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STATE GENERAL BUSINESS TAXATION ONE MORE TIME: CIT, GRT, OR VAT?

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We report on findings of the recently completed 2015 Connecticut State and Local Tax Study Panel with a focus on statewide general business taxation. The state's corporate net income (profits) tax violates many of the Panel's adopted criteria for a high quality tax system. Drawing on the Panel's technical research, the Connecticut Department of Revenue Services is undertaking further study of the implementation of alternatives to the corporate net income tax, including a broad based/low rate gross receipts tax and a value-added tax, both of which would be imposed uniformly on corporate and non-corporate businesses alike. This paper reviews the merits and demerits of the alternative general business tax structures and presents research findings relating to a revenue neutral replacement of the net income tax with an "entity tax" based on gross receipts or value added.

Keywords: state business taxation, corporate net income tax, gross receipts, value added

JEL Codes: H25, H7

I. INTRODUCTION

In September 2014 the Connecticut General Assembly created a 22 member (14 voting, eight ex-officio) State Tax Study Panel with the mandate to evaluate options to modernize state and local tax policy as the state approaches 2020.¹ The Panel commissioned a set of 18 technical studies to evaluate performance of the current state/local revenue system and to provide options for enhancing tax equity and efficiency (Connecticut Tax Panel, 2015).² In addition to formally adopting the goals of equity and efficiency,

¹ The final report is published in three volumes in both e-format and hard copy (Connecticut Tax Panel, 2015).

² Other normative criteria include the Panel's explicit statements to ensure competitiveness, revenue certainty, reliability and stability, and simplicity for taxpayers and tax administrators alike.

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the Panel adopted a set of guiding principles, including (1) the Connecticut revenue system should be designed to make “fiscal sense” over the long term so as to minimize reliance on revenues that will become fiscally obsolete in the coming decade, and (2) to minimize distortions in individual and business decision making, there should be a presumption in favor of broad bases and low statutory rates.

The focus of this paper is on the topic that emerged as a key Connecticut concern — a discussion of broad taxing options for taxing general business activity other than the corporate income tax (Luna and Murray, 2015). Following the path of other states that have recently had a similar debate (e.g., the District of Columbia, New Hampshire, Michigan, Ohio, Texas, and Washington), the Panel examined the current practice of taxing corporate net income along with two “entity tax” alternatives: a tax on gross receipts (GRT) and a tax measured on the value added that a business enterprise generates for the Connecticut economy (VAT).

The remainder of this paper begins by discussing the rationale for why states should utilize some form of general business taxation (Section II) and then presents the simple accounting of how each of the three general business tax base options are defined (Section III). Also in Section III, we begin to examine the theoretical benefits and shortcomings of each of the three taxing options. In Section IV, we identify several important policy and implementation issues and challenges that will arise if Connecticut (or any other state) takes on the task of replacing a corporate income tax (CIT) with either a GRT or a VAT. Section V presents projected tax revenue data from the Connecticut study that highlights policy tradeoffs among the CIT, GRT, and VAT. The first set reports the research findings relating to the statutory rate implications of a revenue neutral replacement of the Connecticut CIT with either a GRT or VAT (Luna and Murray, 2015). The second set provides an industry-by-industry look at the differential impacts of the three business tax options considered by the Panel. In Section VI, we conclude that Connecticut and other states unhappy with the performance of their current CIT should strongly consider replacing their existing CIT with either a GRT or a VAT. We do not attempt to provide an overview of the experience of other states that have undertaken this same debate — a topic that has been adequately discussed (Berghaus and Ardinger, 1993; Kenyon, 1996; Bird, 2000, 2005; Strauss and Franco, 2005; Gates, 2002; Hines, 2003; Arnold and Ardinger, 2004; Ebel and Kalambokidis, 2005; Pogue, 2007; Testa and Mattoon, 2007; Hamilton, 2012; Luna, Murray, and Yang, 2012).

II. THE RATIONALE FOR STATE GENERAL BUSINESS TAXATION

The rationale for general business taxation is framed by the benefits received principle, whereby individuals who receive the benefits from a flow of public goods and services should pay for those services. Benefit taxation addresses the efficiency question of “getting the prices right” and internalizing the costs of providing government services. Note the reference to individuals, which serves to emphasize the axiom that ultimately only people — not institutions such as a business entity — pay taxes. So, then, why impose a general tax on business? The answer goes to the problem of tax base accessibility. If the business benefits from the public service as an input into its production, the business should pay for the service via taxes.

The business firm is the organizational vehicle through which individuals in their roles as consumers of goods and services and/or suppliers of private sector factors of production (land, labor, capital, and entrepreneurship) derive the benefits of economic activity. Factor suppliers receive financial returns in the form of the factor payments of rents, labor compensation (wages and salaries), interest, and profits. Importantly, the public sector serves as a fifth factor of production — government as resource supplier that provides a set of services that enter the firm's production function in addition to benefiting and protecting consumers. These services range from the provision of infrastructure, education, and judicial systems to housing, public safety, and health and sanitation.

A fundamental challenge is that the people who benefit from these fifth-factor services may, or may not, be residents of the state in which the business enterprise is located. Accordingly, the mechanism for a state to assess individuals who receive these service benefits — residents and nonresidents alike — is to treat the business enterprise as a tax collecting agent (Papke, 1960). This, in turn, means levying a tax at the source where income or receipts are created by the business entity rather than trying to identify all factor suppliers and consumers wherever they may live. These fifth-factor beneficiaries may be a wage recipient in Bridgeport, a shareholder in Boston, or a customer of the firm's final product in Budapest. Under this arrangement, governments provide goods and services to individuals at a tax price in the same way that consumers pay for what they get in the market place (Cordes and Watson, 1998).

