

Aug. 2015 No. 477

The Economic Effects of Adopting the Corporate Tax Rates of the OECD, the UK, and Canada

By Scott A. Hodge

President

Key Findings

- Using the Tax Foundation's Taxes and Growth (TAG) Model, this paper simulates both the economic benefits and budgetary costs of a cut in the corporate income tax rate from the current 35 percent to the OECD average corporate income tax rate of 25 percent, the current UK corporate income tax rate of 20 percent, and the Canadian federal corporate tax rate of 15 percent.
- A reduction in the corporate income tax rate to 25 percent would increase
 the size of GDP by 2.3 percent at the end of the adjustment period. A
 further cut to 20 percent would boost long-term GDP by 3.3 percent. A
 cut to the Canadian federal corporate income tax rate of 15 percent would
 have the largest impact, increasing GDP by 4.3 percent over the long-term.
- Workers would also benefit from a corporate rate reduction. Depending on the size of the corporate rate reduction, we would expect to see an additional 425,000 to 613,000 new jobs, and wages would increase by between 1.9 percent and 3.6 percent over the long-term.
- Regardless the size of the corporate tax cut, the larger GDP would translate into higher after-tax incomes for taxpayers up and down the income scale.
- Using conventional scoring, these three corporate tax cuts to 25, 20, and 15 percent would cost \$1.2, \$1.8, and \$2.5 trillion over the next ten years. However, using the more realistic assumption that these cuts would increase the size of GDP, their costs would be closer to \$746 billion, \$1.1 trillion, and \$1.5 trillion over the next decade.

The Tax Foundation is a 501(c)(3) non-partisan, non-profit research institution founded in 1937 to educate the public on tax policy. Based in Washington, D.C., our economic and policy analysis is guided by the principles of sound tax policy: simplicity, neutrality, transparency, and stability.

©2015 Tax Foundation Distributed under Creative Commons CC-BY-NC 4.0

Editor, Melodie Bowler Designer, Dan Carvajal

Tax Foundation 1325 G Street, NW, Suite 950 Washington, DC 20005

202.464.6200

taxfoundation.org

Washington lawmakers are currently debating various ways to make the U.S. economy more competitive, including reforming the international tax system and creating a so-called "innovation box" to lower the tax rate on patents and intellectual property.

To be sure, moving to a territorial tax system would be an overdue improvement to America's tax system. But lawmakers should not lose sight of the need to lower the overall corporate tax rate which, at 35 percent, is the highest in the industrialized world. America's high corporate rate is at the root of many of the problems that lawmakers are trying to address through measures like the innovation box, such as corporations shifting their profits abroad.

Not only would cutting the corporate tax rate improve U.S. competiveness, but it would also boost economic growth and benefit American workers. A lower corporate tax rate would lower the cost of capital, which would boost the level of investment in the economy. The increased investment would raise the productivity and wages of American workers which, in turn, would lead to higher living standards.

While the impact on the Federal Treasury is often cited as the biggest obstacle to cutting the corporate tax rate, these costs are greatly diminished once the benefits of economic growth are factored into the equation.

According to the Tax Foundation's Taxes and Growth (TAG) Model, the benefits of a competitive corporate tax rate to the American economy and its workers are substantial, while the costs to the Treasury are at least 40 percent less than conventional scoring techniques would suggest. Indeed, on a simple cost-benefit basis, it would appear that the benefits to workers and the economy greatly outweigh the cost to the Treasury.

Simulating the Effects of Corporate Tax Rates at 25, 20, and 15 Percent

To better understand these costs and benefits, Tax Foundation economists measured the economic and revenue effects of lowering the 35 percent U.S. corporate income tax rate to three different globally competitive levels:

- 1. 25%, matching the nominal OECD average;
- 2. 20%, matching the current UK corporate tax rate; and
- 3. 15%, matching the current Canadian federal tax rate.

We measured the effects of these lower rates, assuming no changes to the corporate tax base, in order to isolate the full economic effects of a rate cut and to understand what impact those economic changes would have on federal tax revenues. For the purposes of this exercise, we did not attempt to estimate the effects of any reduced profit shifting or any increased investment from abroad.

The Impact on Growth, Investment, and Jobs

Table 1 compares the economic results of the three simulated corporate tax rate cuts. The top-line results show that if U.S. lawmakers were to adopt the Canadian rate, it would produce the biggest boost to long-term GDP, lifting the level by 4.3 percent, nearly double the effect of adopting the OECD average of 25 percent. If lawmakers were to take a more modest approach and adopt the 20 percent UK rate, the model shows that the policy would still boost the level of GDP by a healthy 3.3 percent.

