CORPORATE NET INCOME TAX RATE REDUCTION

INDEPENDENT FISCAL OFFICE IFO

April 6, 2018

INTRODUCTION

In response to a legislative request, the Independent Fiscal Office (IFO) undertook an analysis of state corporate net income tax (CNIT) rates, their impact on revenues and a proposal to reduce the Pennsylvania CNIT rate. House Bill 130 of 2017 reduces the Pennsylvania CNIT rate of 9.99 percent by 1.0 percentage point each year to a final rate of 4.99 percent. If enacted, the proposal would move Pennsylvania from the second highest state CNIT rate to a rank of 40 out of the 44 states that levy a CNIT.

Based on the request, this analysis contains five sections. The first section discusses changes in state CNIT rates during the past five years and changes scheduled to occur during the subsequent five years. The second section compares CNIT revenues to state personal income and population. Those two metrics are commonly used to compare the relative burden of taxes across states. The third section discusses the entities who bear the economic and statutory burden of the tax. Due to recent federal rate cuts, a number of analyses can be surveyed for that purpose. The fourth section considers trends in CNIT revenues for states that raised, lowered or did not change their tax rate during the past decade. The fifth section concludes with an analysis of a proposal to reduce the Pennsylvania CNIT rate from 9.99 to 4.99 percent over five years.

It should be noted that this analysis does not provide a comprehensive review of all potential issues that could affect state CNIT revenues. The analysis has a narrow and limited scope and only attempts to provide data and discussion that are responsive to the request, as well as general information that may be pertinent and useful to policymakers as they contemplate changes to the Pennsylvania CNIT rate.

SECTION 1: STATE CORPORATE NET INCOME TAX RATES

The analysis begins with an itemization of state CNIT rates. **Table 1** lists the highest statutory rates effective for tax year 2018. Although many states have a graduated rate structure, the great majority of corporate net income is typically subject to the highest tax rate. For 2018, Pennsylvania levies the second highest statutory tax rate in the nation. The median rate for states that levy a CNIT is 6.63 percent, and 16 states levy a rate between 6.0 and 7.0 percent (inclusive).

Because the state CNIT is fully deductible for federal income tax purposes, the effective tax rate (ETR, third column) will be lower by 21 percent, which is equal to the federal CNIT rate for most corporate income. The ETR in Table 1 reflects the net impact of the federal tax system. For example, if state CNIT is equal to $100, that payment is deductible and reduces federal CNIT by $100 * 21% = $21, and the net tax cost to the firm is $79. Therefore, the ETR for Pennsylvania is 9.99 * (1 - .21) = 7.89 percent after allowing for federal

deductibility.[1] It is noted that many other tax attributes would also affect a comprehensive state ETR computation, but those impacts are very difficult to quantify and are beyond the scope of this analysis. For example, compared to other states, Pennsylvania has more restrictive rules on net operating loss deductions, which would increase the state ETR relative to other states. Conversely, Pennsylvania uses sales-only factor apportionment, which reduces the ETR for many firms.[2]

The final columns of Table 1 list the CNIT rate that was in effect for tax year 2013 and the rate that is scheduled to be effective for tax year 2023. From 2013 to 2018, 10 states lowered their CNIT rates. It is notable that no state increased the statutory tax rate during that time period, and many enacted other changes that generally reduce the overall effective tax rate (e.g., sales-only factor apportionment). Three states attempted to broaden their state tax base through mandatory combined reporting (New Mexico, Connecticut and Rhode Island). For 2018 to 2023, four states are scheduled to reduce their tax rates: Connecticut, New Hampshire, Indiana and North Carolina.

[1] Due to deductibility, the ETR is lower for all states by the same proportion (21 percent). The deduction is worth more to firms operating in Pennsylvania because the statutory rate is higher than nearly all states.

[2] A comprehensive ETR computation would attempt to reflect the various attributes of the state tax system in a single tax rate. In practice, it is not possible to compute such a summary metric and it can only be noted that certain provisions tend to increase or decrease the "true" effective tax rate on profits that are attributable to a specific state.