III. TAX BASE ARITHMETIC



A. Entity Taxes: GRT and VAT

To understand the alternatives for state general business taxation, it is helpful to first consider some simple accounting relationships (Cordes and Watson, 1998). We consider three taxing options — the GRT, VAT, and CIT. Instead of considering them fundamentally different taxes, it is perhaps more instructive to consider them as different choices on a continuum (Tables 1 and 2). All three taxes begin with some measure of gross income or receipts, and differ in the deductions (if any) allowed from gross income to arrive at the taxable base. The broadest of the three tax bases is the gross receipts tax, which allows no deduction for expenditures of any kind. At the other end of the continuum is the CIT, which allows a deduction for all "ordinary and necessary" business expenses. Between those two extremes lies the VAT, which allows for a deduction or its equivalent for purchases of goods and services from other taxed firms.

The GRT base includes the total dollar amount of sales of goods and services and rental income. There is no deduction for the cost of material used, labor or services costs, interest or rent paid, or any other element of cost of goods sold expense.³ The tax

³ The GRT base will (generally) exclude items that are not production related — e.g., income from financial transactions (interest, dividends, proceeds from sales of stock), payroll taxes withheld, and certain fees for insurance and payroll taxes.

Table 1
Taxonomy of Business Taxes

Broad Base	Tax Base	Examples	Description of Tax Base	Low Rate
	Gross receipts tax	Ohio CAT, Washington B&O, Nevada	Gross receipts (GR) with few, if any, deductions	
	Gross margins tax	Texas	GR minus cost of goods sold, or GR minus compensation, or 30 percent total revenue	
	Net receipts tax/Subtraction method VAT	Proposed in California	GR minus purchases from other firms, resulting in incomplete border adjustments	
	Credit invoice VAT	Pure VAT	GR minus purchases from other firms	
	Corporate income tax	Traditional business entity tax imposed in 45 states; applies to C corps only	GR minus labor costs, depreciation, interest, purchases from other firms, other operating expenses	
Narrow Base				High Rate

Source: Cline and Neubig (2008), Table 4, updated for recent reforms

is levied on corporate and non-corporate business enterprises alike (unless explicitly excluded, as is typical for religious, charitable, and similar 501(c)(3) organizations). The result is a readily identifiable very broad base that can produce a given flow of revenues at a very low (often less than one percent) statutory rate. The tax form for a relatively pure GRT is extremely simple and can fit on one page.

The value-added tax base can be computed in two ways, each of which yields a common base. For the subtraction method VAT, a consumption-based tax, the base is computed by taking the difference between a firm's sales and the purchases made from other firms. Thus, value added equals gross receipts less purchases from other firms. The subtraction method was the approach adopted by Michigan with its Business Activities Tax from 1953 to 1967, and recommended by the Washington Tax Structure Study Committee (Gates, 2002) in its proposal to replace the state's Business and Occupations (Gross Receipts) Tax with a VAT.

An alternative method to determine value added is to sum all the different forms of income generated by the firm. Although an income-based approach, the result is a base that can be structured to be equivalent to the subtraction method, and was the method used for Michigan's Single Business Tax (1/1976–1/2007), and New Hampshire's Business Enterprise Tax (Kenyon, 1996; Arnold and Ardinger, 2004). In this case,

$$\begin{aligned}
 (1) \quad \textit{Value Added} &= \textit{Gross Receipts} - \textit{Intermediate Purchases} \\
 &= \textit{Labor Compensation Including Royalties} + \textit{Rental Payments} \\
 &\quad + \textit{Interest Payments} + \textit{Profits}.
 \end{aligned}$$

For purposes of tax filing, the addition method VAT is straightforward because the components of the base can be determined from information found on the federal income tax return.⁴ One concern is that the calculation of profits for the addition VAT has the same problems associated with determining taxable income for purposes of an income tax, including apportionment. However, because the VAT tax base is much broader than the income tax base, profits in the VAT calculation will likely be overwhelmed by other factors, reducing the payoff to tax planning efforts. Like the GRT, the VAT is levied at each stage of the production and distribution processes on corporate and non-corporate business activity alike. However, because the VAT is imposed on net product originating in the business enterprise, it allows deductions for purchases of all intermediate goods and services. Thus, for a given revenue yield, the statutory rate under the VAT will be higher than under a GRT.

The VAT comes with one significant policy choice: how to treat expenditures on capital assets (e.g., buildings, machinery). There are three variants: the gross product VAT (GPV), the consumption-based VAT (CVAT), and the income-based VAT (IVAT). The gross product variant does not allow for any deductions related to capital purchases, either at purchase or over the life of the asset through depreciation. Accordingly, the gross product variant is rarely given serious consideration in discussions on adopting a VAT.

⁴ From Cordes and Watson (1998), using the consumption variant: *VAT Base = Federal Taxable Income + Net Interest Payments + Net Capital Gains + Net Dividend Payments + Net Royalty Payments + Depreciation + Labor Compensation (including officials and directors) + Net Operating Loss Deduction - the Cost of Capital Goods Adjustment.*

Both the CVAT and IVAT allow for a deduction of capital asset purchase. The CVAT treats capital asset purchases similar to any other inter-firm purchase, and thus provides for immediate expensing of the capital outlay. To avoid a double deduction, depreciation is disallowed in subsequent years. The IVAT takes the traditional income tax approach and requires capital asset purchases to be depreciated over time. Thus, both the CVAT and IVAT are net of capital outlays with the time period for the deduction of capital purchases being the key difference between the two taxes.⁵

B. Corporate Net Income (Profits): Connecticut

The third general business tax base option is the corporate income (profits) tax, which is at the narrow tax base end of the continuum of general business tax options (Luna and Murray, 2015). The District of Columbia and 43 states use the CIT. Of the three tax options, the CIT requires the highest tax statutory rate for a given revenue yield.^{6,7} Income generated by non-corporate business firms and pass through entities is taxed in Connecticut and most other states under the state's individual income tax (if there is one).

