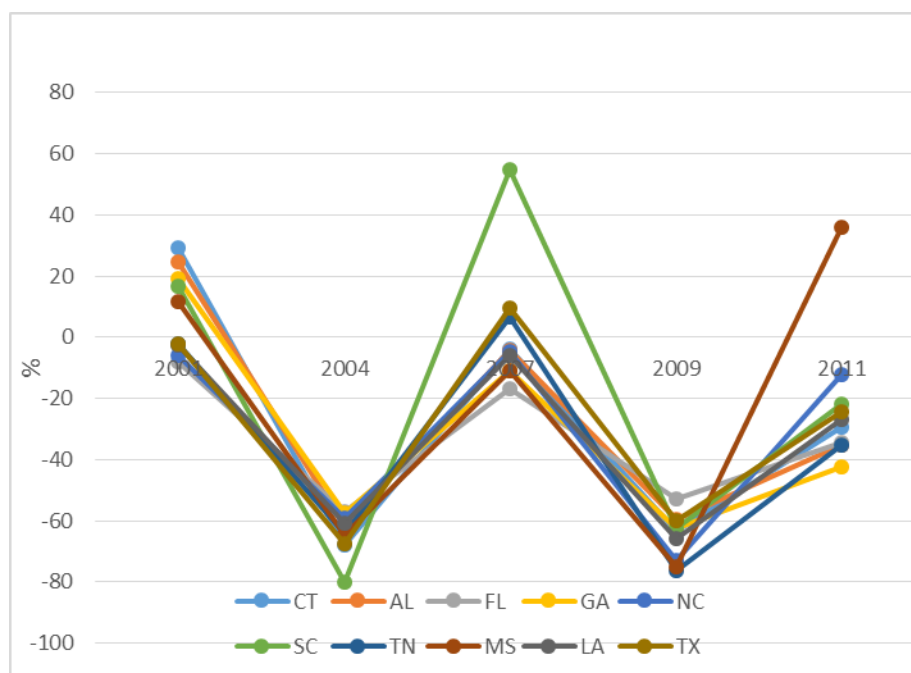


FIGURE 8A: TOTAL FEDERAL ESTATE RETURNS FOR NON-EIG MIDWESTERN STATES AND CONNECTICUT

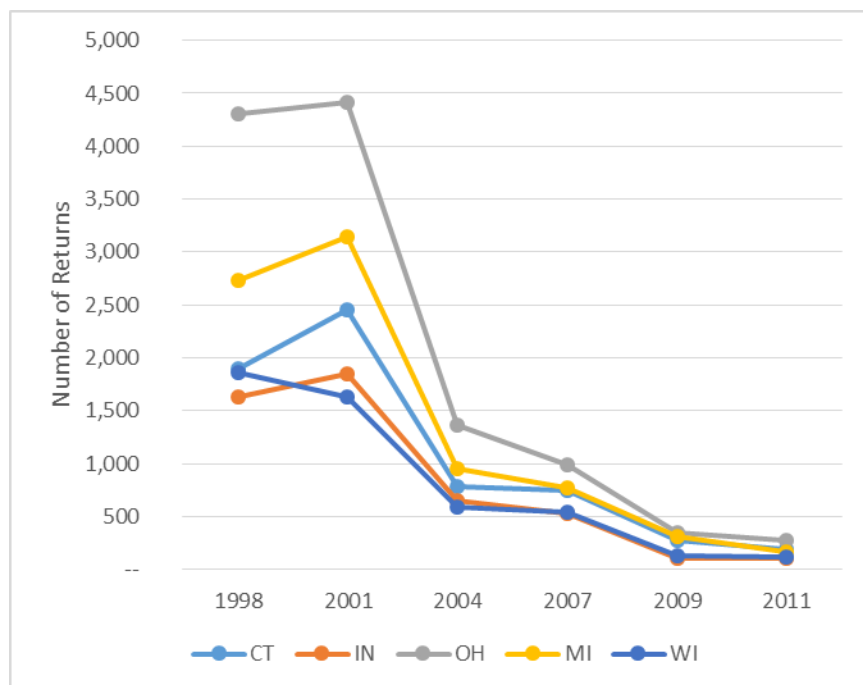


FIGURE 8B: TOTAL FEDERAL ESTATE RETURNS AS PERCENTGE OF PREVIOUS YEAR OF DATA, NON-EIG MIDWESTERN STATES AND CONNECTICUT

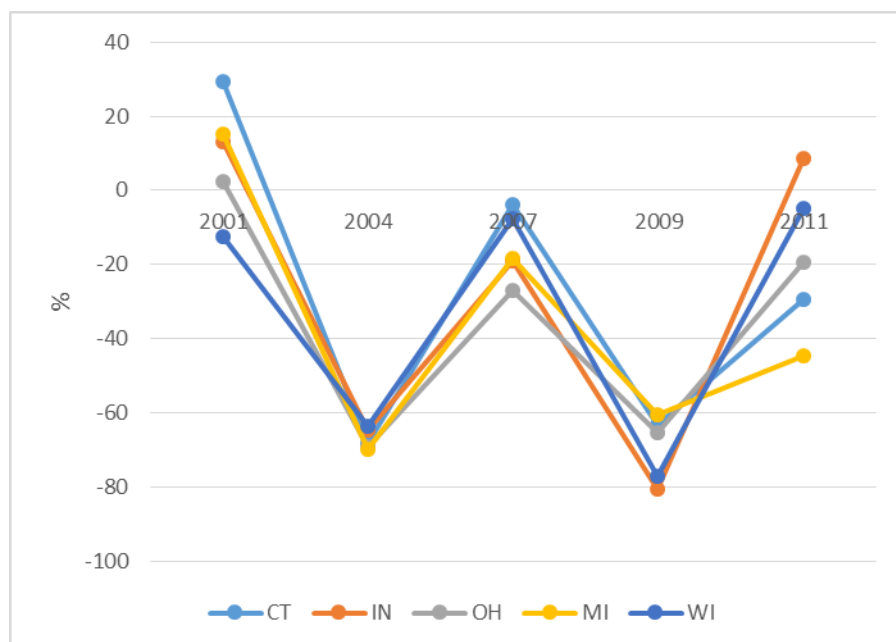


FIGURE 9A: TOTAL NUMBER OF CONNECTICUT INCOME TAX FILERS CLAIMING SOCIAL SECURITY BENEFIT ADJUSTMENT (LINE 42), BY AGI

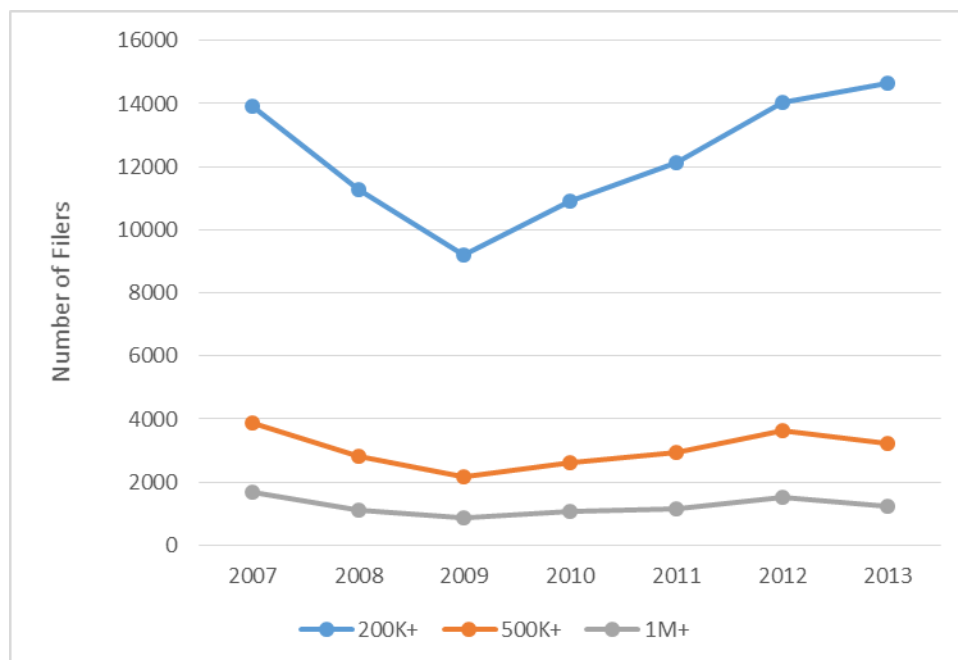


FIGURE 9B: PERCENT OF ALL CONNECTICUT INCOME TAX FILERS CLAIMING SOCIAL SECURITY BENEFIT ADJUSTMENT (LINE 42), BY AGI



FIGURE 10A: ANNUALIZED GROWTH IN PER CAPITA INCOME, NORTHEAST STATES

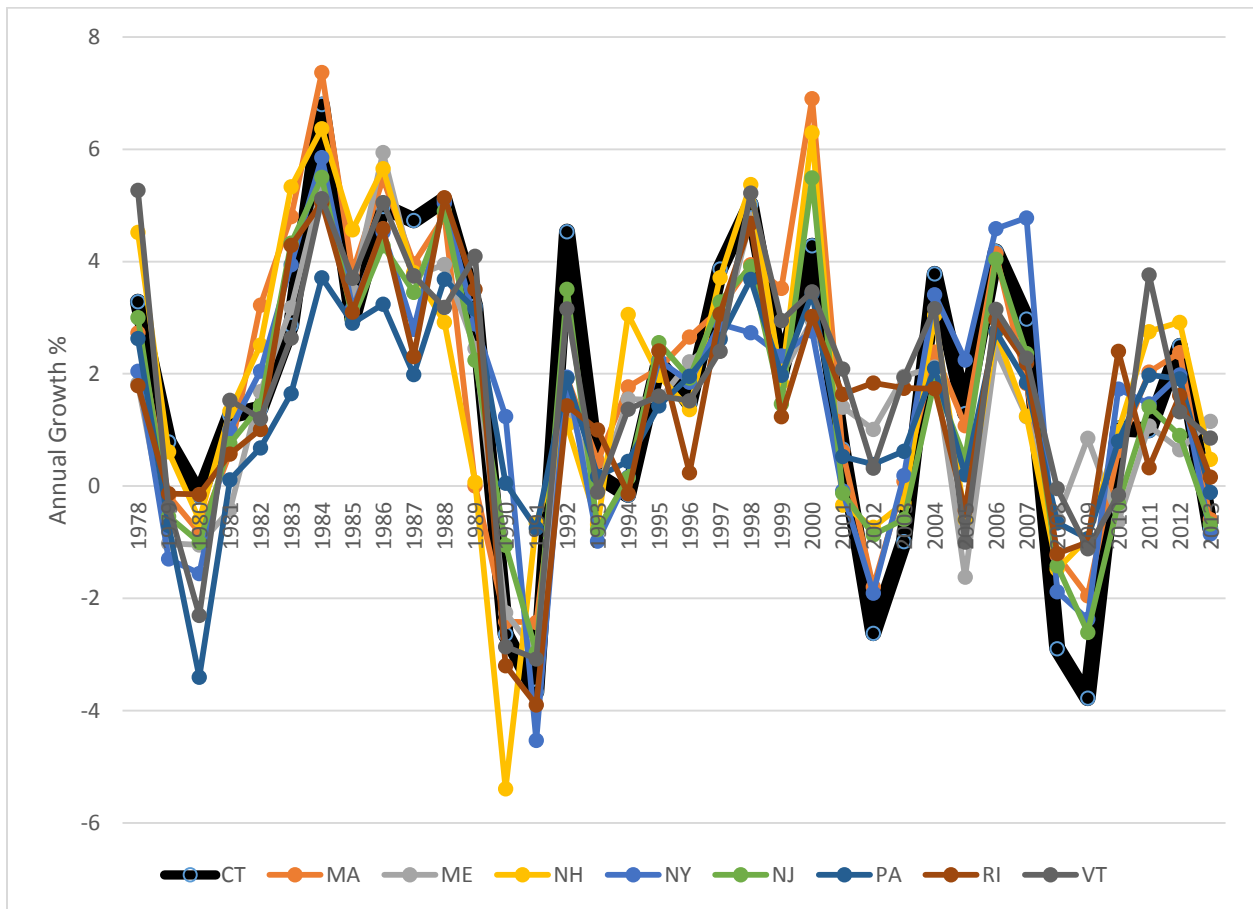


FIGURE 10B: ANNUALIZED GROWTH IN GROSS STATE PRODUCT PER CAPITA,
NORTHEAST STATES

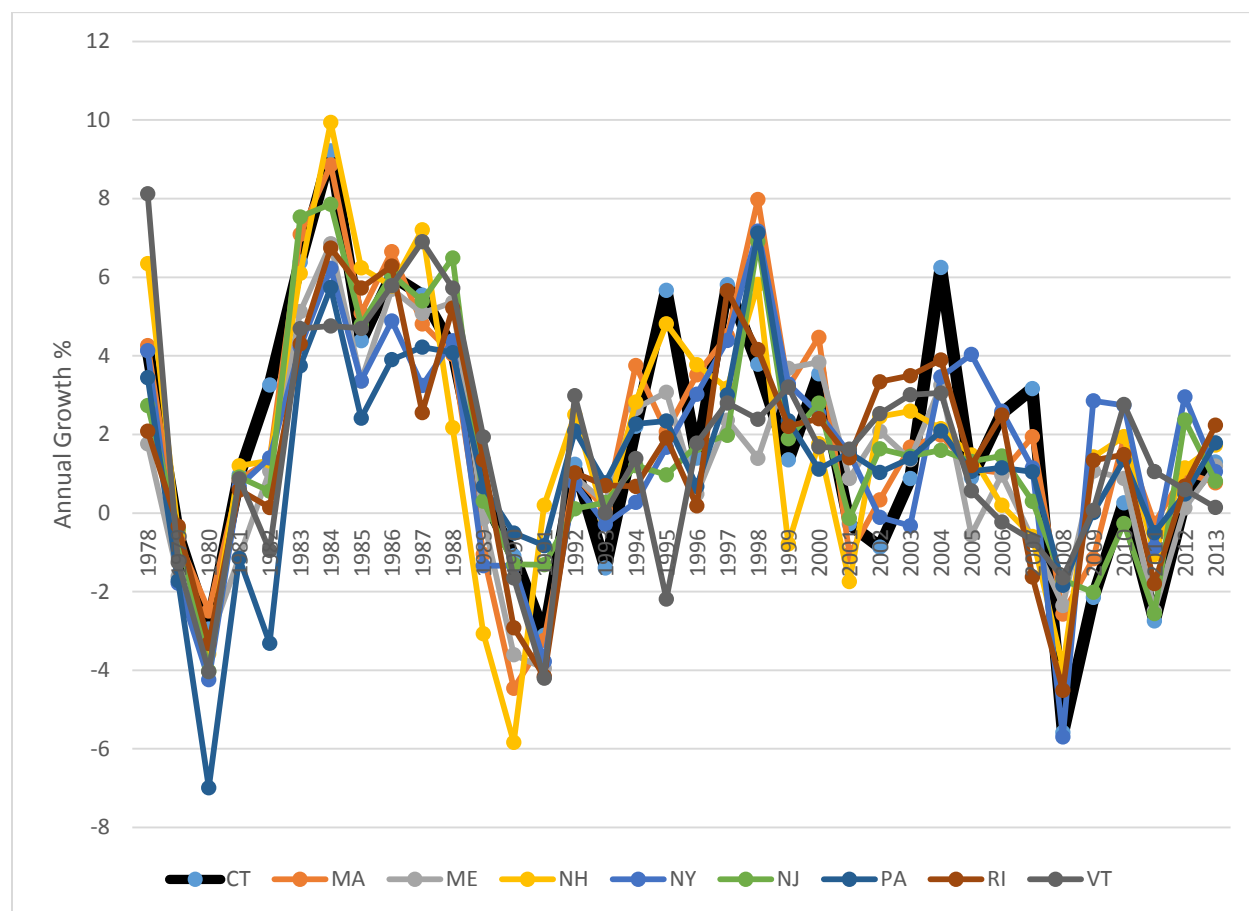


FIGURE 11A: ANNUALIZED GROWTH IN PER CAPITA INCOME, CONNECTICUT AND SOUTHERN STATES

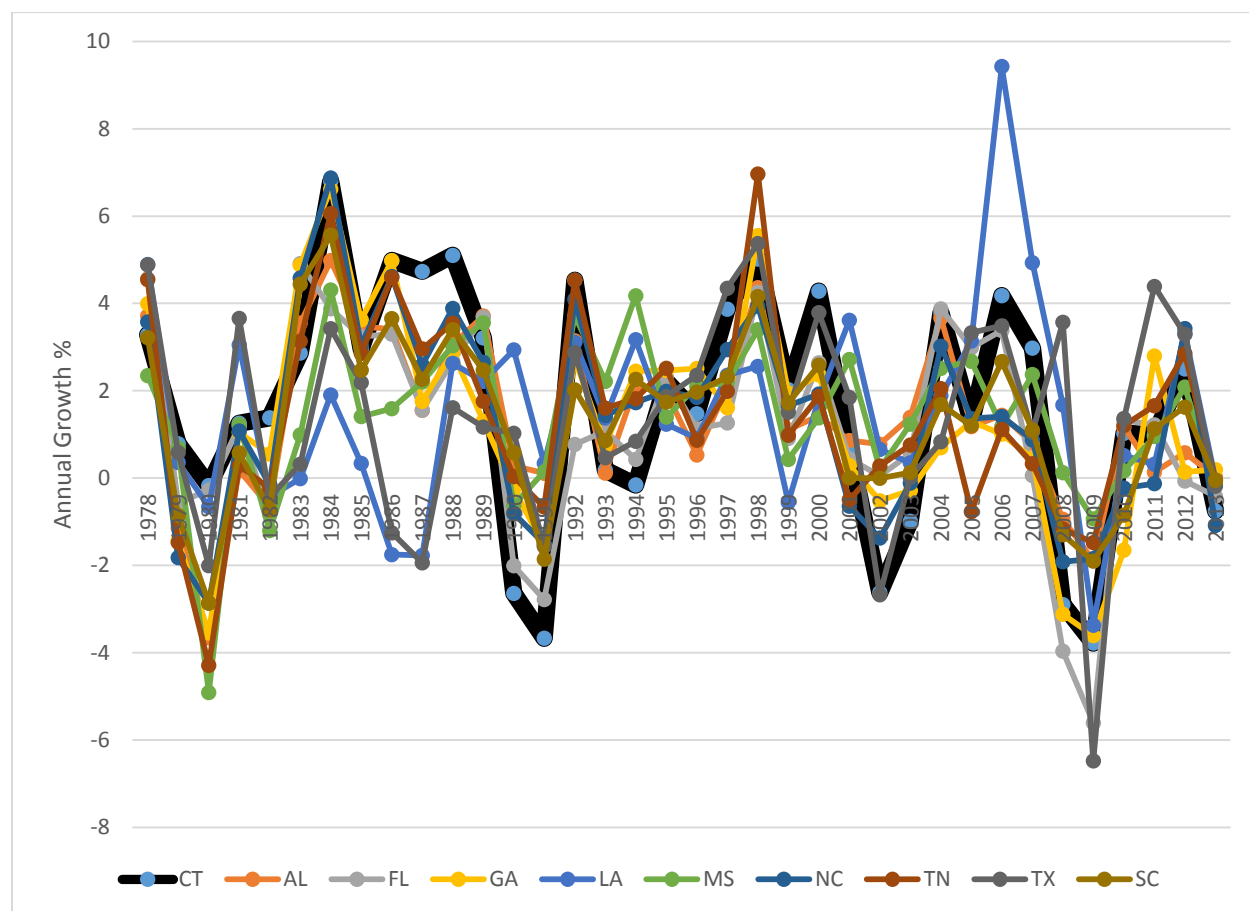


FIGURE 11B: ANNUALIZED GROWTH IN GROSS STATE PRODUCT PER CAPITA,
CONNECTICUT AND SOUTHERN STATES

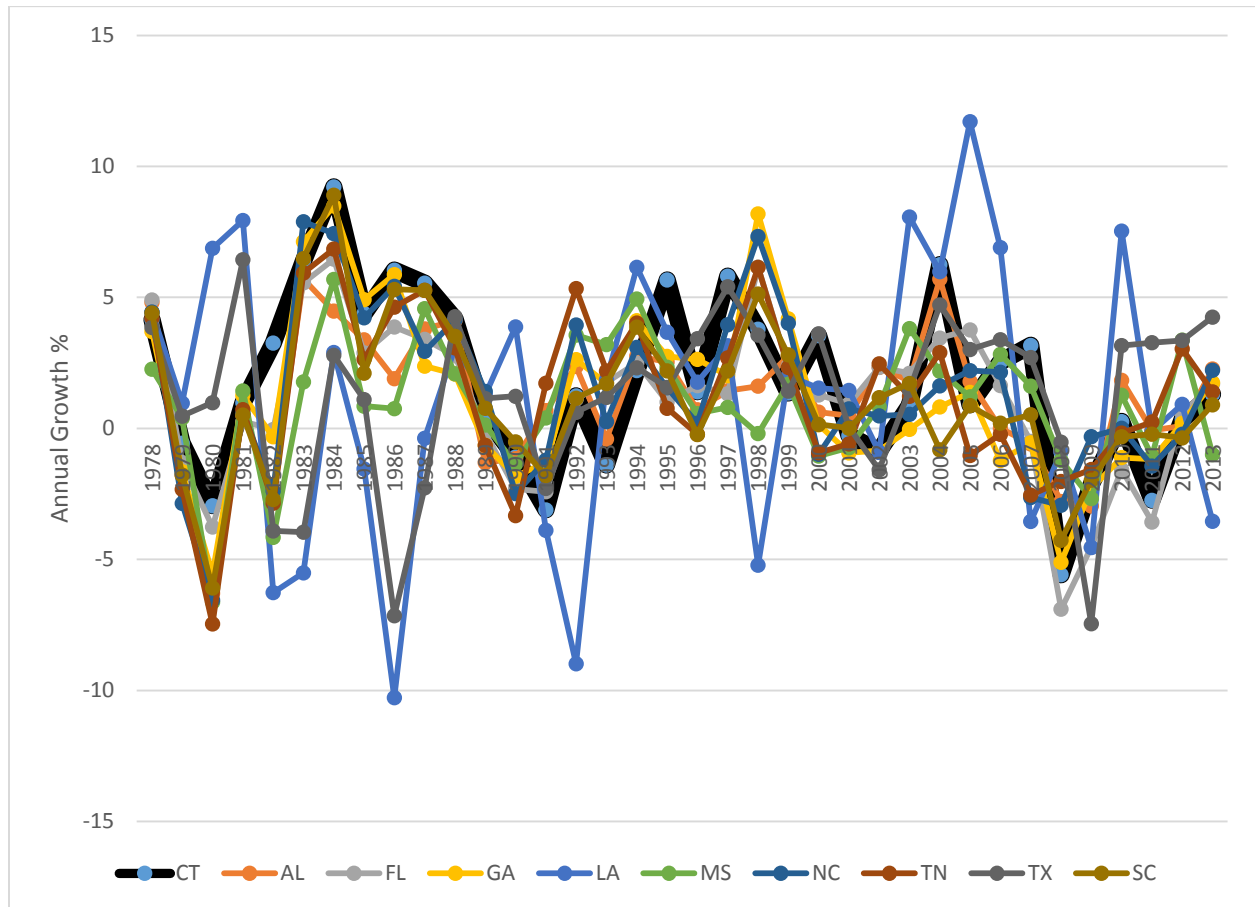


FIGURE 12A: ANNUALIZED GROWTH IN PER CAPITA INCOME, CONNECTICUT VERSUS SELECTED REGIONAL AVERAGES

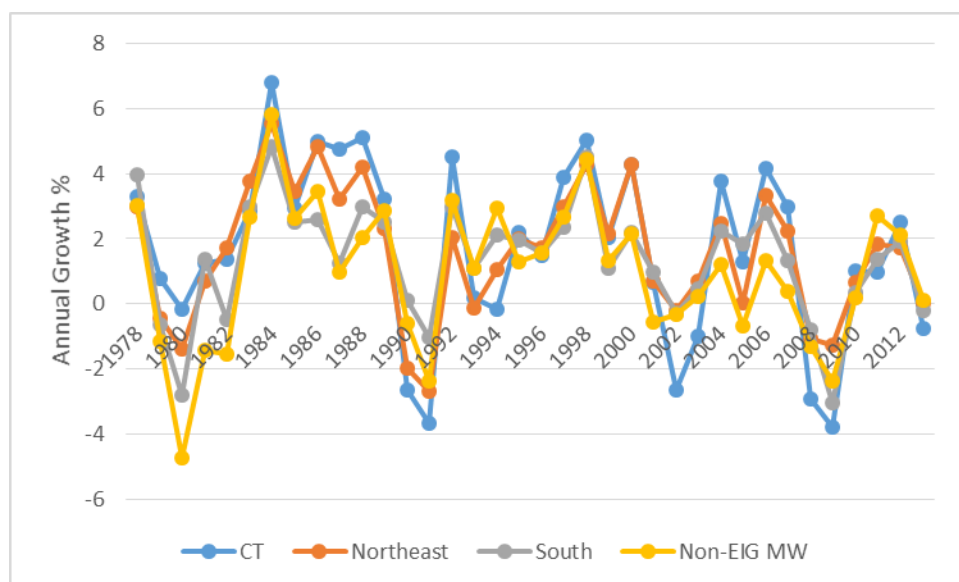
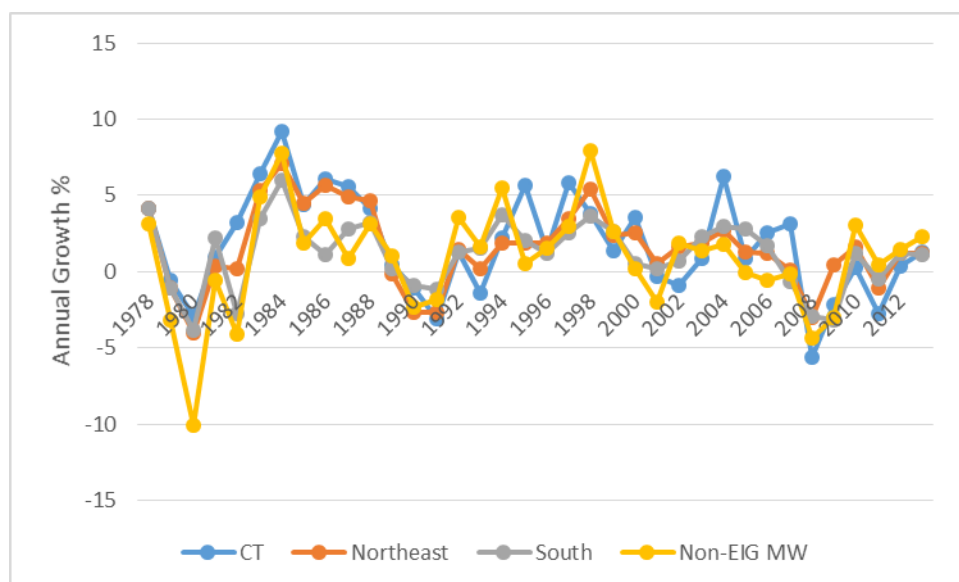


FIGURE 12B: ANNUALIZED GROWTH IN GROSS STATE PRODUCT PER CAPITA, CONNECTICUT VERSUS SELECTED REGIONAL AVERAGES



Chapter 12

Connecticut Probate Fees

A Briefing Note Prepared for Tax Panel Discussion

Presentation November 17, 2015

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Introduction

