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Using Dynamic Analysis Makes Tax Reform 30 Percent Less Challenging

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Led by Chairman Dave Camp (R-MI), the House Ways and Means Committee is developing a plan to dramatically simplify the tax code, eliminate numerous tax preferences, and cut individual and corporate tax rates. By most accounts, the plan would cut the top corporate tax rate to 25 percent, reduce the highest individual tax brackets to 25 percent, and reduce the 15 percent individual rate to 10 percent. Camp has promised that the plan would be revenue neutral, meaning that broadening the tax base and eliminating numerous tax preferences would offset revenue losses from the rate cuts.

In an effort, no doubt, to illustrate the enormity of Camp's task, Congressman Sander Levin (D-MI), the ranking Democrat on Ways and Means, recently asked the Joint Committee on Taxation (JCT) to estimate the revenue losses associated with such a tax rate cut plan. JCT's estimate: more than $5 trillion in lost revenues over ten years.

Many tax reform advocates may be unsettled by the prospect of eliminating popular tax preferences to offset $5 trillion in lost revenues. Indeed, finding enough "loopholes" to offset just the corporate rate cut alone may be nearly impossible on a static basis. The JCT estimated that the average cost of cutting the corporate rate would be almost $130 billion annually. Making up this amount would require eliminating nearly everything currently listed as a corporate tax preference in the tax code.

Daunting as this may seem, it is important to understand that JCT's analysis is conducted on a conventional, or static, basis, which operates on the unrealistic assumption that these tax rate cuts have no effect on work and investment decisions or on the overall level of GDP. Had Congressman Levin asked JCT to use a more dynamic model, he might have learned that the actual cost of such a plan is nearly 30 percent smaller than it is estimated to be on a static basis. Thus, the amount of base broadening that is needed to make the plan revenue neutral is far less

Key Findings

- The revenue estimates produced by the Joint Committee on Taxation overstate the difficulty of paying for lower individual and corporate tax rates.
- Dynamic analysis shows that cutting individual tax rates (as is being considered by Ways and Means) is 21 percent less costly than the static estimate produced by JCT. Cutting corporate tax rates would be 59 percent less costly. Combined, these tax cuts would be 30 less costly than a static estimate.
- Cutting individual and corporate tax rates together would boost GDP by 4.74 percent, increase the capital stock by 11.5 percent, and could increase the number of full-time equivalent jobs by 5.2 million. The average increase in after-tax income across all AGI ranges is 7.57 percent.

severe than what the initial estimate would indicate.

In order to provide lawmakers with a more complete picture of the costs and benefits of these tax changes, Tax Foundation economists performed the same analysis using our *Dynamic Tax Simulation Model*—which simulates the long-term economic and fiscal effects of tax policy changes.

Our macroeconomic analysis shows that cutting individual and corporate tax rates with no offsets would boost the level of GDP by more than $2 for every $1 of net dynamic revenue that it "loses" for the Treasury. Moreover, this simulation shows that the rate cuts would increase wages by 2.75 percent. It would do this by lowering the cost of capital in the economy, boosting labor productivity and leading to higher wages. The resulting higher incomes would produce enough additional tax revenues to offset nearly 30 percent of the cost of the initial tax reduction.

Under JCT's conventional revenue estimating assumptions, the rate cuts would only appear to benefit people with middle-class or higher incomes. Under these assumptions, the nearly 50 percent of households that do not pay the individual income tax would not appear to gain if rates are cut—and if the economic pie remains the same size as before—since they are already paying no income tax. However, the dynamic model simulation shows that the positive growth effects flowing from the rate cuts raise the incomes of even the poorest income groups by over 4 percent.

The danger in relying on a static estimate of the cost of a tax reform plan is that it could force lawmakers to broaden the tax base in ways that would neutralize the real economic benefits that a pure rate cut would produce.

While everyone wants a simpler tax system with no increase in the deficit, the primary goal of tax reform is economic growth. The best way of offsetting the revenue losses from these rate cuts while maximizing economic growth is either by cutting spending or eliminating only the most inefficient tax preferences.

The Static Cost of Rate Cuts

At the request of Congressman Levin, the JCT recently produced a set of revenue forecasts based on substantial reductions in the individual and corporate income tax rates. The estimates are of the cost of the rate reductions over a ten-year budget window (fiscal years 2014-2023), assuming the rate cuts become effective January 1, 2014. Similar cuts are being discussed as a goal for the Ways and Means effort now under way to reform the tax system.