Table 1: State Corporate Net Income Tax Rates						
	2018 Rank	2018 Rate	ETR	2013 Rate	2023 Rate	Change
Iowa	1	12.00%	9.48%	12.00%	12.00%	0.00%
Pennsylvania	**2**	**9.99%**	**7.89%**	**9.99%**	**9.99%**	**0.00%**
Minnesota	3	9.80%	7.74%	9.80%	9.80%	0.00%
Illinois	4	9.50%	7.51%	9.50%	9.50%	0.00%
Alaska	5	9.40%	7.43%	9.40%	9.40%	0.00%
New Jersey	6	9.00%	7.11%	9.00%	9.00%	0.00%
Maine	7	8.93%	7.05%	8.93%	8.93%	0.00%
California	8	8.84%	6.98%	8.84%	8.84%	0.00%
Delaware	9	8.70%	6.87%	8.70%	8.70%	0.00%
Vermont	10	8.50%	6.72%	8.50%	8.50%	0.00%
Connecticut	11	8.25%	6.52%	9.00%	7.50%	-1.50%
Maryland	11	8.25%	6.52%	8.25%	8.25%	0.00%
New Hampshire	13	8.20%	6.48%	8.50%	7.50%	-1.00%
Louisiana	14	8.00%	6.32%	8.00%	8.00%	0.00%
Massachusetts	14	8.00%	6.32%	8.00%	8.00%	0.00%
Wisconsin	16	7.90%	6.24%	7.90%	7.90%	0.00%
Nebraska	17	7.81%	6.17%	7.81%	7.81%	0.00%
Oregon	18	7.60%	6.00%	7.60%	7.60%	0.00%
Idaho	19	7.40%	5.85%	7.40%	7.40%	0.00%
Kansas	20	7.00%	5.53%	7.00%	7.00%	0.00%
Rhode Island	20	7.00%	5.53%	9.00%	7.00%	-2.00%
Montana	22	6.75%	5.33%	6.75%	6.75%	0.00%
Alabama	23	6.50%	5.14%	6.50%	6.50%	0.00%
Arkansas	23	6.50%	5.14%	6.50%	6.50%	0.00%
New York	23	6.50%	5.14%	7.10%	6.50%	-0.60%
Tennessee	23	6.50%	5.14%	6.50%	6.50%	0.00%
West Virginia	23	6.50%	5.14%	7.00%	6.50%	-0.50%
Hawaii	28	6.40%	5.06%	6.40%	6.40%	0.00%
Missouri	29	6.25%	4.94%	6.25%	6.25%	0.00%
Indiana	30	6.00%	4.74%	8.00%	4.90%	-3.10%
Georgia	30	6.00%	4.74%	6.00%	6.00%	0.00%
Kentucky	30	6.00%	4.74%	6.00%	6.00%	0.00%
Michigan	30	6.00%	4.74%	6.00%	6.00%	0.00%
Oklahoma	30	6.00%	4.74%	6.00%	6.00%	0.00%
Virginia	30	6.00%	4.74%	6.00%	6.00%	0.00%
New Mexico	36	5.90%	4.66%	7.60%	5.90%	-1.70%
Florida	37	5.50%	4.35%	5.50%	5.50%	0.00%
Mississippi	38	5.00%	3.95%	5.00%	5.00%	0.00%
South Carolina	38	5.00%	3.95%	5.00%	5.00%	0.00%
Utah	38	5.00%	3.95%	5.00%	5.00%	0.00%
Arizona	41	4.90%	3.87%	6.97%	4.90%	-2.07%
Colorado	42	4.63%	3.66%	4.63%	4.63%	0.00%
North Dakota	43	4.31%	3.40%	4.53%	4.31%	-0.22%
North Carolina	44	3.00%	2.37%	6.90%	2.50%	-4.40%
MEDIAN		**6.63%**	**5.23%**	**7.25%**	**6.63%**	**-0.62%**

Note: Nevada, Ohio, South Dakota, Texas, Washington and Wyoming do not levy a CNIT.
Source: Tax Foundation, "State Corporate Income Tax Rates and Brackets for 2018" (February 2018) and Commerce Clearing House.

SECTION 2: TWO MEASURES OF STATE CORPORATE NET INCOME TAX BURDEN

Although the tax rate is the most important attribute of a state CNIT system that determines revenues, other attributes affect revenues too. Therefore, ranking states based solely on tax rates may not provide a complete picture of relative state tax burdens. Two ratios used to compare CNIT revenues across states are the ratio of revenues to (1) state personal income and (2) state population. If possible, an analysis would want to compare CNIT revenues to actual profits attributable to a state. However, state-level profits data are not published, and taxable profits reported on state income tax returns are likely not representative of actual state-level profits because those amounts are determined by policy choices (e.g., apportionment formulas, reporting methods), as opposed to economic criteria.

Table 2 displays the personal income and per capita measures for state CNIT revenues for FY 2015-16. These computations reflect state CNIT revenues only, and do not include corporate franchise/privilege taxes, or any corporate levies by local governments.[3] Some states rely heavily on corporate franchise/privilege taxes (Delaware, North Carolina, Illinois and Tennessee), and if those taxes had been included, then the ratios displayed in Table 2 would be higher for those states.

Based on the ratio of CNIT revenues to state personal income, Pennsylvania ranked 12th with a ratio of 0.39 percent. Based on the ratio of CNIT revenues to population, Pennsylvania also ranked 12th with a per capita amount of $192. These measures place Pennsylvania lower than the tax rate ranking (2nd) due to other attributes of the tax system that affect revenues, as well as attributes of the state economy.

It is important to note several caveats regarding the two state comparison metrics. First, the relative level of corporate profits will vary across state economies simply due to different levels of pass-through versus corporate business activity. Second, the composition of industries will also vary across states, and those industries will have different levels of profitability. More profitable industries will pay more tax at a given tax rate. Finally, most researchers believe that capital owners (i.e., shareholders) bear the majority of the burden of the state CNIT, and most corporate shareholders likely reside out-of-state. For these reasons, the two simple comparison metrics provide only general guidance regarding the relative size and tax burden of CNIT revenues. A state may have a higher ranking than other states simply due to the fact that the industries that comprise the state economy tend to have higher margins of profit.

[3] Two exceptions are noted: New Hampshire includes the state business enterprise tax and Delaware includes miscellaneous corporate fees.