The state budget for fiscal years 2015-16 and 2016-17 brought about two significant changes in the manner that Connecticut funds the Probate Courts. First, the budget eliminated all general fund support for the Probate Courts. Second, probate fees were increased significantly as a substitute for an appropriation from the general fund.

Fees on decedents' estates, which are calculated as a percentage of all of the decedent's assets, changed most dramatically. The new fee structure doubles the rate on estates larger than \$2 million and eliminates the fee cap (previously a maximum fee of \$12,500). As a result, Connecticut's probate fees are now the highest in the nation. The new budget also puts the state in the unusual position of having a court that must operate exclusively on fee revenue.

This briefing note will summarize the jurisdiction and structure of the Connecticut Probate Courts. It will then compare the probate fees and levels of general fund support with other states. After exploring the issues associated with the current fee structure, the note closes with a discussion of policy options to consider.

General Background on Connecticut Probate Courts

Jurisdiction

The Connecticut Judicial Branch is comprised of the Supreme Court, the Appellate Court, the Superior Court and the Probate Courts. The Superior and Probate Courts are the trial courts in their respective areas of jurisdiction. Appeals from the decisions of Probate Courts are heard in the Superior Court and appeals from the Superior Court are heard in the Appellate and Supreme Courts.

The jurisdiction of the Probate Courts is defined by statute. Despite a common perception that Probate Courts deal only with decedents' estates, the General Assembly has assigned a wide range of responsibilities to the state's Probate Courts. The following is a summary of case types over which the Probate Courts have jurisdiction:

Children's Matters

Probate Courts hear several different types of cases involving children, including temporary custody and guardianship, termination of parental rights, visitation, adoption, emancipation and paternity. A large proportion of the guardianship matters in Probate Courts involve parents who are unable to care for their children as a result of mental illness, addiction or incarceration. In the overwhelming majority of those cases, a family member is appointed as guardian to care for the child. Approximately 9,000 children are currently cared for by relatives as a result of this framework, at far less expense to the state than would be involved if the children were instead placed in the foster care system.

Another category of children's cases involves the management of funds on behalf of minors. Connecticut law requires that any funds in excess of \$10,000 for a child must be managed by a guardian of the estate. Probate Courts are responsible for the appointment and supervision of guardians for this purpose. In most cases, the parents are appointed as co-guardians.

The Probate Courts heard 10,959 children's matters in fiscal year 2014-2015.

Conservatorships

Conservatorship is a legal framework to manage the care and finances of an adult who is unable due to conditions such as dementia, mental illness, intellectual disability or severe physical illness. A Probate Court makes the determination whether a person is incapable and appoints one or more persons to serve as conservator.

After the appointment of a conservator, the court supervises the conservator on an ongoing basis and, in the case of a conserved person who is indigent, pays the compensation of the conservator. The court periodically conducts hearings on financial reports that summarize the manner in which the conservator has managed the conserved person's finances and reviews the conservatorship to determine whether any modifications are warranted. The court also provides instruction to the conservator on issues such as critical medical decisions and placement of the conserved person in a nursing home.

Probate Courts also hear cases involving disagreements about end of life decisions, including living wills, artificial life support systems and do not resuscitate orders.

The Probate Courts heard 18,500 matters in this area in fiscal year 2014-2015.

Guardianships of Adults with Intellectual Disability

Connecticut has a special form of guardianship for adults with intellectual disability. The role of the Probate Court is to determine if an individual has intellectual disability, whether a guardian is needed and, if so, who should serve as guardian. The court must also conduct periodic reviews of guardianships to determine whether the arrangement continues to be necessary.

The Probate Courts heard 8,194 guardianship matters in fiscal year 2014-2015.

