A Recommended Path to

Achieve Fiscal Stability and Economic Growth and Competitiveness

Through Restructuring the Property Tax

Property Tax Working Group of 1000 Friends of Connecticut

Connecticut's economy is demonstrably among the most productive in the nation and the world.

Data from a 2016 Brookings Institution/JPMorgan Chase study show that, with nominal GDP per capita of $84,029, the Hartford metro area ranks #3 in the world, after only San Jose (at $91,437) and Singapore (at $84,309).[1] And GDP per worker ($158,428) ranks #4 in the world, after San Jose ($171,288), Houston ($166,808), and San Francisco ($164,521) – **ahead** of New York ($158,339), Los Angeles ($158,165), and Boston ($139,160).[2] Other Connecticut metro areas, like New Haven and Bridgeport/Stamford/Norwalk, were not considered in the Brookings study because they were smaller economies, but the latter ranked #1 in the nation among U.S. metros of all size for productivity per capita based on data from 2010 in a study by Arizona State University.[3] The state as a whole ranked #3 in the country ($64,511), slightly behind Massachusetts ($65,545) and New York ($64,579), in GDP per capita in 2016.[4]

Metropolitan areas that are centers of knowledge and innovation will be major engines of economic growth and competitiveness in the future.

The Brookings/JP Morgan Chase study found that there is no one way to become a global city. But one of the distinct competitive classes they identify is "Knowledge Capitals." These metropolitan areas, according to the authors, "are the world's leading knowledge creation centers. They compete in the highest value-added segments of the economy, relying on their significant stocks of human capital, innovative universities and entrepreneurs, and relatively sound infrastructure capacity."[5]

The Hartford metro area is one of those "Knowledge Capitals."

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[1] Jesus Leal Trujillo and Joseph Parilla, "Redefining Global Cities: The Seven Types of Global Metro Economies," Brookings and JP Morgan Chase, Global Cities Initiative, September 29, 2016. The data for 2015 for all 123 metros are on pages 18, 21, 24, 27, 30, 33, and 36 of the PDF report, which may be downloaded via a link at https://www.brookings.edu/research/redefining-global-cities/

[2] Jesus Leal Trujillo and Joseph Parilla, "Redefining Global Cities: The Seven Type of Global Metro Economies," Brookings and JP Morgan Chase, Global Cities Initiative, September 29, 2016. The data for 2015 for all 123 metros may be accessed by hovering over charts for the seven types of metros at https://www.brookings.edu/research/redefining-global-cities/

[3] Richard Florida, "To Get America Growing Again, We Have to Look to Our Most Productive Metro Areas," November 19, 2012, at http://www.citylab.com/work/2012/11/get-america-growing-again-we-have-look-our-most-productive-metro-areas/2822/

[4] https://www.statista.com/statistics/248063/per-capita-us-real-gross-domestic-product-gdp-by-state/

[5] Brookings and JP Morgan Chase, pp. 2, 30.

But a key basis for economic growth of competitive metro areas is the creative synergy occurring in their CENTRAL CITIES, as a result of face-to-face interaction among knowledge workers.

Michael Wasylenko, the Syracuse University professor who authored an analysis of "Connecticut's Competitiveness" for the State Tax Panel of 2015, observed that a large share of growth in urban area economies "has its origins in technological change or innovation," taking the form of "new knowledge created through interaction of educated, skilled and innovative workers. The most productive of the interactions are those that occur frequently and in face-to-face encounters."[6]

Business leaders concur:

Jeff Immelt: "I want to be in the sea of ideas," he said, announcing GE's move of its headquarters to Boston. Reports elaborated that he wanted the company to be where there is a "great innovation ecosystem."[7]

Mark Bertolini, on the move of Aetna to New York: the city has "the ecosystem of having people in the knowledge economy, working in a town they want to be living in."[8]

Ludwig Hantson, on moving Alexion to Boston: "We believe it is important that we are in an ecosystem where biotech is front and center."[9]

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[6] Michael Wasylenko, "Competitiveness: Connecticut's Economy and the Role of Fiscal Variables in Growth," presentation to the State Tax Panel, September 30, 2015, p.11. See https://www.cga.ct.gov/fin/tfs/20140929_State Tax Panel/20150930/wasylenko competitiveness ppt 9-30-2015.pdf

[7] Jon Chesto,"GE CEO tells Boston's business leaders why he's moving to Boston," bostonglobe.com/business, March 24, 2016.

[8] Kenneth Gosselin and Dylan McGuinness, "Aetna Will Move Headquarters To New York City, Says Hartford Must Become a 'Vibrant City Once Again,'" courant.com/business, June 29, 2017.

[9] Stephen Singer, "Alexion Exits New Haven For Boston, Agrees to Repay Millions in State Aid," courant.com/business, September 12, 2017

The common wisdom, however, is that the cities in Connecticut do not provide that vibrant innovative ecosystem.

As Mr. Loree has phrased it in his presentation to the Commission on January 8, "central cities are not sufficiently attractive magnets for millennials, young families and economic growth in general."

Why?

In part, Mr. Loree says, because "The state's tax system permits suburbanites who work in and enjoy the cultural attractions of the cities not to pay taxes that support the cities."

The consequence of the structural defect in the overall tax system is that central cities levy property taxes at levels that discourage both businesses and families from locating in those cities.

However, as already noted, despite the impediment created by high property taxes in the central cities, the metropolitan areas in Connecticut are currently among the most productive in the world. **Our conviction is that if the tax barriers which discourage workers and businesses from locating in the cities were lowered, the cities could become the vibrant centers of innovation that everyone desires, enabling the productivity of the metro areas, and the state, to rise even further.**

This presentation addresses three specific elements of the legislative charge to your Commission:

- achieve budgets that are supportive of the interests of families and businesses and
- achieve budgets that support the revitalization of major cities within the state
- recommend actions that materially improve the attractiveness of the state for existing and future businesses and residents

The common thread with respect to these three elements is correcting the flaws in the property tax system in the state.

Property taxes are an integral part of the overall – unbalanced – state tax structure, not a separate, isolated element of the state's revenue system.

- Property taxes are an important part of the overall state tax structure – as analysts (Ernst and Young,[10] ITEP, [11] David Osborne,[12] DRS Tax Incidence Study[13]) all recognize.
- **Nearly 45 percent of all taxes paid in the state are property taxes.** (Income taxes are 28%, sales and use taxes 16%, and corporate income taxes 2%.)[14]
- As governmental bodies created by the state, towns can only tax when the state empowers them to do so – which it does mainly through the property tax.
- **The greatest share of all the taxes paid by business are property taxes** (33.7 percent).[15]

A "balanced state tax structure" requires correcting inherent flaws in the property tax system. There are two main flaws with property taxes in Connecticut: vertical and horizontal inequity. [16]

- **Vertical inequity: property taxes are regressive:**
- The 90 percent of CT taxpayers with the lowest incomes pay two to seven times higher effective property tax rates – property taxes as a share of income – than the 10 percent of taxpayers with the highest income. [17]
- For non-elderly households, property taxes as a share of family income for the bottom 95 percent are two to four times higher than for taxpayers in the top 5 percent. [18]
- High property taxes make housing less affordable and discourage both renters and homeowners with low current income (retirees, young professionals) from staying in or relocating to high property tax towns – and the state.

B. **Horizontal inequity: There are significant disparities among similarly situated taxpayers:**
   - Owners of property with the same fair market value pay vastly different property taxes based on the town in which they live.

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[10] Ernst and Young, for the Council on State Taxation, "Total State and Local Business Taxes for fiscal 2016," 8/30/17. http://www.cost.org/WorkArea/DownloadAsset.aspx?id=96735

[11] Institute on Taxation and Economic Policy (ITEP), "Who Pays? A Distributional Analysis of the Tax Systems in all 50 States," 5th Edition, January 2015. https://itep.org/wp-content/uploads/whopaysreport.pdf The specific information about Connecticut is at: https://itep.org/whopays/connecticut/

[12] David Osborne and Peter Hutchinson, *The Price of Government*, (New York: Basic Books, 2004), pp. 55-56.

[13] Connecticut Department of Revenue Services, "Tax Incidence Report," 2014 www.ct.gov/drs/lib/drs/research/drstaxincidencereport2014.pdf The important role of the property tax in the state's overall tax structure is explicitly recognized at p. 8.

[14] Connecticut Department of Revenue Services, "Tax Incidence Report," 2014 www.ct.gov/drs/lib/drs/research/drstaxincidencereport2014.pdf, p. 2.

[15] Ernst and Young, for the Council on State Taxation, "Total State and Local Business Taxes for fiscal 2016," 8/30/17. http://www.cost.org/WorkArea/DownloadAsset.aspx?id=96735, p. 22.

[16] See The Property Tax Work Group, 1000 Friends of Connecticut, "Connecticut Property Taxes 2015: Time for a Change."

[17] Connecticut Department of Revenue Services, "Tax Incidence Report," 2014 www.ct.gov/drs/lib/drs/research/drstaxincidencereport2014.pdf, p. 21.

[18] Institute on Taxation and Economic Policy, "Who Pays? A Distributional Analysis of the Tax Systems in all 50 States," 5th Edition, January 2015. https://itep.org/wp-content/uploads/whopaysreport.pdf The specific information about Connecticut is at: https://itep.org/whopays/connecticut/

- Taxpayers in different towns receive very different levels of public services for the same amount of taxes paid.
- Great differences in funding for public schools produce vast educational inequities between children in richer and poorer towns.
- High property taxes drive businesses to lower property tax towns, where additional infrastructure often must be built, thus increasing long-term overall costs.
- High property taxes induce companies to move jobs away from cities – key to economic growth – where infrastructure already exists and where cross-fertilization of ideas maximizes innovation (because of the synergy of knowledge workers in an urban agglomeration economy[19]).
- Disparate property taxes reinforce regressivity since low-income households are overwhelmingly located in high property tax towns.

[19] Agglomeration economies are the benefits that come when firms and people locate near one another together in cities and industrial clusters. (National Bureau of Economic Research)

We specifically want to call your attention to the obstacles to business competitiveness caused by the gap between the objective underlying costs of providing (non-educational) services in central cities, and the capacity of the city to raise revenue to pay for those costs. See the NEPPC study provided to you.

As the analysts are careful to point out, the NEPPC analysis does NOT depend on "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 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." [20]

The study identified five key cost factors outside the control of local officials: the unemployment rate, population density, private-sector wages, miles of locally maintained roads, and the number of jobs located within the community relative to its resident population. [21] The underlying data, in Appendix Table 2 of the data Appendix to the report, also provided to you, starting on page 6 of the Appendix, show that objective cost in what we call the most "distressed" municipalities is not much more than 35% above the average cost in all towns.[22]

But the more important factor in the "need-capacity gap" is the disparity in municipal capacity – the result of huge 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-poor towns had, on average, 1/8 the per-capita revenue capacity of the average resource-rich communities.[23] For specific information, see the data Appendix. [24]

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[20] NEPPC, pp. 1-2. New England Public Policy Center at the Federal Reserve Bank of Boston (NEPPC), "Measuring Municipal Fiscal Disparities in Connecticut," Spring, 2015. https://www.bostonfed.org/publications/new-england-public-policy-center-research-report/2015/measuring-municipal-fiscal-disparities-in-connecticut.aspx A PDF of the report is available directly at: https://www.bostonfed.org/-/media/Documents/Workingpapers/PDF/economic/neppc/researchreports/2015/neppcrr1501.pdf

[21] NEPPC, p. 2. A full discussion is on pp. 4-8.

[22] See Data Appendix, pp. 6-10. A PDF of data appendices for the report is at: https://www.bostonfed.org/-/media/Documents/neppc/neppcrr1501-appendices.pdf?la=en

[23] NEPPC, p. 2. A full discussion is on pp. 2-4.

[24] Data Appendix, pp. 6-10.

The gap between objective cost and objective capacity in Connecticut's central cities is a major impediment to revitalizing the central cities, supporting the interests of families and businesses, and promoting economic growth and competitiveness. We recommend implementing a state grant formula to close the gap.

We are not alone in making this recommendation. After reviewing the NEPPC study in 2015, the State Tax Panel adopted the following recommendation, without dissent:

> 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." [25]

Because property taxes constitute the largest share of state and local taxes paid by businesses in Connecticut,[26] closing the need-capacity gap should also support the interests of business.

We also observe that reducing the vertical inequities (regressivity) in the system will support the interests of families.

Accordingly, we recommend that the state provide aid directly to disadvantaged taxpayers, by creating a refundable property tax circuit breaker to homeowners and renters, and maintaining or increasing the Earned Income Tax Credit (EITC).

Again, this recommendation was reinforced by the findings of the State Tax Panel.[27]

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[25] Report of the State Tax Panel, volume 2, p. 12. The Panel also recommended – as do we -- preserving the PILOT programs for state property and non-profit colleges and hospitals, which help fill the need-capacity gap. See p. 13 if the Report.

[26] Ernst and Young, for the Council on State Taxation, "Total State and Local Business Taxes for fiscal 2016," 8/30/17. http://www.cost.org/WorkArea/DownloadAsset.aspx?id=96735, p. 22.

[27] Report of the State Tax Panel, volume 2, pp. 12-13.

Providing sufficient funding to enable municipalities to provide an adequate education for students within their jurisdictions is also required to support the interests of families and businesses, and support economic growth and competitiveness.

Education is essential to build the skills of the current and future workforce, giving them opportunities to find and keep a job and earn more pay. In addition, companies benefit by having more productive workers who are able to learn quickly and adjust to changing workforce conditions. And the entire state benefits by being able to attract firms and investment because it has a skilled workforce.[28]

Even as the Connecticut Supreme Court ruled "that courts simply are not in a position to determine whether schools in poorer districts would be better off expending scarce additional resources on more teachers, more computers, more books, more technical staff, more meals, more guidance counselors, more health care, more English instruction, greater pre-school availability, or some other resource," it urged the state "to do all that it reasonably can to ensure not only that all children in this state have the bare opportunity to receive the minimally adequate education required by article eighth, § 1, of the Connecticut constitution, but also that the neediest children have the support that they need to actually take advantage of that opportunity."[29]

A minimally adequate education for all students wherever located is a critical element of economic growth for the future. Although the courts have declined to examine what funding level may be necessary to provide that level of education, a number of analysts have found that there are ways to estimate the foundation funding level required, based on various factors of need. For instance, consultants for the plaintiffs in *CCJEF v. Rell* have produced a study (which needs to be updated) that considers a number of factors that should be weighted in order to estimate the costs of providing a minimal foundation. [30] That study is provided for your examination.

Because of the great need for adequate education for all, we urge the Commission to recommend that the state create and implement a principled educational cost-sharing formula to provide the foundation for an adequate education for every PK-12 student in the state.

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[28] Overall, the state has been able to produce a knowledgeable workforce capable of adapting to the requirements of the future economy. See the Brookings Institution study, "Digitalization and the American Workforce," November 2017, which finds that the Hartford metro area ranks #4 in the country on a "digitalization" scale, while the Bridgeport metro ranks #7 and New Haven metro ranks # 39 (among the 100 most populous metros). However, the study "concludes by stressing the importance of improving digital education and training, both to expand the high-skill talent pipeline and ensure that underrepresented groups can connect to an increasingly digital economy. In addition, the discussion notes how important it is becoming for all workers to cultivate durable "soft" or human skills as a way to get better at being "what we are that computers aren't." P. 4. In short, the state must continue to invest in education for ALL.

[29] Chief Justice Rogers, *CCJEF v. Rell*, January 17, 2018, p. 4 of the PDF slip opinion.

[30] Plaintiff's Trial Exhibit 715 in *CCJEF v. Rell*: Augenblick, Palaich 2014 update to 2005 Cost of Adequacy in Education in Connecticut, which may be found at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&ved=0ahUKEwjozeaTk5bUAhWo5YMKHeilBdsQFghFMAY&url=https%3A%2F%2Fassets.documentcloud.org%2Fdocuments%2F3452501%2FAdequacy-Study-Update-in-2014-Exhibit-715.pdf&usg=AFQjCNG0daNsfswHVR4Rb1h3hBHqvl831g&cad=rja

This should be a "rational, substantial and verifiable" formula to connect education spending with educational need.[31]

[31] This is the standard established by Judge Moukawsher in his Superior Court decision in *CCJEF v. Rell*, (September 7, 2016), pp. 43, 44.

Because the above reforms require state appropriations, exempt appropriated aid to distressed municipalities from the spending cap.[32]

And repeal the ill-considered bond lock.

[These topics will be addressed in a complementary presentation.]

[32] The statutory spending cap adopted in 1991 included this exemption. See also the discussion of this issue in "Report of the Chairpersons, Spending Cap Commission," January 2017, pp. 30-33, available at a link ["Complete Set of Reports and Separate Statements Produced by Spending Cap Commission Members"] at https://www.cga.ct.gov/app/taskforce.asp?TF=20160330_Spending%20Cap%20Commission

Where will funding come from in a stable revenue structure to support the required state appropriations?

Revamp TRS [Teachers Retirement System] in line with SERS [State Employees Retirement System], so that there will not be an unsustainable spike in required funding of unfunded past service liability in the late 2020s and early 2030s.

After the outline of the SERS agreement[33] was announced, in December 2016, a bond-rating agency, Moody's Investor Services, quickly termed the agreement a "credit positive" for the state.[34] And the state's business community, which had been very concerned that the prospective spike in future pension payments might lead to unpredictable tax increases, appeared to be pleased with the action: Mr. Smith, the Co-chair of this Commission, was reported to have said at a business meeting that it brings the type of stability that business leaders are looking for. "It will be better to manage"[35] because it avoids "the deadly spike in ARCs by terming out the obligation and resetting the actuarial investment return to something more reasonable that can be levelled out and funded over time."[36]

Expand the base of the sales and use tax to additional goods and services.

The current sales and use tax applies to all sales of goods, except those goods that are specifically exempted. But it does not apply to sales of services, except those that are specifically named. In the "goods" category, there are numerous exemptions – categorized as "tax expenditures" – that could be taxed. And although the economy is becoming increasingly service-oriented, especially digital and technology services, only a few services are enumerated as taxable.[37]

The State Tax Panel specifically recommended the following adjustments:

- Tax digital downloads (retail consumption of digitized versions of goods) at the same retail sales tax rate
- Ensure that the sharing economy (E.g., AirBnB, Lyft, Uber) is taxed similarly to the traditional economy
- Eliminate sales tax holidays[38]

Continue to seek automatic application and remission of the sales and use tax to sales in other states for goods and services used in Connecticut. The General Assembly has sought numerous methods of circumventing the barrier to such automatic taxation which was erected by the U.S.

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[33] The agreement lowered the assumed rate of return to a more realistic level, adopted a "level dollar" funding mechanism instead of a "level percent of payroll" method, and extended the payoff period until the mid 2040s. The result was a leveling off of the required funding for the unpaid past service liability.

[34] http://ctmirror.org/2016/12/15/wall-street-agency-gives-ct-pension-deal-a-credit-positive/

[35] Russell Blair, "Malloy Touts Long-Term View," Hartford Courant, December 13, 2016, page B3, quoting Jim Smith of Webster Bank.

[36] See the CT-N on-demand video, MetroHartford Alliance Rising Star Breakfast with Governor Malloy, December 12, 2016, minutes 21-22, http://ct-n.com/ctnplayer.asp?odID=13525

[37] A complete review of the sales and use tax is in a study completed for the State Tax Panel in 2015. See William Fox, "Sales and Use Taxation in Connecticut," Report of the State Tax Panel, Volume 2, pages 343-388. Available through a link at https://www.cga.ct.gov/fin/taskforce.asp?TF=20140929_State%20Tax%20Panel

[38] Report of the State Tax Panel, Volume 2, page 8.

Supreme Court in *Quill* Corp. *v. North Dakota*, 504 U.S. 298 (1992), but the efforts have not been sufficient to gather all taxes due. The Supreme Court is now reconsidering the principle it established in *Quill*,[39] so there is hope that additional revenue might soon be available. Moreover, placing out-of-state merchants under the same taxation regime as in-state brick-and-mortar retailers should be supportive of instate businesses (which are currently disadvantaged by the 6.35% difference in final bills paid by their customers as opposed to bills from out-of-state merchants). The issue involves more than mail-order sales (which totaled $35.5 billion nationally in 1992); ecommerce (internet) transactions are exploding. In 2016, web sales nationally totaled $394.86 billion, slightly under 12% of all retail sales.[40]

Eliminate most tax expenditures.

In addition to sales and use "tax expenditures," there are several tax credits, especially those that erode the corporate income tax base, that could be revised to ensure that they are achieving their intended objective, or jettisoned entirely. As the State Tax Panel noted, if tax 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 [should] be made to identify alternative transparent policies that can promote economic growth at lower revenue costs to the state."[41] Any additional revenue garnered by elimination of such tax expenditures could be used for property tax relief.

