



The Maryland Public Policy Institute

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# A CASE FOR LOWERING MARYLAND'S CORPORATE INCOME TAX

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## **INTRODUCTION**

In the past two decades, the U.S. federal corporate income tax (FCIT) has attracted a disproportionate amount of criticism and calls for its complete overhaul, and for good reasons. It is one of the most distortionary, complicated, and expensive-to-comply-with taxes. It causes significant misallocations of physical and human capital, and its incidence falls heavily on consumers in terms of higher prices, on workers in terms of lower wages, and on savers in terms of lower returns to capital investment. Despite being levied at one of the highest rates in the world, it generates relatively little revenue due to myriad loopholes, which tend to benefit the largest of corporations.

Maryland's state corporate income tax (SCIT) shares many of the aforementioned handicaps. At 8.25 percent, it is one of the highest corporate taxes in the nation. Combined with the already high FCIT rate, Maryland's high SCIT makes it difficult to retain and attract new corporate investment in this increasingly competitive and interconnected world. Furthermore, despite the high rate, Maryland's SCIT amounts to a smaller share of total revenue and gross state product (GSP) compared to other states. Evidence from academic literature and our own estimates in this study suggest that Maryland's SCIT rate is likely to be on the revenue-losing side of the Laffer curve. Our estimates indicate that bringing the SCIT rate down to 6 percent would elevate the state's competitiveness, overall economic activity, and probably Maryland's SCIT tax revenue as well.

## **MARYLAND RANKS HIGH IN INCOME AND EDUCATION, BUT LOW IN BUSINESS FRIENDLINESS**

Maryland is one of the wealthiest and most educated states in the Union. At \$69,826 (2013 inflation-adjusted dollars), Maryland occupies the top row on the list produced by the U.S. Census Bureau that ranks states by median household income. For comparison, this is 25.3 percent more than the

median household income of the median state (Texas) and a whopping 42.4 percent greater than the poorest state (Mississippi). In terms of education of the labor force, Maryland is ranked third among the 50 states by the proportion of adult population with a bachelor's degree (35.7 percent) and second by the percent of adults with advanced degrees (16 percent).<sup>1</sup>

However, Maryland does not hold a comparable position in the rankings of business friendliness. The cost of doing business in 2014 was 6.8 percent higher than the national average, putting Maryland in 41st place when compared to other states.<sup>2</sup> Similarly, Maryland ranks 40th on the Tax Foundation's "State Business Tax Climate Index."<sup>3</sup>

A key factor contributing to Maryland's unfavorable ranking in business friendliness is its high SCIT rate. Maryland's SCIT rate is currently 8.25 percent, which places the state near the top end of the continuum of corporate income tax rates that range from the low of zero percent in Nevada, Wyoming, and South Dakota to the top marginal rate of 12 percent in Iowa. However, Iowa's 12 percent rate is not a single flat rate but rather the top rate among the total of four brackets with rates ranging from 6 to 12 percent.<sup>4</sup> Among the 38 single-bracket states, Maryland's 8.25 percent rate places it at the 82nd percentile. Figure 1 illustrates the distribution of SCIT rates among the single-bracket states. Note that the average SCIT rate of 5.89 percent is considerably (2.36 percentage points) lower than Maryland's rate.

Even when compared to its high-tax neighbors, Maryland's SCIT rate is above, albeit slightly, the average of 8.07 percent in the sub-region (see Figure 2).

As shown in Figure 3, despite having one of the highest SCIT rates in the nation, Maryland collects, on average, significantly less in corporate tax revenue as a percentage of gross state product (GSP) than other states. The same can be said about Maryland's SCIT revenue as a share of the state's total revenue.

When Maryland raised its SCIT rate from 7 to 8.25 percent in 2008, its corporate tax revenue fell that year by about 10 percent or \$70 million in inflation-adjusted dollars, according to the state comptroller. Part of this decline, of course, was caused by the Great Recession, which obscures how much revenue was lost due to the tax hike. As shown in Figure 4, both Maryland and its