Commitments

Probate Courts hear several different case types regarding involuntary confinement for treatment of mental illness, substance abuse and infectious disease. In mental health cases, Probate Courts determine whether a person is dangerous or gravely disabled and, in some cases, whether a conservator should have authority to consent to the involuntary administration of psychotropic medication. Probate jurisdiction also

encompasses appeals from quarantine, isolation and vaccination orders issued during a public health emergency.

The Probate Courts heard 1,965 commitment matters in fiscal year 2014-2015.

Decedents' Estates and Trusts

The settlement of decedents' estates is the area of jurisdiction most commonly associated with Probate Courts. The role of the court in this area includes determining the validity of wills, appointing and supervising executors and administrators, determining whether the estate is subject to estate tax, and resolving disputes among fiduciaries, heirs, beneficiaries and creditors.

A related area is the oversight of certain types of trusts. Probate Courts review the periodic accounts of trustees of testamentary trusts (a testamentary trust is one that is established under a decedent's will) and have the authority to hear cases involving the accounts of other types of trusts on request of an interested party.

The Probate Courts heard 46,043 estate and trust matters in fiscal year 2014-2015.

Other Case Types

The General Assembly has assigned numerous additional areas of jurisdiction to Probate Courts that do not fall within the major categories outlined above. Examples include name changes, restoration of federal firearms rights, marriage of minors and issues related to powers of attorney and the uniform transfers to minors act.

Nature of Probate Court Proceedings

Probate cases are highly personal, and Probate Courts conduct most hearings in a less formal manner than is typical in the Superior Court. The rules of procedure applicable to Probate Courts are designed to make the Probate Courts accessible and approachable for attorneys and non-attorneys alike. The rules are also intended to promote quick resolution of cases at the least expense possible for the parties.

At the same time, many types of probate cases involve the fundamental constitutional rights of the parties. Children's cases implicate the right of parents to raise their children. Conservatorship and guardianship matters confront the right of an adult to make his or her own decisions. Commitment cases deal with involuntary confinement and treatment. Given the importance of the rights at stake, Probate Courts are required under the state and federal constitutions, and by statute, to appoint and pay the compensation of an attorney to represent the person who is the subject of the hearing when he or she is unable to afford counsel. In children's cases, the court also appoints and pays for the services of a separate attorney to represent the child. The expense of providing attorneys for indigent parties represents a significant and growing component of the Probate Court system budget.

Organizational and Financial Structure

Probate Districts

There are 54 probate districts in Connecticut. Several districts comprise a single municipality but most Probate Courts serve the residents of a region. The Probate Court system completed a major restructuring project in 2011 that reduced the number of districts from 117 to the current 54. Court consolidation, together with changes to the financial structure of the system, produces savings of approximately \$4 million annually.

One judge presides over the cases in each of the probate districts. Probate judges, who serve for four year terms, are the only elected judges in Connecticut.

Court Facilities

Although part of the state Judicial Branch, the Probate Courts are housed in municipal facilities. Most courts are located in town halls or other facilities owned by municipalities, while other communities lease commercial office space for their courts. In addition to office space, state law requires that municipalities provide their courts with office furnishings and equipment, supplies, telephone service, internet access and insurance. The cities and towns served by regional courts share these expenses in proportion to their grand lists or other allocation on which the communities agree. This partnership between courts and municipalities is a cost-effective shared service arrangement.

Probate Court Administration Fund

Apart from the facilities costs borne by municipalities, all other expenses of the Probate Court system are managed through a dedicated revenue fund known as the Probate Court Administration Fund ("PCAF"). The budget for expenditures from the Probate Court system is prepared by the Probate Court Administrator, reviewed by the executive committee of the Probate Assembly and approved by the Chief Court Administrator. The Probate Court system budget is administered by the Office of the Probate Court Administrator and is separate from the financial operations of the Judicial Branch. The State Treasurer has custody of the PCAF and manages the investment of funds in it.

By statute, any balance in the PCAF in excess of 15% of the system's operating budget sweeps automatically at year-end to the general fund. Since 2011, the PCAF has returned over \$16 million to the general fund.

Until the current fiscal year, the PCAF had two sources of revenue: probate fees and a general fund appropriation. In fiscal year 2014-15, the general fund appropriation for the Probate Courts was \$10.25 million (net of rescissions) and probate fee revenue was \$31.5 million. The Probate Court system sought \$14.8 million from the general fund for fiscal year 2015-16 and \$17.4 million for fiscal year 2016-17. The approved budget provides no general fund appropriation for the Probate Courts. Probate fee increase

are projected to add \$11.6 million in additional revenue in fiscal year 2015-16 and \$12.3 million in fiscal year 2016-17.

All revenue from probate fees is deposited directly into the PCAF. The individual Probate Courts are responsible for sending and collecting probate fee billings. Payment of probate fees is made to “Treasurer, State of Connecticut” and deposited into State of Connecticut bank accounts. The Office of the Probate Court Administrator reconciles all deposits from all courts on a daily basis.

Probate Court System Finances before Restructuring

In addition to court consolidation, the Probate Court system completed a major overhaul of financial operations in 2011. Before restructuring, each court collected probate fee revenue into its own bank account and paid its own expenses out of those revenues. The compensation of judges was governed by a complex formula driven principally by the court’s revenue. Courts paid an assessment to the PCAF. Assessment revenue, together with general fund appropriations, covered system-wide expenses and subsidized courts with insufficient revenue to meet expenses. There was no central budget for the courts and only minimal controls over court expenditures.

Under the current financial structure, all system expenses are governed by a single budget. The Probate Court Budget Committee, a body established by statute, establishes a statewide compensation and benefits plan for court staff and determines staffing levels for each court. The compensation of judges, which is established by statute, is based on the population and workload of their respective districts.

Probate Fees

Probate fees fall into four principal categories:

Filing fees. For all matters other than decedents’ estates and accountings, the petitioner pays a filing fee for each petition, application or motion. The current fee is \$150 and will increase, for most matters, to \$225 on January 1, 2016.

Accounting Fees. For all matters except decedents’ estates, the fee associated with proceedings to review the account of a fiduciary (e.g., a trustee, conservator, or guardian of the estate of a minor) is calculated using a formula based on the income and assets of the estate.

The current accounting fee is 0.25% of the greater of assets or income during the accounting period, with a minimum fee of \$50 and a maximum fee of \$750, regardless of the number of years covered by the account.

Beginning on January 1, 2016, accounting fees will be 0.05% of the greater of assets or income during the accounting period multiplied by the number of years in the accounting period. The minimum fee will be \$50 and the maximum fee will be \$500 per year.

Decedents' Estates. The fee for decedents' estates is calculated using a formula set forth in statute. The key variable in that formula is the "basis for fees," a defined term that encompasses all of the decedent's assets, whether or not passing through probate, as well as taxable gifts made before death.¹ The basis for fees is reduced by 50% for assets passing to a surviving spouse. The figures used in calculating the probate fee are derived from the estate tax return.

The percentages used in calculating the fee are as follows:

<i>Value of Estate</i>	<i>Probate Fee</i>
\$0 to \$500	\$25
\$501 to \$1,000	\$50
\$1,000 to \$10,000	\$50, plus .01 of all in excess of \$1,000
\$10,000 to \$500,000	\$150, plus .0035 of all in excess of \$10,000
\$500,000 to \$2,000,000	\$1,865, plus .0025 of all in excess of \$500,000
\$2,000,000 and over	\$5,615, plus .005 of all in excess of \$2,000,000

The 2015 amendments to probate fees made two changes. First, the rate on estates with a basis for fees greater than \$2 million was increased from 0.25% to 0.5%. Second, the maximum fee for decedents dying before January 1, 2015 was \$12,500. There is no maximum fee for decedents dying on or after January 1, 2015.

In the absence of a cap on decedents' estates fees, the Probate Courts anticipate sending out very large invoices. Had the current rate structure been in place during the two most recent fiscal years, the largest single invoice would have been \$2.3 million. An average of 20 invoices per year would have exceeded \$100,000.