The individual rate reductions consist of eliminating the individual alternative minimum tax (AMT); reducing the 15 percent marginal tax rate to 10 percent; and, reducing the marginal tax rates that currently exceed 25 percent (that is, the 28 percent, 33 percent, 35 percent, and 39.6 percent rates) to 25 percent. The result

is a two-bracket system with rates of 10 percent and 25 percent.

The corporate rate reductions consist of the elimination of the corporate alternative minimum tax and a reduction in the top corporate tax rate from 35 percent to 25 percent.

The JCT's revenue estimates of these rate changes are displayed in Table 1. Starting with the individual tax cut provisions, the JCT estimates that eliminating the individual AMT would lower tax revenues by $317 billion over the ten-year period. The individual income tax rate cuts are estimated to lower revenues by more than $3.4 trillion over the 2014-2023 period. The combined revenue cost for both provisions is $3.7 trillion.

Turning our attention to the corporate proposal, we can see in Table 1 that the JCT estimates that cutting the top corporate tax rate from 35 percent to 25 percent would reduce tax revenues by more than $1.23 trillion over ten years on a static basis. Adding the cost of eliminating the corporate AMT to this estimate brings the total revenue loss to the Treasury to about $1.3 trillion over the period.

The combined revenue cost of the individual and corporate provisions is more than $5 trillion over ten years.

The JCT made the conventional revenue estimation assumption that these dramatic tax rate reductions would have zero overall effect on economic measures such as total employment, investment, and economic output. The JCT does allow for compositional changes—what they call micro-dynamic effects—such as more employment in one sector or region precisely offset by less employment elsewhere. However, they show no change in the size of the economy as a whole.

If we accept the static paradigm, we assume away one of the primary motivations for lower taxes—faster growth through smarter tax policy. Moreover, the cost of financing tax reform looks more daunting.

Chart 1, on the next page, shows the JCT's static revenue estimates and the totals for its tax expenditure estimates in

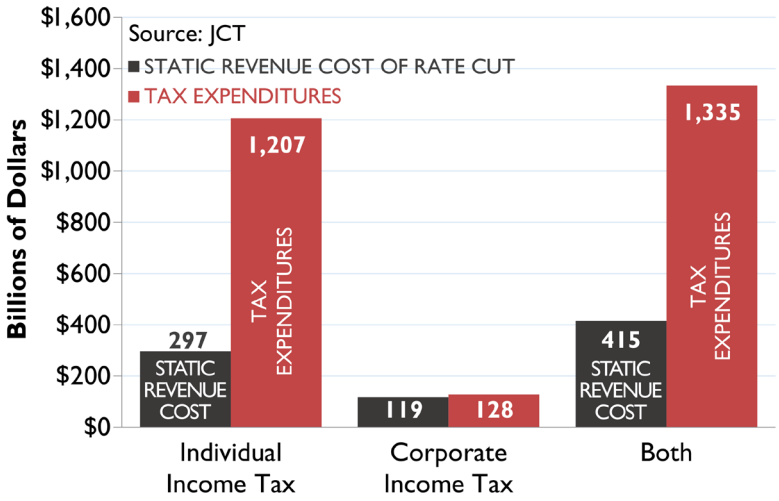
Table 1. Joint Committee on Taxation revenue estimates

Fiscal Years (Billions of Dollars)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2014 - 23
Individual Provisions											
Repeal the AMT	-2.6	-31.6	-28.8	-31.2	-33.3	-34.8	-36.2	-37.9	-39.6	-41.3	-317.2
Set individual income tax rates at 10% and 25%	-184.4	-265.0	-292.5	-318.6	-341.8	-363.8	-386.1	-409.8	-434.2	-456.9	-3,453.2
Total	-187.0	-296.5	-321.3	-349.8	-375.1	-398.6	-422.3	-447.7	-473.9	-498.2	-3,770.4
Corporate Provisions											
Lower the top corporate rate to 25%	-70.0	-112.1	-124.4	-131.3	-133.0	-130.6	-130.2	-131.5	-133.9	-136.8	-1,233.7
Lower top rate to 25% and repeal AMT	-73.1	-118.6	-132.0	-139.4	-141.3	-139.0	-137.4	-137.1	-139.1	-142.1	-1,299.1
Total, Both Individual and Corporate Provisions	-260.1	-415.1	-453.3	-489.2	-516.4	-537.6	-559.7	-584.8	-613.0	-640.3	-5,069.5