A large driver of this new growth is the reduction in the service price of capital—costs associated with investment, such as taxes, depreciation, risk, and foregone consumption opportunities. Lowering the corporate tax rate to match the OECD average cuts the cost of capital for corporations by 5.8 percent, while the UK rate lowers those costs by 8.3 percent. Again, the Canadian rate has the biggest impact, cutting the corporate service price of capital by 10.6 percent.

Table 1.

A Corporate Rate Cut Would Boost Investment, Wages, and GDP Economic Changes Resulting from a Corporate Rate Cut

	To OECD Average of 25%	To Current UK Rate of 20%	To Canadian Federal Rate of 15%
GDP	2.3%	3.3%	4.3%
\$GDP (\$ billions)	\$404	\$588	\$762
Capital Stock (equipment, structures, etc.)	6.7%	9.8%	12.8%
Wage rate	1.9%	2.8%	3.6%
Full-time Equivalent Jobs (in thousands)	425	613	786
Corporate Service Price of Capital	-5.8%	-8.3%	-10.6%

These lower capital costs significantly increase the size of the capital stock in the economy. The OECD average tax rate lifts the capital stock by 6.7 percent over the long-term, while the British rate boosts the level by nearly 10 percent. The Canadian rate delivers the biggest bang on capital investment, lifting the level of the capital stock by 12.6 percent.

Workers Are the Big Winners from Lower Corporate Tax Rates

The increased investment and economic growth spurred by lower corporate tax rates would lead to higher wages for workers and encourage employers to hire more workers, which would translate into more jobs.

Table 1 shows that if lawmakers were to cut the 35 percent U.S. corporate rate to the OECD average, it would raise the overall wage rate by 1.9 percent over the long-term and create 425,000 full-time equivalent jobs. By contrast, adopting the UK rate of 20 percent would lift wages by 2.8 percent over the long-term and create more than 600,000 jobs.

But American workers would see the biggest benefit if lawmakers were to adopt the Canadian rate of 15 percent. The TAG Model shows that a 15 percent corporate tax rate would lift the wage rate by 3.6 percent and generate 786,000 full-time equivalent jobs.

Living Standards Rise for Families at All Income Levels

Table 2.

A Corporate Rate Cut Would Boost Incomes across the Board Change in After-Tax AGI from a Corporate Rate Cut

To OECD To Current To Canadian								
AGI Class	Average of 25%	age of UK Rate of Fed						
< 0	2.4%	3.5%	4.5%					
0 - 5,000	2.3%	3.3%	4.3%					
5,000 - 10,000	2.1%	3.1%	4.0%					
10,000 - 20,000	2.1%	3.0%	3.9%					
20,000 - 30,000	2.2%	3.2%	4.2%					
30,000 - 40,000	2.3%	3.4%	4.3%					
40,000 - 50,000	2.2%	3.2%	4.1%					
50,000 - 75,000	2.2%	3.1%	4.1%					
75,000 - 100,000	2.1%	3.1%	4.0%					
100,000 - 150,000	2.1%	3.0%	3.9%					
150,000 - 200,000	2.1%	3.1%	3.9%					
200,000 - 250,000	2.0%	3.0%	3.8%					
250,000 - 500,000	2.0%	3.0%	3.8%					
500,000 - 1,000,000	2.1%	3.1%	4.0%					
> 1,000,000	2.2%	3.3%	4.2%					
TOTAL FOR ALL	2.1%	3.1%	4.0%					

It is often thought that cutting corporate taxes only benefits owners of capital. But the model finds that increased investment and higher economic growth translate into higher after-tax incomes for households up and down the income scale.

Table 2 shows the distributional impact of the three different corporate tax rate cuts on after-tax incomes solely as a result of increased economic growth. In order to isolate these effects, we have not distributed the dollar value of the corporate tax cut to shareholders through higher dividends or capital gains.

We can see that the economic benefits of the three corporate tax cuts are fairly uniform across all the income groups, although the lowest-income taxpayers benefit slightly more than other income groups because the increase in their living standards tends not to push them into a higher tax bracket, as is the case for some other taxpayers.

Lowering the U.S. corporate tax rate to the OECD average would increase total after-tax adjusted gross incomes (AGI) by 2.1 percent, while the slightly steeper cut to the UK rate would boost those after-tax incomes by 3.1 percent. Again, matching the Canadian rate would have the biggest impact on living standards, boosting total after-tax AGI by 4 percent.