Over time, the Connecticut corporate tax base has eroded to the point that it has become an unwieldy collection of rules that have increased taxpayer compliance costs, made uniform administration of the tax difficult for the Department of Revenue Services, and become so complex and non-transparent that it is a tax that Connecticut citizens do not understand. Connecticut's situation is common across the country. Base erosion has occurred because of increased state efforts to attract new business through a favorable tax climate and because of changes at the federal level for the same purpose (Fox and Luna, 2002). Furthermore, with the advent of LLCs, which provide limited liability and much of the operational flexibility of a corporation but with pass-through income treatment (and a generally lower overall tax burden on profits), more and more businesses are now organizing in forms other than C corporations (Fox and Luna, 2005). To maintain revenues, some states have raised nominal tax rates but doing so is resisted by many taxpayers. Frequently, elected officials respond by implementing tax concessions, which are often targeted to the state's most influential businesses and industries.

⁵ All three types of taxes also make an adjustment for the owner's personal consumption of the firms' products. Also, the GPV and the IVAT variants have an addback for capital investment.

⁶ As of 2016, the states without corporate income taxes are Nevada, Ohio, South Dakota (a franchise tax on corporations only), Washington, and Wyoming (Bjur et al., 2014). The Ohio corporation franchise tax on net income was repealed beginning in 2014. Most Ohio corporations are now subject to the Commercial Activity Tax (CAT) or the Financial Institutions Tax (FIT). New Hampshire levies both a business profits and a value added tax.

⁷ Texas employs the Gross Margins Tax, with a tax base that falls between profits and gross receipts. To compute its "Margin Tax," the taxpayer sums gross revenues and then subtracts one of the following: (1) cost of goods sold, (2) labor compensation including benefits, or (3) 30 percent of total revenue. The Margin Tax is apportioned using a single-factor sales formula and requires consolidated reporting of related entities. Retail and wholesale businesses are subject to a 0.5 percent rate; all other businesses are subject to a 1.0 percent rate (Hamilton, 2012).

Recent trends in Connecticut (Sullivan, 2015; Pellowski, 2015; Luna and Murray, 2015), include:

1. Revenue Performance

The CIT as a share of total Connecticut state tax revenues has declined from 14 percent of total state tax revenues in 1984, to 10 percent in 1994, 5 percent in 2004, 3.8 percent in 2013, and 4.6 percent in 2014 (Sullivan, 2015; Pellowski, 2015). This declining role of the CIT in the Connecticut state tax system mirrors other CIT states (Brunori, 2012; Ebel, Petersen, and Vu, 2013).

2. Competitiveness

The CIT decline could perhaps be justified as a strategy for the state to become tax competitive with other states with which Connecticut competes for jobs and investment. In Connecticut's case, however, the competitiveness argument is not credible. Although the Panel's research did find that Connecticut shows signs of a tax-competitiveness problem — the levels of real property tax and individual income tax tend to be associated with slower state economic growth — the CIT was not found to negatively impact growth (Wasylenko, 2015; Bourdeaux and de Zeeuw, 2015). Also revealing is the finding of the Ernst & Young and Council on State Taxation (2015) state-by-state estimates of 2014 total state and local business taxes that ranks Connecticut 49 of 51 for their measure of total effective business tax rates (TEBTR).⁸

3. Non-neutrality

Connecticut's nominal top marginal corporate tax rate is currently 9 percent. However, the effective rate is substantially lower for some taxpayers, in large part because the state offers a wide variety of tax credits to certain industries, but not to others. The result is firms with the same level of profits very often pay substantially different tax rates (Connecticut Tax Panel, 2015). In fact, higher rates on firms that do not enjoy tax credits are necessary to offset the revenue losses from targeted tax credits.

4. Volatility

Due to both the nature of its net income tax base and statutory changes, the Connecticut CIT has been volatile, ranging from a recent high of \$900 million in 2007 to \$450 million in 2009 during the recession, and \$782 million in 2014. The volatility of

⁸ The taxes that make up the TEBTR include property taxes, general sales taxes on business inputs, the CIT, unemployment insurance, excise taxes, individual income taxes on business income, public utility taxes, insurance premium taxes, severance taxes, and other business taxes (Ernst & Young and Council on State Taxation, 2015, Table 1).

state corporate income taxes is due to the very nature of the tax base. Over the period 2001–2014, the CIT exhibited a gross state product (GSP) buoyancy coefficient of 1.43 compared to a General Fund coefficient of 1.18 (Pellowski, 2015).⁹

When compared to the CIT, the GRT and VAT are more stable over the business cycle. In estimating pre-and post-Great Recession (2007–2012) revenue neutral effective tax rate tradeoffs of the three Connecticut general business taxes, Luna and Murray (2015, Table 12) demonstrate that the CIT was highly volatile, while the GRT was less volatile and more reliable than both the VAT and the CIT. The relative stability of the GRT is confirmed by collection trends in the state of Washington: the B&O tax was “not as volatile as corporate income tax” (Gates, 2002, p. 26).

However, of the three tax choices, the VAT emerges as the least volatile tax based on the academic studies for Connecticut (Luna and Murray, 2015), Michigan (Hines, 2003), and New Hampshire (Kenyon, 1996; Arnold and Ardinger, 2004). There are two explanations for this VAT stability. First, over the business cycle the labor compensation component of the VAT (which is a large share of the VAT base, typically about 60 to 70 percent) is much more stable than business net income (e.g., Hines, 2003). The second source of stability arises due to an inverse relationship between the treatment of capital investment expensing (especially with the CVAT) and the business cycle. During recessions, purchases of capital assets decline, which all else equal will increase the VAT base; the reverse is true in economic boom years.

5. Tax Credits

Tax credits are a significant element of the Connecticut corporate tax structure. CIT taxpayers claimed approximately \$150 million in tax credits in 2012, a significant increase from the \$93 million claimed in 2003. Moreover, Connecticut taxpayers are carrying forward an estimated \$2.5 billion in tax credits, three times total net corporate income tax receipts in 2014. To stem the magnitude of lost revenue, the state passed legislation in the summer of 2015 that limits tax credits for years beginning on or after January 1, 2015 to 50.01 percent (down from 70 percent) of pre-credit tax liability. Although the number of taxpayers claiming tax credits has declined by about 50 percent from 2003 through 2012, the value per credit increased by 225 percent during the same period to approximately \$42,000 per credit and \$151 million in total credits claimed in 2012 (Luna and Murray, 2015; Malloy and Sullivan, 2015). The continuing use of credits and the large overhang of credit carryforwards will put downward pressure on corporate income tax collections for the foreseeable future.