FIGURE 1. DISTRIBUTION OF SCIT RATES

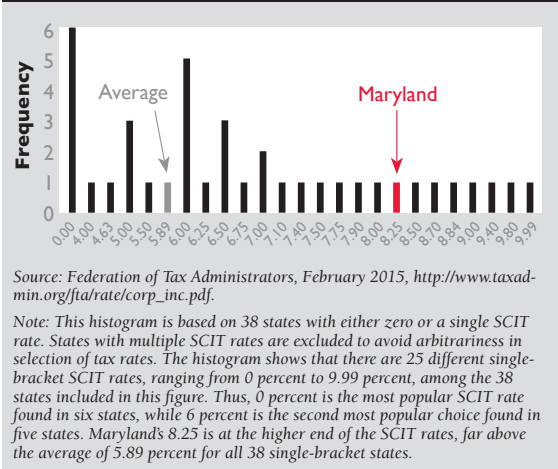
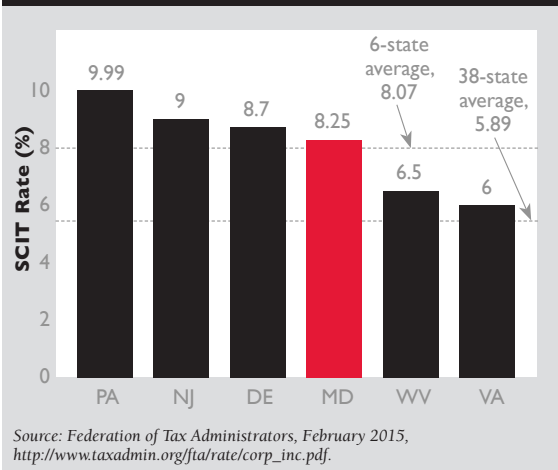


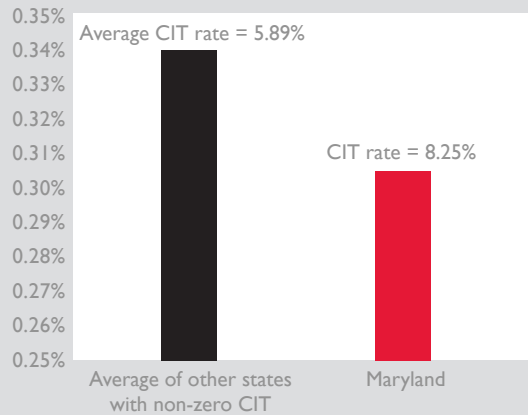
FIGURE 2. 2015 SCIT RATES IN MARYLAND AND NEIGHBORING STATES



neighbors saw a steep decline in SCIT revenues per capita during the Great Recession. While Maryland's neighbors tend to raise more corporate tax revenue per capita on average, they have also experienced a sharper decline and a faster rebound in SCIT revenues than Maryland.

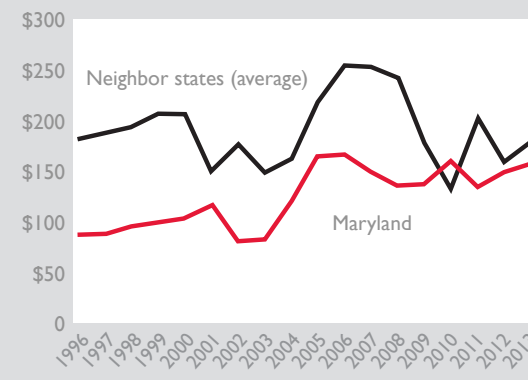
Perhaps one of the factors contributing to Maryland's relative stability in corporate tax revenue during the Great Recession is its heavy reliance on the less volatile federal government sector. According to the recent Moody's Analytics report, Maryland's economy lacks private sector growth and has increasingly depended on the federal government for jobs and economic growth.<sup>5</sup> While Figures 3 and 4 are illuminating, we offer a more rigorous statistical analysis at the

**FIGURE 3. 2014 SCIT REVENUE AS A PERCENTAGE OF GSP FOR MARYLAND AND OTHER STATES**



Sources: Bureau of Economic Analysis and Annual Survey of State Government Tax Collections, U.S. Census Bureau.  
 Note: The vertical axis is scaled to start at 0.25 percent.

**FIGURE 4. REAL SCIT REVENUE PER CAPITA IN MARYLAND AND NEIGHBORING STATES**



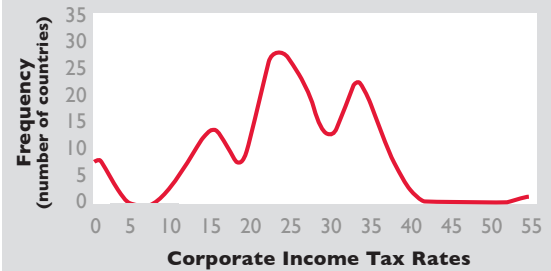
Source: U.S. Census Bureau, Annual State Government Tax Collections.

end of this study to show how changes in the SCIT rate affect tax revenue.

**INTERNATIONAL COMPARISON OF CORPORATE TAX BURDENS**

Maryland's high corporate tax burden, combined with the federal one, looks much worse from the international perspective. KPMG, a tax consultancy, reports that the U.S. federal corporate income tax (FCIT) rate is among the highest in the world.<sup>6</sup> At 39.1 percent, the FCIT rate in the United States is 16.5 percentage points above the worldwide average of 22.6 percent.<sup>7</sup> According to the Tax Foundation,<sup>8</sup> the U.S. FCIT rate is the third highest among 163 countries, falling below only oil-rich United

**FIGURE 5. DISTRIBUTION OF INTERNATIONAL CIT RATES, 138 COUNTRIES**



Source: Global corporate income tax rates, "Tax Tools and Resources," KPMG, 2015, <http://www.kpmg.com/global/en/services/tax/tax-tools-and-resources/pages/corporate-tax-rates-table.aspx>.