Source: Joint Committee on Taxation

Chart 1. JCT's Static Revenue Estimates for Individual and Corporate Rate Cuts, Compared to Tax Expenditures
All For 2015



fiscal year 2015.[1] Tax expenditures refer to income tax provisions that the JCT deems to be preferences compared to a "normal" income tax.[2] A scaling back of tax expenditures is often suggested as one way to finance tax reform.[3] If all tax expenditures were truly loopholes and there was the political will, tax expenditures could readily be traded away for 10 percent and 25 percent rates on the individual side, because the amount of individual tax expenditures greatly exceeds the cost of the individual rate cuts.

However, the exchange might not be possible on the corporate side, because the tax expenditures barely equal the cost of the rate reduction.

Moreover, many things deemed to be tax expenditures are valuable, because they soften the punishing biases in the income tax system against saving and investment. In addition, some tax preferences are seen by many as important for administrative feasibility, for equity reasons, or for other societal goals.

Further, under some alternative definitions of the proper tax base, many items on the JCT's list (and on the separate, somewhat different, list the U.S. Treasury prepares) would not be considered tax expenditures at all.[4] In short, financing a 25 percent rate exclusively by curbing tax loopholes is more difficult on the individual side than Chart 1 suggests, and it is nearly impossible on the corporate side under any circumstances. This same relative relationship between the static costs of the rate cuts and the amount of tax expenditures holds throughout the ten years of the budget window.

In a more important respect, however, the JCT's revenue estimates overstate the difficulty of paying for the lower individual and corporate rates. With much lower rates, the individual and corporate income taxes would take much smaller

[1] For the JCT's tax expenditure estimates, see Joint Committee On Taxation, *Estimates Of Federal Tax Expenditures For Fiscal Years 2012-2017*, JCS-1-13 (Feb. 1, 2013), https://www.jct.gov/publications.html?func=download&id=4504&chk=4504&no_html=1. Because the JCT does not publish estimates of total tax expenditures, the separate items on its tax expenditure list were summed. This probably overstates total tax expenditures due to interactions among the terms.

[2] William McBride, *A Brief History of Tax Expenditures*, Tax Foundation Fiscal Fact No. 391 (Aug. 22, 2013), http://taxfoundation.org/article/brief-history-tax-expenditures.

[3] In one prominent example, Senators Max Baucus (D-MT) and Orrin Hatch (R-UT) have suggested a "blank slate" approach that envisions stripping tax expenditures from the individual income tax, restoring only those that can be persuasively justified, and using the savings to lower individual income tax rates and perhaps reduce the deficit. Prompted by the "blank slate" proposal, the Tax Foundation has examined how economic growth would respond if several major tax expenditures were traded for lower rates. *See* Michael Schuyler & Stephen Entin, *The Economics of the Blank Slate: Estimating the Effects of Eliminating Major Tax Expenditures and Cutting Tax Rates*, Tax Foundation Fiscal Fact No. 378 (July 26, 2013), http://taxfoundation.org/article/economics-blank-slate-estimating-effects-eliminating-major-tax-expenditures-and-cutting-tax-rates. Of course, economic growth is only one of multiple criteria to be used in evaluating the various items on the JCT's tax expenditure list.

[4] For a discussion of how the tax expenditure list would differ if the benchmark were a consumed income tax, *see* Office of Management and Budget, *Analytical Perspectives: Budget of the U.S. Government, Fiscal Year 2009* (2008), ch. 19.

bites at the margin out of the returns to additional work effort and investment. People react to incentives, and they would respond in these cases by investing and working more.

With added capital and labor inputs, productivity and national output would grow. Because the size of the tax base depends on the size of the economy, that tax-induced growth would have a positive feedback on tax revenue. A dynamic model that allows for growth effects would show individual income tax rates of 10 percent and 25 percent and a top corporate tax rate of 25 percent costing the federal government much less revenue than the JCT's analysis indicates.

The static revenue assumption is fairly close to correct for tax changes that have little impact on marginal incentives. It is highly misleading, however, to use static assumptions for tax changes with powerful marginal effects that would affect millions of people throughout the economy.

Using a Dynamic Model to Measure the Effect of Tax Rate Cuts

We took the same tax proposals analyzed by the JCT and used our *Dynamic Tax Simulation Model* to estimate the broader economic and fiscal impact of the policy changes.