⁹ Buoyancy is the percentage change in revenues arising from a percentage change in the base, absent rate or base adjustments. The fluctuation in dollar amounts reflects statutory changes including a state-imposed tax surcharge that was zero in 2005, 2007, and 2008; 10 percent in 2009–2011; 20 percent in 2003, 2006, and 2012; and 25 percent in 2004.

6. Fiscal Obsolescence

As demonstrated by several studies (e.g., Tannenwald, 2001; Brunori, 2012; Sullivan, 2015; Wallace, 2012, 2015), the past quarter century shift from the “old” production economy to the “new” services and information economy has been accompanied by a shift from “C” corporation status to the non-corporate “pass through” form of business organization. As a result, the CIT has become the state tax system symbol of tax obsolescence. U.S. data tell the story: in 1980, 83 percent of firms were organized as pass-through entities, accounting for 14 percent of business receipts. By 2007 those shares had increased to 94 percent and 38 percent, respectively. Because the states’ CITs closely conform to the federal corporate income tax, the impact on federal receipts of the change in business organization gives one an indicator of the impact on state CIT revenue. The U.S. Congressional Budget Office estimates that if the C-corporation tax rules had applied to S corporations and LLCs in 2007, and if there had been no behavioral responses to the difference in tax treatment, federal revenues would have been \$73 billion higher, an amount equal to nearly a fifth of federal CIT taxes collected that year (Congressional Budget Office, 2012).¹⁰

The evidence is clear across the country that the CIT tax base is eroding, and there is little hope for reversing those trends, given the rise in pass-through entities and the non-neutralities associated with imposing different tax regimes on businesses based on organizational form. Therefore abandoning the CIT for a broad based GRT or VAT imposed on all business entities makes both fiscal and theoretical sense in the modern economy. However, if a state were to switch to a GRT or VAT, would the tax base erosion and obsolescence story be much different over time? There is always the possibility that even if Connecticut (or any state) adopts an initially “clean” GRT or VAT, powerful interests would successfully lobby for tax concessions that would erode the tax base in a piecemeal fashion. Indeed, this is the history of both the Michigan Business Activities Tax and Single Business Tax; over a period of years, the state legislature added provisions to make each tax look more like a net income tax (Papke, 1960; Ebel, 1972; Hines, 2003). However, in the modern era, the broad bases of New Hampshire’s Business Enterprise Tax (VAT) and the GRTs in Ohio and Washington have been maintained. Compared to the existing CIT, these alternatives are a better choice for the fiscal architecture of 21st century economic, demographic, and institutional trends.

IV. FURTHER CONSIDERATIONS

A. Apportioning the Tax Base

Identifying the correct tax base is an important step for imposing an entity tax. First, a firm must have minimum contact with a state (i.e., nexus) to create a taxable presence

¹⁰ Office of Management and Budget, Historical Tables, Table 2.1, “Receipts by Source: 1934–2021,” www.whitehouse.gov/omb/budget/historicals.

and allow a jurisdiction to tax some share of the corporation's income. The GRT, as a privilege tax, offers the advantage of much broader nexus by not being subject to the restrictions of Public Law 86-272. Second, states must determine how related members of a company should be treated — that is, whether firms should be taxed on a separate or a combined basis (discussed more below). Once the general business tax base is agreed upon, the next step is to apportion the tax base (business activity) of a firm that operates in a multistate market. Formulary apportionment is intended to distribute the business income of a multi-state corporation to the states where it is earned and/or subject to tax under that state's tax regime.

All general business tax states, including Connecticut, rely on some form of formulary apportionment.¹¹ With formulary apportionment, a taxpayer apportions its income by calculating a ratio of the level of a measure of business activity within the state to the firms' total business activity. There are three apportionment factors that are typically used: sales, property, and payroll.¹² They may be used separately (in practice, this only applies to the sales factor) or in combination; if used in combination, different weights may be assigned to the different factors.¹³

The choice of the apportionment factors can change the character of the tax from what it looks like in theory to a tax that has quite different characteristics in practice. Payroll and property factors are origin components and including them in the apportionment factor has the effect of taxing production. The sales factor is a destination component, and income apportioned using the sales factor converts the income tax into a gross receipts tax (McLure, 1980; Gordon, 1986; Edmiston, 2005).¹⁴ Both origin and destination taxation create distortions; origin taxes have their initial impacts on cross-state factor prices, whereas destination taxes affect cross-state consumer prices (Fox and Yang, 2016). A sales-only apportionment method reduces distortions on the location of inputs by the business, but this approach may alter decisions by the consumer of what and where to buy. Fox and Yang (2016) find that increasing the sales factor weight tends to increase economic activity and CIT revenue, but the effect diminishes as state size increases. As expected, the shift to destination taxation increases manufacturing activity within a state but has no impact on the service sector.

¹¹ As in Connecticut, a state may permit a firm to depart from a generally imposed formula apportionment method. Also, states typically establish apportionment factors to apply to the special circumstances of specific types of businesses. For example, in Connecticut different apportionment factors (or some combination of factors) apply, for example, to transportation carriers and financial service activities.

¹² In *Complete Auto Transit vs. Brady*, 430 US 274 (1977), the U.S. Supreme Court ruled that a corporation that is taxable in more than one state has the right to have its income fairly apportioned.

¹³ In most cases, apportionment will not provide a uniform division of a corporation's income among the nexus states (that is, a corporation's apportionment may not sum to 100 percent) because each state is free to choose the type, number, and weighting of the apportionment factors.

¹⁴ The degree to which this effect occurs depends on the weight assigned to the sales factor. The sales tax factor fully "converts" an income tax to a gross receipts tax only for states that use a sales-only factor. For states that just include sales in a three factor formula, the effective character of the general business tax base is a mix of all the factors represented.