Transition from the corporate income tax to a commercial activities tax,

like that levied in Ohio. In a report prepared for the State Tax Panel in 2015, consultants reviewing the state's business tax structure proposed that the state consider replacing the corporate income tax with a gross receipts tax at a very low rate (00.22%) that would raise substantially the same amount of revenue as the corporate tax.[42] The current corporate income tax is highly volatile, is subject to erosion from a substantial system of tax credits, which add complexity and are subject to frequent policy changes that lead to instability and uncertainty in business tax liabilities. Moreover, the corporate tax does not apply to all business entities, especially pass-through entities like S Corporations, LLCs, LLPs, partnerships, etc., which increasingly dominate the marketplace. Many types of these entities, some of which are quite large, benefit from limited liability protections that were originally extended only to C corporations, but pay only a small business entity tax in return for that privilege.

There are some downsides to moving to a commercial activities tax like a gross receipts tax, especially the potential problem of pyramiding taxation in business-to-business transactions. The issue of pyramiding is minimized, however, because of the very low rate at which the CAT would be

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[39] On January 12, 2018, the U.S. Supreme Court agreed to review *South Dakota v. Wayfair, Inc.*, which involves the same issue as *Quill*.

[40] Data from https://www.avalara.com/blog/2017/11/27/challenging-quill-started-north-dakota-end-south-dakota/

[41] Report of the State Tax Panel, Volume 2, p. 10.

[42] Lee Ann Luna and Matthew Murray, "General Business Taxation: An Evaluation of Connecticut's Corporate Income Tax and Its Alternatives," Report of the State Tax Panel, Volume 2, pages 389-450. Available through a link at https://www.cga.ct.gov/fin/taskforce.asp?TF=20140929_State%20Tax%20Panel

imposed. This alternative, however, is clearly superior to a continuation of the corporate income tax. As observed in an article published subsequently to the work for the State Tax Panel, the consultants concluded that the corporate income tax failed "to capture trends in the nation's economy, demography, and the changing structure of business organization. Moreover, . . . the CIT has become the political playground of tax base erosion ranging from the proliferation of economic development incentives to the abandonment of the once nearly uniformly applied, evenly weighted three-factor apportionment formula in favor of the single sales factor. The result is a general business tax that departs from the rationally broad-based taxation of the business enterprise and violates nearly every principle of a high-quality state tax system. Indeed, the only case for the state CIT appears to be fiscal expediency — because the other states do it."[43] This analysis was probably the reason why the State Tax Panel unanimously recommended that the Department of Revenue Services conduct a comprehensive study of the alternatives to the corporate income tax.[44]

Increase the rate of the sales and use tax.

The new national tax plan, by limiting the previous deduction for state and local taxes to a total of $10,000 per return, dramatically diminishes the potential for making the state income tax more progressive. So to generate new revenue, one alternative is to increase the rate of the sales and use tax.

Make strenuous efforts to bend down the cost curve for health care. Not just for government employees, but for all residents.

One small step forward in the continuing quest to reduce the cost of health care, which is far higher in the United States than in any other country, would be to require all teachers, teacher retirees, municipal employees and municipal retirees to join the state employee health care plan. Open the plan to all non-profits and small businesses employing 100 or fewer people. Municipal participation would be compulsory. Non-profit, self-employed and small business participation would be strictly voluntary. Since all new pool members would pay full cost, there would be no cost to state taxpayers.

Some estimates are that small businesses could cut their premiums by 20% or more. If this plan did nothing but reduce health care costs for small business at no cost to taxpayers it would be worth the effort. By easing the two heaviest burdens on small business, property tax reform and health care reform are the two reforms that directly address both commission mandates: fiscal stability and economic development.

Increase efforts to seek additional revenue from the national government.

Although the current national administration does not appear to be eager to send funding to state governments, in the long term it makes sense to try to gain more dollars from the feds. Certainly, at the present time, it appears that federal grants to Connecticut state government make up a far smaller share of total state revenue than the national average, and a smaller share than surrounding states. The

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[43] Ebel, Luna and Murray, "State General Business Taxation One More Time: CIT, GRT or VAT?" National Tax Journal, December 2016, 69(4), pp.730-762, at p. 757. An abstract and a link to the full article may be found at http://www.ntanet.org/NTJ/69/4/ntj-v69n04p739-762-state-business-taxation-CIT-GRT-VAT.html

[44] See the recommendation of the State Tax Panel at page 15 of Volume 2 of its Report.

National Priorities Project reported that in FY 2013, "Connecticut got $6.1 billion dollars from the federal government, which is 23.4% of its total revenue." The national average was 30%.[45] The Pew Charitable Trusts recently updated the data to FY 2014, and found that federal funds constituted 24.6% of state revenue in that year – third lowest in the country – as opposed to the national average for states of 30.8%. Assuming that 24.6% was $6.1 billion (as Pew estimated for FY 2013), simply moving to the national average share of 30.8% would have meant a roughly estimated additional $1.5 billion in federal funds[46] If Connecticut would be able to receive, on a consistent basis, its fair share of federal funds which Connecticut taxpayers have paid federal taxes to support, those additional funds could mean the creation of thousands of additional jobs, increased household incomes and, as a consequence of additional jobs and income, improved state revenues. Receiving those federal funds could also potentially supplant current state expenditures for public services, freeing dollars for property tax relief.

These potential outcomes are just, at this time, potential opportunities. It may be that the low poverty rate in Connecticut will mean that the federally determined low reimbursement rate for traditional Medicaid will continue to be the lowest in the country. Given the policy priorities in the current national administration, it may be that federal funding for all programs in all states will be reduced. But without thorough investigation of the possibilities, we will never know if the state would qualify for additional funding for existing and other programs.

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[45] The National Priorities Project, "State Smart: Federal Funds in 50 States." Last updated, November 13, 2015. See the data at https://www.nationalpriorities.org/smart/connecticut/

[46] Anne Staufer and Justin Theal, "Federal Funds Supply 30.8 Cents of Each State Revenue Dollar," Pew Charitable Trusts, July 28, 2016. http://www.pewtrusts.org/en/research-and-analysis/analysis/2016/07/28/federal-funds-supply-308-cents-of-each-state-revenue-dollar A complete data table for all fifty states going back to FY 2000 is linked at this site.
In addition, the Pew Charitable Trusts has provided a visualization tool which enables comparison of one state to the national average, and to other states. See http://www.pewtrusts.org/en/multimedia/data-visualizations/2014/fiscal-50#ind0 Data in the table and on the visualization tool show that the corresponding shares were 27.8% in Massachusetts, 32.8% in New York, 34.7% in Rhode Island, 28.1% in New Hampshire, 33.6% in Vermont, and 36.6% in Maine

In conclusion, let me say that there is a need for prudent expenditures, prudent expenditure reduction, and continued investment in worthwhile programs. "[J]ust as driving the price of government too high can damage an economy, so driving the price too low can undermine its viability. In the Information Age, the keys to economic success are education levels, quality of life and connectivity (the ability to reliably move information, goods and people) -- and these things cost money." [47]

[47] David Osborne and Peter Hutchinson, "The Price of Government," pp. 57-58.

Reform Property Taxes[i] for a Fairer, Faster Growing Economy in Connecticut

Property taxes are an integral part of the overall state tax structure.

- 41.9 percent of all taxes paid in the state are property taxes.[ii]
- As governmental bodies created by the state, towns can only tax when the state empowers them to do so – which it does mainly through the property tax.
- Property taxes are an important part of the overall state tax structure – as analysts (Ernst and Young,[iii] ITEP,[iv] David Osborne,[v] DRS Tax Incidence Study[vi]) all recognize.
- The greatest share of all the taxes paid by business are property taxes (33.7 percent).[vii]

A "balanced state tax structure" requires correcting inherent flaws in the property tax system. There are two main flaws with property taxes in Connecticut: vertical and horizontal inequity. [viii]

A. **Vertical inequity: property taxes are regressive:**
   - The 90 percent of CT taxpayers with the lowest incomes pay two to seven times higher effective property tax rates – property taxes as a share of income – than the 10 percent of taxpayers with the highest income.[ix]
   - For non-elderly households, property taxes as a share of family income for the bottom 95 percent are two to four times higher than for taxpayers in the top 5 percent.[x]
   - High property taxes make housing less affordable and discourage both renters and homeowners with low current income (retirees, young professionals) from staying in or relocating to high property tax towns – and the state.

B. **Horizontal inequity: There are significant disparities among similarly situated taxpayers:**
   - Owners of property with the same fair market value pay vastly different property taxes based on the town in which they live.
   - Taxpayers in different towns receive very different levels of public services for the same amount of taxes paid.
   - Great differences in funding for public schools produce vast educational inequities between children in richer and poorer towns.
   - High property taxes drive businesses to lower property tax towns, where additional infrastructure often must be built, thus increasing long-term overall costs.
   - High property taxes induce companies to move jobs away from cities – key to economic growth –where infrastructure already exists and where cross-fertilization of ideas maximizes innovation (because of the synergy of knowledge workers in an urban agglomeration economy).
   - Disparate property taxes reinforce regressivity since low-income households are overwhelmingly located in high property tax towns.

Potential Reforms

Provide aid directly to disadvantaged taxpayers.

- Create a refundable property tax circuit breaker to homeowners and renters.
- Maintain or increase the Earned Income Tax Credit (EITC).

Level the playing field for municipalities.

- Fully fund PILOT grants to make towns whole from state-granted property tax exemptions (state-owned, tax-exempt college and hospitals, PA-490).

Provide state grants to address disparities across municipalities for <u>non-educational</u> costs.

- Close the gap between the "need" of a town as measured by objective factors, and its "capacity" to meet that need. [xi]

Create and implement a principled <u>educational</u> cost-sharing formula to provide the foundation for an adequate education for every PK-12 student in the state.

- Develop a "rational, substantial and verifiable" formula to connect education spending with educational need. [xii]

Because the above reforms require state appropriations, exempt appropriated aid to distressed municipalities from the spending cap.[xiii]

Provide incentives or mandates to support local governmental efficiencies, intra-town and inter-town, including:

- Integrate administrative functions across all agencies within a town.
- Consolidate appropriate back-office functions for all municipalities in a given region to achieve operating efficiencies.
- Share risk through insurance pools (e.g. CIRMA, health insurance pools).
- Create additional consolidated school districts across municipalities with low enrollment.
- Use the Councils of Governments as the mechanism to facilitate the delivery of municipal services, achieving economies of scale and a critical mass of services, in an interconnected, cost-effective manner across the governments each serves.[xiv]

Create a nonpartisan fiscal policy institute to provide data and analysis on an independent basis.

References:

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[i] This report reflects a growing consensus in the state. For example, although the State Tax Panel, which reported in January 2016, avoided tackling the details of property tax reform, it did recommend, WITHOUT DISSENT:

> 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.

See the Final Report of the State Tax Panel (page 10), available through a link at https://www.cga.ct.gov/fin/taskforce.asp?TF=20140929_State%20Tax%20Panel.

[ii] **Connecticut Department of Revenue Services, "Tax Incidence Report," 2014** www.ct.gov/drs/lib/drs/research/drstaxincidencereport2014.pdf, p. 4.

[iii] **Ernst and Young, for the Council on State Taxation, "Total State and Local Business Taxes for fiscal 2016," 8/30/17**. http://www.cost.org/WorkArea/DownloadAsset.aspx?id=96735

[iv] **Institute on Taxation and Economic Policy (ITEP), "Who Pays? A Distributional Analysis of the Tax Systems in all 50 States," 5th Edition, January 2015**. https://itep.org/wp-content/uploads/whopaysreport.pdf The specific information about Connecticut is at: https://itep.org/whopays/connecticut/

[v] **David Osborne and Peter Hutchinson, *The Price of Government,*** (New York: Basic Books, 2004), pp. 55-56.

[vi] **Connecticut Department of Revenue Services, "Tax Incidence Report," 2014** www.ct.gov/drs/lib/drs/research/drstaxincidencereport2014.pdf The important role of the property tax in the state's overall tax structure is explicitly recognized at p. 8.

[vii] **Ernst and Young, for the Council on State Taxation, "Total State and Local Business Taxes for fiscal 2016," 8/30/17**. http://www.cost.org/WorkArea/DownloadAsset.aspx?id=96735, p. 22.

[viii] See **The Property Tax Work Group, 1000 Friends of Connecticut, "Connecticut Property Taxes 2015: Time for a Change."**

[ix] **Connecticut Department of Revenue Services, "Tax Incidence Report," 2014** www.ct.gov/drs/lib/drs/research/drstaxincidencereport2014.pdf, p. 21.

[x] **Institute on Taxation and Economic Policy, "Who Pays? A Distributional Analysis of the Tax Systems in all 50 States," 5th Edition, January 2015**. https://itep.org/wp-content/uploads/whopaysreport.pdf The specific information about Connecticut is at: https://itep.org/whopays/connecticut/

[xi] **New England Public Policy Center at the Federal Reserve Bank of Boston (NEPPC), "Measuring Municipal Fiscal Disparities in Connecticut," Spring, 2015.**

https://www.bostonfed.org/publications/new-england-public-policy-center-research-report/2015/measuring-municipal-fiscal-disparities-in-connecticut.aspx

A PDF of the report is available directly at: https://www.bostonfed.org/-/media/Documents/Workingpapers/PDF/economic/neppc/researchreports/2015/neppcrr1501.pdf

A PDF of data appendices for the report is at: https://www.bostonfed.org/-/media/Documents/neppc/neppcrr1501-appendices.pdf?la=en

[xii] This is the standard established by Judge Moukawsher in his Superior Court decision in *CCJEF v. Rell*, (September 7, 2016), pp. 43, 44. For an example submitted by the plaintiffs in the case, see **Plaintiff's Trial Exhibit 715 in *CCJEF v. Rell*: Augenlick, Palaich 2014 update to 2005 Cost of Adequacy in Education in Connecticut**

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&ved=0ahUKEwjozeaTk5bUAhWo5YMKHeiiBdsQFghFMAY&url=https%3A%2F%2Fassets.documentcloud.org%2Fdocuments%2F3452501%2FAdequacy-Study-Update-in-2014-Exhibit-715.pdf&usg=AFQjCNG0daNsfswHVR4Rb1h3hBHqvl831g&cad=rja

[xiii] The existing statutory spending cap adopted in 1991 includes this exemption. See also the discussion of this issue in "Report of the Chairpersons, Spending Cap Commission," January 2017, pp. 30-33, available at a link ["Complete Set of Reports and Separate Statements Produced by Spending Cap Commission Members"] at https://www.cga.ct.gov/app/taskforce.asp?TF=20160330_Spending%20Cap%20Commission

[xiv] The enabling statute already exists: CGS Section 8-31b(b).

> "Notwithstanding the provisions of any special or public act, any political subdivision of the state may enter into an agreement with a regional council of governments to perform jointly or to provide, alone or in cooperation with any other entity, any service, activity or undertaking that the political subdivision is authorized by law to perform. A regional council of governments established pursuant to this section may administer and provide regional services to municipalities and may delegate such authority to subregional groups of such municipalities. Regional services provided to member municipalities shall be determined by each regional council of governments, except as provided in subsection (b) of section 9-229 and section 9-229b, and may include, without limitation, the following services: (1) Engineering; (2) inspectional and planning; (3) economic development; (4) public safety; (5) emergency management; (6) animal control; (7) land use management; (8) tourism promotion; (9) social; (10) health; (11) education; (12) data management; (13) regional sewerage; (14) housing; (15) computerized mapping; (16) household hazardous waste collection; (17) recycling; (18) public facility siting; (19) coordination of master planning; (20) vocational training and development; (21) solid waste disposal; (22) fire protection; (23) regional resource protection; (24) regional impact studies; and (25) transportation."

Appendix Table 1. List of Municipality Values for FY 2011 (in alphabetical order, 2012 dollars)

Municipality	Municipality Type	Equalized Net Grand List ($000s per capita)	Municipal Capacity ($ per capita)	Cost Factors: Unemployment Rate (%)	Cost Factors: Population Density (000s per square mile)	Cost Factors: Private-Sector Wage Index (%)	Cost Factors: Town Maintenance Road Mileage (per 000 population)	Cost Factors: Total Jobs (per capita)	Municipal Cost ($ per capita)	Municipal Gap ($ per capita)	State Nonschool Grants ($ per capita)	Percentage of Municipal Gap Filled by State Nonschool Grants	Municipal Gap Net of State Nonschool Grants ($ per capita)
Andover	Below-Average-Property Rural	124	1,123	5.40	0.20	96.58	10.77	0.12	1,139	16	60	380	−44
Ansonia	Urban Periphery	79	714	11.50	3.18	108.89	3.14	0.20	1,448	734	43	6	691
Ashford	Below-Average-Property Rural	108	973	9.40	0.11	95.96	15.71	0.12	1,264	291	61	21	231
Avon	Suburban	205	1,848	5.60	0.79	98.81	5.80	0.44	1,217	−631	38	−6	−669
Barkhamsted	Below-Average-Property Rural	144	1,305	6.60	0.10	95.77	12.71	0.29	1,210	−95	60	−64	−155
Beacon Falls	Below-Average-Property Rural	120	1,087	8.20	0.62	90.79	4.55	0.15	1,151	65	50	77	15
Berlin	Suburban	165	1,493	7.50	0.77	98.90	5.34	0.56	1,286	−207	59	−29	−267
Bethany	Suburban	159	1,434	9.60	0.26	94.79	10.90	0.19	1,251	−183	59	−32	−243
Bethel	Suburban	152	1,374	9.60	1.12	96.43	4.63	0.37	1,289	−85	40	−47	−125
Bethlehem	Suburban	160	1,447	8.30	0.19	87.78	12.69	0.20	1,182	−265	55	−21	−320
Bloomfield	Urban Periphery	147	1,329	12.10	0.79	101.00	4.99	0.90	1,488	159	118	74	41
Bolton	Suburban	136	1,225	6.60	0.35	97.03	8.71	0.23	1,189	−36	55	−152	−91
Bozrah	Below-Average-Property Rural	141	1,275	6.90	0.13	94.31	13.41	0.37	1,231	−44	106	−240	−150
Branford	Urban Periphery	180	1,625	10.20	1.28	94.28	3.72	0.44	1,305	−319	42	−13	−362
Bridgeport	Urban Core	69	620	15.70	9.11	110.41	1.78	0.29	1,788	1,168	156	13	1,013
Bridgewater	Suburban	337	3,045	6.80	0.11	95.69	22.36	0.13	1,246	−1,800	83	−5	−1,883
Bristol	Urban Periphery	103	931	10.50	2.29	99.00	3.72	0.34	1,359	428	78	18	350
Brookfield	Suburban	204	1,839	5.20	0.84	95.51	6.05	0.40	1,181	−658	31	−5	−690
Brooklyn	Below-Average-Property Rural	92	829	8.70	0.28	87.53	7.91	0.17	1,156	327	75	23	252
Burlington	Suburban	138	1,243	4.50	0.31	96.19	9.32	0.10	1,105	−138	36	−26	−174
Canaan	Above-Average-Property Rural	234	2,116	5.90	0.03	87.79	27.06	0.64	1,311	−805	219	−27	−1,024
Canterbury	Below-Average-Property Rural	108	979	9.30	0.13	92.35	13.38	0.09	1,216	237	51	21	186
Canton	Suburban	156	1,406	6.10	0.42	96.47	7.04	0.30	1,179	−227	31	−14	−258
Chaplin	Below-Average-Property Rural	96	868	12.70	0.12	86.58	15.35	0.13	1,283	416	124	80	292
Cheshire	Suburban	144	1,302	5.00	0.89	95.37	5.19	0.49	1,190	−112	202	−181	−314
Chester	Suburban	160	1,445	8.10	0.26	94.46	7.37	0.49	1,252	−193	58	−30	−252
Clinton	Suburban	171	1,548	8.00	0.82	93.37	5.79	0.31	1,213	−334	45	−14	−379
Colchester	Below-Average-Property Rural	111	1,002	6.10	0.33	96.83	7.14	0.22	1,160	158	32	20	126
Colebrook	Above-Average-Property Rural	168	1,518	6.90	0.05	88.59	26.91	0.11	1,225	−292	103	−35	−395
Columbia	Suburban	134	1,212	5.90	0.26	96.93	7.93	0.18	1,150	−62	41	−67	−103
Cornwall	Above-Average-Property Rural	384	3,471	5.90	0.03	88.62	37.83	0.29	1,312	−2,159	138	−6	−2,297
Coventry	Below-Average-Property Rural	112	1,013	5.70	0.33	96.16	8.83	0.11	1,133	121	34	28	86
Cromwell	Suburban	136	1,225	7.20	1.13	97.02	3.79	0.44	1,244	19	32	172	−13
Danbury	Urban Periphery	125	1,130	8.90	1.96	97.84	2.95	0.51	1,328	198	99	50	98
Darien	Wealthy	569	5,142	7.70	1.65	112.33	3.87	0.36	1,359	−3,782	26	−1	−3,809
Deep River	Above-Average-Property Rural	156	1,406	4.30	0.34	93.70	7.15	0.28	1,110	−296	62	−21	−358

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

Note: Municipal capacity=9.03 × Equalized net grand list.
Municipal cost=24.80 × Unemployment rate + 36.48 × Population density + 6.66 × Private-sector wage index + 6.73 ×Town maintenance road mileage + 217.92 × Total jobs + 256.97.
Municipal gap=Municipal cost - Municipal capacity.

$$\text{Private-sector wage index} = \left(1 + \frac{0.8 \times \text{Labor market area average annual private-sector wage} + 0.2 \times \text{Municipal average annual private-sector wage} - \text{State average annual private-sector wage}}{3 \times \text{State average annual private-sector wage}}\right) \times 100.$$

By construction, statewide private-sector wage index=100.