¹ C.G.S. section 45a-107 (b) (1) provides that the basis for fees, before adjusting for property passing to the surviving spouse, is (A) the greatest of: (i) the gross estate for succession tax purposes (applies only to decedents dying before January 1, 2005), (ii) the probate inventory; (iii) the Connecticut taxable estate, or (iv) the gross estate for estate purposes, plus (B) the net proceeds of any wrongful death action.

Miscellaneous Fees. Probate Courts charge fees for miscellaneous items such as recording documents and making and certifying copies. In addition, courts that have elected to serve as passport agencies collect fees for that service.

The projected additional revenue from the changes adopted in 2015 is as follows:

Projected Additional Revenue From Fee Changes		
Category of Fees	FY16	FY17
Decedents' estates	\$11,000,000	\$11,000,000
Filing	425,000	850,000
Accounting	220,000	440,000

The fees on decedents' estates have historically made up the largest percentage of total fee revenue and that percentage is expected to grow with the 2015 changes. The projected percentage contribution of each of the four fee categories in fiscal year 2015-16 is as follows:

Projected Revenue by Category		
Category of Fees	FY16 Projected Revenue	Percentage of Total
Decedents' estates	\$37,922,500	88.6%
Filing	2,062,500	4.8%
Accounting	2,660,000	6.2%
Miscellaneous	160,000	0.4%

Probate Court System Budget

The Probate Court system budget for fiscal year 2015-16 is \$42.8 million. The budget covers all of the operating expenses of the system. By far the largest category of expenditure is compensation and benefits for judges and staff, which totals more than \$29 million. The system also expends significant amounts for programs of a social service nature. For example:

Kinship and Respite Grants (\$1.6 million). The Kinship Program and the Grandparents and Relatives Respite Program provide grants to guardians caring for children. Unlike foster parents, guardians appointed by Probate Courts are not eligible for monthly stipends. The Kinship and Respite programs seek to fill that gap by providing financial assistance for basic needs. Kinship grants help guardians address needs such as eyeglasses, school clothes and supplies, after school programs, tutoring, summer camp and music lessons. Respite grants provide assistance in the areas of child care, transportation and housing. Although originally funded with a specific appropriation to the Children's Trust Fund, the grants are now funded entirely from probate fee revenue. In addition to the grants, the Probate Courts expend considerable resources on staff time to administer the programs.

Regional Children’s Probate Courts (\$3.2 million). Six regional children’s Probate Courts focus exclusively on children’s cases. Employees are trained in social work or marriage and family therapy, and use a collaborative approach among family, the Department of Children and Families and attorneys to promote the best possible outcomes for children. Children’s courts also connect families with services and other community resources.

Conservators (\$3.8 million). One of the fastest growing categories in the Probate Court system budget is the compensation of conservators for individuals who are indigent. As shown below, the number of individuals served by conservators paid from the PCAF since 2008 has increased by 156%.

	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
Conservator Cases	1516	1771	1912	2229	2533	2893	3270	3886
Annual Cost	\$1,222,618	\$1,561,253	\$1,705,833	\$2,119,691	\$2,403,131	\$2,953,083	\$3,412,177	\$4,409,717
Avg/Case	806	882	892	951	949	1021	1043	1135

In addition, the Probate Court system provides \$175,000 in annual funding for **Melissa’s Project**, a non-profit organization that performs case coordination and conservator services for individuals with severe and persistent mental illness. Melissa’s Project has proven effective in reducing arrests, incarcerations and hospitalizations for program participants. Melissa’s Project also receives funding from the Department of Mental Health and Addiction Services.

Court-appointed Attorneys (\$2.6 million). Under constitutional principles and statutory mandates, Probate Courts must arrange for attorneys to represent indigent individuals whose fundamental rights are at issue in court proceedings. Probate Courts bear this expense in children’s matters, conservatorships, guardianships of adults with intellectual disability, and commitments.

Waived fees (\$1.0 million). To ensure the constitutionally-protected right of access to the courts, Probate Courts waive filing fees whenever the petitioner is indigent. While not a budgeted expenditure, the foregone revenue resulting from fee waivers is a significant element of the financial structure of the system.

Comparisons with Other States

Comparison of Probate Fees on Decedents' Estates

In light of time constraints, we confined our examination of probate fees to neighboring states and states that are common destinations for former Connecticut residents.² Specifically, we reviewed fees in the following 16 states: Arizona, California, Florida, Georgia, Maine, Massachusetts, Nevada, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Texas and Vermont. The findings are summarized in Chart 1.

We identified three different approaches to probate fees:

Flat filing fees. Probate fees are specified for various types of filings. Fees bear no relationship to the size of the estate. Multiple fees may apply to a given estate.

Tiered fees. Flat amounts are designated for estates falling within designated ranges. Estates larger than the highest tier pay additional fees calculated using a specified marginal rate (for example, 0.15% of assets over a certain amount).

Percentage fees. Probate fees are calculated as a percentage of assets.

Of the 16 states in the sample, six use flat filing fees, seven have a tiered fee structure and three use percentage fees. Of the states that use tiered or percentage fees, only one includes non-probate assets in the fee, but that state caps the fee at \$6,000. Three of the states using tiered or percentage fees do not have a cap on fees. The top marginal rates in those states range from 0.015% to 0.04%.³

Connecticut stands out in this group as the only state that includes non-probate assets in its fees while having no cap. Connecticut also departs from the norm in that its top marginal rate of 0.5% is higher than all other states in the study.

Comparisons within Connecticut

We also examined the fees charged by other Connecticut courts. All fees for the Superior, Appellate and Supreme Courts are flat filing fees. The largest court fee, which applies to a petition to admit an out-of-state attorney to appear in a case in this state, is \$600.

² For discussion of migration patterns in and out of Connecticut, see the document entitled Connecticut Estate and Gift Tax by Professors Karen Smith Conway and Jonathan C. Rork, which was presented to the Tax Panel on October 27, 2015.

³ The percentage fee for a New Jersey decedent's estate that elects to use the supervised probate procedure includes non-probate assets and has no cap. Since this procedure is optional for the parties and rarely used, we do not include it in our analysis.

The largest user fee for services provided to an individual for an Executive Branch agency is \$745 for a license to operate a 16 passenger service bus. That fee is payable to the Department of Motor Vehicles.

Comparison of General Fund Support for Courts in Other States

We were able to obtain budget data for six court systems to compare the level of general fund support for their courts with the Connecticut Probate Courts. The findings are summarized on Chart 2. Five of the six court systems receive large appropriations from states, counties or municipalities to supplement fee revenue. The sole outlier is Florida, where court fees exceed court expenses and subsidize other state government operations.

General fund contributions to the courts in the sample range from a low of 24% for the Cobb County, Georgia Probate Court to a high of 87% for the Massachusetts unified court system. Excluding Florida from the analysis, the contribution from budgeted funds averaged 40% of the cost of court operations.

Comparisons within Connecticut

The budget for the Connecticut Judicial Branch provides another point of comparison. The general fund appropriation to the Judicial Branch for fiscal year 2014-15 was \$547 million. Fee revenue from the Superior, Appellate and Supreme Courts was \$54 million. General fund support represented 90% of the total cost of Judicial Branch operations.

Issues to Consider in Evaluating Probate Fees

Of the three categories of probate fees, the 2015 changes to filing and accounting fees can reasonably be considered updates to a fee structure that had not been changed since 1998. The \$75 increment in filing fees is equivalent to a 2.5% increase per year in the 18 years since the last adjustment. The new accounting fee structure improves progressivity by increasing fees when assets exceed \$500,000. It also has the beneficial effect of eliminating the incentive to delay the filing of accounts as a strategy to reduce fees. This is achieved by multiplying the base fee (which is now calculated using a lower rate) by the number of years covered in the accounting period. The fee is capped at \$500 per year.

By contrast, the changes to probate fees on decedents' estates, and in particular the repeal of the \$12,500 cap on fees, represents a fundamental departure from the prior fee structure. This discussion of issues will, accordingly, focus exclusively on decedents' estate fees.