B. Approaches to Sourcing Services

Sales must be assigned or “situated” to a particular state. For sales of tangible property, that location is generally where delivery is made and title changes hands. But, for the growing service economy, sourcing is less clear and states take two different approaches:

1. **Cost of Performance:** This origin-based method sources sales of services to the state where the service is performed.
2. **Market-based Sourcing:** This destination-based method assigns revenue based on the location of either the service provider’s customers or where the customers receive the benefit from the service provided.

For example, under cost of performance rules, a law firm writing contracts in an office in Connecticut for a client in New York would apportion the service revenue to Connecticut. In recent years, states have begun adopting market-based sourcing, which in this example would situs the income in New York. Like the rules for apportionment, distortions can arise under both methods. Furthermore, depending on the rules of other states, a firm could source the sale to both states, one state, or neither state. For example, if in the example above New York state uses market-based sourcing, the legal fees would be sourced to both Connecticut under their cost of performance rules and to New York under its market-based sourcing rules and thus subject income to tax in both states.

C. Unitary Combination

States must make decisions on how to determine the taxable income of related firms. The options include separate reporting, consolidated reporting, and mandatory combined reporting. Consolidated reporting requires or allows companies under a single ownership umbrella to file a return that includes the net profits of all of the commonly owned firms. Combined reporting requires certain commonly owned companies engaged in a “unitary” or closely related business (e.g., all companies engaged in a vertically integrated manufacturing, distribution, and retail sales enterprise) to file a single return as if all related entities were a single entity. Businesses that have both profitable and unprofitable entities will likely see a reduction in total tax liability with combined reporting. With combined reporting, intercompany transactions are eliminated, and therefore, combined reporting can be an effective way for states to limit tax planning opportunities. The ultimate impact on a state depends on the income levels of the included firms and apportionment factors (Fox and Luna, 2011).

D. Tax Pyramiding

Tax pyramiding can arise when sales are taxed at each stage of the production process (from the extraction and manufacturing processes to wholesale and retail trade activities). This is not a “tax on a tax” but rather repeated taxation of the same inputs with earlier

stage taxes embedded in price. Pyramiding is the most cited disadvantage of the GRT because the tax can cascade as an item passes through the various stages of production and distribution. A firm can mitigate the pyramiding problem by vertically integrating its operations. However, the tax advantage of a vertically integrated firm over rivals who concentrate on only one stage of the process (e.g., food wholesaler) violates the efficiency principle that taxes should be designed to avoid unintended interference with private consumer, factor supplier, and/or producer decisions. This non-neutrality may be avoided with both a CIT and the VAT (both of which allow a deduction for all operating expenses). Although the VAT, like the GRT, is levied at each stage of production, it is different from the GRT as it requires the deduction of all inter-firm purchases at each of the production and distribution stages. Thus, with the VAT, the net effect is equivalent to taxing just once the full value of goods and services sold to the final consumer and there is no pyramiding.

In examining the Washington B&O tax, Gates (2002) found a degree of pyramiding that ranged from a high of 6.7 times the final value of the good or service for certain types of manufacturing (petroleum refining and aircraft), to a mid-rate of 2.8 for electrical manufacturing, to a low of less than 2.0 for services, retail trade, and legal and other professional services. The state average amount of pyramiding was 2.5. To compensate for this large variation in the rate of pyramiding, Washington levies different rates on different activities. For example, the historically high-turnover manufacturing sector is taxed at 0.484 percent but services are taxed at 1.5 percent. Ohio addresses the problem by allowing commonly-owned entities within a group to eliminate intercompany transactions. These legislative attempts to deal with the pyramiding problem are obviously imperfect because the actual turnover rate will vary from firm to firm, but there are no simple and effective alternatives. Note that because the tax rates are very low, the effective tax rates inclusive of pyramiding are modest for many sectors.

A final comment on the pyramiding problem is merited. If policymakers are truly concerned about pyramiding, then the focus should also fall on retail sales taxes, which typically tax a substantial share of business-to-business (B2B) sales at relatively high rates (Fox, 2012). In Connecticut, about 35 percent of the retail sales tax is on B2B transactions, which at its current statutory rate of 6.35 percent amounts to approximately \$1.4 billion of 2014 sales tax revenues. Subjecting business inputs to the sales tax is another source of tax pyramiding.

E. Federal Tax Conformity

With a state net income tax regime, the definition of the tax base is closely aligned with federal law. Federal conformity has merits as it serves as a convenient starting point for calculating the state tax base, but there are problems. The key one for a state occurs when Congress makes a major change in the federal CIT, thereby confronting state policymakers with the choice as to whether to conform to those changes. In many

cases, the change implies a reduction in the state tax base, and therefore in revenue yield. The alternative is to decouple from the federal change to avoid the revenue loss at the cost of increasing state tax complexity and therefore compliance costs. For example, many states have decoupled from bonus depreciation and the manufacturing/production deduction. Further, some states decouple from the federal MACRS depreciation system and require firms to follow a different method or a different schedule of depreciation. The choice to conform or decouple from the federal tax, and the additional compliance costs that arise if states decouple, are still present under an addition VAT because net income or profit is part of the tax base; however, the problem will be significantly smaller because of the typically small share of the VAT tax base that is represented by profit. This issue does not arise under the GRT.

F. Treatment of Property Incomes and Financial Institutions

One of the most vexing problems in designing a uniform general business tax is the taxation of financial institutions. Consider the business of banking with an entity tax: shall interest be considered a cost of acquiring funds (and thus not a receipt) to allow it to create loans, or a factor payment? Or, should one net out interest paid versus interest received on loans and deposits?

A similar financial institution problem arises with respect to the treatment of rent. With a VAT, the issue is not whether to include rent in the tax base — it is included — but to whom the items should be distributed: the payee or payer? Consider a firm engaged in the leasing business where value added is created by the supplier and not the user of the resource. Thus, rent is included as a taxable receipt, but rent payments are deductible. An alternative is suggested by the fact that for tax purposes rent is considered in the national accounts as a factor payment. Under this interpretation, there would be a disallowance for rent paid but an exclusion from gross receipts of rent received.