Note: Because this figure provides an international (rather than interstate) comparison, Maryland's CIT rate of about 40 percent is the combined state and federal corporate income tax rate. The above distribution shows considerable international variability in corporate income tax rates, with most countries falling between 20 percent and 30 percent.

Arab Emirates and oil-dependent but poor Chad. While the critics may rightly note that the statutory tax rate overstates the effective tax rate, several studies find that the U.S. effective FCIT rate is still one of the highest in the world. Duanjie Chen and Jack Mintz at the Cato Institute, for example, put the U.S. effective tax rate on new corporate investment at 35.6 percent, which is twice the average rate for the countries in their sample.<sup>9</sup>

When combined with the FCIT, Maryland's businesses are subject to the top<sup>10</sup> statutory corporate income tax rate of about 40 percent, which places the state at the 99.3rd percentile internationally. Figure 5 provides an illustration. The unexpected positive upshot of Maryland's high SCIT burden is that it is an unexploited opportunity for economic growth. A lower SCIT rate can be used to increase Maryland's business activity, average income, and employment.<sup>11</sup>

**THE CORPORATE INCOME TAX HARMS THE CORPORATE FORM OF BUSINESS**

Firms in the United States can be organized in a number of different ways, including the corporate form of business. The American corporation has been around since at least the 1790s,<sup>12</sup> and its longevity can be explained by the number of its key advantages over other forms of business organization. First, because corporate shareholders enjoy the protection of limited liability, the managers are able to take measured risks in business decision making, a feature that is crucial for any business to

keep up with the ever-changing business environment, consumer tastes, and technological advances. Second, corporations allow long-term continuity due to their perpetual legal existence. That is, a company does not have to go out of business when its founders die. In fact, many large corporations are decades and sometimes centuries old. Third, corporations can raise capital cheaper and faster than sole proprietorships, partnerships, or limited liability companies.

Therefore, the decline of corporations in the United States in the recent decades is cause for concern. Mihir Desai noted in 2012 that “the high tax rate has effectively driven capital away from the corporate sector and toward activities that can be shoehorned into the non-corporate business sector.”<sup>13</sup> He supported this assertion with statistical evidence showing that non-corporate income’s share in total business income has increased from about 20 percent in 1986 to over 50 percent in 2012. Moreover, because corporate capital is highly mobile, high corporate tax rates have caused investments to flow to other jurisdictions and countries with lower tax burdens as well as to the housing sector.

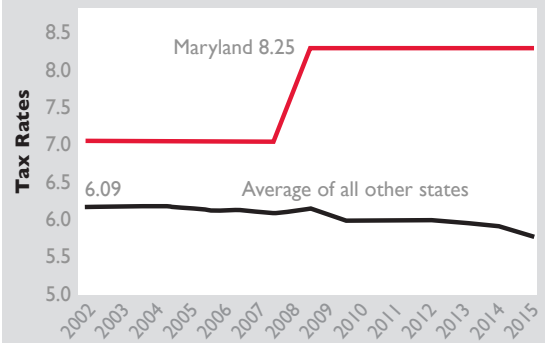
According to David Brunori and Joseph Cordes,

*...the state corporate income tax was developed for a far different economy. The tax was designed at a time when most corporations manufactured tangible personal property. It was also designed to function in an environment in which interstate tax competition was not nearly as intense as it is today. Although that economy no longer dominates, the tax has largely remained the same.*<sup>14</sup>

### STATES COMPETE BY LOWERING TAXES

Economists have long known that local, state, and national governments compete against one another for businesses. The number of business enterprises and the amount of employment generated by them are crucial for the health of a state’s economy. States compete among each other to attract the largest number of corporate employers and taxpayers.<sup>15</sup> Recent studies show that states with higher taxes tend to grow slower because they lose people and businesses.<sup>16</sup> Harry Grubert and John Mutti found in 2000 that “average effective tax rates have a significant effect on the choice of a location and the amount of capital invested there. A lower tax rate that increases the after-tax return to capital by one

FIGURE 6. RECENT TRENDS IN SCIT RATES



Source: “State Corporate Income Tax Rates,” Tax Foundation, March 22, 2013, <http://taxfoundation.org/article/state-corporate-income-tax-rates>.

Note: The average is based on all other 49 states. A simple average of the top and bottom state CIT rate was used for states with multiple tax brackets. The average based on 38 single-bracket states also coincides nearly perfectly with the 49-state average shown in this figure.