One of the key benefits of such a model is that it allows us to contrast the static cost of tax changes with what the actual costs may be after accounting for any increase in revenues from greater economic activity or any decrease in revenues from depressed economic activity.

The model also allows us to measure any changes in the tax cost of capital and labor and how that influences the amount of work and investment in the economy.

Finally, we can measure the change in after-tax incomes for taxpayers at different income levels to see what distributional effects the tax changes produce.

Like the JCT, we measured the effects of the individual and corporate changes separately. However, unlike the JCT, we then simulated the changes in both policies together to measure what their combined effect would be on GDP, federal revenues, incomes, and the cost of capital.

Modeling the Individual Rate Changes

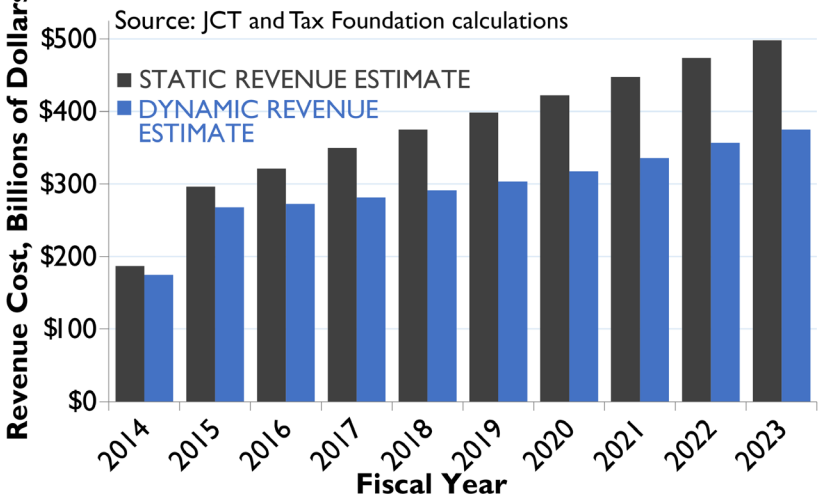
Our model estimates that the individual tax rate changes and the AMT repeal would ultimately increase total GDP by about 2.44 percent. Table 2 shows that

Table 2. Revenue and GDP effect of cutting individual tax rates to 10%, 25% and ending AMT

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2014-18	2014-23
JCT static tax cut, $ billions	-187	-297	-321	-350	-375	-399	-422	-448	-474	-498	-1,530	-3,770
Revenue gain due to growth, $ billions	12	29	49	68	84	95	105	112	117	123	241	792
Net dynamic tax cut after growth effects, $ billions	-175	-268	-273	-282	-292	-304	-318	-336	-357	-375	-1,289	-2,978
% of static revenue loss recovered from growth	7%	10%	15%	19%	22%	24%	25%	25%	25%	25%	16%	21%
GDP gain, $ billions	95	183	286	381	448	501	549	582	607	632	1,391	4,262
GDP gain + tax cut = benefit to public, $ billions	269	450	558	663	739	805	866	918	963	1,008	2,680	7,240
Benefit to public per $ of lost net govt. revenue	$1.54	$1.68	$2.05	$2.35	$2.54	$2.65	$2.73	$2.73	$2.70	$2.68	$2.08	$2.43

Source: JCT & Tax Foundation calculations

Chart 2. Static and Dynamic Revenue Estimates from Cutting Individual Tax Rates to 10% and 25%



the JCT estimates a static revenue loss of nearly $3.8 trillion over the budget window. However, our model estimates that additional GDP over the period would total nearly $4.3 trillion, generating $792 billion in additional federal revenue, cutting the net revenue loss from the tax reduction to roughly $3 trillion.

As Chart 2 illustrates, the added economic growth would offset an average of about 21 percent of the static revenue loss over the decade. In the last year of the decade, the revenue offset would be 25 percent of the JCT static loss.