The taxation of insurance companies is also problematical. Many states, including Connecticut, turn to some form of net premiums tax, where the tax base is defined to be the difference between gross premium income and the sum of dividends paid to the insured, payments made to cancel policies, and premiums received from reinsurance assumed (Cordes and Watson, 1998). In addition, there is the matter of retaliatory taxation, as both Congress and the states have allowed a state to retaliate if their insurance companies face different taxation in different states. The result of all this complexity is that a majority of states either impose a separate taxing regime on insurance companies or tax financial institutions under the standard corporate tax regime along with special rules (Awdeh and Gowen, 2015; Serether, Eberle, and Colavito, 2011).¹⁵

¹⁵ The Ohio Commercial Activities Tax provides institutional exemptions (which are subject to *in-lieu* taxation) for non-profit institutions, financial institutions, insurance companies, certain affiliates of financial institutions and insurance companies, dealers in intangibles, and certain types of utilities (Pinho, 2012).

G. Benefits Received Revisited

In the discussion above, the case for a state general business tax is framed by the benefits received concept of taxation. But just as the acceptance of the benefits doctrine frames a way of thinking about making choices among the three different types of general business taxes, it also restricts the form in which business activity may be taxed.

The net income (profits) base remains unsatisfactory because the zero-profit (or net loss) firm pays no tax, yet state government services are as much a part of the production function of the unprofitable company as they are of the profitable firm. This non-neutrality is worsened if, as in Connecticut, the general business tax is levied only on the corporate form of business organization, and thus excludes the unincorporated business enterprise.

The GRT and VAT fare much better in terms of this criterion because they reject the "no-profit-no-tax" practice, and apply as a general tax on all business activity regardless of organizational structure. The GRT has the merit of including in the tax base all firms that receive state government services; however, one could question the relationship between taxes paid and the volume of public services received because receipts include the in-state sales of all goods and services whether or not they are produced within the state and exclude the out-of-state sales of goods produced in the home taxing jurisdiction.

In contrast, the origin-based VAT is consistent with the benefit justification for state business taxation because from a market resources perspective, the taxable base serves as a proxy for an organization's utilization of the state's economic resources of land, labor, capital and entrepreneurship. The policy downside of enacting an origin-based general business tax is that it is contrary to the trend for states to tax resident firms on a destination basis. Firms based in a state with an origin VAT and selling goods or services out of state where income is taxed using a single sales factor face a real possibility that a significant share of their production will be taxed in both the resident and destination states. This concern is reinforced as policymakers and revenue administrators grapple with an increasing degree of factor mobility across taxing jurisdictions. One result is that elements of destination-based taxation are, as noted, coming to dominate the structural nature of general business taxation. This practical reality makes the GRT a practical alternative to the origin VAT as well as to the CIT.

V. THE CONNECTICUT NUMBERS

A. Revenue Neutral Replacement of the CIT

We present two sets of numbers below to identify the key revenue implications and policy tradeoffs among Connecticut's three general business tax options (Tables 2 and 3). The tables show that a policy of replacing the CIT net of credits with either the GRT or the VAT would broaden the general business tax base sufficiently that the 9.0 percent CIT statutory tax rate could be replaced with a revenue neutral GRT or a VAT

Table 2
Revenue Neutral Substitution of the Connecticut CIT with GRT or VAT

Tax Base	Description	Examples	Connecticut Statutory Rate Required to Generate an Equal CIT Yield (2012)	Traditional Apportionment Factor(s)
Gross receipts tax (GRT)	Total gross receipts from sales of goods and services levied on corporate and non-corporate taxpayers. Financial institutions subject to in-lieu taxation on net income.	Ohio CAT, Washington B&O, Nevada	0.221% with no small business threshold 0.251% with \$1 million threshold	Destination-based sourcing: Sales
Value added tax	Subtraction method: Gross receipts less all purchases from other businesses, including capital goods, which may be fully expensed (Consumption Variant) or deducted by using depreciation (Income Variant). Addition Method: Sum of the returns / payments to private factors of production (wages+ rent+ interest+ profit)	Michigan Business Activities Tax (1953-1967); Michigan Single Business Tax (1976-2012) New Hampshire (a business enterprise tax complements a business profits tax)	0.640% with no small business threshold 0.730% with \$1 million threshold	Origin/cost of production sourcing: Property and payroll or property, payroll, and sales
Corporate net income (profits) tax	Levied on corporate and non-corporate taxpayers alike. Financial institutions subject to in-lieu taxation on net income. Gross receipts minus all "ordinary and business" deductions. Generally, does not apply to subchapter S corporations.	Connecticut, along with 44 other states and DC	9.0%	Property, payroll and sales Property, payroll, and sales, with various weights on sales

Source: Connecticut Tax Panel, 2015

Table 3
Corporate Tax Rates and Revenue Neutral VAT and GRT Rates (%)

Tax	2006	2007	2008	2009	2010	2011	2012
VAT	0.808	0.589	0.531	0.571	0.633	0.618	0.640
GRT	0.399	0.215	0.172	0.190	0.242	0.226	0.221
CIT ¹	9.000	7.500	7.500	8.250	8.250	8.250	9.000

¹CIT tax rate includes surcharge tax rate.

Source: Luna and Murray (2015)

at a tax rate of 0.22 percent or 0.640 percent, respectively (Luna and Murray, 2015).¹⁶ For purposes of comparison, the Ohio Commercial Activities Tax rate is 0.26 percent.¹⁷ This highlights the fundamental argument that for given revenue yield, an entity tax can lead to the kind of broad based, low rate tax instrument that can ameliorate structural non-neutralities that are inherent in any type of tax.

In light of the low rates for both the GRT and the VAT, which of the two entity taxes is preferable? When judging the two alternatives on the basis of the Panel's adopted normative criteria, the tax base choice tilts to a VAT, primarily because a VAT avoids the pyramiding problems associated with a turnover tax like the GRT. On the other hand, the origin-based taxation of the VAT tilts the balance to the GRT.