Table 2: Corporate Net Income Tax Comparisons					
	FY 2015-16 Revenues	Income Ratio	Income Rank	Per Capita ($) Amount	Per Capita Rank
New Hampshire	$700.2	0.97%	1	$526	1
Delaware	318.2	0.72%	2	337	3
Tennessee	1,538.6	0.56%	3	233	9
Alaska	212.3	0.55%	4	287	4
Massachusetts	2,333.9	0.55%	5	344	2
Minnesota	1,515.7	0.54%	6	276	5
Illinois	3,367.5	0.51%	7	262	6
California	9,902.2	0.47%	8	254	7
Mississippi	463.1	0.45%	9	155	17
New Jersey	2,229.5	0.42%	10	249	8
Arkansas	450.2	0.40%	11	151	19
Pennsylvania	**2,456.2**	**0.39%**	**12**	**192**	**12**
Wisconsin	986.8	0.38%	13	171	14
New York	4,181.8	0.36%	14	211	10
Kentucky	606.8	0.36%	15	137	20
Maryland	1,129.0	0.34%	16	188	13
Nebraska	307.7	0.34%	17	162	15
Oregon	609.9	0.34%	18	152	18
Vermont	98.3	0.33%	19	157	16
Indiana	816.4	0.30%	20	123	24
Kansas	391.9	0.29%	21	135	23
Idaho	189.0	0.29%	22	114	28
Connecticut	719.5	0.29%	23	200	11
Utah	333.4	0.29%	24	112	30
Rhode Island	144.3	0.28%	25	137	22
Iowa	376.9	0.27%	26	121	25
Montana	119.0	0.27%	27	116	26
North Carolina	1,066.5	0.26%	28	106	31
North Dakota	103.1	0.26%	29	137	21
Maine	137.5	0.24%	30	103	32
Georgia	981.0	0.24%	31	96	33
Florida	2,272.2	0.24%	32	112	29
South Carolina	440.5	0.23%	33	90	35
Colorado	626.1	0.22%	34	115	27
West Virginia	144.7	0.22%	35	79	39
Arizona	570.5	0.21%	36	84	38
Michigan	898.2	0.21%	37	91	34
Alabama	376.7	0.21%	38	78	40
Oklahoma	327.8	0.19%	39	84	37
Virginia	752.7	0.18%	40	90	36
Hawaii	108.2	0.16%	41	76	41
New Mexico	113.9	0.14%	42	55	42
Missouri	328.7	0.13%	43	54	43
Louisiana	171.6	0.09%	44	37	45

Note: Revenues in millions of dollars and are net of refunds. The amounts for New Hampshire and Delaware include business enterprise tax (NH) or corporate fees (DE). If those amounts are excluded, then the two comparison metrics would fall by approximately one-half.
Source: U.S. Census Bureau and U.S. Bureau of Economic Analysis.

SECTION 3: WHO PAYS THE STATE CORPORATE NET INCOME TAX?

Due to the recent reduction in the federal CNIT rate, there has been much discussion regarding the economic incidence of the tax. Economic incidence refers to the entity who bears the true burden of the tax, as opposed to the entity who remits the tax to the government. Corporations cannot bear the burden of a tax. Ultimately, only individuals in the form of consumers, workers or owners of capital (e.g., shareholders) effectively pay the tax through higher prices, reduced wages or lower capital gains, dividends, interest or rent. Those same groups will benefit from any reduction in the tax rate.

In the near-term, most research finds that capital owners will benefit from tax rate reductions (or bear the burden of a tax increase). However, as firms and markets adjust to the rate cut over time, workers and consumers could also benefit. In the recent debate regarding the Tax Cut and Jobs Act (TCJA) of 2017, the following studies or papers were cited. All incidence figures refer to the assumed long-run incidence of the federal CNIT:

- The U.S. Department of the Treasury assumes that 82 percent of the tax is borne by capital owners and 18 percent is borne by labor.[4]
- The Congressional Budget Office (CBO) assumes that 75 percent of the tax is borne by capital owners and 25 percent is borne by labor.[5]
- The Joint Committee on Taxation uses the same assumption as the CBO.[6]
- The Tax Policy Center assumes that 20 percent of the tax is borne by capital that earns a normal return, 60 percent is borne by capital that earns a supernormal (i.e., above average) return and 20 percent is borne by labor.[7]
- The Tax Foundation cites a study by the Organization of Economic Co-Operation and Development that finds 30 to 70 percent of the CNIT burden could be shifted to workers in the form of lower wages.[8] A Tax Foundation special report found that the tax burden is largely split equally between capital and labor.[9]

Unfortunately, technical issues cause more uncertainty when researchers attempt to identify the entities that bear the incidence of the state CNIT. States use various reporting methods, apportionment formulas, and have different tax bases and net operating loss rules. All of those tax attributes could affect an incidence computation.

---

[4] "Distributing the Corporate Income Tax: Revised U.S. Treasury Methodology," U.S. Department of the Treasury, Office of Tax Analysis Working Paper Number 5 (May 2012).
[5] "The Distribution of Household Income and Federal Taxes, 2013" Congressional Budget Office (June 2016).
[6] "Modeling the Distribution of Taxes on Business Income," Joint Committee on Taxation (October 2013).
[7] "How TPC Distributes the Corporate Income Tax," Tax Policy Center (September 2012).
[8] "New OECD Study Reviews Research on Who Bears the Burden of Business Taxes," Tax Foundation (January 12, 2018).
[9] "Labor Bears Much of the Cost of the Corporate Tax," Tax Foundation, Special Report No. 238 (October 2017).