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

Appendix Table 1
(continued from previous page)

Municipality	Municipality Type	Equalized Net Grand List ($000s per capita)	Municipal Capacity ($ per capita)	Cost Factors: Unemployment Rate (%)	Cost Factors: Population Density (000s per square mile)	Cost Factors: Private-Sector Wage Index (%)	Cost Factors: Town Maintenance Road Mileage (per 000 population)	Cost Factors: Total Jobs (per capita)	Municipal Cost ($ per capita)	Municipal Gap ($ per capita)	State Nonschool Grants ($ per capita)	Percentage of Municipal Gap Filled by State Nonschool Grants	Municipal Gap Net of State Nonschool Grants ($ per capita)
Derby	Urban Periphery	95	854	12.60	2.54	108.81	3.20	0.36	1,486	632	147	23	484
Durham	Suburban	150	1,358	4.80	0.31	93.98	8.20	0.27	1,127	−231	54	−23	−285
East Granby	Suburban	169	1,529	5.20	0.29	98.62	7.51	0.73	1,263	−266	297	−112	−562
East Haddam	Below-Average-Property Rural	152	1,372	8.40	0.17	96.28	12.89	0.15	1,233	−139	42	−30	−181
East Hampton	Below-Average-Property Rural	129	1,169	5.80	0.36	96.52	7.01	0.15	1,136	−34	39	−117	−73
East Hartford	Urban Periphery	85	771	13.70	2.85	100.47	2.88	0.56	1,511	740	118	16	622
East Haven	Urban Periphery	102	924	9.40	2.37	93.62	3.07	0.21	1,267	343	45	13	297
East Lyme	Above-Average-Property Rural	168	1,519	8.00	0.56	93.28	5.89	0.29	1,199	−321	84	−26	−405
East Windsor	Below-Average-Property Rural	136	1,227	10.90	0.43	93.86	6.23	0.60	1,340	112	60	54	52
Eastford	Below-Average-Property Rural	137	1,237	8.80	0.06	89.76	20.41	0.31	1,280	43	114	265	−71
Easton	Wealthy	261	2,356	4.60	0.28	110.17	12.49	0.12	1,224	−1,132	39	−3	−1,171
Ellington	Suburban	122	1,100	6.80	0.46	97.34	6.27	0.19	1,173	73	39	53	34
Enfield	Urban Periphery	108	973	9.60	1.34	94.89	4.09	0.42	1,294	321	83	26	238
Essex	Suburban	249	2,252	4.80	0.64	95.31	6.42	0.51	1,188	−1,063	48	−4	−1,111
Fairfield	Suburban	251	2,265	7.70	2.01	111.83	4.37	0.39	1,381	−885	71	−8	−955
Farmington	Suburban	210	1,899	5.10	0.91	99.11	4.44	1.26	1,381	−517	154	−30	−671
Franklin	Above-Average-Property Rural	150	1,358	7.30	0.10	95.68	11.18	0.50	1,263	−95	73	−77	−168
Glastonbury	Suburban	171	1,548	6.20	0.67	98.79	5.55	0.46	1,231	−317	26	−8	−343
Goshen	Above-Average-Property Rural	276	2,491	5.50	0.07	87.50	23.36	0.13	1,163	−1,328	83	−6	−1,412
Granby	Suburban	132	1,189	4.30	0.28	96.21	8.20	0.19	1,111	−78	33	−43	−111
Greenwich	Wealthy	728	6,575	8.10	1.30	121.39	4.30	0.56	1,465	−5,110	33	−1	−5,143
Griswold	Below-Average-Property Rural	94	848	10.60	0.34	92.40	6.76	0.14	1,224	376	39	10	337
Groton	Urban Periphery	152	1,372	7.90	1.29	97.81	3.21	0.64	1,311	−61	82	−135	−143
Guilford	Suburban	202	1,826	7.00	0.48	94.33	6.60	0.30	1,186	−641	28	−4	−669
Haddam	Suburban	160	1,449	5.70	0.19	96.52	11.49	0.15	1,158	−291	49	−17	−340
Hamden	Urban Periphery	101	916	8.40	1.88	93.97	3.36	0.32	1,252	336	84	25	253
Hampton	Below-Average-Property Rural	108	979	6.60	0.07	87.81	23.77	0.07	1,183	204	109	53	95
Hartford	Urban Core	63	568	20.20	7.20	101.64	1.65	0.87	1,898	1,330	418	31	912
Hartland	Below-Average-Property Rural	117	1,054	7.50	0.07	97.03	11.08	0.06	1,179	126	104	83	21
Harwinton	Suburban	148	1,337	7.00	0.18	98.39	11.72	0.10	1,193	−144	44	−31	−188
Hebron	Suburban	118	1,068	5.60	0.26	96.00	8.02	0.18	1,138	70	28	40	42
Kent	Above-Average-Property Rural	291	2,628	8.30	0.06	88.28	22.79	0.40	1,294	−1,334	95	−7	−1,429
Killingly	Below-Average-Property Rural	100	904	10.30	0.36	88.85	7.55	0.48	1,273	369	87	24	282
Killingworth	Suburban	162	1,461	5.00	0.18	94.25	10.86	0.11	1,111	−350	57	−16	−408
Lebanon	Below-Average-Property Rural	126	1,136	8.90	0.14	95.67	12.57	0.20	1,247	111	49	44	62
Ledyard	Below-Average-Property Rural	112	1,009	5.60	0.39	92.73	7.28	0.83	1,258	249	114	46	136
Lisbon	Below-Average-Property Rural	132	1,189	9.80	0.27	91.98	6.52	0.40	1,253	63	46	72	18

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

Note: Municipal capacity=9.03 × Equalized net grand list.
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				Unemployment Rate (%)	Population Density (000s per square mile)	Private-Sector Wage Index (%)	Town Maintenance Road Mileage (per 000 population)	Total Jobs (per capita)					
Litchfield	Above-Average-Property Rural	187	1,687	6.60	0.15	88.11	14.06	0.38	1,191	−497	53	−11	−550
Lyme	Suburban	369	3,331	6.40	0.08	95.47	16.75	0.08	1,184	−2,147	68	−3	−2,215
Madison	Suburban	250	2,255	4.40	0.51	94.14	6.61	0.25	1,111	−1,145	54	−5	−1,199
Manchester	Urban Periphery	108	975	9.70	2.12	97.28	3.55	0.48	1,350	375	73	19	302
Mansfield	Below-Average-Property Rural	54	484	7.00	0.59	96.62	4.05	0.42	1,214	730	306	42	423
Marlborough	Suburban	131	1,187	8.40	0.27	97.04	9.41	0.17	1,222	35	35	101	0
Meriden	Urban Periphery	85	769	12.10	2.55	94.30	3.10	0.36	1,376	607	73	12	535
Middlebury	Suburban	192	1,731	13.10	0.42	92.09	8.59	0.49	1,374	−357	42	−12	−398
Middlefield	Below-Average-Property Rural	144	1,302	6.10	0.35	98.36	7.89	0.38	1,211	−92	96	−104	−187
Middletown	Urban Periphery	111	1,003	8.00	1.16	99.19	4.11	0.57	1,309	306	242	79	65
Milford	Urban Periphery	139	1,252	7.80	2.39	110.33	3.87	0.53	1,414	161	72	45	89
Monroe	Suburban	170	1,539	8.30	0.75	109.91	7.13	0.27	1,329	−210	35	−17	−246
Montville	Below-Average-Property Rural	109	987	7.80	0.47	93.11	6.06	0.72	1,286	299	178	59	121
Morris	Above-Average-Property Rural	219	1,973	6.60	0.14	87.51	12.69	0.17	1,131	−842	68	−8	−910
Naugatuck	Urban Periphery	85	771	11.10	1.95	90.50	3.38	0.22	1,277	506	41	8	465
New Britain	Urban Core	56	506	14.50	5.46	98.56	2.25	0.35	1,562	1,056	156	15	900
New Canaan	Wealthy	553	4,991	5.50	0.90	113.00	6.12	0.32	1,288	−3,703	19	−1	−3,722
New Fairfield	Suburban	174	1,575	9.80	0.69	96.21	4.80	0.12	1,223	−353	27	−8	−380
New Hartford	Suburban	142	1,282	5.60	0.19	96.77	11.92	0.21	1,173	−110	57	−52	−166
New Haven	Urban Core	61	548	14.30	6.97	96.27	1.72	0.60	1,649	1,101	393	36	708
New London	Urban Core	78	703	15.90	4.89	95.88	2.30	0.53	1,599	896	316	35	581
New Milford	Above-Average-Property Rural	159	1,438	9.60	0.45	95.32	7.41	0.30	1,261	−178	58	−33	−236
Newington	Urban Periphery	136	1,227	7.80	2.33	97.61	3.28	0.52	1,321	94	125	133	−31
Newtown	Suburban	176	1,586	6.90	0.48	110.44	8.72	0.27	1,298	−289	87	−30	−375
Norfolk	Above-Average-Property Rural	260	2,352	8.40	0.03	87.39	35.89	0.26	1,346	−1,006	225	−22	−1,231
North Branford	Suburban	136	1,229	6.40	0.58	94.59	5.28	0.28	1,163	−67	46	−69	−113
North Canaan	Below-Average-Property Rural	146	1,315	10.50	0.17	89.16	10.60	0.57	1,312	−2	158	−6,708	−160
North Haven	Suburban	177	1,599	8.30	1.15	95.23	5.32	0.79	1,346	−254	92	−36	−345
North Stonington	Above-Average-Property Rural	161	1,450	7.30	0.10	93.93	12.10	0.26	1,205	−245	216	−88	−460
Norwalk	Urban Periphery	205	1,850	9.70	3.78	115.19	2.82	0.51	1,532	−318	57	−18	−375
Norwich	Urban Periphery	79	718	11.60	1.44	94.03	3.99	0.40	1,337	619	114	18	505
Old Lyme	Above-Average-Property Rural	311	2,812	3.70	0.33	93.80	7.87	0.35	1,113	−1,696	39	−2	−1,737
Old Saybrook	Suburban	316	2,851	5.00	0.68	93.79	7.48	0.57	1,204	−1,647	39	−2	−1,686
Orange	Suburban	175	1,580	9.50	0.81	93.76	7.77	0.62	1,334	−247	39	−16	−286
Oxford	Suburban	168	1,513	10.30	0.39	110.85	8.78	0.22	1,371	−142	45	−32	−187
Plainfield	Below-Average-Property Rural	91	824	11.20	0.36	87.87	6.56	0.26	1,234	410	46	11	365
Plainville	Urban Periphery	113	1,022	8.30	1.83	98.02	3.77	0.52	1,320	298	57	19	241

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

Note: Municipal capacity=9.03 × Equalized net grand list.
Municipal cost=24.80 × Unemployment rate + 36.48 × Population density + 6.66 × Private-sector wage index + 6.73 ×Town maintenance road mileage + 217.92 × Total jobs + 256.97.
Municipal gap=Municipal cost - Municipal capacity.

$$\text{Private-sector wage index}=\left(1+\frac{0.8\times\text{Labor market area average annual private-sector wage}+0.2\times\text{Municipal average annual private-sector wage}-\text{State average annual private-sector wage}}{3\times\text{ State average annual private-sector wage}}\right)\times 100.$$

By construction, statewide private-sector wage index=100.

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

Appendix Table 1
(continued from previous page)

Municipality	Municipality Type	Equalized Net Grand List ($000s per capita)	Municipal Capacity ($ per capita)	Cost Factors: Unemployment Rate (%)	Cost Factors: Population Density (000s per square mile)	Cost Factors: Private-Sector Wage Index (%)	Cost Factors: Town Maintenance Road Mileage (per 000 population)	Cost Factors: Total Jobs (per capita)	Municipal Cost ($ per capita)	Municipal Gap ($ per capita)	State Nonschool Grants ($ per capita)	Percentage of Municipal Gap Filled by State Nonschool Grants	Municipal Gap Net of State Nonschool Grants ($ per capita)
Plymouth	Below-Average-Property Rural	96	867	9.00	0.56	96.98	6.82	0.16	1,228	361	45	12	316
Pomfret	Below-Average-Property Rural	123	1,110	10.10	0.10	88.56	15.26	0.36	1,282	172	64	37	108
Portland	Below-Average-Property Rural	122	1,104	7.50	0.41	96.84	6.73	0.23	1,197	92	42	45	51
Preston	Below-Average-Property Rural	126	1,139	8.20	0.15	93.09	11.50	0.16	1,198	59	329	556	−270
Prospect	Suburban	129	1,161	8.40	0.67	89.99	6.09	0.21	1,175	14	40	290	−26
Putnam	Below-Average-Property Rural	94	848	15.00	0.47	88.77	6.82	0.63	1,421	573	89	15	485
Redding	Suburban	270	2,436	9.50	0.29	109.88	10.00	0.17	1,340	−1,096	47	−4	−1,143
Ridgefield	Wealthy	296	2,677	5.90	0.72	114.63	6.81	0.41	1,327	−1,350	45	−3	−1,395
Rocky Hill	Urban Periphery	153	1,382	8.40	1.47	99.35	3.19	0.68	1,350	−32	77	−241	−108
Roxbury	Suburban	431	3,889	6.20	0.09	88.40	26.31	0.14	1,210	−2,679	100	−4	−2,779
Salem	Suburban	134	1,208	6.10	0.14	93.30	9.74	0.15	1,133	−75	56	−75	−131
Salisbury	Above-Average-Property Rural	417	3,767	5.80	0.07	89.06	18.79	0.52	1,236	−2,531	62	−2	−2,593
Scotland	Below-Average-Property Rural	103	931	6.70	0.09	87.22	16.20	0.08	1,132	202	87	43	115
Seymour	Urban Periphery	116	1,047	10.50	1.14	109.81	4.92	0.25	1,378	331	52	16	278
Sharon	Above-Average-Property Rural	357	3,227	5.00	0.05	89.37	30.23	0.43	1,275	−1,952	102	−5	−2,054
Shelton	Suburban	174	1,571	9.10	1.31	114.56	5.37	0.53	1,443	−128	36	−28	−164
Sherman	Suburban	289	2,612	9.70	0.17	95.22	9.63	0.12	1,227	−1,385	45	−3	−1,430
Simsbury	Suburban	161	1,452	6.10	0.70	100.88	6.78	0.42	1,241	−211	27	−13	−238
Somers	Below-Average-Property Rural	105	947	8.60	0.40	93.49	7.50	0.22	1,205	257	268	104	−11
South Windsor	Suburban	151	1,365	7.20	0.92	98.33	5.33	0.46	1,260	−105	66	−63	−171
Southbury	Suburban	166	1,495	8.20	0.51	113.21	6.74	0.43	1,372	−124	48	−39	−171
Southington	Suburban	136	1,228	7.00	1.21	96.94	4.58	0.34	1,225	−3	45	−1,523	−47
Sprague	Below-Average-Property Rural	99	894	9.30	0.23	94.79	8.54	0.19	1,226	332	125	38	207
Stafford	Below-Average-Property Rural	102	920	9.90	0.21	97.32	9.62	0.30	1,287	367	98	27	268
Stamford	Urban Periphery	247	2,229	11.20	3.29	118.55	2.50	0.57	1,585	−643	59	−9	−703
Sterling	Below-Average-Property Rural	109	983	13.60	0.14	89.01	12.57	0.10	1,298	315	59	19	256
Stonington	Above-Average-Property Rural	226	2,044	5.80	0.48	94.05	6.21	0.38	1,169	−875	31	−4	−906
Stratford	Urban Periphery	133	1,203	10.70	2.96	111.85	3.36	0.48	1,502	299	37	12	262
Suffield	Suburban	124	1,119	6.90	0.37	93.93	4.83	0.26	1,156	37	392	1,054	−355
Thomaston	Below-Average-Property Rural	106	956	8.00	0.65	97.94	5.25	0.34	1,240	284	40	14	244
Thompson	Below-Average-Property Rural	95	854	10.70	0.20	88.30	10.32	0.17	1,223	369	43	12	326
Tolland	Suburban	124	1,120	6.30	0.38	98.76	8.86	0.28	1,205	86	31	37	54
Torrington	Urban Periphery	96	865	10.60	0.91	88.72	4.57	0.43	1,267	403	47	12	355
Trumbull	Suburban	183	1,651	7.00	1.56	111.35	3.68	0.47	1,369	−281	25	−9	−307
Union	Above-Average-Property Rural	150	1,351	12.80	0.04	97.00	22.79	0.11	1,399	48	131	273	−83
Vernon	Urban Periphery	86	778	9.20	1.65	96.75	3.85	0.30	1,281	503	49	10	454
Voluntown	Below-Average-Property Rural	109	981	12.00	0.07	86.85	11.47	0.12	1,238	257	162	63	95

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

Note: Municipal capacity=9.03 × Equalized net grand list.
Municipal cost=24.80 × Unemployment rate + 36.48 × Population density + 6.66 × Private-sector wage index + 6.73 ×Town maintenance road mileage + 217.92 × Total jobs + 256.97.
Municipal gap=Municipal cost - Municipal capacity.

$$\text{Private-sector wage index} = \left(1 + \frac{0.8 \times \text{Labor market area average annual private-sector wage} + 0.2 \times \text{Municipal average annual private-sector wage} - \text{State average annual private-sector wage}}{3 \times \text{State average annual private-sector wage}}\right) \times 100.$$

By construction, statewide private-sector wage index=100.

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

Appendix Table 1
(continued from previous page)

Municipality	Municipality Type	Equalized Net Grand List ($000s per capita)	Municipal Capacity ($ per capita)	Cost Factors: Unemployment Rate (%)	Cost Factors: Population Density (000s per square mile)	Cost Factors: Private-Sector Wage Index (%)	Cost Factors: Town Maintenance Road Mileage (per 000 population)	Cost Factors: Total Jobs (per capita)	Municipal Cost ($ per capita)	Municipal Gap ($ per capita)	State Nonschool Grants ($ per capita)	Percentage of Municipal Gap Filled by State Nonschool Grants	Municipal Gap Net of State Nonschool Grants ($ per capita)
Wallingford	Suburban	150	1,358	8.20	1.15	95.56	4.69	0.60	1,300	−58	35	−60	−93
Warren	Above-Average-Property Rural	328	2,964	7.90	0.06	88.43	24.44	0.10	1,231	−1,734	98	−6	−1,832
Washington	Suburban	478	4,316	4.30	0.09	88.75	24.51	0.43	1,216	−3,100	81	−3	−3,181
Waterbury	Urban Core	65	591	14.00	3.86	90.35	2.66	0.35	1,440	849	158	19	691
Waterford	Above-Average-Property Rural	256	2,315	6.80	0.60	94.49	6.17	0.57	1,242	−1,073	49	−5	−1,122
Watertown	Suburban	124	1,117	7.30	0.77	90.76	6.01	0.35	1,186	69	30	43	39
West Hartford	Urban Periphery	115	1,039	6.50	2.90	97.48	3.30	0.43	1,289	250	44	18	206
West Haven	Urban Core	77	700	12.40	5.15	93.97	2.35	0.26	1,450	750	131	17	619
Westbrook	Above-Average-Property Rural	276	2,495	10.30	0.44	93.77	6.63	0.53	1,312	−1,183	37	−3	−1,220
Weston	Wealthy	350	3,164	6.60	0.52	111.17	7.75	0.11	1,257	−1,908	23	−1	−1,931
Westport	Wealthy	562	5,074	7.50	1.34	119.32	4.60	0.62	1,452	−3,622	51	−1	−3,673
Wethersfield	Urban Periphery	126	1,135	7.40	2.16	97.11	3.98	0.38	1,275	140	44	31	96
Willington	Below-Average-Property Rural	114	1,027	8.10	0.18	95.78	12.05	0.23	1,233	206	48	23	157
Wilton	Wealthy	349	3,156	5.50	0.68	116.60	6.92	0.57	1,365	−1,791	24	−1	−1,815
Winchester	Below-Average-Property Rural	105	950	9.30	0.34	88.55	7.27	0.31	1,206	256	46	18	210
Windham	Urban Periphery	59	536	12.60	0.94	88.37	3.55	0.42	1,307	771	204	27	567
Windsor	Suburban	142	1,280	8.70	0.98	100.70	4.77	0.81	1,387	107	28	26	79
Windsor Locks	Urban Periphery	160	1,441	8.30	1.40	97.03	3.99	1.04	1,413	−27	397	−1,453	−424
Wolcott	Suburban	119	1,074	7.90	0.82	89.76	5.40	0.17	1,153	79	32	40	47
Woodbridge	Suburban	193	1,739	5.00	0.48	109.17	8.92	0.40	1,272	−467	31	−7	−498
Woodbury	Suburban	167	1,510	6.80	0.27	88.10	9.70	0.20	1,132	−379	29	−8	−407
Woodstock	Below-Average-Property Rural	131	1,187	10.80	0.13	89.31	14.32	0.21	1,265	78	49	63	29

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

Note: Municipal capacity=9.03 × Equalized net grand list.
Municipal cost=24.80 × Unemployment rate + 36.48 × Population density + 6.66 × Private-sector wage index + 6.73 ×Town maintenance road mileage + 217.92 × Total jobs + 256.97.
Municipal gap=Municipal cost - Municipal capacity.

$$\text{Private-sector wage index}=\left(1+\frac{0.8\times\text{Labor market area average annual private-sector wage}+0.2\times\text{Municipal average annual private-sector wage}-\text{State average annual private-sector wage}}{3\times\ \text{State average annual private-sector wage}}\right)\times 100.$$

By construction, statewide private-sector wage index=100.