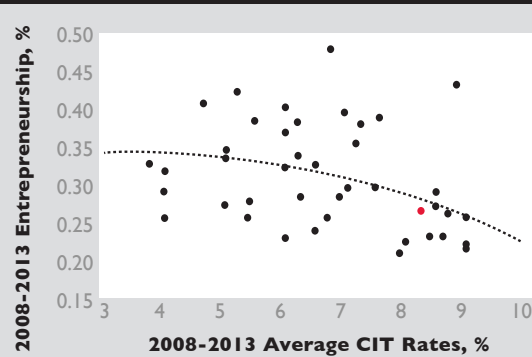
percent is associated with about 3 percent more real capital invested...<sup>17</sup> Similarly, Claudio Agostini and Soraphol Tulayathain found in 2001 that the CIT rate is the most important tax factor in foreign corporations’ investment decisions.<sup>18</sup>

Rising global competition has forced many countries to lower their CIT rates in recent decades. Joel Slemrod and Michael Devereux, et al. attributed the apparent decline in statutory and effective national CIT rates over the past several decades to tax competition among countries.<sup>19</sup> Combined with the already high FCIT rate, Maryland’s 8.25 percent SCIT rate puts it at a competitive disadvantage both domestically and internationally.

Figure 6 shows that the average SCIT rate in the United States fell from 6.09 percent in 2002 to 5.72 percent in 2015. Meanwhile, Maryland’s already comparatively high SCIT rate of 7 percent rose to 8.25 percent in 2008, dramatically worsening its competitive position with respect to other states. This “against-the-current” trend in Maryland is troublesome because, as discussed below, there is mounting theoretical and empirical evidence showing that the CIT is one of the most inefficient taxes out there.

According to Donna Arduin and Wayne Wingarden,<sup>20</sup>

*The states that establish and maintain the most pro-growth economic environment will have flourishing economies while states with weak competitive environments will have struggling economies. Maryland now clearly falls into the latter category.*

**FIGURE 7. KAUFFMAN ENTREPRENEURSHIP INDEX AND SCIT RATE**

Sources: Robert W. Fairlie, "The Kauffman Index of Entrepreneurial Activity: 1996-2013," The Ewing Marion Kauffman Foundation, Kansas City, 2014; and "State Corporate Income Tax Rates," Tax Foundation, March 22, 2013, <http://taxfoundation.org/article/state-corporate-income-tax-rates>.

Note: States with CIT only.

*Due to the tax increases implemented in 2008, Maryland's competitiveness is falling significantly behind the country's economic leaders.*

Pedro Gomes and Francois Pouget argued in 2008 that while tax competition can have a negative effect on public investment, it also reduces the net cost of capital.<sup>21</sup> Furthermore, trailing the competition, whether such competition per se is good or bad, can result in a disadvantaged position for the laggard.<sup>22</sup> The lesson for Maryland's policymakers here is that they should account for the tax environment in other states and abroad when setting the tax rate.

## THE CORPORATE INCOME TAX CREATES MANY DISTORTIONS

The corporate income tax (CIT) is one of the most inefficient taxes for several reasons. In 2005, Maximillian Baylor surveyed dynamic computable general equilibrium studies of tax distortions and found that capital taxes, both at the corporate and individual level, are the most distortionary, followed by taxes on labor and consumption.<sup>23</sup> A pioneering 1966 study by Arnold Harberger<sup>24</sup> showed that the distortions created by the FCIT can amount to about 24 percent of its revenues, while later studies put that estimate to over half of FCIT revenues.<sup>25</sup> In other words, it may cost society \$0.45 to raise another dollar in CIT revenue,<sup>26</sup> a steep price to pay to generate revenue. By comparison, some of the best-rated charities,

which unlike the tax authorities have to advertise and rely on voluntary donations, spend no more than a few cents per dollar raised.<sup>27</sup>

The CIT gives rise to two main types of inefficiencies.<sup>28</sup> First, the CIT amounts to a double tax on income generated within corporations. Corporate profits are taxed first under the CIT, but then again as either dividend income (on any profits paid out to shareholders) or as capital gains (on any profits that are held in retained earnings causing an increase in the price of the company's stock). This may discourage firms from conducting their business as corporations and push them toward alternative forms of business organization, such as limited liability companies and partnerships. As previously described, corporations have a number of critical advantages over other business forms, making the decline in the corporate form of business undesirable.

The second source of inefficiency arises from the fact that the CIT incentivizes the use of debt over equity financing since interest payments on debt are tax deductible. Simeon Djankov et al. found in 2008 that "a 10 percentage point increase in the 1st year effective corporate tax rate raises the debt to equity ratio by highly statistically significant 40 percentage points (the mean is 111 percent)."<sup>29</sup> This distortion leads to a misallocation of capital by diverting investments from projects that are typically financed by equity (such as R&D) to projects that are typically financed by debt (such as buildings and structures that can be used as debt collateral).