However, data are available to provide insight regarding the statutory burden of the state CNIT. The statutory tax burden refers to the entity that remits the tax. **Table 3** provides an industry breakout of CNIT cash payments for the latest three fiscal years. These data reflect cash payments, and do not include any refunds that may have been paid to firms. For the last three fiscal years, the industries that remitted the largest share of Pennsylvania CNIT payments were manufacturers (16.4 percent), wholesalers (16.4 percent) and retailers (11.2 percent). Across all industries the total amount remitted declined by 2.1 percent, reflecting two consecutive years of declining domestic profits at the national level. Particularly notable was the significant decline in remittances by the mining sector, due to the lower profitability from the collapse of natural gas prices.

Table 3: Corporate Net Income Tax Cash Payments by Industry

	2014-15	2015-16	2016-17	Share
Agriculture, Forestry and Fishing	$6.0	$4.0	$4.4	0.2%
Mining	118.7	39.2	62.2	2.6%
Utilities	135.9	133.9	147.6	5.0%
Construction	50.1	55.5	64.8	2.0%
Manufacturing	464.5	476.3	437.1	16.4%
Wholesale Trade	481.8	471.5	428.5	16.4%
Retail Trade	330.3	296.9	315.8	11.2%
Transportation and Warehousing	147.0	121.5	141.9	4.9%
Information	213.9	359.7	254.2	9.8%
Finance and Insurance	283.5	276.9	293.2	10.2%
Real Estate and Rental	64.5	55.9	59.1	2.1%
Professional, Scientific and Technical	150.0	166.8	151.3	5.6%
Management of Companies	54.7	77.6	78.9	2.5%
Administrative and Waste Management	45.4	46.9	48.9	1.7%
Education Services	5.3	5.0	3.7	0.2%
Healthcare and Social Assistance	43.3	39.9	43.7	1.5%
Arts, Entertainment and Recreation	8.9	6.1	4.3	0.2%
Accommodation and Foodservices	37.7	29.1	35.5	1.2%
Other Services	57.9	67.4	64.7	2.3%
Not Classified	111.9	112.4	111.6	4.0%
TOTAL	2,811.5	2,842.4	2,751.5	100.0%

Note: Millions of dollars. Share is an average for the three fiscal years.
Source: Pennsylvania Department of Revenue, Statistical Supplement for the Tax Compendium.

In terms of size, most CNIT revenues are remitted by a relatively small number of large corporations. **Table 4** separates filers based on the amount of tax liability for tax years 2012, 2013 and 2014. Unlike cash payments, these data are published with a considerable lag because they reflect tax liabilities, which are the final amounts reported on tax returns, and are net of any refunds, overpayments or tax credits. For all three tax years, roughly three-quarters of filers reported no tax liability because the firm reported a tax loss, eliminated liability with a net operating loss deduction or tax credit, or reported an apportionment factor that was equal to zero. For tax year 2014, preliminary data suggest that the 456 firms with tax liability greater than $1 million likely comprised roughly 70 percent of total tax liability for that tax year (computation not shown on table). By contrast, firms with less than $25,000 of tax liability (23,891 firms) comprised nearly 80 percent of firms with a tax liability (29,713 firms) but only 3.0 to 4.0 percent of total tax liability. These results reflect patterns at the federal level that also show a relatively small number of large firms remit most tax revenues in any given year.

Table 4: Corporate Net Income Tax Liability Distribution

	Final Tax Year 2012		Preliminary Tax Year 2013		Advance Preliminary Tax Year 2014	
Liability Range	Filers	Percent	Filers	Percent	Filers	Percent
$0	86,259	73.9%	87,634	75.1%	91,247	75.4%
$1 - 200	5,706	4.9%	5,167	4.4%	4,936	4.1%
$201 - 300	1,323	1.1%	1,287	1.1%	1,207	1.0%
$301 - 500	1,939	1.7%	1,738	1.5%	1,782	1.5%
$501 - 1,000	3,046	2.6%	2,834	2.4%	2,775	2.3%
$1,001 - 5,000	7,528	6.4%	7,178	6.2%	7,381	6.1%
$5,001 - 10,000	2,829	2.4%	2,782	2.4%	2,831	2.3%
$10,001 - 25,000	2,744	2.4%	2,696	2.3%	2,979	2.5%
$25,001 - 50,000	1,559	1.3%	1,609	1.4%	1,773	1.5%
$50,001 - 100,000	1,228	1.1%	1,257	1.1%	1,383	1.1%
$100,001 - 250,000	1,225	1.0%	1,198	1.0%	1,260	1.0%
$250,001 - 500,000	561	0.5%	533	0.5%	576	0.5%
$500,001 - 1,000,000	379	0.3%	332	0.3%	374	0.3%
>$1,000,000	418	0.4%	412	0.4%	456	0.4%
TOTAL	116,744	100.0%	116,657	100.0%	120,960	100.0%

Note: Data for tax years 2013 and 2014 are preliminary and will be revised.
Source: Pennsylvania Department of Revenue, Statistical Supplement for the Tax Compendium.

Table 5 provides a similar breakdown based on the apportionment factor reported on the Pennsylvania CNIT return. The apportionment factor is the factor used to attribute total firm profits to Pennsylvania for tax purposes. The factor is determined by statute and need not yield a tax base that reflects the actual profits generated from activity in the state. Firms that operate only within the state have an apportionment factor of 1.0. Most large firms are multi-state or multi-national firms and have an apportionment factor that is less than 0.25, or 25 percent.