Relationship between the Fee and the Service Provided

The underlying premise of a user fee is that it seeks to recover the cost of providing the service from those who benefit from it. Connecticut's probate fee structure does not fare well when measured against this objective. Fees on decedents' estates generate far more revenue than the expenses associated with them. Revenue from other case types, on the other hand, is far outstripped by the cost of the cases.

The probate fee on decedents' estates, which is based strictly on the value of the decedent's assets, cannot be justified as a cost recovery mechanism. The percentage rate calculation makes no connection between the judicial resources that an individual estate consumes and the fee. There is no evidence that larger estates are more demanding of the Probate Courts. Indeed, large estates are typically less problematic than smaller estates because they are professionally planned.

The lack of relationship between the fee and the service provided is greatly exacerbated by application of the probate fee to non-probate assets. Assets pass outside of probate in many ways. Examples include property held in joint survivorship, assets that pass by beneficiary designation (for example, life insurance, pensions and individual retirement accounts) and funds held in trust. The disposition of non-probate assets occurs entirely outside of Probate Court supervision and without any assistance from a court.

Nonetheless, the probate fee applies to all estates, even when the court provides absolutely no service or oversees only a small fraction of the decedent's overall estate.

Nearly 20% of all decedents' estates have no probate assets at all. For those cases (referred to as "tax purposes only estates"), the Probate Courts provide no service related to the settlement of the estate. The court's sole function in some tax purposes estates is to review the estate tax return, issue an opinion of no tax and release the estate tax lien. This function is performed by the Probate Court, however, only if the taxable estate is \$2 million or less. If the taxable estate exceeds \$2 million, the Probate Court has no role whatsoever because the estate tax return must be filed with the Department of Revenue Services.

At the other end of the spectrum, the filing fees for most matters other than decedents' estates, even at the higher rate of \$225, will typically not cover the expense associated with the case. The monetary value of the time required on the part of staff and the judge to open a file, conduct the hearing and render a decision will alone exceed the filing fee. In nearly 7,000 cases a year, the court collects no fee because the petitioner is indigent. Net revenue is further eroded when the system must pay for the services of an attorney for a person who is indigent. Further, many types of cases, including children's matters, conservatorship and guardianship, require years of ongoing court supervision without additional revenue. In the case of conservatorships, the Probate Court system also bears the ongoing expense of the conservator's compensation when the conserved person is unable to pay for those services.

The disparity between the workload in each case category and total revenue by case type provides further evidence that the fee structure fails to recover the cost for services in an equitable manner. Decedents' estates account for 55% of matters but are expected to generate 89% of probate fees in the current fiscal year. Filing and accounting fees generate only 11% of revenue but represent nearly half of the workload of the courts. The result is that decedents' estates subsidize all other case types to a very significant degree. The system may be self-sufficient as a whole, but it achieves that goal at the expense of families who have lost a loved one. That small segment of the population bears the expense of the many social service functions that the Probate Courts provide.

Inconsistencies between the Estate Tax and the Probate Fee

In the overwhelming majority of cases, the probate fee on decedents' estates is calculated on the basis of the gross estate for tax purposes. Despite this close relationship with the estate tax, the probate fee departs from estate tax policy in failing to allow deductions. The result of this inconsistency is that many estates are subject to large probate fees even when exempt from the estate tax.

While the estate tax is calculated on the value of the estate *after deductions*, the probate fee is based on the gross estate *before deductions*, with one limited exception. The exception is that the value of assets passing to a surviving spouse is reduced by one-half when calculating the fee. While easing the burden of the probate fee, the policy is a marked contrast to the core principle under both state and federal law that assets passing between spouses should be completely exempt from estate and gift taxes.

In other areas, the lack of deductions for the probate fee causes even more pronounced differences. A decedent who leaves her entire estate to charity, for example, would be fully exempt from state and federal tax, but would pay a probate fee on the basis of the value of her assets. Similarly, the decedent's debts are ignored when calculating the probate fee, such that a decedent who owned a home with no equity after the mortgage would still pay a probate fee based on the full fair market value of the property.

Limitations on Probate Court Ability to Enforce Fees

The Probate Courts have three available tools to enforce compliance with the probate fee:

Supervision of estate settlement. When a decedent's estate needs the probate process to transfer solely-owned assets to heirs or beneficiaries, the Probate Court can exercise its supervisory authority to ensure payment of the probate fee. The court has no equivalent authority for those estates in which all assets pass outside of probate. In 2015, approximately 3,600 estates that filed tax returns had no probate assets.

Probate fee lien. The 2015 probate fee legislation established a statutory inchoate lien as security for the probate fee. The lien applies to real estate owned by the decedent. This mechanism is effective only if the decedent owned real estate.

Interest. Statutory interest at the rate of 6% applies to probate fees not paid within 30 days of the date of the invoice. Interest also applies for late filing of an estate tax return. Smaller estates are exempt from interest.

To calculate the probate fee, Probate Courts use the figures reported on the estate tax return. Estates that are exempt from the estate tax are not required to file any tax return with the Department of Revenue Services (“DRS”), but must file a CT-706 NT (“NT” is an acronym for “no tax”) with the court so that the court can calculate the probate fee.

The Probate Courts face two key limitations in enforcing the probate fee, particularly when the taxable estate is less than \$2 million. The first compliance challenge is that the Probate Courts have no means of seeking out persons who have failed to file an estate tax return. Unlike DRS, the Probate Courts have no resources to determine who should be filing tax returns or to compel filing when a delinquency is identified. The problem is particularly significant when the decedent had no real estate and the estate consists entirely of non-probate assets. Since the decedent’s family has no need for the services of the Probate Court, the requirement of filing the estate tax return is effectively an honor system.

Second, courts have no practical ability to audit or otherwise challenge an estate tax return. Courts have no means of determining whether all assets have been reported on the return or whether the values indicated for assets are accurate. Here again, an honor system prevails.

A tax authority responsible for fees as large as the probate fee on decedents’ estates would typically have a broad range of enforcement tools, including the ability to conduct investigations and audits and the power to pursue criminal penalties for non-compliance. Without those tools, it is reasonable to speculate that some estates fail to comply with the requirement of filing accurate returns and that probate fee revenue suffers as a consequence.

Best Practices in Other States

That Connecticut now has the highest probate fees in the nation results from the confluence of three factors; (1) the use of a percentage fee system; (2) the inclusion of non-probate assets in the basis for fees; and (3) the absence of a cap on fees. While each of these elements can be found in other states, it is Connecticut’s new policy of including all three in its fee structure – and its highest in the nation 0.5% top rate – that make the state so far out of step with its peers.

Probate fee structures vary considerably among states, but there are two clear themes that can reasonably be understood as best practices. First, most states exclude non-probate assets from the calculation of fees. Second, a tiered fee or percentage rate applied to probate assets can be used to impose larger fees on bigger estates, but there should be a maximum fee. The merit of both elements is self-evident if the court fee is truly to be understood as a user fee.

Connecticut is also unusual in insisting as of this fiscal year that its Probate Courts be self-sufficient. The research indicates that states and counties look to court fees as a means of partially offsetting the cost of maintaining courts for their residents, but not as a substitute for general fund support. Our findings were the same for courts with probate jurisdiction and for courts with other areas of responsibility. The sample of six states revealed that only Florida fails to supplement fee revenue with state funds. Notably, revenue from Florida courts includes fines imposed against criminal defendants as well as user fees.

Effect on Migration

Although statistical research on the impact of probate fees on migration is beyond the scope of this briefing note, the increase in probate fees has become a high visibility issue. The topic has garnered a large amount of media attention in both state and national news outlets. Estate planning attorneys report that probate fees have become a focal point of discussions with their clients, who frequently react to the new structure as the “last straw” that will cause them to change their domicile to another state. If significant numbers of wealthy residents do relocate, the higher probate fees on decedents’ estates may ultimately be self-defeating and cause harm to other sources of state revenue as well.