Table 3. Individual Tax Rates Cut To 10% & 25%
Economic and Budget Changes vs. 2013 Law

GDP	2.44%
Private Business GDP	2.68%
Private Business Stocks	4.66%
Wage Rate	0.81%
Private Business Hours of Work	1.86%
Additional Full-Time-Equivalent Jobs, Dynamic*	2,737,900
Weighted Average Service Price	% Change
Corporate	-0.31%
Noncorporate	-5.59%
All business	-1.89%

*Result if all the growth in labor compensation goes into added jobs.
Source: Tax Foundation calculations

As Table 3 shows, our model also indicates that by the end of the decade, private sector GDP would increase by 2.68 percent, while the capital stock (plant, equipment, and commercial and other real estate) would grow by 4.66 percent. This is due to the fact that the cost of capital would fall by nearly 2 percent, making investment that much more affordable.

Workers would benefit, as the wage rate would increase by 0.81 percent and the amount of hours worked in the economy would jump by 1.86 percent. If all of the growth in labor compensation goes into added jobs, these growth rates suggest that the number of full-time equivalent jobs would increase by roughly 2.7 million.

Over the decade, the individual tax reduction would cost the government, and save taxpayers, a net $3.0 trillion, while taxpayers would also gain $4.2 trillion in higher income. Their after-tax gain would be the sum of the tax savings and the higher incomes, $7.2 trillion.

To put this into perspective, when a tax is levied, the total economic cost is greater than the amount of the tax because the economy is not producing at the level it would be in the absence of the tax. Thus, for example, the ten-year figures seen in Table 2 on page 5, mean that, on average, every dollar of income tax raised by the government not only costs taxpayers $1 in forgone income sent to Washington but also costs the economy an additional $1.43

in lost GDP. Thus, averaged over the ten-year period, the actual cost to the private economy of $1 of individual income taxes is $2.43.

Modeling the Corporate Rate Changes

Our model estimates that the corporate rate cuts would lead to an ultimate increase in total GDP of 2.18 percent. Table 4, below, shows that the JCT estimates a static revenue loss of $1.3 trillion over the budget window. However, our model estimates that additional GDP over the period would total $3.8 trillion, generating $760 billion in additional revenue, and cutting the net revenue loss from the tax reduction to $539 billion.

Chart 3. Static and Dynamic Revenue Estimates from Cutting Corporate Tax Rate to 25%

Source: JCT and Tax Foundation calculations

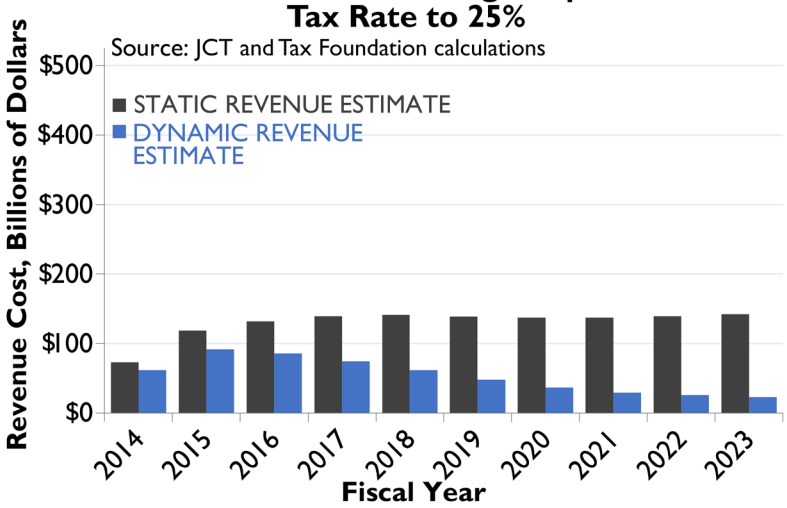


Table 5. Corporate Income Tax Rate Cut to 25%
Economic and Budget Changes vs. 2013 Law

GDP	2.18%
Private Business GDP	2.26%
Private Business Stocks	6.35%
Wage Rate	1.85%
Private Business Hours of Work	0.40%
Additional Full-Time-Equivalent Jobs, Dynamic*	2,310,100
Weighted Average Service Price	% Change
Corporate	-5.61%
Noncorporate	0.25%
All business	-3.85%

*Result if all the growth in labor compensation goes into added jobs.
Source: Tax Foundation calculations

As Chart 3 illustrates, the added economic growth would offset an average of 59 percent of the static revenue loss over the decade. In the last year of the decade, the revenue offset would be 84 percent of the JCT static loss.

As Table 5, above, indicates, the corporate tax rate cuts would have an even greater impact on many key economic factors. Our model indicates that private sector GDP would increase by 2.26 percent, while the capital stock would grow by 6.35 percent. This is because the after-tax cost of capital would fall by nearly 4 percent, making investment that much more attractive.