For tax year 2013, firms used a sales-only factor to apportion profits to Pennsylvania (i.e., only the share of firmwide sales that occurred in Pennsylvania were used to attribute profits to the state). The data show that nearly one-third (32.9 percent) of tax liability was attributable to firms with a tax liability greater than $5 million, and that group comprised 0.2 percent of all firms with tax liability. The column totals reveal that more than half of total tax liability (56.8 percent) was reported by firms that apportioned less than 10 percent of their tax base to the state. Somewhat less than one-fifth (17.9 percent) was reported by firms that were largely Pennsylvania-only firms, and roughly one-quarter (25.3 percent) was reported by firms with a sales apportionment factor between 10 and 95 percent.

For various reasons, a sales-only apportionment factor may not provide a good approximation of total firm profits attributable to corporate activity within a state. Property and payroll factors, although no longer used, may provide a better representation. The bottom portion of Table 5 provides the same breakout as the top, but uses the payroll factor only for tax year 2012 because those amounts were not reported for tax year 2013. The payroll factor represents the share of firmwide payroll located in the state. If a payroll-only factor is used instead of sales, the tabulations for tax year 2012 reveal similar patterns as the sales-only apportionment factor for tax year 2013: a relatively small number of firms with more than $5 million of tax liability comprised more than one-third of total tax liability (36.4 percent), and roughly one-half of total tax liability (50.5 percent) was attributable to filers who reported that less than 10 percent of total firm payroll resided within Pennsylvania.

Table 5: Tax Liability and Apportionment Factor

2013 Sales Factor

Tax Liability Range	Share of Firms	Share Based on Sales Appt Factor (2013) <.10	.10 - 49	.50 - .95	>.95	TOTAL
$1 - 49,999	86.9%	3.2%	0.7%	0.3%	2.0%	6.2%
$50,000 - 249,999	8.6%	7.6%	2.0%	0.7%	2.0%	12.3%
$250,000 - 499,999	1.9%	5.1%	1.4%	0.5%	1.4%	8.3%
$500,000 - 999,999	1.1%	6.9%	1.8%	0.6%	1.2%	10.5%
$1,000,000 - 4,999,999	1.2%	16.7%	5.6%	2.2%	5.2%	29.7%
>$5,000,000	0.2%	17.5%	7.9%	1.5%	6.1%	32.9%
TOTAL	100.0%	56.8%	19.4%	5.9%	17.9%	100.0%

2012 Payroll Factor

Tax Liability Range	Share of Firms	Share Based on Payroll Appt Factor (2012) <.10	.10 - .49	.50 - .95	>.95	TOTAL
$1 - 49,999	89.6%	5.6%	0.4%	0.3%	0.5%	6.9%
$50,000 - 249,999	6.9%	7.6%	1.5%	1.2%	1.4%	11.7%
$250,000 - 499,999	1.5%	5.1%	1.1%	1.1%	0.9%	8.2%
$500,000 - 999,999	1.0%	5.8%	1.6%	1.6%	1.0%	10.1%
$1,000,000 - 4,999,999	0.8%	13.4%	5.8%	4.4%	3.1%	26.7%
>$5,000,000	0.2%	13.0%	11.5%	3.9%	8.0%	36.4%
TOTAL	100.0%	50.5%	22.0%	12.5%	15.0%	100.0%

Source: IFO tabulations of CNIT micro data files for tax years 2012 and 2013.

SECTION 4: THE IMPACT OF CNIT RATE REDUCTIONS ON REVENUES

Researchers use state revenue trends to examine the impact of CNIT rate changes because some states raise or lower their tax rates over a given time period, but most do not, and those states can be used as a "control" group in a statistical analysis. Trends in revenues and other relevant economic variables can be analyzed in order to discern whether a policy change had a material (i.e., statistically significant) impact on revenues. This section undertakes a similar comparison, albeit at a higher level that does not employ the complex statistical techniques used by more rigorous studies.

Table 6 displays historical data for three groups of states. The largest group (top) of 21 states levied a constant CNIT rate during the past decade. The second group of 11 states reduced the CNIT rate at some point during the past decade, while the final group of four states increased the CNIT rate.[10] The table shows the CNIT rate in effect for calendar years 2006 and 2016 and the rate differential. Those rates motivate the revenues received in fiscal year (FY) 2006-07 and FY 2016-17. The final three columns display the average annual growth rate of CNIT revenues and state private gross domestic product (GDP) during the decade, and the difference in average annual growth rates.[11]

Academic research finds a strong and unambiguous positive relation between state CNIT rates and revenues, but other factors may affect longer-term outcomes and offset some of the revenue gain or loss from a tax rate change. For example, although a CNIT rate cut directly reduces revenues, the reduction could be offset over time by behavioral effects (e.g., reduced profit shifting between states) or dynamic effects (i.e., more economic activity). A revenue offset of 20 percent implies that 20 percent of a "static" revenue loss from a CNIT rate reduction (i.e., simply pro-rating projected revenues down by the percentage reduction in the tax rate) is offset by dynamic effects.[12] At the national level, economic models have estimated revenue offsets ranging from 10 percent to 50 percent once all dynamic effects have been reflected fully.[13] Based on discussions with economic researchers, most models generate results at the lower end of the range.

For the purpose of this analysis, the IFO compared economic and revenue trends for the three groups of states. A more complex analysis could be performed, but it is not clear that complexity would provide greater insights. In addition to tax rates, myriad other factors affect CNIT revenue trends across states and states often enact multiple changes to the CNIT in any given year. If all material factors are not quantified and included in a statistical analysis, then it would raise the possibility of inaccurate or spurious results.