Volatility of the Revenue Stream

As Professors Karen Smith Conway and Jonathan C. Rork point out in their briefing paper on the Connecticut Estate and Gift Tax, estate tax revenue is notoriously volatile. Very large estates from time to time boost tax revenue for a given year, but are neither regular nor predictable occurrences.

Probate fees can be expected to be similarly volatile under the new structure. While the now-repealed \$12,500 cap on fees meant that no single estate had very large impact on overall revenues, fees from large estates are now projected to contribute a large proportion of overall probate fee revenue. A comparison of fiscal years 2013-14 and 2014-15 is telling in this regard. Had the new fee structure applied to those periods, two estates would each have paid fees in excess of \$1 million in fiscal year 2013-14 for a total of \$3.7 million in revenue. In fiscal year 2014-15, no estates would have paid seven figure fees and total revenue would have been \$2.7 million less than the prior year.

Policy Options to Consider

1. Maintain the Status Quo

The current funding structure for the Probate Court system is new. The reliance on steeply higher decedents' estate fees and elimination of general fund support must be understood as a reflection of the state's budget challenges, and not an intentional policy shift. While the resulting fee structure is flawed in numerous ways, the difficulty associated with restoring a general fund appropriation for the Probate Courts may mean that reform will not become reality until economic conditions improve.

2. Reinstate the Fee Cap and Restore General Fund Support to the Probate Courts

The projected revenue from probate fee increases in fiscal year 2016-17 is \$12.3 million. Of that, \$1.3 million is from modest increases in filing and accounting fees that should remain in force. The focus of policy option 2 is restoration of the \$12,500 cap on fees in decedents' estates, which would result in a \$9 million loss in revenue.

While acknowledging the difficulty in securing a general fund appropriation to replace the lost revenue, three points deserve emphasis. First, the amount is, by any measure, small in comparison to the \$19.8 billion state budget. Second, the state had been providing that level of funding to the Probate Courts until June 30, 2015. Third, general fund support of the Probate Courts is clearly warranted considering the essential services that the courts provide to children, the elderly, individuals with mental illness and persons with intellectual disability.

Restoring the cap on decedents' fees at a level higher than \$12,500 is also worthy of consideration. If decedents' estate fees were capped at \$20,000, the revenue loss would be \$7 million.

3. Overhaul Fees on Decedents' Estates

While policy option 2 addresses the most significant issue associated with the current fee structure by restoring the cap on fees, it does not fully address many of the other policy considerations associated with using decedents' estate fees to subsidize all other functions of the Probate Courts. Chief among those concerns is the inclusion of non-probate assets in the calculation of fees.

Policy option 3 would replace the current fee structure for decedents' estates with one that directly parallels the fees for all other Probate Court cases. Specifically, fees on decedents' estates would be a combination of filing fees and accounting fees. A summary of the proposal is attached as Chart 3. As is currently the case with accounting fees for trusts, conservatorships and guardianships, accounting fees for decedents' estates would be calculated as a percentage of assets over which the

executor or administrator has control and would be capped in an amount that reflects the value of the service that the court provides.

The proposed overhaul of the fees on decedents' estates would transition probate fees in Connecticut from the current tax-like structure to a genuine user fee. It bears critical emphasis that the proposal can succeed only if those planning their estates view the fee as a reasonable fee for a service that will benefit their families and beneficiaries. Residents cannot currently avoid probate fees by retitling assets to pass outside of probate but could under the new structure, precisely because it is a user fee. The amount and rates of the fees, and especially the cap on accounting fees, are therefore of the utmost importance.

The transition to a user fee approach from decedents' estates would, of course, produce far less revenue and require greater general fund support. Projected revenue from decedents' estates under the proposed fee structure is \$10 million, as compared with \$38 million under the current fee structure. The revenue loss from this change would be \$28 million.

4. Require That All Estate Tax Returns Be Filed With DRS

Under current law, every estate is required to file a Connecticut estate tax return. If the estate is exempt from the estate tax because the taxable estate is \$2 million or less, the estate files the return with the Probate Court. If the taxable estate exceeds \$2 million, the estate must file its return with DRS. In either case, the probate fee is calculated using the figures on the estate tax return.

If the existing percentage fees on decedents' estates remain in force (with or without a cap), Connecticut should require that all estate tax returns be filed with DRS. DRS is already responsible for compliance for taxable estates and it historically reviewed all succession tax returns before that tax was replaced with the estate tax in 2005. Extending the department's responsibility to all estate tax returns would improve the effectiveness of decedents' estate fees as a revenue source by putting all of the enforcement tools of the state's tax authority behind the requirement that every estate file an estate tax return. It would also subject all estate tax returns to the potential scrutiny of a DRS audit. Considering the weaknesses of the existing compliance structure, the change is likely to generate additional probate fee revenue and may well increase revenue from the estate tax.

Chart 1

Comparison of Probate Fees on Decedents' Estates

State	Fee Type	Includes Non-Probate Assets?	Cap on Fees?	Top Marginal Rate
Connecticut	Percentage fees	yes	no	0.5% of amount over \$2 million
Arizona	Flat filing fees	NA	NA	NA
California	Flat filing fees	NA	NA	NA
Florida	Flat filing fees	NA	NA	NA
Georgia	Flat filing fees	NA	NA	NA
Maine	Tiered fees	no	no	0.04% of amount over \$2.5 million
Massachusetts	Flat filing fees + Tiered fees	no	yes	NA
Nevada	Flat filing fees + Tiered fees	no	yes	NA
New Hampshire	Tiered fees	no	yes	NA
New Jersey	Flat filing fees	NA	NA	NA
New York	Tiered fees	no	yes	NA
North Carolina	Flat filing fees + Percentage fees	yes	yes	NA
Pennsylvania	Flat filing fees + Tiered fees	no	no	0.08% of amount over \$400,000
Rhode Island	Percentage Fees	no	yes	NA
South Carolina	Percentage fees	no	no	0.025% of amount over \$600,000
Texas	Flat filing fees	NA	NA	NA
Vermont	Flat filing fees +Tiered fees	no	yes	NA

Chart 2
Cost Recovery in Court Systems

Court System	Court Fee Revenue	Court Expenditures	Percentage Recovered
CT Judicial Branch	54,011,781	547,046,370	10%
NY Judicial Branch	407,000,000	1,820,000,000	22%
MA Judicial Branch	110,966,421	822,981,815	13%
FL Judicial Branch	914,643,781	443,416,191	NA
Charleston County, SC Probate Court	1,266,075	2,421,037	52%
Cobb County, GA Probate Court	1,151,000	1,510,597	76%
Providence, RI Probate Court	157,783	443,974	36%

Chart 3

Proposed Fee Structure for Decedents' Estates

Filing Fees

(a) Petitions and motions with \$225 filing fee:

- Admit will
- Affidavit in lieu of administration
- Grant administration
- Grant ancillary administration
- Sell personal property
- Approve a support allowance for the surviving spouse or family
- Construe or reform a will
- Decide a disallowed claim
- Partition real property
- Compel or approve an action by the fiduciary
- Give advice or instruction to the fiduciary
- Authorize a fiduciary to compromise a claim
- List, sell or mortgage real property
- Determine title to property
- Resolve a dispute between co-fiduciaries or among fiduciaries
- Remove a fiduciary
- Appoint a successor fiduciary or fill a vacancy in the office of fiduciary
- Approve fiduciary or attorney's fees
- Apply the doctrine of cy pres or approximation
- Reconsider, modify or revoke an order
- Decide an action on a probate bond.

(b) Petitions and motions with \$150 filing fee:

- Custody of remains of a deceased person
- Grant access to a safe deposit box
- Appoint an estate examiner
- Appoint a temporary administrator

(c) Mediation fee: \$350 per day or part thereof.

(d) Continuance fee: \$50 (subject to waiver by court)

Accounting Fee

In addition to all other applicable filing fees, the fee to file an account is 0.1% of all probate assets

Minimum fee: \$50
Maximum fee: \$2,500