Growth Tempers the Effect on Federal Tax Revenues

According to conventional estimates, which do not account for any macroeconomic effects from policy, cutting the corporate tax rate could mean a sizeable reduction in federal tax revenues. As Table 3 illustrates, depending upon the extent of the rate cut, such a move could reduce federal revenues by \$1.2 trillion to \$2.5 trillion over the course of ten years on a conventional basis.

Table 3.

Economic Growth from a Corporate Rate Cut Would Temper the Effect on Federal Revenues

Static and Dynamic Ten-Year Cost of a Corporate Rate Cut. Billions of Dollars

	,	To OECD Average of 25%	To Current UK Rate of 20%	To Canadian Federal Rate of 15%
Static	Tenth-Year Cost	-\$140	-\$209	-\$279
	Ten-Year Total Cost	-\$1,261	-\$1,891	-\$2,522
Dynamic	Tenth-Year Cost	-\$33	-\$56	-\$84
	Ten-Year Total Cost	-\$746	-\$1,155	-\$1,585

By the end of the ten-year budget window, the conventional estimate shows that cutting the U.S. corporate tax rate to match the OECD rate could cost the Treasury \$140 billion annually. Adopting the UK rate would cost \$209 billion annually. However, adopting the Canadian rate would cost twice as much as adopting the OECD rate, some \$279 billion annually.

Surely, these are the kind of figures that scare lawmakers away from a policy that would improve U.S. competitiveness and boost long-term economic growth. However, the results of the TAG Model's analysis show that when we factor in the effects of increased economic growth, higher worker wages, and a larger labor force, the actual loss of revenues to the Treasury from these corporate rate cuts is reduced by about 40 percent in each case.

Table 3 contrasts the conventional revenue estimates of each rate cut with the estimates that factor in these detailed macroeconomic effects. For example, the macroeconomic estimate shows that cutting the U.S. corporate rate to match the OECD average would cost \$746 billion over ten years, 40 percent less than the conventional estimate. It is particularly interesting to note that, by the tenth year after the tax cut, the annual cost is reduced to \$33 billion, less than one-quarter of the annual cost estimated by conventional methods.

We find similar results from cutting the U.S. corporate tax rate to the UK rate and the Canadian rate. Accounting for the macroeconomic effects of adopting the UK rate, the model estimates the ten-year cost at \$1.15 trillion, roughly 40 percent less than the conventional estimate. The tenth-year cost drops to \$56 billion, 73 percent less than the static estimate.

Finally, cutting the U.S. rate to 15 percent would cost the Treasury about \$1 trillion less after accounting for the increased economic consequences of the policy than the conventional estimate would indicate. By the end of the ten-year budget window, the annual cost would fall to \$84 billion, about 70 percent less than the annual static estimate.



Contrary to what some might expect, the TAG Model does not show what might be called a "Laffer" effect. In other words, it does not show that lower corporate tax rates result in an overall increase in corporate tax revenues. Typically, we would expect that any sort of Laffer effect only arises from additional revenues generated by reduced profit-shifting or from an inflow of foreign direct investment caused by the lower corporate tax rate. We have not tried to model these effects in this exercise.

As is evident in Table 4 in the appendix, the factors that do lower the overall cost of cutting the corporate tax rate are the increases in other types of tax revenues—such as individual income taxes, payroll taxes, and excise taxes—that are the natural result of higher levels of GDP, wages, and employment.

Conclusion

It is well known that the 35 percent U.S. corporate tax rate is the highest among the largest industrialized countries. And, when the federal rate is combined with the average rate of the states, the U.S. imposes third-highest overall corporate tax rate in the world. To the extent that America is suffering from an increase in base erosion, corporate inversions, or the flight of intellectual property, our uncompetitive corporate tax rate is the root of those problems.

However, the Tax Foundation's TAG Model shows that if lawmakers were to lower the U.S. corporate tax rate to either the OECD average of 25 percent, the UK rate of 20 percent, or the Canadian federal rate of 15 percent, it would mean a big lift to economic growth and the living standards of American workers. These benefits would come at substantially less cost to the Treasury than conventional estimates would suggest.

Appendix

Table 4.