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

Appendix Table 2. List of Municipality Values for FY 2011 (ranked by municipal gap, 2012 dollars)

Rank	Municipality	Municipality Type	Equalized Net Grand List ($000s per capita)	Municipal Capacity ($ per capita)	Cost Factors: Unemployment Rate (%)	Cost Factors: Population Density (000s per square mile)	Cost Factors: Private-Sector Wage Index (%)	Cost Factors: Town Maintenance Road Mileage (per 000 population)	Cost Factors: Total Jobs (per capita)	Municipal Cost ($ per capita)	Municipal Gap ($ per capita)	State Nonschool Grants ($ per capita)	Percentage of Municipal Gap Filled by State Nonschool Grants	Municipal Gap Net of State Nonschool Grants ($ per capita)
1	Hartford	Urban Core	63	568	20.20	7.20	101.64	1.65	0.87	1,898	1,330	418	31	912
2	Bridgeport	Urban Core	69	620	15.70	9.11	110.41	1.78	0.29	1,788	1,168	156	13	1,013
3	New Haven	Urban Core	61	548	14.30	6.97	96.27	1.72	0.60	1,649	1,101	393	36	708
4	New Britain	Urban Core	56	506	14.50	5.46	98.56	2.25	0.35	1,562	1,056	156	15	900
5	New London	Urban Core	78	703	15.90	4.89	95.88	2.30	0.53	1,599	896	316	35	581
6	Waterbury	Urban Core	65	591	14.00	3.86	90.35	2.66	0.35	1,440	849	158	19	691
7	Windham	Urban Periphery	59	536	12.60	0.94	88.37	3.55	0.42	1,307	771	204	27	567
8	West Haven	Urban Core	77	700	12.40	5.15	93.97	2.35	0.26	1,450	750	131	17	619
9	East Hartford	Urban Periphery	85	771	13.70	2.85	100.47	2.88	0.56	1,511	740	118	16	622
10	Ansonia	Urban Periphery	79	714	11.50	3.18	108.89	3.14	0.20	1,448	734	43	6	691
11	Mansfield	Below-Average-Property Rural	54	484	7.00	0.59	96.62	4.05	0.42	1,214	730	306	42	423
12	Derby	Urban Periphery	95	854	12.60	2.54	108.81	3.20	0.36	1,486	632	147	23	484
13	Norwich	Urban Periphery	79	718	11.60	1.44	94.03	3.99	0.40	1,337	619	114	18	505
14	Meriden	Urban Periphery	85	769	12.10	2.55	94.30	3.10	0.36	1,376	607	73	12	535
15	Putnam	Below-Average-Property Rural	94	848	15.00	0.47	88.77	6.82	0.63	1,421	573	89	15	485
16	Naugatuck	Urban Periphery	85	771	11.10	1.95	90.50	3.38	0.22	1,277	506	41	8	465
17	Vernon	Urban Periphery	86	778	9.20	1.65	96.75	3.85	0.30	1,281	503	49	10	454
18	Bristol	Urban Periphery	103	931	10.50	2.29	99.00	3.72	0.34	1,359	428	78	18	350
19	Chaplin	Below-Average-Property Rural	96	868	12.70	0.12	86.58	15.35	0.13	1,283	416	124	30	292
20	Plainfield	Below-Average-Property Rural	91	824	11.20	0.36	87.87	6.56	0.26	1,234	410	46	11	365
21	Torrington	Urban Periphery	96	865	10.60	0.91	88.72	4.57	0.43	1,267	403	47	12	355
22	Griswold	Below-Average-Property Rural	94	848	10.60	0.34	92.40	6.76	0.14	1,224	376	39	10	337
23	Manchester	Urban Periphery	108	975	9.70	2.12	97.28	3.55	0.48	1,350	375	73	19	302
24	Killingly	Below-Average-Property Rural	100	904	10.30	0.36	88.85	7.55	0.48	1,273	369	87	24	282
25	Thompson	Below-Average-Property Rural	95	854	10.70	0.20	88.30	10.32	0.17	1,223	369	43	12	326
26	Stafford	Below-Average-Property Rural	102	920	9.90	0.21	97.32	9.62	0.30	1,287	367	98	27	268
27	Plymouth	Below-Average-Property Rural	96	867	9.00	0.56	96.98	6.82	0.16	1,228	361	45	12	316
28	East Haven	Urban Periphery	102	924	9.40	2.37	93.62	3.07	0.21	1,267	343	45	13	297
29	Hamden	Urban Periphery	101	916	8.40	1.88	93.97	3.36	0.32	1,252	336	84	25	253
30	Sprague	Below-Average-Property Rural	99	894	9.30	0.28	94.79	8.54	0.19	1,226	332	125	38	207
31	Seymour	Urban Periphery	116	1,047	10.50	1.14	109.81	4.92	0.25	1,378	331	52	16	278
32	Brooklyn	Below-Average-Property Rural	92	829	8.70	0.28	87.53	7.91	0.17	1,156	327	75	23	252
33	Enfield	Urban Periphery	108	973	9.60	1.34	94.89	4.09	0.42	1,294	321	83	26	238
34	Sterling	Below-Average-Property Rural	109	983	13.60	0.14	89.01	12.57	0.10	1,298	315	59	19	256
35	Middletown	Urban Periphery	111	1,003	8.00	1.16	99.19	4.11	0.57	1,309	306	242	79	65
36	Stratford	Urban Periphery	133	1,203	10.70	2.96	111.85	3.36	0.48	1,502	299	37	12	262

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

Note: Municipal capacity=9.03 × Equalized net grand list.
Municipal cost=24.80 × Unemployment rate + 36.48 × Population density + 6.66 × Private-sector wage index + 6.73 ×Town maintenance road mileage + 217.92 × Total jobs + 256.97.
Municipal gap=Municipal cost - Municipal capacity.

$$\text{Private-sector wage index} = \left(1 + \frac{0.8 \times \text{Labor market area average annual private-sector wage} + 0.2 \times \text{Municipal average annual private-sector wage} - \text{State average annual private-sector wage}}{3 \times \text{ State average annual private-sector wage}}\right) \times 100.$$

By construction, statewide private-sector wage index=100.

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

Appendix Table 2
(continued from previous page)

Rank	Municipality	Municipality Type	Equalized Net Grand List ($000s per capita)	Municipal Capacity ($ per capita)	Cost Factors: Unemployment Rate (%)	Cost Factors: Population Density (000s per square mile)	Cost Factors: Private-Sector Wage Index (%)	Cost Factors: Town Maintenance Road Mileage (per 000 population)	Cost Factors: Total Jobs (per capita)	Municipal Cost ($ per capita)	Municipal Gap ($ per capita)	State Nonschool Grants ($ per capita)	Percentage of Municipal Gap Filled by State Nonschool Grants	Municipal Gap Net of State Nonschool Grants ($ per capita)
37	Montville	Below-Average-Property Rural	109	987	7.80	0.47	93.11	6.06	0.72	1,286	299	178	59	121
38	Plainville	Urban Periphery	113	1,022	8.30	1.83	98.02	3.77	0.52	1,320	298	57	19	241
39	Ashford	Below-Average-Property Rural	108	973	9.40	0.11	95.96	15.71	0.12	1,264	291	61	21	231
40	Thomaston	Below-Average-Property Rural	106	956	8.00	0.65	97.94	5.25	0.34	1,240	284	40	14	244
41	Somers	Below-Average-Property Rural	105	947	8.60	0.40	93.49	7.50	0.22	1,205	257	268	104	−11
42	Voluntown	Below-Average-Property Rural	109	981	12.00	0.07	86.85	11.47	0.12	1,238	257	162	63	95
43	Winchester	Below-Average-Property Rural	105	950	9.30	0.34	88.55	7.27	0.31	1,206	256	46	18	210
44	West Hartford	Urban Periphery	115	1,039	6.50	2.90	97.48	3.30	0.43	1,289	250	44	18	206
45	Ledyard	Below-Average-Property Rural	112	1,009	5.60	0.39	92.73	7.28	0.83	1,258	249	114	46	136
46	Canterbury	Below-Average-Property Rural	108	979	9.30	0.13	92.35	13.38	0.09	1,216	237	51	21	186
47	Willington	Below-Average-Property Rural	114	1,027	8.10	0.18	95.78	12.05	0.23	1,233	206	48	23	157
48	Hampton	Below-Average-Property Rural	108	979	6.60	0.07	87.81	23.77	0.07	1,183	204	109	53	95
49	Scotland	Below-Average-Property Rural	103	931	6.70	0.09	87.22	16.20	0.08	1,132	202	87	43	115
50	Danbury	Urban Periphery	125	1,130	8.90	1.96	97.34	2.95	0.51	1,328	198	99	50	98
51	Pomfret	Below-Average-Property Rural	123	1,110	10.10	0.10	88.56	15.26	0.36	1,282	172	64	37	108
52	Milford	Urban Periphery	139	1,252	7.80	2.39	110.33	3.87	0.53	1,414	161	72	45	89
53	Bloomfield	Urban Periphery	147	1,329	12.10	0.79	101.00	4.99	0.90	1,488	159	118	74	41
54	Colchester	Below-Average-Property Rural	111	1,002	6.10	0.33	96.83	7.14	0.22	1,160	158	32	20	126
55	Wethersfield	Urban Periphery	126	1,135	7.40	2.16	97.11	3.98	0.38	1,275	140	44	31	96
56	Hartland	Below-Average-Property Rural	117	1,054	7.50	0.07	97.03	11.08	0.06	1,179	126	104	83	21
57	Coventry	Below-Average-Property Rural	112	1,013	5.70	0.33	96.16	8.83	0.11	1,133	121	34	28	86
58	East Windsor	Below-Average-Property Rural	136	1,227	10.90	0.43	93.86	6.23	0.60	1,340	112	60	54	52
59	Lebanon	Below-Average-Property Rural	126	1,136	8.90	0.14	95.67	12.57	0.20	1,247	111	49	44	62
60	Windsor	Suburban	142	1,280	8.70	0.98	100.70	4.77	0.81	1,387	107	28	26	79
61	Newington	Urban Periphery	136	1,227	7.80	2.33	97.61	3.28	0.52	1,321	94	125	133	−31
62	Portland	Below-Average-Property Rural	122	1,104	7.50	0.41	96.84	6.73	0.23	1,197	92	42	45	51
63	Tolland	Suburban	124	1,120	6.30	0.38	98.76	8.86	0.28	1,205	86	31	37	54
64	Wolcott	Suburban	119	1,074	7.90	0.82	89.76	5.40	0.17	1,153	79	32	40	47
65	Woodstock	Below-Average-Property Rural	131	1,187	10.80	0.13	89.31	14.32	0.21	1,265	78	49	63	29
66	Ellington	Suburban	122	1,100	6.80	0.46	97.34	6.27	0.19	1,173	73	39	53	34
67	Hebron	Suburban	118	1,068	5.60	0.26	96.00	8.02	0.18	1,138	70	28	40	42
68	Watertown	Suburban	124	1,117	7.30	0.77	90.76	6.01	0.35	1,186	69	30	43	39
69	Beacon Falls	Below-Average-Property Rural	120	1,087	8.20	0.62	90.79	4.55	0.15	1,151	65	50	77	15
70	Lisbon	Below-Average-Property Rural	132	1,189	9.80	0.27	91.98	6.52	0.40	1,253	63	46	72	18
71	Preston	Below-Average-Property Rural	126	1,139	8.20	0.15	93.09	11.50	0.16	1,198	59	329	556	−270
72	Union	Above-Average-Property Rural	150	1,351	12.80	0.04	97.00	22.79	0.11	1,399	48	131	273	−83
73	Eastford	Below-Average-Property Rural	137	1,237	8.80	0.06	89.76	20.41	0.31	1,280	43	114	265	−71

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

Note: Municipal capacity=9.03 × Equalized net grand list.
Municipal cost=24.80 × Unemployment rate + 36.48 × Population density + 6.66 × Private-sector wage index + 6.73 ×Town maintenance road mileage + 217.92 × Total jobs + 256.97.
Municipal gap=Municipal cost - Municipal capacity.
Private-sector wage index=$\left(1+\frac{0.8\times\text{Labor market area average annual private-sector wage}+0.2\times\text{Municipal average annual private-sector wage}-\text{State average annual private-sector wage}}{3\times\text{ State average annual private-sector wage}}\right)\times 100$. By construction, statewide private-sector wage index=100.

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

Appendix Table 2
(continued from previous page)

Rank	Municipality	Municipality Type	Equalized Net Grand List ($000s per capita)	Municipal Capacity ($ per capita)	Cost Factors: Unemployment Rate (%)	Cost Factors: Population Density (000s per square mile)	Cost Factors: Private-Sector Wage Index (%)	Cost Factors: Town Maintenance Road Mileage (per 000 population)	Cost Factors: Total Jobs (per capita)	Municipal Cost ($ per capita)	Municipal Gap ($ per capita)	State Nonschool Grants ($ per capita)	Percentage of Municipal Gap Filled by State Nonschool Grants	Municipal Gap Net of State Nonschool Grants ($ per capita)
74	Suffield	Suburban	124	1,119	6.90	0.37	93.93	4.83	0.26	1,156	37	392	1,054	−355
75	Marlborough	Suburban	131	1,187	8.40	0.27	97.04	9.41	0.17	1,222	35	35	101	0
76	Cromwell	Suburban	136	1,225	7.20	1.13	97.02	3.79	0.44	1,244	19	32	172	−13
77	Andover	Below-Average-Property Rural	124	1,123	5.40	0.20	96.58	10.77	0.12	1,139	16	60	380	−44
78	Prospect	Suburban	129	1,161	8.40	0.67	89.99	6.09	0.21	1,175	14	40	290	−26
79	North Canaan	Below-Average-Property Rural	146	1,315	10.50	0.17	89.16	10.60	0.57	1,312	−2	158	−6,708	−160
80	Southington	Suburban	136	1,228	7.00	1.21	96.94	4.58	0.34	1,225	−3	45	−1,523	−47
81	Windsor Locks	Urban Periphery	160	1,441	8.30	1.40	97.03	3.99	1.04	1,413	−27	397	−1,453	−424
82	Rocky Hill	Urban Periphery	153	1,382	8.40	1.47	99.35	3.19	0.68	1,350	−32	77	−241	−108
83	East Hampton	Below-Average-Property Rural	129	1,169	5.80	0.36	96.52	7.01	0.15	1,136	−34	39	−117	−73
84	Bolton	Suburban	136	1,225	6.60	0.35	97.03	8.71	0.23	1,189	−36	55	−152	−91
85	Bozrah	Below-Average-Property Rural	141	1,275	6.90	0.13	94.31	13.41	0.37	1,231	−44	106	−240	−150
86	Wallingford	Suburban	150	1,358	8.20	1.15	95.56	4.69	0.60	1,300	−58	35	−60	−93
87	Groton	Urban Periphery	152	1,372	7.90	1.29	97.81	3.21	0.64	1,311	−61	82	−135	−143
88	Columbia	Suburban	134	1,212	5.90	0.26	96.93	7.93	0.18	1,150	−62	41	−67	−103
89	North Branford	Suburban	136	1,229	6.40	0.58	94.59	5.28	0.28	1,163	−67	46	−69	−113
90	Salem	Suburban	134	1,208	6.10	0.14	93.30	9.74	0.15	1,133	−75	56	−75	−131
91	Granby	Suburban	132	1,189	4.30	0.28	96.21	8.20	0.19	1,111	−78	33	−43	−111
92	Bethel	Suburban	152	1,374	9.60	1.12	96.43	4.63	0.37	1,289	−85	40	−47	−125
93	Middlefield	Below-Average-Property Rural	144	1,302	6.10	0.35	98.36	7.89	0.38	1,211	−92	96	−104	−187
94	Barkhamsted	Below-Average-Property Rural	144	1,305	6.60	0.10	95.77	12.71	0.29	1,210	−95	60	−64	−155
95	Franklin	Above-Average-Property Rural	150	1,358	7.30	0.10	95.68	11.18	0.50	1,263	−95	73	−77	−168
96	South Windsor	Suburban	151	1,365	7.20	0.92	98.33	5.33	0.46	1,260	−105	66	−63	−171
97	New Hartford	Suburban	142	1,282	5.60	0.19	96.77	11.92	0.21	1,173	−110	57	−52	−166
98	Cheshire	Suburban	144	1,302	5.00	0.89	95.37	5.19	0.49	1,190	−112	202	−181	−314
99	Southbury	Suburban	166	1,495	8.20	0.51	113.21	6.74	0.43	1,372	−124	48	−39	−171
100	Shelton	Suburban	174	1,571	9.10	1.31	114.56	5.37	0.53	1,443	−128	36	−28	−164
101	Burlington	Suburban	138	1,243	4.50	0.31	96.19	9.32	0.10	1,105	−138	36	−26	−174
102	East Haddam	Below-Average-Property Rural	152	1,372	8.40	0.17	96.28	12.89	0.15	1,233	−139	42	−30	−181
103	Oxford	Suburban	168	1,513	10.30	0.39	110.85	8.78	0.22	1,371	−142	45	−32	−187
104	Harwinton	Suburban	148	1,337	7.00	0.18	98.39	11.72	0.10	1,193	−144	44	−31	−188
105	New Milford	Above-Average-Property Rural	159	1,438	9.60	0.45	95.32	7.41	0.30	1,261	−178	58	−33	−236
106	Bethany	Suburban	159	1,434	9.60	0.26	94.79	10.90	0.19	1,251	−183	59	−32	−243
107	Chester	Suburban	160	1,445	8.10	0.26	94.46	7.37	0.49	1,252	−193	58	−30	−252
108	Berlin	Suburban	165	1,493	7.50	0.77	98.90	5.34	0.56	1,286	−207	59	−29	−267
109	Monroe	Suburban	170	1,539	8.30	0.75	109.91	7.13	0.27	1,329	−210	35	−17	−246
110	Simsbury	Suburban	161	1,452	6.10	0.70	100.88	6.78	0.42	1,241	−211	27	−13	−238

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

Note: Municipal capacity=9.03 × Equalized net grand list.
Municipal cost=24.80 × Unemployment rate + 36.48 × Population density + 6.66 × Private-sector wage index + 6.73 ×Town maintenance road mileage + 217.92 × Total jobs + 256.97.
Municipal gap=Municipal cost - Municipal capacity.

$$\text{Private-sector wage index} = \left(1 + \frac{0.8 \times \text{Labor market area average annual private-sector wage} + 0.2 \times \text{Municipal average annual private-sector wage} - \text{State average annual private-sector wage}}{3 \times \text{State average annual private-sector wage}}\right) \times 100.$$

By construction, statewide private-sector wage index=100.