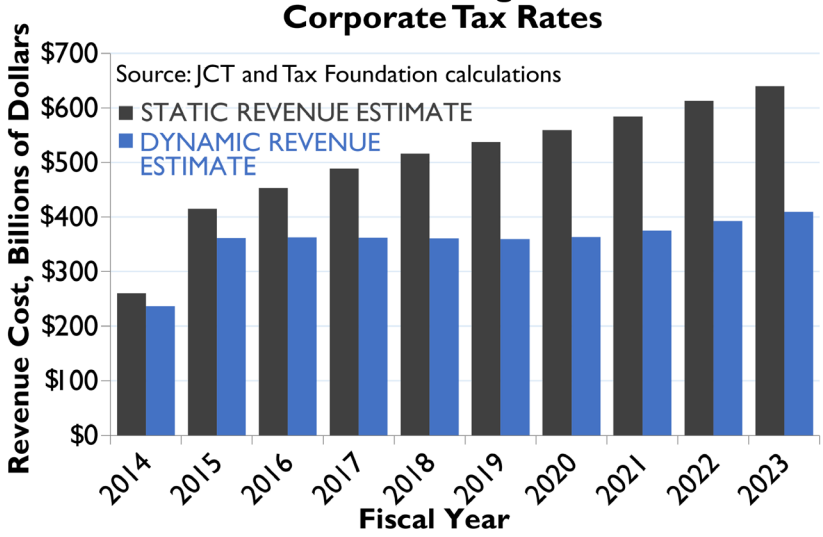
Workers would also benefit from corporate tax rate cuts, as the wage rate would increase by nearly 2 percent and the amount of hours worked in the economy would increase slightly by 0.40 percent. If all of the growth in labor compensation goes into added jobs, these growth rates

Table 4. Revenue and GDP effect of corporate tax rate cut to 25% and end corporate AMT

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2014-18	2014-23
JCT static tax cut, $ billions	-73	-119	-132	-139	-141	-139	-137	-137	-139	-142	-604	-1,299
Revenue gain due to growth, $ billions	11	27	46	65	80	91	101	108	113	119	229	760
Net dynamic tax cut after growth effects, $ billions	-62	-91	-86	-75	-62	-48	-37	-29	-26	-23	-376	-539
% of static revenue loss recovered from growth	16%	23%	35%	46%	56%	65%	73%	78%	81%	84%	38%	59%
GDP gain, $ billions	85	163	255	340	400	448	490	520	542	565	1,243	3,808
GDP gain + tax cut = benefit to public, $billions	146	255	341	415	462	496	527	549	568	588	1,619	4,347
Benefit to public per $ of lost net govt. revenue	$2.37	$2.78	$3.97	$5.55	$7.48	$10.34	$14.36	$18.62	$21.84	$25.30	$4.31	$8.07

Source: JCT & Tax Foundation calculations

Chart 4. Static and Dynamic Revenue Estimates from Cutting Individual and Corporate Tax Rates



suggest that the number of full-time equivalent jobs would increase by roughly 2.3 million.

Over the decade, the tax reduction would cost the government, and save taxpayers, a net $539 billion, while taxpayers would also gain $3.8 trillion in higher income. Their after-tax gain would be the sum of these two, $4.3 trillion.

To put this into perspective, the ten-year figures seen in Table 4, on page 7, mean that, on average, every dollar of income tax raised by the government not only costs taxpayers $1 in forgone income sent to Washington but also costs the economy an additional $7.07 in lost GDP. Thus, averaged over the ten-year period, the actual cost to the private economy of $1 of corporate income taxes is $8.07.

Modeling the Individual and Corporate Rate Cuts Together

Finally, our model estimates that if both the individual and corporate tax policies were put into effect, they would lead to an ultimate increase in GDP of about 4.74 percent. Table 6 shows that JCT estimates the static revenue loss to be about $5.1 trillion over the budget window. However, we estimate that additional GDP over the period would total $8.3 trillion, generating nearly $1.5 trillion in additional revenue, cutting the net revenue loss from the tax reductions to $3.6 trillion.

As Chart 4 illustrates, added economic growth would offset an average of about 29 percent of the static revenue loss over the decade. In the last year of the decade, the revenue offset would be 36 percent of the JCT static loss.