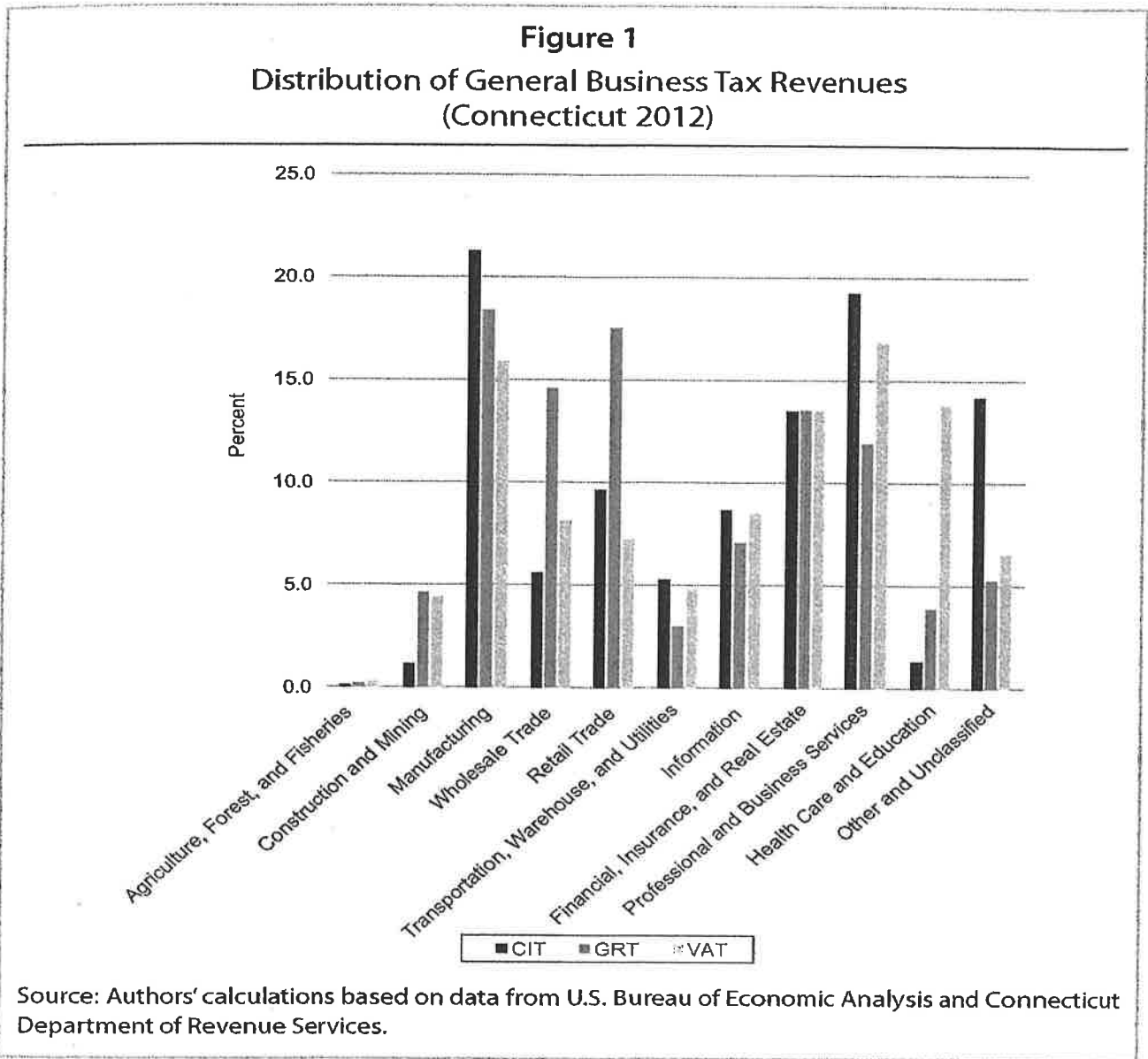
To make a VAT familiar to those accustomed to the computation of a net income (profits) tax, states may prefer the addition variant, although a subtraction-type VAT (collected using the invoice-credit method) is far more common worldwide. If policymakers decide on a VAT, a more difficult decision is whether to apportion the VAT base using an origin-based two factor formula based on payroll and property, the traditional equally weighted three-factor formula, or to be consistent with current trends in the CIT realm, use a heavily weighted or single factor sales apportionment formula. The choice will ultimately depend on how states prioritize the trade-offs inherent in those choices as well as the local business environment and the mix of industries. A VAT was originally designed as an origin-based tax and, as discussed above, there is theoretical support for origin-based taxes based on the value added in a state. However, the business community in general, and capital and labor intensive firms in particular, prefer destination-based tax regimes. As a result, there are substantial pressures on states to design tax systems with these important employers in mind. Of course, service-based firms with little in the way of capital investment will have different priorities, and the overall impact on the business community is difficult to predict in advance.

¹⁶ Luna and Murray measure the VAT base as GDP minus government, education, health and social assistance.

¹⁷ The Ohio CAT has five brackets, with the 0.26 percent rate applying to firms having gross receipts greater than \$4 million. The CAT was fully phased in between 2005–2010. As part of the phase in, the state corporate franchise tax and local tangible personal property tax have been phased out for most businesses. The CAT's enactment was also accompanied by other changes to Ohio's tax structure that included a personal income tax reduction and increases in the retail sales and cigarette taxes (Bjur et al., 2014; Pinho, 2012).

B. Differential Impacts

The last question we address is how the industry composition of tax payments will change under each of the three tax choices. Estimates of these differential impacts are provided in Figure 1, which presents the percentage distribution of tax impacts by major industry type, assuming that each tax generates \$610 million in total net-of-credit revenue in FY 2012 (Malloy and Sullivan, 2015). The gross receipts numbers are provided in Luna and Murray (2015). The VAT distribution is derived from GSP data provided by the U.S. Bureau of Economic Analysis (BEA).¹⁸ The data for all three taxes excludes the government sector.¹⁹



¹⁸ U.S. Department of Commerce, Bureau of Economic Analysis, 2014. "Gross Domestic Product by State." http://bea.gov/newsreleases/regional/gdp_state/Qgsp_newsrelease.htm.