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

Appendix Table 2
(continued from previous page)

Rank	Municipality	Municipality Type	Equalized Net Grand List ($000s per capita)	Municipal Capacity ($ per capita)	Cost Factors					Municipal Cost ($ per capita)	Municipal Gap ($ per capita)	State Nonschool Grants ($ per capita)	Percentage of Municipal Gap Filled by State Nonschool Grants	Municipal Gap Net of State Nonschool Grants ($ per capita)
					Unemployment Rate (%)	Population Density (000s per square mile)	Private-Sector Wage Index (%)	Town Maintenance Road Mileage (per 000 population)	Total Jobs (per capita)					
111	Canton	Suburban	156	1,406	6.10	0.42	96.47	7.04	0.30	1,179	−227	31	−14	−258
112	Durham	Suburban	150	1,358	4.80	0.31	93.98	8.20	0.27	1,127	−231	54	−23	−285
113	North Stonington	Above-Average-Property Rural	161	1,450	7.30	0.10	93.93	12.10	0.26	1,205	−245	216	−88	−460
114	Orange	Suburban	175	1,580	9.50	0.81	93.76	7.77	0.62	1,334	−247	39	−16	−286
115	North Haven	Suburban	177	1,599	8.30	1.15	95.23	5.32	0.79	1,346	−254	92	−36	−345
116	Bethlehem	Suburban	160	1,447	8.30	0.19	87.78	12.69	0.20	1,182	−265	55	−21	−320
117	East Granby	Suburban	169	1,529	5.20	0.29	98.62	7.51	0.73	1,263	−266	297	−112	−562
118	Trumbull	Suburban	183	1,651	7.00	1.56	111.35	5.68	0.47	1,369	−281	25	−9	−307
119	Newtown	Suburban	176	1,586	6.90	0.48	110.44	8.72	0.27	1,298	−289	87	−30	−375
120	Haddam	Suburban	160	1,449	5.70	0.19	96.52	11.49	0.15	1,158	−291	49	−17	−340
121	Colebrook	Above-Average-Property Rural	168	1,518	6.90	0.05	88.59	26.91	0.11	1,225	−292	103	−35	−395
122	Deep River	Above-Average-Property Rural	156	1,406	4.30	0.34	93.70	7.15	0.28	1,110	−296	62	−21	−358
123	Glastonbury	Suburban	171	1,548	6.20	0.67	98.79	5.55	0.46	1,231	−317	26	−8	−343
124	Norwalk	Urban Periphery	205	1,850	9.70	3.78	115.19	2.82	0.51	1,532	−318	57	−18	−375
125	Branford	Urban Periphery	180	1,625	10.20	1.28	94.28	3.72	0.44	1,305	−319	42	−13	−362
126	East Lyme	Above-Average-Property Rural	168	1,519	8.00	0.56	93.28	5.89	0.29	1,199	−321	84	−26	−405
127	Clinton	Suburban	171	1,548	8.00	0.82	93.37	5.79	0.31	1,213	−334	45	−14	−379
128	Killingworth	Suburban	162	1,461	5.00	0.18	94.25	10.86	0.11	1,111	−330	57	−16	−408
129	New Fairfield	Suburban	174	1,575	9.80	0.69	96.21	4.80	0.12	1,223	−353	27	−8	−380
130	Middlebury	Suburban	192	1,731	13.10	0.42	92.09	8.59	0.49	1,374	−357	42	−12	−398
131	Woodbury	Suburban	167	1,510	6.80	0.27	88.10	9.70	0.20	1,132	−379	29	−8	−407
132	Woodbridge	Suburban	193	1,739	5.00	0.48	109.17	8.92	0.40	1,272	−467	31	−7	−498
133	Litchfield	Above-Average-Property Rural	187	1,687	6.60	0.15	88.11	14.06	0.38	1,191	−497	53	−11	−550
134	Farmington	Suburban	210	1,899	5.10	0.91	99.11	4.44	1.26	1,381	−517	154	−30	−671
135	Avon	Suburban	205	1,848	5.60	0.79	98.81	5.80	0.44	1,217	−631	38	−6	−669
136	Guilford	Suburban	202	1,826	7.00	0.48	94.33	6.60	0.30	1,186	−641	28	−4	−669
137	Stamford	Urban Periphery	247	2,229	11.20	3.29	118.55	2.50	0.57	1,585	−643	59	−9	−703
138	Brookfield	Suburban	204	1,839	5.20	0.84	95.51	6.05	0.40	1,181	−658	31	−5	−690
139	Canaan	Above-Average-Property Rural	234	2,116	5.90	0.03	87.79	27.06	0.64	1,311	−805	219	−27	−1,024
140	Morris	Above-Average-Property Rural	219	1,973	6.60	0.14	87.51	12.69	0.17	1,131	−842	68	−8	−910
141	Stonington	Above-Average-Property Rural	226	2,044	5.80	0.48	94.05	6.21	0.38	1,169	−875	31	−4	−906
142	Fairfield	Suburban	251	2,265	7.70	2.01	111.83	4.37	0.39	1,381	−885	71	−8	−955
143	Norfolk	Above-Average-Property Rural	260	2,352	8.40	0.03	87.39	35.89	0.26	1,346	−1,006	225	−22	−1,231
144	Essex	Suburban	249	2,252	4.80	0.64	95.31	6.42	0.51	1,188	−1,063	48	−4	−1,111
145	Waterford	Above-Average-Property Rural	256	2,315	6.80	0.60	94.49	6.17	0.57	1,242	−1,073	49	−5	−1,122
146	Redding	Suburban	270	2,436	9.50	0.29	109.88	10.00	0.17	1,340	−1,096	47	−4	−1,143
147	Easton	Wealthy	261	2,356	4.60	0.28	110.17	12.49	0.12	1,224	−1,132	39	−3	−1,171

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

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(continued from previous page)

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148	Madison	Suburban	250	2,255	4.40	0.51	94.14	6.61	0.26	1,111	−1,145	54	−5	−1,199
149	Westbrook	Above-Average-Property Rural	276	2,495	10.30	0.44	93.77	6.63	0.53	1,312	−1,183	37	−3	−1,220
150	Goshen	Above-Average-Property Rural	276	2,491	5.50	0.07	87.50	23.36	0.13	1,163	−1,328	83	−6	−1,412
151	Kent	Above-Average-Property Rural	291	2,628	8.30	0.06	88.28	22.79	0.40	1,294	−1,334	95	−7	−1,429
152	Ridgefield	Wealthy	296	2,677	5.90	0.72	114.63	6.81	0.41	1,327	−1,350	45	−3	−1,395
153	Sherman	Suburban	289	2,612	9.70	0.17	95.22	9.63	0.12	1,227	−1,385	45	−3	−1,430
154	Old Saybrook	Suburban	316	2,851	5.00	0.68	93.79	7.48	0.57	1,204	−1,647	39	−2	−1,686
155	Old Lyme	Above-Average-Property Rural	311	2,812	3.70	0.33	93.80	7.87	0.35	1,113	−1,698	39	−2	−1,737
156	Warren	Above-Average-Property Rural	328	2,964	7.90	0.06	86.43	24.44	0.10	1,231	−1,734	98	−6	−1,832
157	Wilton	Wealthy	349	3,156	5.50	0.68	116.60	6.92	0.57	1,365	−1,791	24	−1	−1,815
158	Bridgewater	Suburban	337	3,045	6.80	0.11	95.69	22.36	0.13	1,246	−1,800	83	−5	−1,883
159	Weston	Wealthy	350	3,164	6.60	0.52	111.17	7.75	0.11	1,257	−1,908	23	−1	−1,931
160	Sharon	Above-Average-Property Rural	357	3,227	5.00	0.05	89.37	30.23	0.43	1,275	−1,952	102	−5	−2,054
161	Lyme	Suburban	369	3,331	6.40	0.08	95.47	16.75	0.08	1,184	−2,147	68	−3	−2,215
162	Cornwall	Above-Average-Property Rural	384	3,471	5.90	0.03	88.62	37.83	0.29	1,312	−2,159	138	−6	−2,297
163	Salisbury	Above-Average-Property Rural	417	3,767	5.80	0.07	89.06	18.79	0.52	1,236	−2,531	62	−2	−2,593
164	Roxbury	Suburban	431	3,889	6.20	0.09	88.40	26.31	0.14	1,210	−2,679	100	−4	−2,779
165	Washington	Suburban	478	4,316	4.30	0.09	88.75	24.51	0.43	1,216	−3,100	81	−3	−3,181
166	Westport	Wealthy	562	5,074	7.50	1.34	119.32	4.60	0.62	1,452	−3,622	51	−1	−3,673
167	New Canaan	Wealthy	553	4,991	5.50	0.90	113.00	6.12	0.32	1,288	−3,703	19	−1	−3,722
168	Darien	Wealthy	569	5,142	7.70	1.65	112.33	3.87	0.36	1,359	−3,782	26	−1	−3,809
169	Greenwich	Wealthy	728	6,575	8.10	1.30	121.39	4.30	0.56	1,465	−5,110	33	−1	−5,143

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

Note: Municipal capacity=9.03 × Equalized net grand list.
Municipal cost=24.80 × Unemployment rate + 36.48 × Population density + 6.66 × Private-sector wage index + 6.73 ×Town maintenance road mileage + 217.92 × Total jobs + 256.97.
Municipal gap=Municipal cost - Municipal capacity.
Private-sector wage index=$\left(1+\frac{0.8\times\text{Labor market area average annual private-sector wage}+0.2\times\text{Municipal average annual private-sector wage}-\text{State average annual private-sector wage}}{3\times\text{ State average annual private-sector wage}}\right)\times 100$. By construction, statewide private-sector wage index=100.

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

Appendix Table 3. Results of the Cost Regression

Dependent variable: Per capita adjusted operating expenditure (in 2012 dollars)	
Cost factors:	
Unemployment rate (%)	24.80***
	(4.89)
Population density (000s per square mile)	36.48***
	(12.42)
Private-sector wage index (%)	6.66***
	(2.08)
Town maintenance road mileage (per 000 population)	6.73*
	(3.61)
Per capita private jobs	217.92***
	(60.48)
Control variables:	
Per capita equalized net grand list (000s, in 2012 dollars)	0.40
	(0.30)
Per capita income (000s, in 2012 dollars)	12.53***
	(2.54)
Ratio of state nonschool grants to thousand dollars of income	7.21**
	(3.58)
Ratio of state Education Cost Sharing grant to thousand dollars of income	2.75**
	(1.38)
Tax price (median house value/per household equalized net grand list)	−94.12***
	(31.68)
Percentage of population 25 and older with some college	7.69**
	(3.77)
Percentage of population 25 and older with a bachelor's degree or higher	4.00**
	(1.62)
Percentage of population 65 and older	3.74
	(3.04)
Percentage of housing units that are owner-occupied	−3.21***
	(1.04)
Percentage of registered voters who are republican	−4.36*
	(2.61)
Dummy variable for council-manager form of government	37.60
	(23.11)
Dummy variable for mayor-council form of government	32.79
	(30.97)
Dummy variable for having paid firefighters	173.60***
	(28.47)
Dummy variable for municipalities with resident state trooper contract	−154.86***
	(27.67)
Dummy variable for municipalities completely relying on state police	−263.30***
	(43.68)
Dummy variable for mixed school system	−35.23
	(30.00)
Dummy variable for K-12 regional schools	−202.60***
	(32.94)
Constant	−105.57
	(269.08)
Observations	845
Adjusted R^2	0.75
Year fixed effects	Yes
County fixed effects	Yes

Source: Authors' calculations.
Note: Robust standard errors are presented in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Appendix Table 4. Data Sources

Variables	Source(s)
Dependent variable:	
Per capita adjusted operating expenditure (in 2012 dollars)	Connecticut Municipal Fiscal Indicators Reports, the 2007 Census of Governments, the FY 2012 Comprehensive Annual Financial Reports of each Connecticut municipality
Cost factors:	
Unemployment rate (%)	The American Community Survey: 5-year Estimates
Population density (000s per square mile)	The American Community Survey: 5-year Estimates
Private-sector wage index (%)	Connecticut Department of Labor: Labor Market Information
Town maintenance road mileage (per 000 population)	Connecticut Department of Transportation: Public Road Mileage
Per capita private jobs	Connecticut Department of Labor: Labor Market Information
Per capita total jobs	Connecticut Department of Labor: Labor Market Information
Logarithm of population	The American Community Survey: 5-year Estimates
Percentage of housing units that are renter-occupied and were built before 1970	The American Community Survey: 5-year Estimates
Percentage of population in poverty	The American Community Survey: 5-year Estimates
Percentage of population that is foreign born	The American Community Survey: 5-year Estimates
Control variables:	
Per capita equalized net grand list (000s, in 2012 dollars)	Connecticut Municipal Fiscal Indicators Reports
Per capita income (000s, in 2012 dollars)	The American Community Survey: 5-year Estimates
Ratio of state nonschool grants to thousand dollars of income	Connecticut Office of Fiscal Analysis, the American Community Survey: 5-year Estimates
Ratio of state Education Cost Sharing grant to thousand dollars of income	Connecticut Department of Education, the American Community Survey: 5-year Estimates
Tax price (median house value/per household equalized net grand list)	Connecticut Municipal Fiscal Indicators Reports, the American Community Survey: 5-year Estimates
Percentage of population 25 and older with some college	The American Community Survey: 5-year Estimates
Percentage of population 25 and older with a bachelor's degree or higher	The American Community Survey: 5-year Estimates
Percentage of population 65 and older	The American Community Survey: 5-year Estimates
Percentage of housing units that are owner-occupied	The American Community Survey: 5-year Estimates
Percentage of registered voters who are republican	Connecticut Secretary of the State: Registration and Party Enrollment Statistics
Dummy variable for council-manager form of government	Connecticut Municipal Fiscal Indicators Reports
Dummy variable for mayor-council form of government	Connecticut Municipal Fiscal Indicators Reports
Dummy variable for having paid firefighters	Connecticut General Assembly Office of Legislative Program Review and Investigations
Dummy variable for municipalities with resident state trooper contract	Connecticut General Assembly Office of Legislative Program Review and Investigations
Dummy variable for municipalities completely relying on state police	Connecticut General Assembly Office of Legislative Program Review and Investigations
Dummy variable for mixed school system	Connecticut Department of Education
Dummy variable for K-12 regional schools	Connecticut Department of Education

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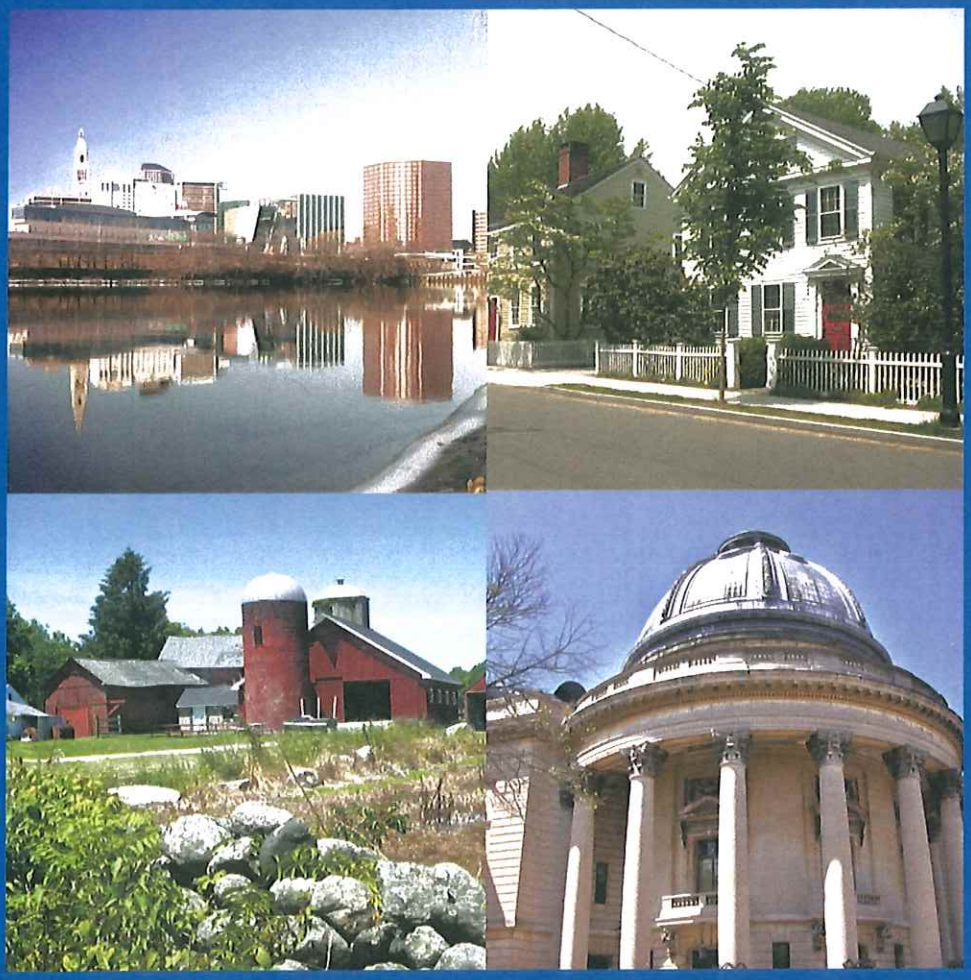
Research Report 15-1
May 2015

Research Report



Measuring Municipal Fiscal Disparities in Connecticut

By Bo Zhao and Jennifer Weiner

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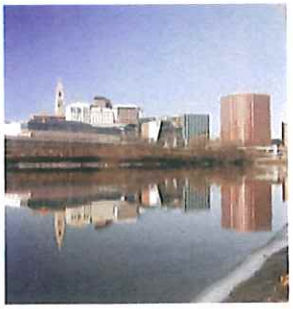

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This report and the appendix tables are available at the New England Public Policy Center website: www.bostonfed.org/neppc.

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Bo Zhao is a Senior Economist in the New England Public Policy Center at the Federal Reserve Bank of Boston. He specializes in public finance and urban and regional economics. Zhao served on the Municipal Aid Subcommittee of the Municipal Finance Task Force in Massachusetts between 2006 and 2007. His articles have appeared in the *Journal of Urban Economics, National Tax Journal, Public Finance Review, Municipal Finance Journal,* and the *Journal of Policy Analysis and Management.* Zhao earned a Ph.D. in economics and an M.S. in applied statistics from Syracuse University.

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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) x (4)	(6)	(7)=(3) x (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
Capacity factor:						
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

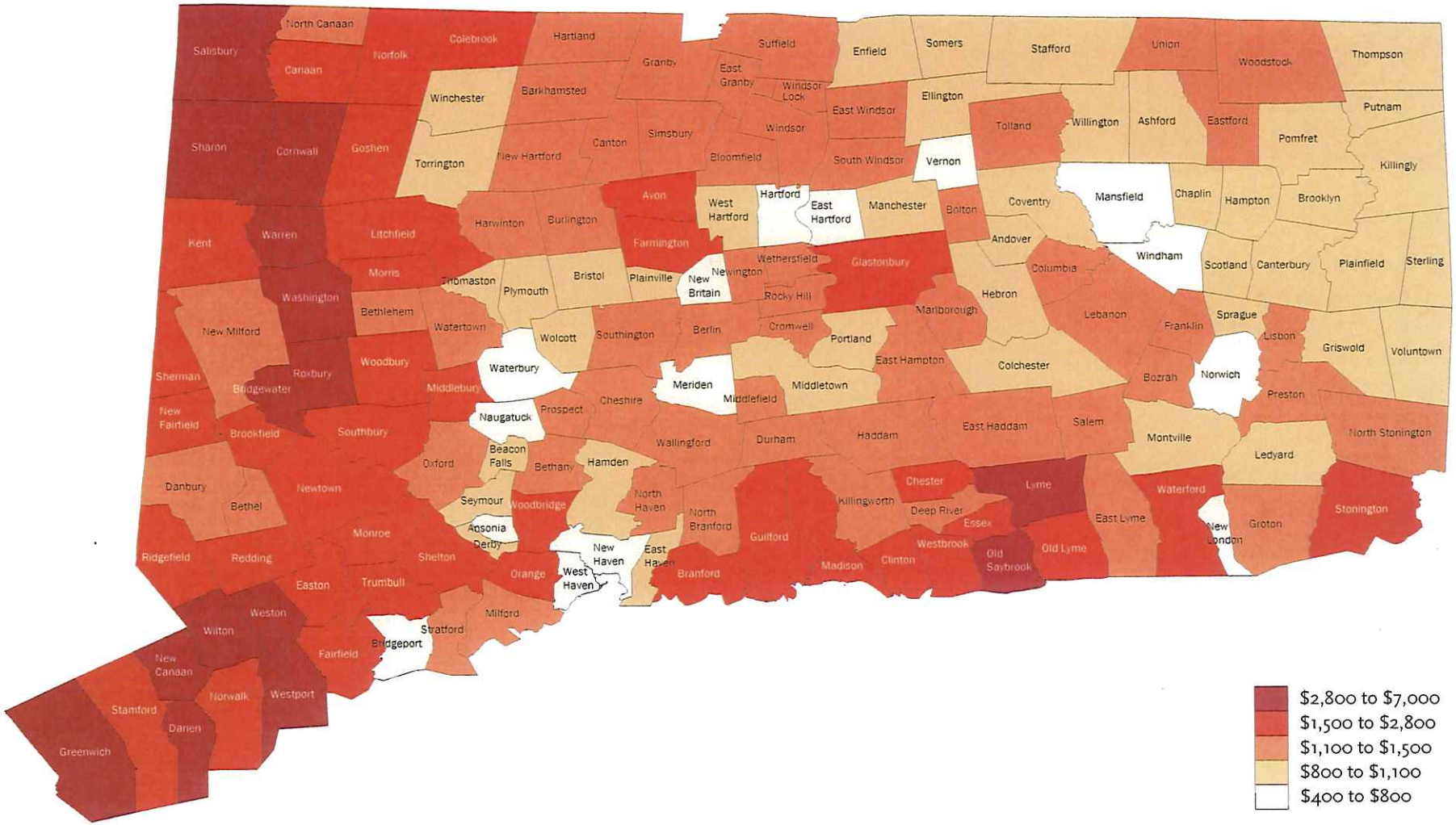
To estimate municipal costs, we use statistical analysis to identify cost factors that are strongly related to nonschool per capita spending levels. To isolate only factors that governments cannot control, we take into account and remove other factors that may lead to cross-community spending differences 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)

		New Britain		Morris	
	Factor Weight ($ per capita per cost factor unit)	Factor Value	Contribution to Cost ($ per capita)	Factor Value	Contribution to Cost ($ per capita)
Cost factors:	(1)	(2)	(3)=(1) x (2)	(5)	(6)=(1) x (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.