An additional distortion from the CIT is its negative effect on entrepreneurial activity. Startup firms have less access to debt financing than large established firms. Therefore, the preferential treatment of debt financing by the CIT places small startups at a competitive disadvantage vis-à-vis their established counterparts. Djankov et al. reported that "...corporate taxes have a substantial adverse effect on investment and entrepreneurship."<sup>30</sup> Figure 7 shows a negative correlation between entrepreneurship and the CIT rate. Maryland's position marked in red shows that it occupies a relatively low (34th) place on the Kaufmann's index of entrepreneurial activity.

The high CIT burden may also be partially responsible for a faster decline in the number of firms in Maryland compared to other states during and immediately after the Great Recession.



TABLE 1. CHANGES IN THE NUMBER OF FIRMS AND EMPLOYMENT BY STATE, 2006-2011

	NUMBER OF FIRMS		EMPLOYMENT			NUMBER OF FIRMS		EMPLOYMENT	
	% change	Rank (1=worst)	% change	Rank (1=worst)		% change	Rank (1=worst)	% change	Rank (1=worst)
U.S.	-0.49	n/a	-1.09	n/a	Mo.	-0.79	16	-1.40	17
Ala.	-0.85	13	-1.70	8	Mont.	-0.53	28	-0.40	38
Alaska	0.42	46	1.19	49	Nebr.	0.01	41	0.20	45
Ariz.	-0.77	19	-1.95	5	Nev.	-0.08	40	-2.70	1
Ark.	-0.38	36	-1.17	24	N.H.	-1.12	5	-0.58	35
Calif.	-0.52	30	-1.63	11	N.J.	-1.29	4	-1.57	14
Colo.	-0.26	38	-0.63	34	N.M.	-0.57	27	-0.99	28
Conn.	-1.06	7	-1.82	6	N.Y.	0.28	43	-0.31	39
Del.	-0.79	17	-1.47	16	N.C.	-0.50	32	-1.31	18
D.C.	0.86	49	1.78	50	N.D.	0.94	51	1.80	51
Fla.	-0.84	14	-2.30	2	Ohio	-1.38	3	-1.66	9
Ga.	-0.69	22	-1.66	10	Okla.	0.23	42	-0.28	40
Hawaii	-0.74	21	-1.01	27	Ore.	-0.53	29	-1.60	13
Idaho	-1.10	6	-2.24	4	Pa.	-0.45	35	-0.40	37
Ill.	-0.52	31	-1.31	19	R.I.	-1.59	1	-1.61	12
Ind.	-0.91	12	-1.71	7	S.C.	-0.77	18	-1.54	15
Iowa	-0.46	34	-0.25	41	S.D.	0.30	44	-0.07	43
Kans.	-0.59	26	-0.75	31	Tenn.	-0.60	25	-1.19	22
Ky.	-0.60	24	-1.16	25	Tex.	0.84	48	0.58	48
La.	0.87	50	0.34	46	Utah	0.42	47	-0.21	42
Maine	-1.02	9	-1.19	23	Vt.	-1.05	8	0.13	44
Md.	-0.84	15	-1.29	20	Va.	-0.35	37	-0.97	29
Mass.	-0.67	23	-0.74	32	Wash.	-0.46	33	-0.50	36
Mich.	-1.57	2	-2.28	3	W.Va	-0.97	10	-0.77	30
Minn.	-0.75	20	-0.65	33	Wis.	-0.95	11	-1.05	26
Miss.	-0.19	39	-1.21	21	Wyo.	0.36	45	0.56	47

Source: "Firm Size Data," Statistics of U.S. Businesses, U.S. Small Business Administration, <https://www.sba.gov/advocacy/firm-size-data>. Note: Ranking is from 1 = worst (largest negative changes) to 50 = best (largest positive changes).

Table 1 shows the percentage change in the number of firms and employment in the 50 states and the District of Columbia between 2006 and 2011. While most states exhibit negative growth in both the number of firms and employment, some states have grown in one or both categories. Maryland's position is markedly unfavorable in comparison to other states and the U.S. average: it ranks 15th in firm decline and 20th in employment losses during this period.

Yet another distortion stemming from the CIT is in its adverse effect on the allocation of human

capital. Corporations are known to invest heavily in attracting the best talent away from economically productive activities and channeling it towards tax avoidance and evasion schemes, such as making use of accounting loopholes and nexus selection optimization software, as well as political lobbying and patronage. For example, total lobbying expenditures (measured in 2014 inflation-adjusted dollars) in Maryland have increased by 9.8 percent in the five years following the 2008 SCIT rate increase, compared to the previous five-year period.<sup>31</sup> *The New York Times* reports that the

high CIT rate forces companies to devote enormous resources to finding loopholes, with some companies, like General Electric, hiring the best lawyers and accountants to become experts in tax avoidance.<sup>32</sup>