¹⁹ BEA refers to GSP as the measure of value added from all industries in a state. As such it better approximates the income variant than the consumption variant of a VAT. However, for consistency it is the best such data available and reliable for estimating the differential impacts presented here.

The complexity of the application of a conventional CIT, GRT, or VAT to financial institutions suggests that if Connecticut were to adopt an entity tax, it would likely opt for *in-lieu* taxation of financial institutions. The data in Figure 1 presume that the form of taxation of the Connecticut financial sector (Finance, Insurance and Real Estate or FIRE) would not change with general business tax reform. Thus, when reviewing Figure 1 note that for FIRE the bars are all at the same level: that is, in the special case of the FIRE sector, the current level of the Connecticut net income tax is the same as for the GRT and VAT.²⁰

With these important adjustments, the implications of data are what one would expect:

1. The Manufacturing and Transportation/Warehousing and Utilities sectors would fare the worst under the CIT;
2. The capital-intensive Construction and Mining sectors would experience a relative tax share increase, while the Manufacturing sector tax impact would decline, though its relative tax share remains substantial;
3. The high turnover Retail and Wholesale trade sectors would see a substantial increase in tax impact, especially with a GRT; and
4. Adopting a VAT would dramatically increase the share of taxes paid by the Health Care and Education sector, from roughly 2 percent to nearly 14 percent. A GRT would double the tax share of this sector to around 4 percent.

Going beyond the focus on which sector sees its percent share of total general business taxes shift, two other observations are in order:

1. A differential impact analysis does not provide information about state competitiveness. That the height of the bars in Figure 1 differ for the three taxes differ by industry does not in any way imply a case for increasing or decreasing tax rates and/or eroding tax bases for any sector; and²¹

²⁰ Another methodological problem is that, given data limitations in making the differential impact comparisons, the FIRE sector combines several sub-FIRE sectors that may be taxable under a conventional CIT or entity tax. As Awdeh and Gowen (2015) note, defining a financial institution is very complex and definitions vary from state to state.

²¹ The differential impact data generated for this paper could be presented not only in the above terms of share of total tax paid, but also, for each tax and industry class, the tax payments relative to some broad common denominator. Not only would such a common denominator calculation further facilitate tax impact comparisons, but it would give one a good sense of the cross-industry implications of the tax alternatives. For the purposes of identifying general business impacts, the ideal common denominator would be Connecticut GSP by industry. The problem with using the GSP denominator in this report is that, by definition, the VAT/GSP ratio would tautologically show the VAT as the most neutral of the tax bases.

2. The differential impact data show that some sector tax shares will increase while others will decrease. This tells one nothing about the relative merits of the tax options in terms of the other important attributes that the Panel adopted as its criteria for judging a high quality revenue system.

VI. CONCLUDING COMMENTS

As the United States entered the 21st century, there was a flurry of academic and practitioner interest in the converging challenges that would frame state and local government tax policy. The century began on an upbeat note as the strong economy of the late 1990s significantly boosted the growth of government revenues, which led to an era of increased spending often accompanied by tax rate cuts. At the same time alarms were being sounded that state and local tax systems were becoming obsolete and that the late 1990s buildup of state reserve funds would not go on forever. And, indeed, the “Dot-com” slump of 2000 and the recession that began in 2001 severely reduced state and local revenues and reserves. With the recession of 2001–2002, the academic and practitioner literature continued to stress that state and local tax systems were becoming obsolete. Yet, as the states recovered, the political mood was to muddle through for the short term and delay substantive reform. The states recovered slowly after the early 2000s recession, but were soon faced with the Great Recession and a widespread and drastic drop in corporate income tax receipts. Once again alarms are being sounded that the legacy state and local taxing systems are becoming obsolete. As Arnold and Ardinger (2004) warned during the period between the two recessions, efforts to shore up traditional tax systems may simply be prolonging the inevitable demise of these systems.

As for tax obsolescence, there is no better evidence than the state CIT’s failure to capture trends in the nation’s economy, demography, and the changing structure of business organization. Moreover, because of the “old-tax-is-a-good-tax” philosophy, 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.

The entity tax alternatives of the GRT and VAT, if enacted with tax base integrity (and, as discussed, the broad based/low rate nature implies there is reason for thinking that a well-designed entity taxation system is a viable reform option) provide a strategy for fiscal modernization. As for which of the two entity taxes makes more fiscal sense for most states, the purist nod goes to the VAT for consistency with the benefits doctrine and its economic neutrality. A political and practical problem of an origin-based VAT is that given the current state trend to apportion income based on sales, states imposing

an origin-based tax will subject domestic firms selling out of state to double taxation on some of their production.

Recent experience, however, indicates the choice of reform-minded states is the GRT, with Nevada passing its version in May 2015. Although it is not quite as pure as the VAT on conceptual and neutrality grounds, it is far more meritorious than the CIT alternative. And, for political reasons, the GRT has a practical and political advantage relative to the origin-based VAT: at present most CIT states employ either a one-factor receipts formula (16 states, including Connecticut) or have given extra weight to the sales (receipts) factor in their apportionment formula. The GRT is apportioned using a one-factor sales factor, which appears to appeal to states that for competitive reasons prefer destination-based taxes on business activity. The most significant downside is that states ameliorate the problem of tax cascading in a GRT regime by lower rates on high turnover industries, but this is obviously an imperfect solution.

Regarding the outcome of the Connecticut Tax Study Panel, the topic of general business taxation was informed by solid research, as was the debate over which tax to adopt. By the end of its deliberations, the Panel expressed great interest in both entity taxes, especially the GRT. The Panel's final recommendation, which was made in agreement with the Department of Revenue Services, was that the "Tax Panel finds that the taxation of the current corporate net income tax violates many of its adopted criteria for a high quality tax" (Connecticut Tax Panel, 2015, Vol 1, p. 15) and thus based on the research presented to the Panel, the state should further study the implementation impacts and tradeoffs of replacing the corporate net income tax with a broad based/low rate general business tax to be imposed uniformly on corporate and non-corporate enterprises alike — a very good start.

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