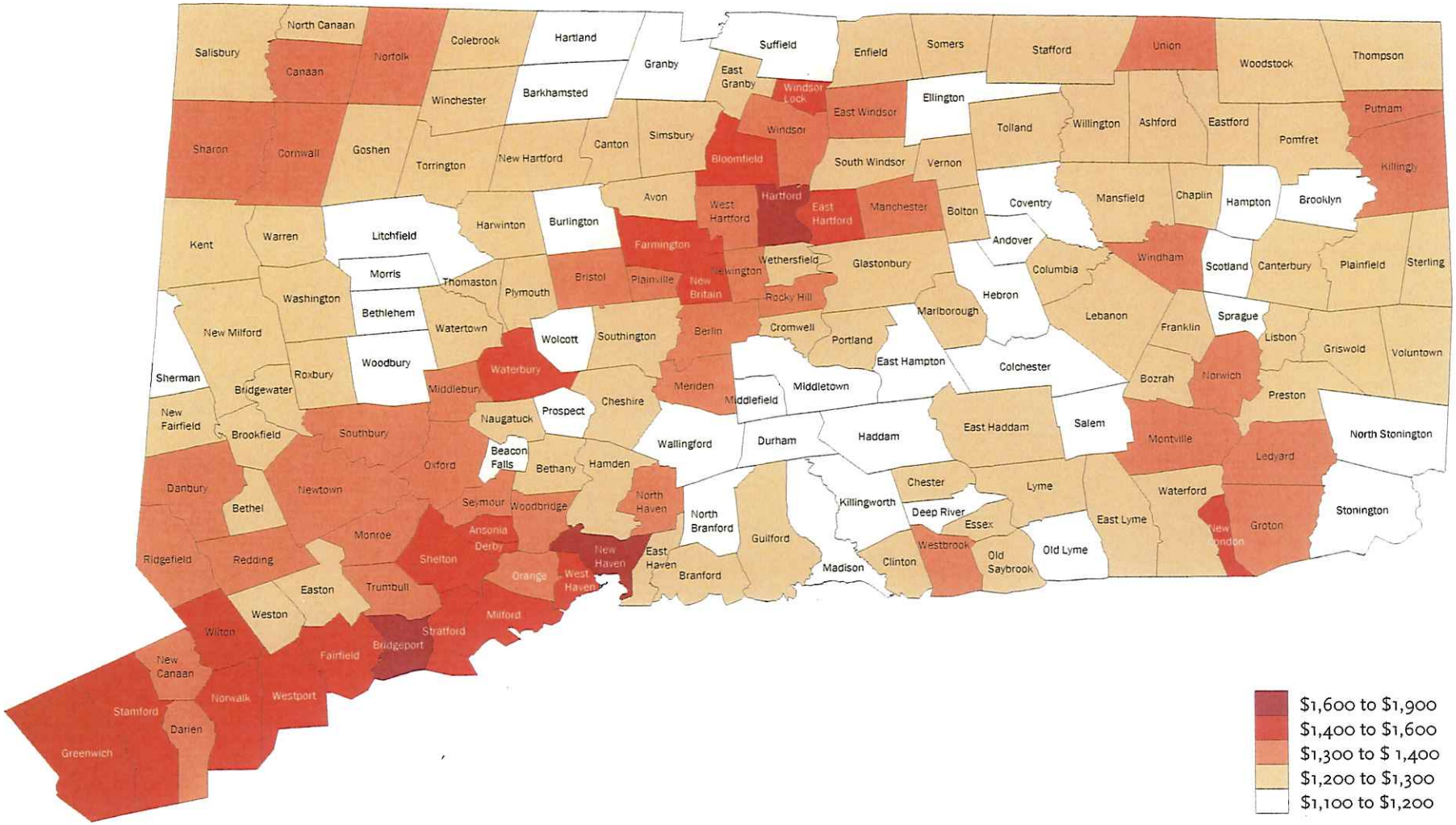
Results

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
Cost factors:						
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

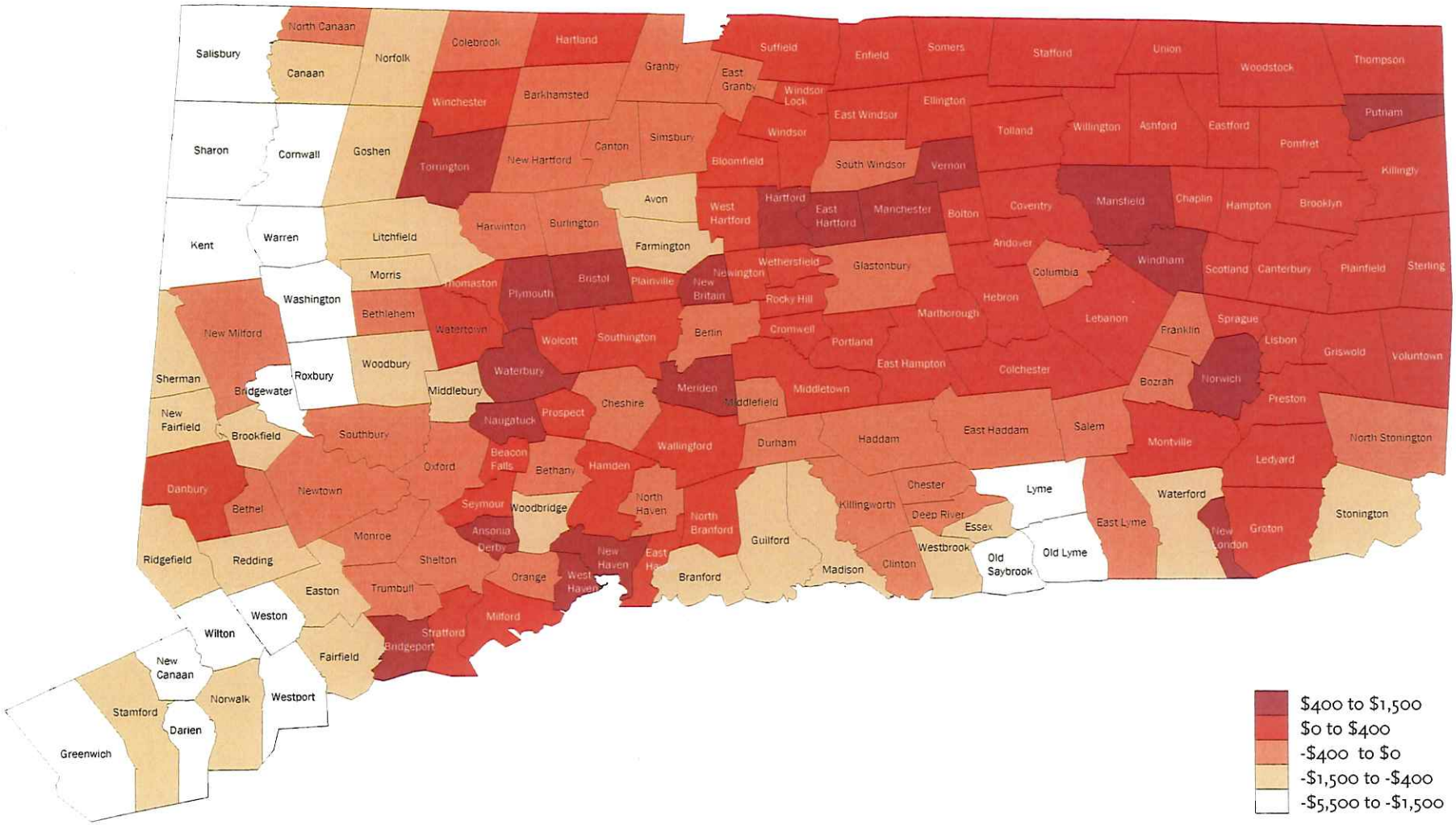
To calculate the per capita gap for each community, we subtract per capita revenue capacity from per capita cost. A positive gap indicates a municipality that lacks sufficient revenue-raising capacity to provide a given common level of municipal services, with larger gaps indicating a worse fiscal condition. 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 statewide 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.

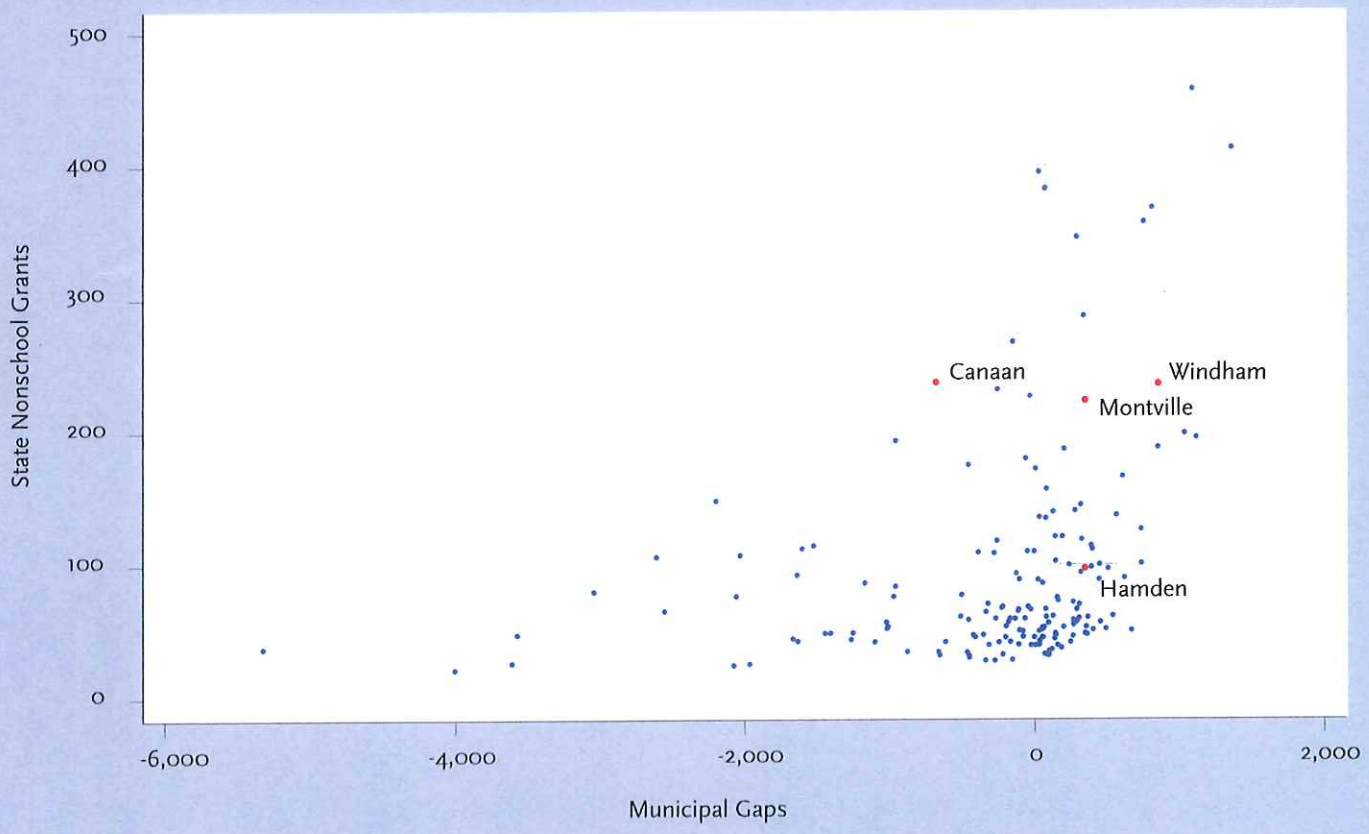
The remaining groups all have negative gaps. For the suburban category (-$291), this reflects moderately low costs coupled with moderately high capacity. Communities in the above-average-property rural category (-$749) have the lowest average per capita costs, but relatively high per capita capacity. 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.

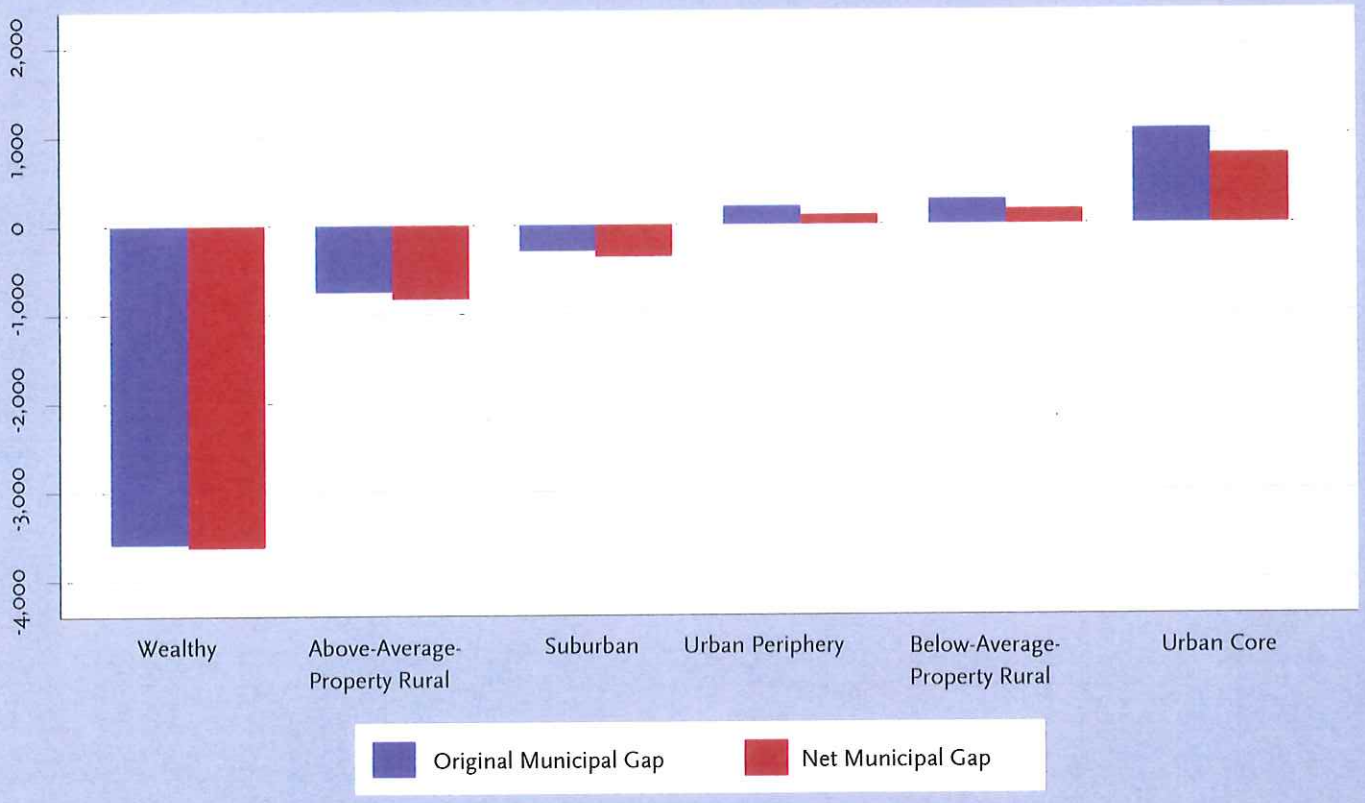
To assess how well—or not—existing aid programs address the fiscal disparities measured in our analysis, we first examine the distribution of nonschool grants in Connecticut by municipal gap.[17] This distribution, shown in Figure 4, reveals that nonschool grants, while generally positively related to 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, nonprogress 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 nonschool services.[20]

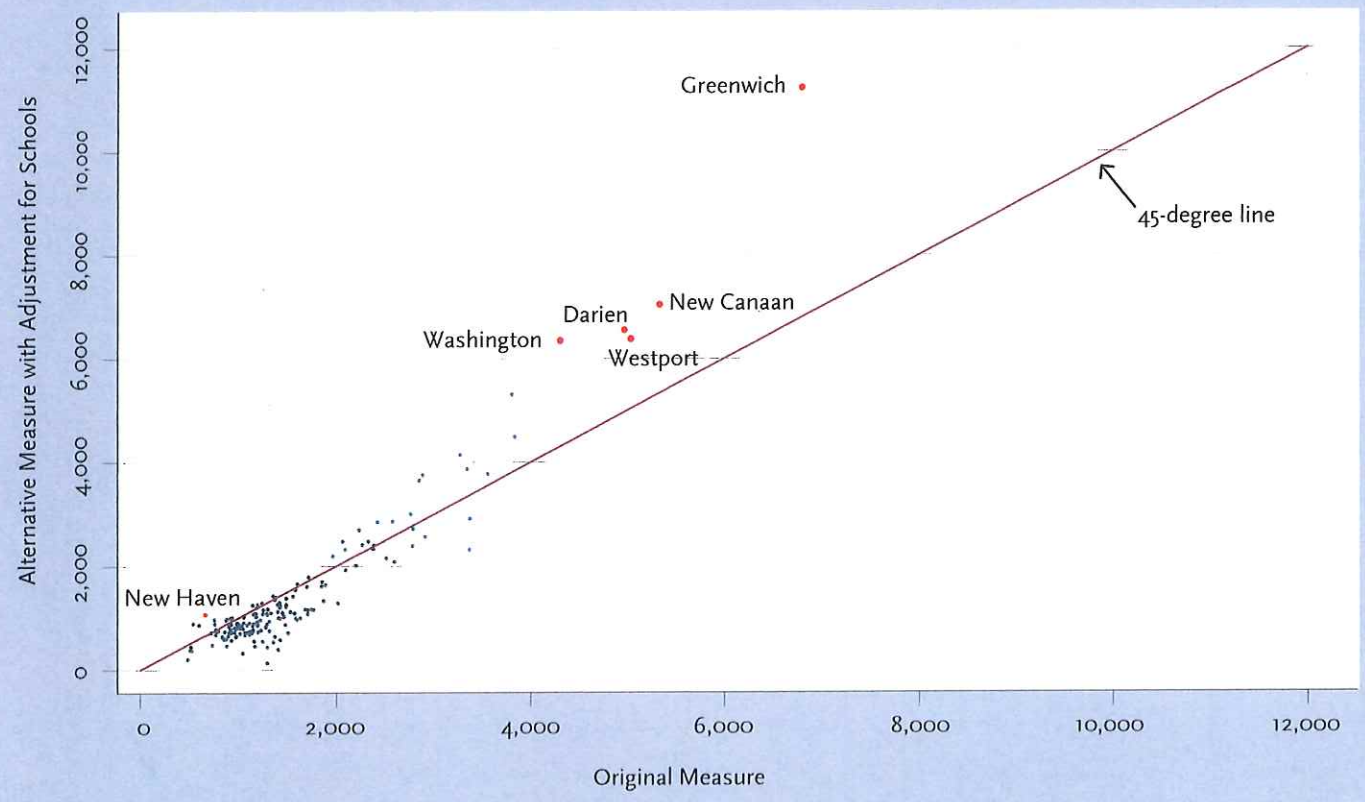
20 For example, our calculated local portion of MBR for some communities is larger than the actual property tax levy for those communities.

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.

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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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AUGENBLICK, PALAICH AND ASSOCIATES

Updating the Cost of Adequacy For Connecticut: An Update of The 2005 Connecticut Adequacy Study

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Prepared for

The Connecticut Coalition of Justice in Education Funding

March 2014

Introduction

In June 2005 Augenblick, Palaich, and Associates (APA) released a report for the Connecticut Coalition for Justice in Education Funding (CCJEF) titled "Estimating the Cost of an Adequate Education in Connecticut."[1] The report was the culmination of work completed by APA to estimate the costs for students, schools, and school districts in Connecticut to meet the state education standards and requirements that existed at the time. The adequacy study first identified the resources needed for schools to meet all state standards and requirements, and then examined the cost of those resources. Two widely recognized approaches to understanding the costs of an adequate education program were employed: the successful school districts (SSD) approach, and the professional judgment (PJ) approach.

This report summarizes the work completed by APA to update the findings of the original study using an inflation factor to create an estimate of today's needs for Connecticut school districts. The limitation of this estimate is that it is based on the state education standards and requirements which were used in the 2005 study.

The 2005 Connecticut Adequacy Study

The original report focused on identifying key cost elements necessary to understand the resources needed by school districts in the state to meet standards and requirements that existed at the time of the study. State standards include both input and outcome requirements. Input requirements include mandates with which the state's school districts must comply such as school year length, prescribed course offerings, and other mandates. The outcome requirements of the state generally focus on the performance of students on state assessments but can also include graduation and attendance rate requirements among other things. (Appendix B shows the standard used for the 2005 study.)

The cost elements identified included a base cost figure and the adjustments needed for special needs students, for example special education, at-risk or English language learners. The study also examined adjustments needed to account for district characteristics such as the size of district enrollment. Both approaches were used to estimate the base cost needed for a student (with no special needs attending school in a district with no special circumstances) to meet state standards and requirements.

Though both approaches identify the base cost, the meaning of the alternatively derived base cost figures differs. The SSD approach examined the spending of 35 school districts in the state deemed to be successful, based on state exam performance. Though these districts were identified as successful due to performance on student examinations, it was not necessarily true that these districts met all other state requirements. They were identified as successful simply because their students performed better on state assessments than students in most other Connecticut districts.