According to celebrated economist Arthur Laffer and his co-author Nicholas Drinkwater:<sup>33</sup>

*Some of the ways to avoid paying taxes include the use of lawyers, accountants, deferred income specialists, hiring lobbyists and politicians, moving away, operating in the underground economy, going out of business and countless others. For every tax in existence, there are at least a few clever folks who have found a way to avoid it.*

Laffer and Drinkwater emphasized that the most important distortion of all is that the income tax reduces the marginal incentive to work and produce. While they do not specifically refer to the CIT, their following contention applies to corporations too since the latter are owned and managed by individuals:

*...income taxes are the most damaging to economic growth of all major types of taxes. People don't work and produce in order to pay taxes; they work and produce to get after-tax income, and changes in marginal tax rates can dramatically alter the decision to work or not.<sup>34</sup>*

The CIT burden is also not equally distributed among firms. Large firms are in a better position than smaller firms to take advantage of tax avoidance schemes. Estimated to be around 6 percent of firm tax expenses,<sup>35</sup> FCIT compliance costs are high and tend to be most burdensome for small corporations. Furthermore, because capital is more mobile in larger firms, smaller firms are less capable of escaping to lower-tax jurisdictions. This issue appears to be relevant in Maryland, where State Senator Paul G. Pinsky has remarked that the state's "...current tax policy, which allows large Fortune 500 companies to avoid paying taxes in Maryland while small and medium size businesses act responsibly and pay their fair share, is an abomination."<sup>36</sup> **The corporate income tax burdens investors, consumers, and workers**

The question of incidence is an important criterion in the evaluation of a tax's merits. The CIT in the United States was introduced in 1909 as an excise tax on the privilege of doing business in corporate form and was meant, in part, to add

progressivity to the U.S. tax system by targeting owners of capital.<sup>37</sup> Alan Auerbach noted in 2005 that although the corporate tax is widely perceived to be imposed on the affluent, its incidence is still largely unresolved.<sup>38</sup> However, in his meticulous review of CIT incidence literature, he cites research indicating that the burden is not borne exclusively by owners of capital but also falls on labor, including entrepreneurial labor and consumers. Auerbach stated that

*...the corporation tax might effectively be a tax on entrepreneurial labor, for it would reduce the present value of the efforts that lead to the development of intangible capital; that is, the garages of Silicon Valley might have been used to store cars if the corporate tax rate had been higher.<sup>39</sup>*

As for the consumer's share of the burden, in Marian Krzyzaniak and Richard Musgrave's seminal 1963 work, corporations pass the corporate tax on to consumers by restricting output and increasing prices.<sup>40</sup> The increased competitiveness of the global economy has likely shifted the CIT burden from capital owners to other groups even further. Falling CIT rates and rising reliance on consumption taxes in OECD countries in recent decades corroborate this point.

**Pedro Gomes and Francois Pouget argued in 2008 that while tax competition can have a negative effect on public investment, it also reduces the net cost of capital.**

Capital is able to lessen its CIT burden in part because it tends to be more mobile than labor. A lower capital stock makes workers less productive, which in turn leads to a reduction in real wages and higher cost of final products for consumers.<sup>41</sup> Some economic models suggest that the tax burden on capital may shift almost entirely onto workers in the long term.<sup>42</sup> Several recent empirical studies provide additional evidence that higher CIT rates reduce wages.<sup>43</sup> Thus, the corporate tax is likely to affect not only the affluent owners of

corporate stocks, but also average consumers and labor. Furthermore, the part of the CIT burden that does fall on capital owners is likely to fall most heavily on owners of smaller corporations, as discussed in the previous section. For these reasons, economists tend to not score the CIT very highly on fairness.

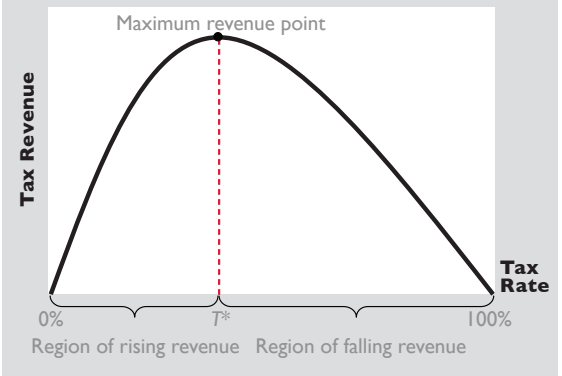
### THE LAFFER CURVE AND THE CORPORATE INCOME TAX

Sometimes, policymakers may discover that further increases in the tax rate do not produce more revenue and, under certain conditions, may actually decrease it. The tax revenue curve, popularly known as the Laffer curve, is an inverted parabola used by economists to illustrate how tax revenue may change with the tax rate. When the tax rate is low, additional revenue can be easily obtained by simply increasing the tax rate, as shown in Figure 8. This is known as the region of rising revenue. However, as the tax rate continues to rise, additional revenue becomes harder and harder to collect. Eventually, the revenue peaks at the top of the Laffer curve at the revenue-maximizing tax rate ( $T^*$ ), after which additional increases in the tax rate may actually lower revenue, because individuals and firms may hide their incomes or work less in response to high taxes.