[10] For the purpose of this table, states that do not levy a corporate net income tax are not included, nor are certain states heavily dependent on natural resource production and smaller state economies that may not be readily comparable to larger states. Michigan is also excluded due to fundamental changes made to the corporate tax system during the time period.

[11] The GDP computation uses nominal GDP (includes inflation) and excludes the government sector. Both growth rate computations use a two-year average for FYs 2005-06 / 2006-07 and FYs 2015-16 / 2016-17 because CNIT revenues are highly volatile and any one year may not be representative of longer-term trends.

[12] For an analysis of federal rate changes, government and private entities include the behavioral impact from reduced profit shifting to foreign entities in the static estimate.

[13] See "Preliminary Details and Analysis of the Tax Cuts and Jobs Act," Tax Foundation, Special Report No. 241 (December 2017) for an itemization of dynamic effects from the TCJA of 2017. The Tax Foundation uses estimates at the high end of the range. Other models use estimates that are considerably lower.

Table 6: Revenue Growth vs. Economic Growth						
				AAGR: 2006-07 to 2016-17		
No Change	CY 2006 Tax Rate	CY 2016 Tax Rate	Change in Tax Rate	CNIT Revenues	Private GDP	Difference
Iowa	12.00%	12.00%	0.00%	2.2%	3.7%	-1.4%
Pennsylvania	**9.99%**	**9.99%**	**0.00%**	**0.9%**	**3.4%**	**-2.6%**
Minnesota	9.80%	9.80%	0.00%	2.0%	3.2%	-1.2%
New Jersey	9.00%	9.00%	0.00%	-2.7%	2.2%	-5.0%
Maine	8.93%	8.93%	0.00%	-0.6%	2.1%	-2.7%
California	8.84%	8.84%	0.00%	-0.6%	3.5%	-4.1%
Wisconsin	7.90%	7.90%	0.00%	1.2%	3.0%	-1.8%
Nebraska	7.81%	7.81%	0.00%	1.9%	4.4%	-2.5%
Montana	6.75%	6.75%	0.00%	-3.0%	3.6%	-6.6%
Alabama	6.50%	6.50%	0.00%	-4.0%	2.3%	-6.3%
Arkansas	6.50%	6.50%	0.00%	1.5%	2.7%	-1.2%
Tennessee	6.50%	6.50%	0.00%	4.8%	3.5%	1.3%
Missouri	6.25%	6.25%	0.00%	-1.4%	2.6%	-4.0%
Georgia	6.00%	6.00%	0.00%	0.2%	2.8%	-2.6%
Oklahoma	6.00%	6.00%	0.00%	-5.6%	3.1%	-8.7%
Virginia	6.00%	6.00%	0.00%	-1.1%	2.6%	-3.7%
Florida	5.50%	5.50%	0.00%	-0.4%	2.2%	-2.7%
Mississippi	5.00%	5.00%	0.00%	2.5%	2.3%	0.2%
South Carolina	5.00%	5.00%	0.00%	3.0%	3.4%	-0.5%
Utah	5.00%	5.00%	0.00%	-1.3%	4.2%	-5.5%
Colorado	4.63%	4.63%	0.00%	2.1%	3.4%	-1.3%
Reduced Rate						
North Carolina	6.90%	4.00%	-2.90%	-4.4%	3.2%	-7.6%
West Virginia	9.00%	6.50%	-2.50%	-13.2%	2.8%	-16.0%
Indiana	8.50%	6.25%	-2.25%	-0.4%	3.2%	-3.7%
Kentucky (see note)	8.25%	6.00%	-2.25%	n.a.	2.8%	n.a.
Rhode Island	9.00%	7.00%	-2.00%	-2.9%	2.1%	-5.0%
Arizona	7.00%	5.50%	-1.50%	-6.7%	2.1%	-8.8%
Massachusetts	9.50%	8.00%	-1.50%	1.3%	3.5%	-2.2%
New York	7.50%	6.50%	-1.00%	-1.7%	3.5%	-5.2%
Vermont	8.90%	8.50%	-0.40%	-0.4%	2.4%	-2.8%
Kansas	7.35%	7.00%	-0.35%	-1.8%	3.0%	-4.8%
Idaho	7.60%	7.40%	-0.20%	0.5%	3.1%	-2.6%
Increased Rate						
Connecticut	7.50%	9.00%	1.50%	1.6%	1.5%	0.2%
Maryland	7.00%	8.25%	1.25%	2.7%	3.2%	-0.5%
Oregon	6.60%	7.60%	1.00%	3.5%	3.6%	0.0%
Illinois	7.30%	7.75%	0.45%	1.6%	2.6%	-1.0%

Note: Kentucky reduced the CNIT rate but also implemented an alternative gross receipts tax for CY 2006; rate shown is for CY 2005. AAGR is average annual growth rate from FYs 05-06/06-07 to FYs 15-16/16-17.
Source: Revenue data through FY 2015-16 from U.S. Census Bureau. Growth rates for FY 2016-17 from the Rockefeller Center "State Revenue Report: Second Quarter 2017," Report No. 109 (December 2017). Recent data for Indiana from Indiana DOR. GDP data from U.S. Bureau of Economic Analysis.