Detailed Revenue Static and	Dvnar	nic Re	venue	e Estir	nates	of a C	Corpor	ate R	ate Cı	ut. 20	15-2024
Estimate of Corporate Tax Revenues	2015		2017	2018		2020	2021	2022			2015-2024
CBO Baseline	\$328	\$429	\$437	\$453	\$450	\$447	\$450	\$459	\$472	\$488	\$4,413
Conventional Revenue Estimates of a C	Cornorato	Poto Ci	.+								
To OECD Average of 25%		-\$123		¢120	-\$129	¢120	-\$129	¢121	¢125	¢1.40	-\$1,261
To Current UK Rate of 20%	,	-\$123 -\$184	,		,	,	T	T	T	T	
To Canadian Federal Rate of 15%	-\$140			-\$194							-\$1,891 -\$2,522
To Canadian Foucial Table 67 2075	4207	ΨΞ.0	Ψ=.,	7207	4207	4 200	4207	4202	Ψ=/-0	+- //	4 2,022
Detailed Macroeconomic Effects on Re			te Cut	to 25%							
Individual Income Taxes	\$3	\$7	\$12	\$17	\$22	\$28	\$34	\$41	\$48	\$57	\$268
Payroll Taxes	\$2	\$5	\$8	\$11	\$14	\$17	\$21	\$25	\$30	\$34	\$168
Corporate Income Taxes	-\$93	-\$121	-\$123	-\$127	-\$125	-\$123	-\$124	-\$125	-\$128	-\$132	-\$1,220
Excise taxes	\$0	\$0	\$1	\$1	\$1	\$1	\$2	\$2	\$2	\$3	\$14
Federal Reserve remittances	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$1	\$1	\$1	\$5
Customs duties	\$0	\$0	\$0	\$0	\$1	\$1	\$1	\$1	\$1	\$1	\$6
Estate and gift taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$1	\$3
Miscellaneous fees and fines	\$0	\$0	\$0	\$1	\$1	\$1	\$1	\$1	\$2	\$2	\$9
Total	-\$87	-\$108	-\$101	-\$97	-\$86	-\$74	-\$64	-\$53	-\$43	-\$33	-\$746
Detailed Macroeconomic Effects on Re				20%							
Individual Income Taxes	\$5	\$11	\$17	\$24	\$32	\$40	\$49	\$59	\$70	\$82	\$390
Payroll Taxes	\$3	\$7	\$11	\$16	\$20	\$25	\$31	\$37	\$43	\$50	\$244
Corporate Income Taxes	-\$140	-\$182	-\$185	-\$191	-\$189	-\$186	-\$187	-\$190	-\$194	-\$200	-\$1,844
Excise taxes	\$0	\$1	\$1	\$1	\$2	\$2	\$3	\$3	\$3	\$4	\$20
Federal Reserve remittances	\$0	\$0	\$0	\$0	\$0	\$1	\$1	\$1	\$1	\$2	\$7
Customs duties	\$0	\$0	\$0	\$1	\$1	\$1	\$1	\$1	\$2	\$2	\$9
Estate and gift taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$1	\$1	\$1	\$1	\$5
Miscellaneous fees and fines	\$0	\$0	\$1	\$1	\$1	\$1	\$2	\$2	\$2	\$3	\$13
Total	-\$131	-\$162	-\$154	-\$148	-\$132	-\$115	-\$100	-\$85	-\$71	-\$56	-\$1,155
Detailed Macroeconomic Effects on Re	venues f	rom a Dr	nto Cut	to 15%							
Individual Income Taxes	\$6	\$14	\$22	\$31	\$41	\$52	\$64	\$77	\$91	\$107	\$504
Payroll Taxes	\$4	\$9	\$14	\$20	\$26	\$33	\$40	\$48	\$56	\$65	\$304
Corporate Income Taxes	-\$187			-\$256	, .	-\$250	-\$252	, ,	,	,	-\$2,476
Excise taxes	-\$107	-\$244 \$1	-\$247 \$1	-\$250 \$2	-\$253 \$2	-\$250 \$3	-\$252 \$3	-\$255 \$4	-\$202 \$4	-\$270 \$5	-\$2,476 \$26
Federal Reserve remittances	\$0	\$1	\$1	\$0	\$1	\$1	\$3 \$1	\$1	\$2	\$2	\$20
	1 -	τ –	τ –		,	т —	,	τ –	,	,	
Customs duties	\$0	\$0	\$1	\$1	\$1	\$1	\$2	\$2	\$2	\$3	\$12
Estate and gift taxes	\$0	\$0	\$0	\$0	\$0	\$1	\$1	\$1	\$1	\$1	\$6
Miscellaneous fees and fines	\$0	\$0	\$1	\$1	\$1	\$2	\$2	\$3	\$3	\$3	\$17
Total	-\$175	-\$218	-\$207	-\$200	-\$180	-\$159	-\$139	-\$120	-\$102	-\$84	-\$1,585