This region of falling tax revenue is also known as the “wrong” side of the Laffer curve because excessively high taxes decrease economic activity and sabotage tax collections. If a tax happens to be on the wrong side of the Laffer curve, then lowering the tax rate can produce an increase in economic activity that will more than offset the lost revenue from the rate reduction. Policymakers interested in stimulating economic growth should set the tax rate at or to the left of the revenue-maximizing rate  $T^*$ .

While economists disagree on the exact shape of the Laffer curve, and some even question its existence, empirical evidence in its favor is mounting. The widely cited 2007 studies by Alex Brill and Kevin Hassett<sup>44</sup> and Kimberly Clausing<sup>45</sup> found strong statistical evidence in favor of the Laffer curve in international corporate tax data. Brill and Hassett also found that the revenue-maximizing national CIT rate has declined steadily from 34 percent in the 1980s to 26 percent in the 2000s as the world's economy has become more competitive. Clausing estimated that the revenue-

FIGURE 8. HYPOTHETICAL TAX REVENUE (LAFFER) CURVE



maximizing national CIT rate was 33 percent in OECD countries during the 1979–2002 period. She argued that the revenue-maximizing rate is likely to be even lower in smaller and more globally integrated countries.

Michael Devereux's 2007 analysis of 20 OECD countries from 1965 to 2004 suggests that the revenue-maximizing national CIT rate is between 18 and 37 percent.<sup>46</sup> Consistent with this range is Chris Edwards's 2007 finding that the CIT revenues in OECD countries soared from 2.6 percent to 3.7 percent of gross domestic product (GDP) when the average national CIT rate fell from 45 to 29 percent.<sup>47</sup> Similarly, Jack Mintz estimated in

**Laffer and Drinkwater emphasized that the most important distortion of all is that the income tax reduces the marginal incentive to work and produce.**

2007 that the revenue-maximizing national CIT rate for Canada is about 28 percent.<sup>48</sup>

Chen and Mintz have observed that despite a 31-percent cut in Canada's CIT rate and the 2009 recession, tax revenues as a share of GDP have remained roughly constant due to rising corporate taxable incomes.<sup>49</sup> Finally, John Stinespring found evidence in 2009 favoring the SCIT Laffer curve

**TABLE 2. SCIT REVENUE ESTIMATES FOR 50 STATES, 2000-2014**

VARIABLES	COEFFICIENT ESTIMATES
INTERCEPT ( $\alpha$ )	-135.9*** (18.8)
TOP SCIT RATE ( $\beta_1$ )	24.2*** (3.4)
TOP SCIT RATE SQUARED ( $\beta_2$ )	-2.0*** (0.3)
REAL GSP PER CAPITA ( $\beta_3$ )	0.004*** (0.0003)
R-SQUARED	0.86
OBSERVATIONS	750

Notes: The dependent variable is real SCIT revenue per capita. Robust standard errors are in parentheses. The model is estimated for 50 states via weighted OLS with state and year fixed effects. Significance levels: \*\*\* for 1 percent, \*\* for 5 percent, and \* for 10 percent.

during the 1996–2007 period and estimated that the revenue-maximizing SCIT rate has declined over the years to somewhere between 6.03 and 7.47 percent.<sup>50</sup>

In contrast, Jane Gravelle and Thomas Hungerford showed in 2008 that cutting the CIT rate does not lead to an increase in revenues as a percentage of GDP.<sup>51</sup> However, their finding appears to be an outlier among growing evidence in favor of the Laffer curve. Michael Schuyler argued in 2013 that Gravelle and Hungerford’s finding makes an unintentional case for cutting the CIT rate in order to spur economic growth without fearing losses in tax revenues.<sup>52</sup> Schuyler further argued that while most tax cuts do not pay for themselves, a cut in the FCIT rate would probably be the one that does. His simulations suggest that eliminating the federal CIT could offset the lost revenue through increases in other tax revenues over time due to higher economic growth.

**THE LAFFER CURVE ESTIMATES SUGGEST THAT MARYLAND’S SCIT IS TOO HIGH**

In this report, we estimate the SCIT Laffer curve using a longitudinal panel of 50 states from 2000 to 2014 (a total of 750 observations). We use robust (weighted least squares) regression analysis, which is a compromise between excluding outliers from the analysis and treating all observations equally.<sup>21</sup> A common way of estimating the Laffer curve is to regress the tax revenue on the relevant tax rate, its square (to capture the parabolic relationship), and

the relevant control variables, such as a measure of per capita income. We try several different model specifications, which produce the SCIT revenue-maximizing rate ( $T^*$ ) that ranges from the lowest of 4.8 to the highest of 7.9 percent, depending on the model.<sup>22</sup> Our figures are in line with Stinespring’s 2009 SCIT rate estimates for the 2002–2007 period.