For states that did not change their CNIT rate during the decade, the data show that revenue growth lagged economic growth in all states except Tennessee and Mississippi. (See Table 6.) Across all states in this group, average revenue growth lagged economic growth by roughly 2.0 to 3.0 percentage points per annum. Various factors could drive that outcome, such as the increased use of the pass-through business form, increased use of sales-factor apportionment and newly enacted tax credits. This differential between tax revenues and economic growth provides a baseline regarding what could be expected if a state did not change its CNIT rate.

For the second group of states that reduced the CNIT rate, there is a larger disparity between revenue and economic growth (roughly 5.0 to 6.0 percentage points per annum) and the disparity is somewhat greater for large rate reduction states (North Carolina and West Virginia). The trends in these states suggest a negative impact on revenue growth from rate reduction. It should be noted that four rate cut states also enacted combined reporting (New York, Massachusetts, West Virginia and Rhode Island) during the time period, which some researchers and most state officials believe provides a material boost to revenues. It is also noted that the dynamic effects from a CNIT rate reduction likely require many years to manifest themselves, and may not be fully reflected in the data from Table 6.

The two clearest examples of CNIT rate reduction are North Carolina and Indiana because (1) they did not also enact combined reporting or other major changes, (2) the state economies are not small and (3) the rate change was significant. For North Carolina, the tax rate declined from 6.9 percent (2013), to 6.0 percent (2014), 5.0 percent (2015) and 4.0 percent (2016).[14] The 42.0 percent reduction in the tax rate was associated with a similar reduction in revenues (-44.3 percent) from FY 2013-14 to FY 2016-17. That result is consistent with a "static" estimate that predicts revenues would fall by the same proportion as the change in the tax rate. While it is possible that other revenues were enhanced by the corporate rate cut (e.g., personal income and sales), it would be difficult for those sources to increase enough to make the rate cut revenue neutral.[15]

For Indiana, the tax rate was 8.5 percent in 2012 and declined by one-half percentage point every year through 2016 to 6.5 percent.[16] The 23.5 percent reduction in the tax rate was associated with nearly flat revenues through FY 2016-17. However, preliminary data through February 2018 suggest a very large net revenue reduction (includes refunds) for FY 2017-18 that could exceed 50 percent relative to the prior year. Data for the full fiscal year will be needed to evaluate the impact of the rate change. If data for the first eight months of the fiscal year are representative, then it would be difficult for other revenue sources to increase enough to offset the CNIT revenue reduction.

---

[14] The tax rate for North Carolina declined to 3.0 percent for tax year 2017, but that rate will largely impact revenues received in FY 2017-18, and that fiscal year is not included in this analysis.

[15] A number of studies find that federal CNIT rate cuts would enhance employment and those studies also find that labor bears a significant portion of the CNIT burden. Potential employment impacts from state-level rate cuts are much more difficult to quantify.

[16] The tax rate for Indiana declined to 6.25 percent for tax year 2017. Recent revenue data for Indiana are from the Indiana Department of Revenue at: https://www.in.gov/dor/3657.htm.

For the four states that increased the CNIT rate, the average growth rate of revenues and the state economy were similar. Two states enacted a rate increase during the Great Recession (Maryland and Oregon) while the other two states raised tax rates later due to financial pressures (Illinois and Connecticut). Due to the timing and motivation of these rate increases, it would be difficult to separate the true net impact of the rate change from underlying economic conditions that would restrain revenue growth regardless.

SECTION 5: REVENUE IMPACT OF PROPOSED RATE REDUCTION

This section estimates the revenue impact of a corporate rate reduction from 9.99 percent to 4.99 percent by 1.0 percentage point per annum beginning with tax year 2018. Currently, Pennsylvania levies the second highest statutory tax rate in the nation. Under the proposal, the rank would fall to fifth lowest assuming that other states do not also reduce their CNIT rate beyond any reductions already reflected in statute.

For the purpose of the revenue estimate, the analysis uses the latest IFO CNIT baseline, which reflects recent changes to the net operating loss deduction threshold and the federal Tax Cuts and Jobs Act (TCJA). Act 43 of 2017 eliminates the $5 million net operating loss deduction cap and increases the taxable income cap to 40 percent starting with tax year 2019. The TCJA reduces the federal CNIT rate from 35 to 21 percent and implements a number of changes that expand the federal and state CNIT base. After the fifth year of the forecast, the baseline assumes that CNIT revenues expand at a rate of 3.0 percent per annum, which is generally consistent with the nominal long-run growth rate of that revenue source if the national and state economies do not enter into recession.

As shown by **Table 7**, the CNIT baseline (net of refunds) starts at $3.1 billion for FY 2018-19 and grows to $3.9 billion by FY 2027-28, an average growth rate of 2.7 percent per annum. A "static" revenue estimate simply reduces that baseline by the percentage reduction in the tax rate. For example, the baseline is multiplied by 4.99 / 9.99 for all tax years that the proposed lower rate is fully phased in. By FY 2027-28, the static estimate reduces CNIT revenues by roughly $2.0 billion.

Table 7: Revenue Impact from CNIT Rate Reduction

	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28
Revenue Baseline	$3,050	$3,070	$3,130	$3,240	$3,360	$3,470	$3,570	$3,670	$3,780	$3,880
Revenue Estimates										
Static Impact	-560	-730	-1,060	-1,420	-1,680	-1,740	-1,790	-1,840	-1,890	-1,940
Behavior and Dynamic	20	40	90	160	230	270	290	320	350	380
Net Impact	-540	-690	-970	-1,260	-1,450	-1,470	-1,500	-1,520	-1,540	-1,560

Note: Dollar amounts in millions. Estimate assumes impact for tax year 2018 pushed forward into FY 2018-19. Proposal reduces tax rate from 9.99% to 4.99% by 1.0 percentage per annum from 2018 to 2022.