The PJ approach relied on the expertise of Connecticut educators to identify the resources needed to ensure districts could meet the full state standards and requirements going forward. The PJ panelists focused on having students reach the "Goal level" of performance on state tests. This level of

[1] Augenblick, J., Palaich, R., Silverstein, J., Rose, D., and D. DeCesare. 2005. "Estimating the Cost of an Adequate Education in Connecticut," for The Connecticut Coalition of Justice in Education Funding.

performance was higher than what was being accomplished in the 35 identified successful districts. Panelists for the PJ approach also identified the resource adjustments needed for special needs students and district characteristics which are not identified using the SSD approach. These two approaches identified the following key cost elements:

- A base cost per student (a starting base cost from the SSD approach and a target base cost from the PJ approach);
- Additional weights for special need students that have additional resource needs (and associated costs), including:
    - A special education weight (sorting students into mild, moderate and severe cost categories);
    - A weight for students at-risk of educational failure (using eligibility for free or reduced price lunch as a proxy); and
    - An English language learner weight (using the ELL student count);
- Adjustments to the base cost based on the enrollment of the districts; and
- An urban factor targeted to large and high needs districts in the state (a twelve percent adjustment applied to a limited number of urban districts).

Tables 1-3 show the base cost per student figures and adjustments identified in the 2005 report. Base cost figures were created for three types of school districts, K-12, K-6/8, and 7/9-12. Table 1 also shows that the different base cost figures are adjusted for different size school districts. The base cost identified in the adequacy study represents the amount needed to serve a student with no special needs in the district of a particular size and type. This means a student that is not identified as being a special education, at-risk, or ELL student. Adjustments for those needs are made on top of the base and the level of adjustments identified can be seen in Tables 2 and 3 below. It is also possible for the same student to fall in multiple categories. For example, the same student could be identified as both being at-risk and as needing ELL services. The base cost excludes expenditures for capital, transportation, and food service.

Table 1 2003-04 Base Per-Student Cost by District Enrollment Size and Grade Configuration from 2005 Adequacy Report						
Size of District	Starting 2003-04 (using *SSD* data)*			Adequacy Target (using PJ data)**		
	K-12	K-6/8	7/9-12	K-12	K-6/8	7/9-12
100	$7,086	$8,823	$7,019	$9,447	$9,447	$9,445
250	$7,067	$8,804	$7,012	$9,428	$9,428	$9,438
500	$7,035	$8,772	$7,001	$9,396	$9,396	$9,427
1,000	$6,971	$8,709	$6,979	$9,333	$9,333	$9,405
2,000	$6,846	$8,583	$6,935	$9,207	$9,207	$9,361
4,000	$7,614			$9,999		
7,500	$8,003			$10,388		
10,000	$8,003			$10,388		
15,000	$8,003			$10,388		

Weights were generated to account for the additional resources needed to serve students with special needs. The weights were created using the PJ approach. Table 2 shows that the weights for each type of special education student varied by size of district. It also shows the weight for ELL which remained constant regardless of district size.

Table 2 Weighted Costs for Special Education and ELL Students				
Size of District	Special Education			ELL
	Mild	Moderate	Severe	
100	1.34	2.11	4.88	0.76
250	1.34	2.11	4.88	0.76
500	1.34	2.11	4.88	0.76
1,000	1.34	2.11	4.88	0.76
2,000	1.34	2.11	4.88	0.76
4,000	1.11	1.69	4.41	0.76
7,500	1.02	1.52	3.94	0.76
10,000	1.06	1.49	3.71	0.76
15,000	1.12	1.45	3.32	0.76

Table 3 shows that the weight for at-risk pupils decreases as the concentration of at-risk students in a district goes up. However, when considering the combined impact of the concentration level and at-risk weight, the net result is that districts with higher at-risk concentrations are still estimated to need a larger increase in resources above their base cost.

Table 3 Weights for At-Risk Students		
Concentration of At-Risk Students	Weight for At-Risk Students	Increase Above Base Cost for All Students
10%	0.62	6.20%
20%	0.47	9.40%
30%	0.43	12.80%
40%	0.38	15.30%
50%	0.36	18.00%
60%	0.34	20.40%
70%	0.32	22.40%
80%	0.30	24.00%
90%	0.28	25.20%

Updating the 2005 Study for 2012-13

This report updates the above figures from the 2005 report, which used figures for the 2003-04 school year. There are two typical approaches to updating an adequacy study. The first is to undertake a completely new adequacy study. This means identifying the current state standards and requirements, both input and outcome, and using multiple adequacy approaches to examining the current cost of adequacy in the state. The second approach is to use the results from a past adequacy study and update the figures for inflation to create an estimate of the current adequacy need based on the past study results. Due to time and resource constraints the later approach was chosen here. This update also focused exclusively on the PJ approach figures since they were the target level funding figures representing the resources needed for districts to meet all state standards and requirements in 2005 including getting students to the "Goal" performance standard.

One key drawback of updating the figures to current dollars using an inflation factor is that today's standards and requirements may differ from the standards and requirements used in the original study. Appendix B of the original report, attached to this report, describes the standards in place at the time of the original study. These standards represent the input and outcome requirements set by the state and required of districts when the 2005 study was undertaken. It does not include any new standards or requirements that have been put in place since that time, such as the Common Core State Standards or new teacher evaluation requirements. If any of these additions to the standards and requirements require additional resources to implement, this updated estimate would likely underestimate the resources needed by districts since it assumes the new additions to the standards would require no additional resources from school districts.

In updating the 2005 estimate, APA needed to determine the most recent school year for which all necessary data existed. The data requirements included both student counts by district and expenditures by district. The most recent year for which full data exists is 2012-13 school year.

The next step was to determine the appropriate inflation figure to apply to the 2003-04 numbers. The Bureau of Labor Statistics has several different Consumer Price Indices that could be selected. Options include the national CPI, regional CPIs, and even more specific CPIs. APA felt it was best to select a CPI that focused on the costs in Connecticut. The bureau of labor statistics produces CPI figures for Massachusetts, New Hampshire, Maine, and Connecticut that is referred to as the Boston-Brockton-Nashua CPI. We felt this particular index would be the best measure of inflation for Connecticut. The overall rate of inflation for this index from July 2004 to July 2013 is 20.2%. Table 4 shows the 2005 base cost study results updated by inflation to the 2012-13 school year.

Table 4
2012-13 Base Per-Student Cost by District Enrollment Size and Grade Configuration Based on 2005 Report using 20.2% Inflation

Size of District	Starting 2003-04 (using *SSD* data)*			Adequacy Target (using PJ data)**		
	K-12	K-6/8	7/9/2012	K-12	K-6/8	7/9/2012
100	$8,517	$10,605	$8,437	$11,355	$11,355	$11,353
250	$8,495	$10,582	$8,428	$11,332	$11,332	$11,344
500	$8,456	$10,544	$8,415	$11,294	$11,294	$11,331
1,000	$8,379	$10,468	$8,389	$11,218	$11,218	$11,305
2,000	$8,229	$10,317	$8,336	$11,067	$11,067	$11,252
4,000	$9,152			$12,019		
7,500	$9,620			$12,486		
10,000	$9,620			$12,486		
15,000	$9,620			$12,486		

The weights for all categories of special needs students and the urban factor represent an additional cost relative to the base cost needed in order to adequately serve students in these categories. These weights are simply applied to the inflation updated base cost figures for each school district and since they are applied to the inflation adjusted base cost figures, the weights do not need to be further adjusted for inflation.

Once the new base cost figure is determined, the adequacy amount for each district was calculated. In order to estimate adequacy for each district, the 2012-13 demographics for each district were obtained. This includes:

- The Average Daily Membership (ADM) for each district;
- The number of at-risk students using free or reduced price lunch as the proxy;
- The number of special education students, broken into mild, moderate, and severe needs; and
- The number of English language learners.

Using the district demographic information, the updated PJ base cost figures, and student need adjustments, an adequacy figure for each district was calculated. APA applied formulas to the new

differentiated base costs and applied the adjustments for each district based on its demographics. The resulting figures represent districts need in 2012-13 dollars to meet the standard used in the 2005 report. Again, this estimate may not fully recognize all the resources needed by districts to meet the Connecticut standards of today.

The adequacy figures for each district can be compared to each district's Net Current Expenditures (NCE) for 2012-13 published by the state. On the state's website, NCE is defined as including "...all current public elementary and secondary expenditures from all sources, excluding reimbursable education transportation, tuition revenue, capital expenditures for land, buildings and equipment, and debt service."[2] The original report also excluded transportation and capital revenue. Appendix A shows for each district the total adequacy amount needed, the adequacy per ADM, the total current NCE, the NCE per ADM (NCEP), the total difference, and the total difference per ADM. Table 5 below shows the number of districts, number of students, and total amount of difference for districts below and above adequacy for 2012-13.

Table 5
ADEQUACY COMPARISON 2012-13

	Currently Below Adequacy	Currently Above Adequacy
Number of Districts	100	66
Number of Students	445,508	97,152
Total Amount	($1,216,047,933)	$210,384,228

Table 5 shows that about 60% of districts were below adequacy in 2012-13. Over 80% of students were in the 100 districts below adequacy in 2012-13. Districts were a combined $1.2 billion below adequacy in the 2012-13 school year. This estimate is a conservative estimate since it assumes no added resource needs are associated with new standards implemented since the 2005 adequacy study.

[2] Connecticut State Department of Education, "2012-13 Net Current Expenditures per Pupil and 2013-14 Excess Cost Grant Basic Contributions." http://www.sde.ct.gov/sde/cwp/view.asp?A=2635&Q=320562, (October 2013).

APPENDIX A

District by District Adequacy								
District Number	District Name	ADM	Total Adequacy	Adequacy per ADM	Net Current Expenditures (NCE)	NCE per ADM	Difference	Difference per ADM
1	Andover School District	589	$7,478,546	$12,705	$7,708,813	$13,096	$230,267	$391
2	Ansonia School District	2,629	$43,270,318	$16,461	$30,980,285	$11,786	($12,290,033)	($4,675)
3	Ashford School District	643	$9,279,205	$14,436	$10,173,883	$15,827	$894,678	$1,392
4	Avon School District	3,472	$50,295,804	$14,484	$47,033,170	$13,545	($3,262,634)	($940)
5	Barkhamsted School District	649	$8,163,168	$12,582	$8,255,534	$12,725	$92,366	$142
7	Berlin School District	3,054	$44,649,145	$14,622	$42,850,830	$14,033	($1,798,315)	($589)
8	Bethany School District	944	$12,116,552	$12,841	$13,806,965	$14,632	$1,690,413	$1,791
9	Bethel School District	2,962	$45,296,580	$15,292	$42,528,785	$14,358	($2,767,795)	($934)
11	Bloomfield School District	2,261	$34,218,094	$15,137	$41,693,530	$18,444	$7,475,436	$3,307
12	Bolton School District	815	$11,862,818	$14,549	$12,194,641	$14,956	$331,823	$407
13	Bozrah School District	343	$5,241,255	$15,294	$5,193,000	$15,153	($48,255)	($141)
14	Branford School District	3,353	$53,550,631	$15,972	$50,648,509	$15,106	($2,902,122)	($866)
15	Bridgeport School District	20,701	$392,344,469	$18,953	$279,598,572	$13,507	($112,745,897)	($5,446)
17	Bristol School District	8,504	$148,565,174	$17,469	$106,127,066	$12,479	($42,438,108)	($4,990)
18	Brookfield School District	2,838	$40,950,680	$14,427	$36,586,732	$12,890	($4,363,948)	($1,537)
19	Brooklyn School District	1,261	$18,739,900	$14,864	$16,052,286	$12,732	($2,687,614)	($2,132)
21	Canaan School District	117	$1,681,324	$14,321	$2,907,553	$24,766	$1,226,229	$10,445
22	Canterbury School District	704	$10,477,271	$14,885	$11,423,801	$16,230	$946,530	$1,345
23	Canton School District	1,775	$24,589,092	$13,854	$24,269,961	$13,674	($319,131)	($180)
24	Chaplin School District	299	$4,065,371	$13,616	$5,611,600	$18,795	$1,546,229	$5,179
25	Cheshire School District	4,655	$69,772,612	$14,989	$61,143,718	$13,135	($8,628,894)	($1,854)
26	Chester School District	513	$6,959,658	$13,577	$7,919,859	$15,450	$960,201	$1,873
27	Clinton School District	2,034	$29,585,016	$14,543	$29,670,147	$14,584	$85,131	$42
28	Colchester School District	2,950	$44,059,462	$14,937	$37,737,957	$12,794	($6,321,505)	($2,143)
29	Colebrook School District	221	$2,993,269	$13,553	$3,399,482	$15,393	$406,213	$1,839
30	Columbia School District	722	$10,324,567	$14,291	$10,897,737	$15,085	$573,170	$793
31	Cornwall School District	153	$2,307,321	$15,110	$3,926,818	$25,716	$1,619,497	$10,606
32	Coventry School District	1,854	$27,292,159	$14,721	$25,507,220	$13,758	($1,784,939)	($963)
33	Cromwell School District	2,043	$29,206,550	$14,293	$26,531,733	$12,984	($2,674,817)	($1,309)
34	Danbury School District	10,726	$196,617,248	$18,331	$128,009,840	$11,934	($68,607,408)	($6,396)
35	Darien School District	4,874	$71,414,073	$14,651	$81,497,237	$16,719	$10,083,164	$2,069
36	Deep River School District	656	$8,798,757	$13,413	$9,963,923	$15,189	$1,165,166	$1,776
37	Derby School District	1,613	$25,732,107	$15,951	$20,105,910	$12,463	($5,626,197)	($3,488)
39	Eastford School District	218	$3,338,898	$15,351	$3,656,384	$16,811	$317,486	$1,460
40	East Granby School District	901	$12,422,980	$13,782	$14,691,979	$16,300	$2,268,999	$2,517
41	East Haddam School District	1,296	$19,005,836	$14,670	$18,639,280	$14,387	($366,556)	($283)
42	East Hampton School District	1,971	$26,963,583	$13,681	$28,177,159	$14,297	$1,213,576	$616
43	East Hartford School District	8,034	$143,871,316	$17,907	$97,826,222	$12,176	($46,045,094)	($5,731)
44	East Haven School District	3,643	$61,211,812	$16,802	$48,233,874	$13,239	($12,977,938)	($3,562)
45	East Lyme School District	2,734	$40,588,287	$14,844	$42,001,918	$15,361	$1,413,631	$517
46	Easton School District	1,479	$18,503,882	$12,512	$24,057,536	$16,268	$5,553,654	$3,755

District Number	District Name	ADM	Total Adequacy	Adequacy per ADM	Net Current Expenditures (NCE)	NCE per ADM	Difference	Difference per ADM
47	East Windsor School District	1,364	$22,425,499	$16,437	$20,242,981	$14,837	($2,182,518)	($1,600)
48	Ellington School District	2,789	$40,488,203	$14,519	$31,325,666	$11,234	($9,162,537)	($3,286)
49	Enfield School District	5,767	$97,518,929	$16,911	$73,724,030	$12,784	($23,794,899)	($4,126)
50	Essex School District	968	$12,549,921	$12,964	$14,673,573	$15,158	$2,123,652	$2,194
51	Fairfield School District	10,322	$159,675,013	$15,469	$153,875,427	$14,908	($5,799,586)	($562)
52	Farmington School District	4,079	$61,649,908	$15,113	$58,774,690	$14,408	($2,875,218)	($705)
53	Franklin School District	281	$4,140,249	$14,756	$3,885,372	$13,848	($254,877)	($908)
54	Glastonbury School District	6,753	$101,817,116	$15,078	$89,961,154	$13,322	($11,855,962)	($1,756)
56	Granby School District	2,084	$28,210,982	$13,537	$26,880,744	$12,899	($1,330,238)	($638)
57	Greenwich School District	8,711	$137,700,746	$15,807	$158,242,545	$18,165	$20,541,799	$2,358
58	Griswold School District	1,835	$28,932,474	$15,768	$23,594,628	$12,859	($5,337,846)	($2,909)
59	Groton School District	5,091	$87,615,995	$17,209	$74,503,016	$14,633	($13,112,979)	($2,576)
60	Guilford School District	3,605	$52,560,336	$14,578	$53,143,284	$14,740	$582,948	$162
62	Hamden School District	6,763	$114,813,278	$16,976	$103,806,319	$15,349	($11,006,959)	($1,627)
63	Hampton School District	197	$2,840,477	$14,441	$4,117,431	$20,933	$1,276,954	$6,492
64	Hartford School District	21,671	$425,462,803	$19,633	$388,271,655	$17,917	($37,191,148)	($1,716)
65	Hartland School District	300	$4,103,565	$13,663	$4,538,443	$15,111	$434,878	$1,448
67	Hebron School District	2,008	$24,904,069	$12,401	$24,642,138	$12,271	($261,931)	($130)
68	Kent School District	317	$4,416,488	$13,952	$6,302,736	$19,911	$1,886,248	$5,959
69	Killingly School District	2,487	$41,518,169	$16,697	$35,741,696	$14,374	($5,776,473)	($2,323)
71	Lebanon School District	1,140	$16,914,254	$14,837	$16,683,676	$14,635	($230,578)	($202)
72	Ledyard School District	2,524	$39,678,167	$15,720	$32,930,489	$13,047	($6,747,678)	($2,673)
73	Lisbon School District	625	$9,474,556	$15,150	$9,250,355	$14,792	($224,201)	($359)
74	Litchfield School District	1,060	$15,069,535	$14,215	$16,985,814	$16,023	$1,916,279	$1,808
76	Madison School District	3,380	$48,181,362	$14,256	$48,153,050	$14,248	($28,312)	($8)
77	Manchester School District	7,147	$124,451,268	$17,414	$104,387,045	$14,607	($20,064,223)	($2,808)
78	Mansfield School District	1,972	$27,267,471	$13,829	$30,368,347	$15,402	$3,100,876	$1,573
79	Marlborough School District	1,188	$14,894,352	$12,533	$13,422,699	$11,295	($1,471,653)	($1,238)
80	Meriden School District	9,071	$170,191,534	$18,762	$112,282,449	$12,378	($57,909,085)	($6,384)
83	Middletown School District	5,216	$87,401,406	$16,758	$73,321,280	$14,058	($14,080,126)	($2,700)
84	Milford School District	6,755	$110,366,204	$16,339	$106,788,448	$15,809	($3,577,756)	($530)
85	Monroe School District	3,558	$50,847,259	$14,289	$51,770,900	$14,549	$923,641	$260
86	Montville School District	2,514	$39,520,449	$15,723	$35,120,928	$13,972	($4,399,521)	($1,750)
88	Naugatuck School District	4,705	$78,790,289	$16,745	$62,797,687	$13,346	($15,992,602)	($3,399)
89	New Britain School District	11,187	$215,161,224	$19,234	$132,366,466	$11,832	($82,794,758)	($7,401)
90	New Canaan School District	4,221	$58,796,825	$13,931	$73,619,514	$17,443	$14,822,689	$3,512
91	New Fairfield School District	2,725	$39,245,913	$14,404	$37,107,374	$13,620	($2,138,539)	($785)
92	New Hartford School District	1,124	$14,071,145	$12,524	$15,798,245	$14,062	$1,727,100	$1,537
93	New Haven School District	18,401	$348,391,212	$18,933	$309,017,409	$16,793	($39,373,803)	($2,140)
94	Newington School District	4,452	$71,257,110	$16,005	$64,665,699	$14,525	($6,591,411)	($1,481)
95	New London School District	3,577	$69,225,502	$19,352	$47,394,147	$13,249	($21,831,355)	($6,103)
96	New Milford School District	4,531	$74,248,872	$16,386	$55,423,910	$12,231	($18,824,962)	($4,154)
97	Newtown School District	5,189	$75,511,541	$14,552	$69,723,540	$13,437	($5,788,001)	($1,115)
98	Norfolk School District	222	$3,042,458	$13,734	$4,063,248	$18,342	$1,020,790	$4,608
99	North Branford School District	2,187	$32,284,929	$14,760	$28,579,194	$13,066	($3,705,735)	($1,694)