The midrange and our preferred estimate of 6.05 percent for  $T^*$  is obtained by regressing real SCIT revenue per capita on the top SCIT rate ( $T$ ), its square ( $T^2$ ), and real gross state product (GSP) per capita in state  $i$  and year  $t$  as shown in the regression model below:

$$Revenue/capita_{it} = \alpha + \beta_1 (T_{it}^2) + \beta_2 (T_{it}) + \beta_3 (GSP/capita_{it}) + u_i + v_t + \epsilon_{it}$$

As in other studies, we use the top SCIT rate as a proxy for the marginal tax rate in our preferred model. This model also includes an intercept ( $\alpha$ ), state ( $u$ ) and year ( $v$ ) fixed effects to control for omitted factors, and a random disturbance ( $\epsilon$ ). All coefficients in the model are statistically significant at the commonly accepted levels and carry the expected signs (positive for  $T$  and negative for  $T^2$ ) as can be seen in Table 2.

Based on the regression estimates of  $\beta_1$  and  $\beta_2$ , we obtain the SCIT revenue-maximizing tax rate using this formula:

$$T^* = \frac{\beta_1}{-2\beta_2} = \frac{24.2}{-2(-2.0)} = 6.05 \text{ percent}^{55}$$

This estimate suggests that the average state maximizes its CIT revenue at the tax rate of about 6 percent.

Specifically for Maryland, our estimate indicates that reducing the tax rate from 8.25 to 6 percent may increase its real per capita SCIT revenue by about 7.4 percent, if everything else remains the same.<sup>56</sup> It is important to note, however, that this is a long-term prediction. Schuyler’s 2013 simulations show that a tax cut may lead to short term revenue losses because it takes time for incentives to affect behavior and spur future growth in economic activity and tax revenues. For instance, when Kansas’ governor Sam Brownback followed Arthur Laffer’s advice and cut the top personal income tax rate from 6.45 to 4.9 percent in 2012, the state experienced large shortfalls in revenue in subsequent years, while state unemployment fell and wages grew.<sup>57</sup>

While states are different, we believe that the estimated revenue-maximizing rate of 6 percent is applicable to Maryland for the following reasons. First, Maryland does not appear to be an outlier, like Alaska, Michigan, or New York. Second, our preferred model has high explanatory power (R-squared of over 86 percent) and accuracy (on average, predicting about 99.8 percent of Maryland's SCIT revenue during the 2000-2014 period). Third, despite having one of the highest rates in the nation, Maryland's SCIT raises a relatively small percentage of revenue compared to other states.

This evidence is consistent with our assertion that Maryland's current SCIT rate of 8.25 percent is inefficiently high. At about 2.5 percentage points above the national average, this tax makes it difficult for Maryland to compete with the other states. We believe that lowering the SCIT rate to 6 percent would increase the long-term corporate investment and employment in Maryland without jeopardizing government finances, since the tax amounts to only about 2.6 percent of the state's total revenue.

### **MOVING FORWARD**

The evidence presented in this study suggests that Maryland's state corporate income tax (SCIT) is inefficiently high. This tax also shares a long list of handicaps associated with the U.S. federal corporate income tax (FCIT), which is one of the highest in the world. The academic literature surveyed in this study finds that the corporate income tax is highly distortionary, and that its burden falls on consumers, workers, and investors. This tax also imposes a disproportionate burden on entrepreneurs and discriminates against the corporate form of business.

In an increasingly competitive and interconnected global economy, the combined FCIT and SCIT rate puts Maryland at a significant competitive disadvantage. Therefore, Maryland's low rank in business friendliness and private sector growth is not surprising. Maryland can improve its competitiveness by lowering its corporate income tax rate.

Our estimates of the revenue-maximizing tax rate suggest that Maryland can increase both its long-term tax revenues and economic prosperity by lowering its SCIT rate from 8.25 to 6 percent. Lowering the corporate tax rate to 6 percent would make Maryland more competitive, not

only regionally but also nationally. It is important to note that the desired effects of this tax cut are more likely to be seen in the long term and may not come to fruition immediately.

In the short term, a tax cut may even lead to revenue losses as incentives take time to affect behavior. If revenue neutrality is a priority, policymakers should be prepared to supplement the short-term reduction in revenue with an increase

## **The evidence presented in this study suggests that Maryland's state corporate income tax (SCIT) is inefficiently high.**

in less distortionary taxes, such as consumption or excise taxes. Reducing the corporate income tax and expanding its tax base would be a step forward for Maryland.

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