The static estimate does not reflect certain behavioral and dynamic effects that should occur due to the large rate reduction. Those impacts include:

- Reduced tax avoidance and profit shifting. At the national level, a large volume of research finds that multinational firms shift substantial profits to low tax countries (referred to as tax havens) through transfer pricing and other mechanisms.[17] Similar behavior occurs for firms subject to the CNIT in multiple states. Currently, the much higher Pennsylvania state tax rate may encourage firms to shift profits out of the state. The reversal of this effect would enhance revenues, but would likely have modest implications for real state economic growth.

- A real economic or dynamic effect. The 50 percent reduction in the tax rate should encourage firms to locate in the state, increase investment and employment, and enhance economic growth. The implied expansion of the state economy would offset a portion of the original revenue loss.

In order to reflect these two impacts, the analysis assumes that the static revenue loss would be offset by 5 percent in the first year of the rate reduction, increase to 15 percent by the final year of the rate reduction phase-in, and 20 percent by the end of the forecast window. The estimate assumes that other states do not also reduce their tax rates. If they do, then the impact of these effects would be diminished. These parameters are based on those used for national studies. Additional factors (noted below) will constrain the potential positive revenue offset associated with CNIT rate reduction.

It is noted that the estimate for behavioral and dynamic effects is subject to much uncertainty, and the estimate used for this analysis only serves as a reasonable and plausible estimate. It was noted previously that estimates for federal CNIT rate reduction used a dynamic offset of roughly 10 to 50 percent of the static revenue loss, and most studies used estimates at the lower end of that range. For various reasons, the impact from dynamic effects would be smaller at the state level. Those reasons include:

The entire tax cut will not flow back to firms due to the deductibility of state CNIT for federal purposes. Some of the state tax cut will effectively flow out of state to the federal government. For example, if a firm has $100 of state tax liability, it can reduce its federal tax liability by $100 * .21 = $21 due to federal deductibility, and the net tax cost to the firm is $79. In effect, the federal government shares some of the state tax burden via lower federal revenues. If state tax revenues fall by one half due to rate reduction, then the revised federal deduction is worth $50 * .21 = $10.50, and the net tax cost to the firm is $50 - $10.50 = $39.50. From the firm's view, the change in their net cash flow is $79 - $39.50 = $39.50, and that amount is considerably less than the total tax cut of $50. The difference flows out of the state, whereas previously it was spent in state through General Fund appropriations.

[17] See Clausing, Kimberly, "The Effect of Profit Shifting on the Corporate Tax Base in the United States and Beyond," National Tax Journal, Volume 69, No. 4 (December 2016). The author finds that profit shifting likely cost the U.S. government between $77 to $111 billion in corporate tax revenue in 2012, and the revenue impact from such activity increased dramatically in recent years. The author notes that a large body of research finds that the corporate tax base is quite sensitive to tax rate differences across countries.

For multistate corporations, most shareholders likely live out of state. It is likely that a material portion of the tax cut would flow back to shareholders in the form of higher dividends or capital gains (due to share buy backs). Based on the data from Section 3, large multistate corporations remit the majority of CNIT revenues. State incidence analyses generally assume that most corporate shareholders reside in other states. If that holds, then much of the tax cut paid out as higher dividends or capital gains will not remain in the state economy. This factor is less important for federal CNIT changes because most corporate shareholders are U.S. residents or retirement plans.[18] Hence, there is less leakage.

Sales-factor only apportionment disregards Pennsylvania payroll and property. Firms determine their state tax base using the share of firmwide sales that occur in the state, and current or future levels of payroll or property are not relevant for that computation. It is possible that a firm could receive a substantial tax cut, but have very minimal payroll located in the state. To the extent that labor bears some burden of the state CNIT, resident workers may see less benefits because the original tax was not a function of labor used in the state.

State budgets must be balanced and they cannot incur deficits to finance tax cuts. A complete analysis must address this issue. If government spending falls by the same amount as reduced CNIT revenues, then those economic impacts must also be considered in any dynamic analysis. If government spending does not fall, then the analysis must identify which taxes would increase and how those actions would impact the state economy. Because the federal government does not have a balanced budget requirement, this issue is not addressed by some analyses of federal CNIT rate cuts. However, if the federal tax cut is financed through borrowing, then those analyses should consider the impact of a higher national debt on interest rates and future economic growth.

In summary, it is inherently difficult to quantify the long-term impact of a state CNIT rate reduction on revenues. All studies reviewed by the IFO find that net revenues would decline, and the rate cut would not be revenue neutral. However, many federal studies find that employment and economic activity could increase in response to a federal rate cut. Policymakers would need to weigh these tradeoffs in recognition that a revenue criterion is only one factor among many that should be considered.

[18] See "The Dwindling Taxable Share of U.S. Corporate Stock," Rosenthal, Steven and Austin, Lydia, Tax Notes (May 16, 2016).

This report was motivated by a request from Representatives Jason Ortitay and Martina White.

IFO Independent Fiscal Office

Rachel Carson State Office Building
400 Market Street
Harrisburg, PA 17105
Email: contact@ifo.state.pa.us
Website: www.ifo.state.pa.us

Staff Acknowledgments:
Rachel Flaugh and Matthew Lindsay