District Number	District Name	ADM	Total Adequacy	Adequacy per ADM	Net Current Expenditures (NCE)	NCE per ADM	Difference	Difference per ADM
100	North Canaan School District	439	$6,360,370	$14,477	$8,132,281	$18,510	$1,771,911	$4,033
101	North Haven School District	3,562	$53,235,426	$14,946	$46,839,694	$13,150	($6,395,732)	($1,796)
102	North Stonington School Distri	781	$10,989,206	$14,071	$11,711,727	$14,996	$722,521	$925
103	Norwalk School District	11,241	$197,133,563	$17,538	$175,791,560	$15,639	($21,342,003)	($1,899)
104	Norwich School District	5,415	$100,122,846	$18,490	$78,781,398	$14,549	($21,341,448)	($3,941)
106	Old Saybrook School District	1,477	$23,077,856	$15,628	$22,823,665	$15,456	($254,191)	($172)
107	Orange School District	2,438	$30,380,233	$12,460	$36,198,352	$14,846	$5,818,119	$2,386
108	Oxford School District	2,149	$28,547,666	$13,286	$27,543,730	$12,819	($1,003,936)	($467)
109	Plainfield School District	2,394	$38,391,662	$16,039	$30,388,012	$12,695	($8,003,650)	($3,344)
110	Plainville School District	2,400	$38,792,232	$16,165	$34,519,430	$14,385	($4,272,802)	($1,781)
111	Plymouth School District	1,797	$27,894,278	$15,519	$22,987,861	$12,789	($4,906,417)	($2,730)
112	Pomfret School District	679	$9,672,410	$14,244	$9,844,293	$14,498	$171,883	$253
113	Portland School District	1,428	$20,364,505	$14,264	$18,715,828	$13,109	($1,648,677)	($1,155)
114	Preston School District	605	$9,321,111	$15,417	$10,252,874	$16,958	$931,763	$1,541
116	Putnam School District	1,222	$20,362,032	$16,664	$18,635,959	$15,252	($1,726,073)	($1,413)
117	Redding School District	1,663	$21,743,633	$13,079	$31,620,386	$19,020	$9,876,753	$5,941
118	Ridgefield School District	5,287	$75,891,861	$14,354	$81,573,595	$15,428	$5,681,734	$1,075
119	Rocky Hill School District	2,600	$36,451,774	$14,022	$34,660,815	$13,333	($1,790,959)	($689)
121	Salem School District	700	$9,731,011	$13,899	$10,127,858	$14,466	$396,847	$567
122	Salisbury School District	385	$5,560,317	$14,446	$7,756,914	$20,153	$2,196,597	$5,707
123	Scotland School District	211	$3,016,110	$14,308	$4,152,602	$19,699	$1,136,492	$5,391
124	Seymour School District	2,407	$35,652,119	$14,813	$30,830,239	$12,810	($4,821,880)	($2,003)
125	Sharon School District	241	$3,727,180	$15,465	$5,755,855	$23,883	$2,028,675	$8,418
126	Shelton School District	5,248	$83,806,222	$15,969	$65,282,106	$12,440	($18,524,116)	($3,530)
127	Sherman School District	573	$8,276,387	$14,446	$8,420,901	$14,698	$144,514	$252
128	Simsbury School District	4,600	$69,823,779	$15,179	$64,775,087	$14,082	($5,048,692)	($1,098)
129	Somers School District	1,569	$22,038,111	$14,042	$20,223,505	$12,886	($1,814,606)	($1,156)
131	Southington School District	6,769	$108,209,751	$15,985	$84,646,215	$12,504	($23,563,536)	($3,481)
132	South Windsor School District	4,425	$69,718,875	$15,755	$67,032,895	$15,148	($2,685,980)	($607)
133	Sprague School District	453	$6,849,386	$15,131	$6,075,549	$13,421	($773,837)	($1,709)
134	Stafford School District	1,747	$26,266,137	$15,031	$25,962,599	$14,857	($303,538)	($174)
135	Stamford School District	15,491	$272,678,233	$17,603	$259,311,455	$16,740	($13,366,778)	($863)
136	Sterling School District	665	$10,654,108	$16,021	$7,866,083	$11,828	($2,788,025)	($4,192)
137	Stonington School District	2,438	$36,644,029	$15,029	$33,469,426	$13,727	($3,174,603)	($1,302)
138	Stratford School District	7,353	$122,705,670	$16,687	$98,380,226	$13,379	($24,325,444)	($3,308)
139	Suffield School District	2,384	$33,756,595	$14,157	$31,719,270	$13,303	($2,037,325)	($854)
140	Thomaston School District	1,163	$17,222,691	$14,803	$15,228,025	$13,088	($1,994,666)	($1,714)
141	Thompson School District	1,201	$17,807,491	$14,829	$16,465,917	$13,711	($1,341,574)	($1,117)
142	Tolland School District	2,950	$42,221,328	$14,314	$36,144,046	$12,254	($6,077,282)	($2,060)
143	Torrington School District	4,534	$81,432,594	$17,961	$65,963,242	$14,549	($15,469,352)	($3,412)
144	Trumbull School District	6,755	$102,572,409	$15,184	$93,241,729	$13,803	($9,330,680)	($1,381)
145	Union School District	100	$1,327,490	$13,275	$1,548,465	$15,485	$220,975	$2,210
146	Vernon School District	3,710	$60,495,345	$16,307	$49,896,654	$13,450	($10,598,691)	($2,857)
147	Voluntown School District	416	$6,032,999	$14,498	$6,204,231	$14,910	$171,232	$411
148	Wallingford School District	6,290	$102,786,042	$16,341	$95,142,168	$15,125	($7,643,874)	($1,215)

District Number	District Name	ADM	Total Adequacy	Adequacy per ADM	Net Current Expenditures (NCE)	NCE per ADM	Difference	Difference per ADM
151	Waterbury School District	17,793	$341,491,903	$19,193	$259,440,785	$14,581	($82,051,118)	($4,611)
152	Waterford School District	3,014	$45,435,297	$15,073	$44,904,017	$14,896	($531,280)	($176)
153	Watertown School District	3,040	$46,383,698	$15,257	$38,706,739	$12,732	($7,676,959)	($2,525)
154	Westbrook School District	890	$12,980,403	$14,582	$15,606,538	$17,532	$2,626,135	$2,950
155	West Hartford School District	10,332	$169,403,301	$16,397	$141,740,300	$13,719	($27,663,001)	($2,678)
156	West Haven School District	7,224	$128,109,214	$17,733	$87,822,500	$12,157	($40,286,714)	($5,577)
157	Weston School District	2,421	$32,274,492	$13,332	$45,818,876	$18,927	$13,544,384	$5,595
158	Westport School District	5,762	$84,463,457	$14,658	$104,718,958	$18,173	$20,255,501	$3,515
159	Wethersfield School District	3,878	$61,760,842	$15,926	$53,281,694	$13,740	($8,479,148)	($2,187)
160	Willington School District	738	$10,207,982	$13,840	$11,496,538	$15,587	$1,288,556	$1,747
161	Wilton School District	4,297	$62,579,956	$14,565	$72,249,983	$16,816	$9,670,027	$2,251
162	Winchester School District	1,297	$22,425,869	$17,286	$21,550,985	$16,612	($874,884)	($674)
163	Windham School District	3,255	$63,425,463	$19,485	$49,851,887	$15,315	($13,573,576)	($4,170)
164	Windsor School District	4,019	$70,124,725	$17,449	$62,619,330	$15,582	($7,505,395)	($1,868)
165	Windsor Locks School District	1,835	$27,818,531	$15,163	$30,053,904	$16,382	$2,235,373	$1,218
166	Wolcott School District	2,813	$40,276,447	$14,320	$32,522,777	$11,563	($7,753,670)	($2,757)
167	Woodbridge School District	1,464	$18,080,096	$12,351	$23,577,824	$16,107	$5,497,728	$3,756
169	Woodstock School District	1,313	$17,218,719	$13,119	$15,582,718	$11,873	($1,636,001)	($1,246)
201	Regional School District 01	420	$6,611,160	$15,741	$9,693,518	$23,080	$3,082,358	$7,339
204	Regional School District 04	1,014	$15,217,848	$15,006	$15,224,028	$15,012	$6,180	$6
205	Regional School District 05	2,394	$33,415,015	$13,960	$36,749,204	$15,353	$3,334,189	$1,393
206	Regional School District 06	912	$13,349,304	$14,635	$15,555,431	$17,054	$2,206,127	$2,419
207	Regional School District 07	1,066	$15,356,945	$14,408	$15,808,507	$14,831	$451,562	$424
208	Regional School District 08	1,868	$26,588,747	$14,234	$22,338,107	$11,958	($4,250,640)	($2,276)
209	Regional School District 09	1,041	$14,759,741	$14,179	$19,483,831	$18,718	$4,724,090	$4,538
210	Regional School District 10	2,671	$37,477,951	$14,030	$33,789,673	$12,649	($3,688,278)	($1,381)
211	Regional School District 11	330	$5,840,934	$17,676	$6,239,596	$18,882	$398,662	$1,206
212	Regional School District 12	839	$12,688,319	$15,124	$19,469,525	$23,208	$6,781,206	$8,083
213	Regional School District 13	1,992	$28,425,827	$14,273	$31,922,359	$16,029	$3,496,532	$1,756
214	Regional School District 14	1,695	$23,968,024	$14,143	$27,492,759	$16,223	$3,524,735	$2,080
215	Regional School District 15	4,123	$61,349,690	$14,880	$58,373,971	$14,158	($2,975,719)	($722)
216	Regional School District 16	2,428	$36,022,394	$14,836	$32,907,080	$13,553	($3,115,314)	($1,283)
217	Regional School District 17	2,298	$34,292,421	$14,924	$34,391,033	$14,966	$98,612	$43
218	Regional School District 18	1,478	$20,665,569	$13,984	$26,106,115	$17,665	$5,440,546	$3,681
219	Regional School District 19	1,091	$17,474,907	$16,017	$16,233,711	$14,880	($1,241,196)	($1,138)

APPENDIX B

Summary of Connecticut's Resource Requirements and Performance Expectations

Presented to the Professional Judgment Panels
February, 2005
Hartford, CT

Augenblick, Palaich and Associates, Inc.
Denver, Colorado

The following document describes the input requirements and outcome expectations based on current state policy, including the agreement the state has reached with the federal government regarding the No Child Left Behind (NCLB) Act.

For the purposes of this meeting, you should assume that "all students" (shown as 100 percent) means "as close as possible to all students but not necessarily every single student." In a broader sense, and in the spirit of state and federal law, professional practice, local aspirations, and individual needs, you should assure that all students are safe, have an opportunity to participate in school programs and activities, are treated fairly, can perform proficiently, and have a reasonable chance to graduate from high school and lead productive lives as citizens of Connecticut.

Student Assessment:

Connecticut Mastery Test (CMT) and Connecticut Academic Performance Test (CAPT)

- The CMT measures the performance of students at grades 4, 6, and 8 in reading, writing, and mathematics and reflects the standards of CT's Curriculum Frameworks. These three content areas are assessed by means of five tests: the Degrees of Reading Power (DRP), Reading Comprehension, Mathematics, Direct Assessment of Writing, and Editing & Revising. Due to federal No Child Left Behind (NCLB) requirements, the CMT4 will test all students in grades 3-8 and move from fall to spring administration as of 2005-06, and science will be added for grades 5-8 beginning with the spring 2008 administration.

- The CAPT is designed to measure students' ability to apply what they have learned in school to situations they may encounter in real life. It reports on student performance in four areas: Mathematics, Reading Across the

Disciplines (Reading for Information and Response to Literature), Writing Across the Disciplines (Interdisciplinary Writing and Editing & Revising), and Science. Use of the CAPT as the sole criterion for promotion or graduation is prohibited. [C.G.S. § 10-14n] However, beginning in 2006, each school district must specify the basic skills necessary for high school graduation and specify a process for assessing students' competency in those skills, with one alternative being CAPT results at a level established by the local board of education. [C.G.S. § 10-233] Initially administered in grade 10, students who have not achieved mastery in one or more subject areas may voluntarily retake all or part of the test in grades 11 and 12. Test results become part of students' permanent record and are reported on their official school transcripts.

- Both the CMT and CAPT consist of a variety of item types, including multiple-choice, grid-in, short-answer, and extended-writing tasks. Performance in each of the tested content areas is represented by a scale score ranging from 100-400. Performance standards, based on scale scores, include Advanced, Goal, Proficient, Basic, and Below Basic; the top two levels define Goal Range, the mastery standard. Fall 2003 CMT and Spring 2004 CAPT state averages were as follows:

Grade	*Content Area*	*State Avg Scale Score*	*% Within Goal Range*	*% At/Above Proficient Level*
4	Math	248.4	58	80
	Reading	245.4	54	69
	Writing	259.7	66	83
6	Math	256.6	62	81
	Reading	250.3	62	74
	Writing	251.9	62	84
8	Math	250.0	56	77
	Reading	254.0	67	77
	Writing	251.2	62	81
10	Math	249.8	46	76
	Science	254.6	47	82
	Reading	249.8	48	79
	Writing	252.8	54	85

However, performance of students exhibits high correlation with socioeconomic status, so that districts that are members of the highest- and lowest-wealth Education Reference Groups (ERGs A and I, respectively) represent the outer ranges of scores. For example, for CMT gr. 4, ERG A standard score averages in math were 274 (81 percent of students at goal range), 273 in reading (82 percent at goal range), and 289 in writing (87

percent at goal range), compared in ERG I with 218 in math (29 percent at goal range), 215 in reading (23 percent at goal range), and 232 in writing (41 percent at goal range). Similar performance disparities apply to CAPT standard scores: ERG A average scale scores were 282 in math (80 percent of students at goal range), 289 in science (79 percent at goal range), 287 in reading (82 percent at goal range), and 286 in writing (85 percent at goal range), whereas ERG I average scale scores were 213 in math (13 percent at goal range), 217 in science (16 percent at goal range), 218 in reading (19 percent at goal range), and 224 in writing (26 percent at goal range).

- Alternate assessment options are available based on individual determination by Special Education students' IEP and in accordance with state compliance with federal No Child Left Behind provisions. One alternate assessment option is out-of-level testing; another, for students with more significant impairments whose curriculum centers on functional/daily living/self-help/social skills, is the CMT/CAPT Skills Checklist. The Skills Checklist mirrors the domains tested on the standard assessments but focuses on the communication, quantitative, and science skills typically found in a curriculum with a functional focus.

- Students identified as English Language Learners must be tested annually using the Language Assessment Scales Oral, Reading, and Writing tests to assess their progress in obtaining English. To "exit" from bilingual, ESL, or other language support services, students must meet the state's English mastery standard: (for grades K-12) level 5 performance on the LAS Oral, (for grades 2-12) level 3 performance on the LAS Reading and Writing, (for grades K-2) grade-level performance on the DRA, and (for grades 4-9) proficiency on the math and reading subtests and basic or above on the writing subtest of the CMT or (for grades 10-12) basic or above on the math, reading, and writing subtests of the CAPT. Until all applicable standards have been met, students must continue to be provided with English language instruction.

Adequate Yearly Progress (AYP) Performance Targets

- Reading and math sub-scores of the CMT and CAPT are used to measure AYP as defined by NCLB regulations. Requirements for determining AYP and reaching 100 percent proficiency by 2013-14 are shown below.

	CMT				CAPT			
	Reading		Mathematics		Reading		Mathematics	
	AYP Level	Suggested Annual Targets	AYP Level	Suggested Annual Targets	AYP Level	Suggested Annual Targets	AYP Level	Suggested Annual Targets
2002-03	57%	57%	65%	65%	62%	62%	59%	59%
2003-04		60%		67%		65%		62%
2004-05	68%	68%	74%	74%	72%	72%	69%	69%
2005-06		71%		77%		75%		73%
2006-07		75%		80%		78%		76%
2007-08	79%	79%	82%	82%	81%	81%	80%	80%
2008-09		82%		85%		84%		83%
2009-10		85%		89%		88%		87%
2010-11	89%	89%	91%	91%	91%	91%	90%	90%
2011-12		94%		96%		96%		95%
2012-13		98%		99%		99%		98%
2013-14	100%	100%	100%	100%	100%	100%	100%	100%

- In addition, 70 percent of students in elementary and middle schools must score basic or above or show annual improvement on the CMT writing subtest, high schools must meet a 70 percent graduation rate or show annual improvement, and all schools and student subgroups must meet a 95 percent participation rate in the state's testing program. Failure to meet NCLB performance targets — at the student subgroup, school, and district levels — results in an escalating series of sanctions consistent with NCLB mandates.

State Board Requirements:

A highly educated citizenry is Connecticut's most valuable resource. The development of educated and productive citizens requires a plan and the passion to relentlessly pursue success for each student.

The State Board of Education's comprehensive plan addresses one part of the statutory requirement under C.G.S. 10-4 to provide leadership to school districts with respect to preschool, elementary and secondary education, special education, vocational education and adult education by developing a comprehensive plan every five years. Since 1997, as a response to the

Connecticut Supreme Court decision in *Sheff v. O'Neill*, the State Board of Education has also been required to establish a five-year plan with biennial updates and recommendations in order to accomplish the five statutory goals set forth in C.G.S. Section 10-4p:

- to achieve resource equity and equality of opportunity;
- to increase student achievement;
- to reduce racial, ethnic and economic isolation;
- to improve effective instruction; and
- to encourage greater parental and community involvement in all public schools of the state.

The State Board of Education has also developed position statements and guidance for school districts that include the following statements on the education provided to students throughout the state.

- The arts play an essential role in the daily lives of citizens in our society, and are essential to the expression of human experience. There is also strong evidence that students educated in and through the arts achieve at higher levels in other areas of the curriculum and in their adult lives.
- Schools must seek to enhance student learning by addressing the intellectual, emotional and physical safety needs of students and staff. All students deserve a quality education that incorporates the teaching of respect for others and self, integrity, citizenship and sense of commitment and obligation to the school and community.
- The mission of the State Board is to ensure "that each child shall have...equal opportunity to receive a suitable program of educational experiences." To accomplish this mission and to fulfill the requirements of Public Act No. 99-211, *An Act Improving Bilingual Education,* the Board affirms that programs be provided those students who are acquiring English as a second language.
- *Connecticut's Common Core of Learning* defines common goals for all students, including those with disabilities. Connecticut's public education system has the duty to provide opportunities for all students to achieve the statewide student goals (motivation to learn, mastery of the basic skills, acquisition of knowledge, competence in life skills and understanding society's values).
- The Board's definition of equal educational opportunity is student access to a level and quality of programs and experiences that provide each child with the means to achieve the standard of an educated citizen defined by Connecticut's Common Core of Learning. Evidence of equal educational opportunity is the participation and achievement of each student in challenging educational programs, regardless of factors such as family income, race, gender, or town of residence.
- The State Board believes that every student must develop strong technological skills and continually use them in order to function

adequately in our 21st century world. Connecticut schools must ensure that technology resources are integrated across the curriculum in preK-12 and become part of the fabric of instruction.

- The State Board believes that a strong language arts program is essential to ensure that students develop the skills they need to comprehend and communicate effectively.
- The State Board believes that every student needs and deserves a high-quality, comprehensive mathematics education program that develops mathematical facility in the basic skills and quantitative literacy in numbers, measurement, algebra, geometry and statistics.
- The most critical set of responsibilities for a local board of education is to articulate clearly what success means in its district; establish standards of performance; measure performance against those standards; regularly make this information available to the public; and ensure that this information is used to make good decisions which support student success.
- The State Board is committed to ensuring that all of the state's preschool-age children, including children with disabilities, are afforded an opportunity to participate in a high-quality preschool education.
- By offering parents and students choices among a range of educational programs and settings, the State Board believes our educational system will maximize the opportunity for each student to achieve his/her highest potential.
- The State Board recognizes that students can benefit from participation in educational programs which provide a combination of school-based and work-based experiences that are connected by a series of career exploration activities and assessments and a more deliberate selection of course work based on potential career interests.
- The Board believes that learning science is important for all students in order to prepare them to be informed individuals and citizens and to participate in a wide range of scientific and technological careers.
- The State Board believes that Connecticut's public education system has the duty to provide a continuum of developmental, preventative, remedial, and supportive services that enhance opportunities for **all** students to achieve academic success and personal well-being.
- The State Board believes that educators and local school board members must demonstrate leadership in seeking ways to continuously improve student achievement and close the achievement gaps. A source of improved student achievement, supported by the most current research, is more personal school settings that are staffed by highly qualified educators.

Legislative Requirements:

Sec. 10-16. Length of school year. Each school district shall provide in each school year no less than one hundred and eighty days of actual school sessions for grades kindergarten to twelve, inclusive, nine hundred hours of actual school work for full-day kindergarten and grades one to twelve, inclusive, and four hundred and fifty hours of half-day kindergarten, provided school districts shall not count more than seven hours of actual school work in any school day towards the total required for the school year.

Sec. 10-16b. Prescribed courses of study. (a) In the public schools the program of instruction offered shall include at least the following subject matter, as taught by legally qualified teachers, the arts; career education; consumer education; health and safety, including, but not limited to, human growth and development, nutrition, first aid, disease prevention, community and consumer health, physical, mental and emotional health, including youth suicide prevention, substance abuse prevention, safety, which may include the dangers of gang membership, and accident prevention; language arts, including reading, writing, grammar, speaking and spelling; mathematics; physical education; science; social studies, including, but not limited to, citizenship, economics, geography, government and history; and in addition, on at least the secondary level, one or more foreign languages and vocational education. For purposes of this subsection, language arts may include American sign language or signed English, provided such subject matter is taught by a qualified instructor under the supervision of a teacher who holds a certificate issued by the State Board of Education.

Sec. 10-17f. Duties of boards of education regarding bilingual education programs. Development of state English mastery standard. Regulations. (a) Annually, the board of education for each local and regional school district shall ascertain, in accordance with regulations adopted by the State Board of Education, the eligible students in such school district and shall classify such students according to their dominant language.

Sec. 10-33. Tuition in towns in which no high school is maintained. Any local board of education which does not maintain a high school shall designate a high school approved by the State Board of Education as the school which any child may attend who has completed an elementary school course, and such board of education shall pay the tuition of such child residing with a parent or guardian in such school district and attending such high school.