Table 7, on the next page, shows the combined effects of the individual and corporate tax cuts are quite strong. Our model indicates that private sector GDP would increase by over 5.0 percent, while the capital stock would grow by 11.5 percent. This is, in large measure, due to the fact that the after-tax cost of capital would fall by nearly 6 percent, paving the way for much more investment economy-wide.

Table 6. Revenue and GDP effect of individual and corporate tax cuts combined

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2014-18	2014-23
JCT static tax cut, $ billions	-260	-415	-453	-489	-516	-538	-560	-585	-613	-640	-2,134	-5,070
Revenue gain due to growth, $ billions	23	53	90	127	156	178	196	209	220	231	449	1,483
Net dynamic tax cut after growth effects, $ billions	-237	-362	-363	-363	-361	-360	-364	-376	-393	-409	-1,685	-3,587
% of static revenue loss recovered from growth	9%	13%	20%	26%	30%	33%	35%	36%	36%	36%	21%	29%
GDP gain, $ billions	184	355	555	740	869	974	1066	1130	1178	1228	2,703	8,280
GDP gain + tax cut = benefit to public, $ billions	421	716	918	1103	1230	1334	1430	1506	1572	1,638	4,388	11,866
Benefit to public per $ of lost net govt. revenue	$1.78	$1.98	$2.53	$3.04	$3.41	$3.71	$3.93	$4.01	$4.00	$4.00	$2.60	$3.31

Source: JCT & Tax Foundation calculations

Table 7. Individual and Corporate Rate Reductions
Economic and Budget Changes vs. 2013 Law

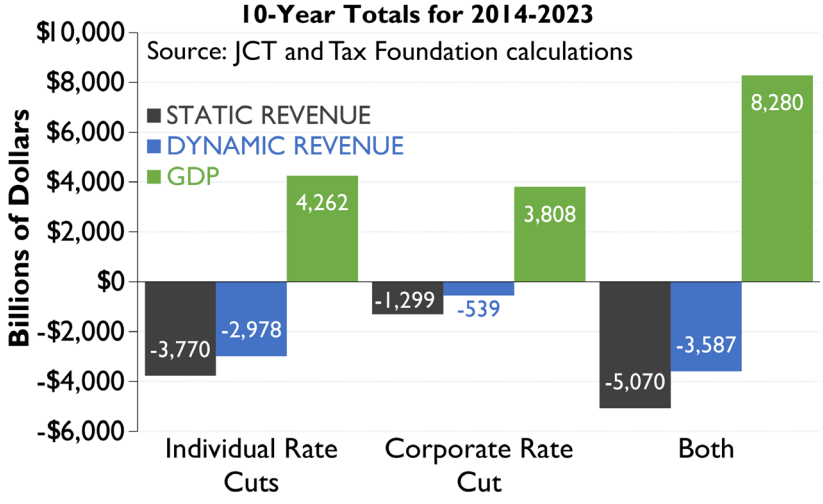
GDP	4.74%
Private Business GDP	5.07%
Private Business Stocks	11.53%
Wage Rate	2.74%
Private Business Hours of Work	2.27%
Additional Full-Time-Equivalent Jobs, Dynamic*	5,185,800
Weighted Average Service Price	% Change
Corporate	-5.95%
Noncorporate	-5.44%
All business	-5.80%

*Result if all the growth in labor compensation goes into added jobs.
Source: Tax Foundation calculations

Workers would benefit, as the wage rate would increase by 2.74 percent and the amount of hours worked in the economy would climb by roughly 2.3 percent. If all of the growth in labor compensation goes into added jobs, these growth rates suggest that the number of full-time equivalent jobs would increase by roughly 5.2 million.

Over the decade, the tax reduction would cost the government, and save taxpayers, a net $3.6 trillion, while taxpayers would also gain $8.3 trillion in higher income. Combined, their after-tax gain would be nearly $11.9 trillion.

Chart 5. Revenue and GDP Changes from Cutting Individual Income Tax Rates to 10% & 25% and Corporate Rate to 25%
10-Year Totals for 2014-2023



To put this into perspective, the ten-year figures seen in Table 6 mean that, on average, every dollar raised by the government with the current mix of individual and corporate taxes not only costs taxpayers $1 in forgone income sent to Washington but also costs the economy an additional $2.31 in lost GDP. Thus, averaged over the ten-year period, the actual cost to the private economy of $1 of corporate and individual taxes is $3.31.

Distributional Effects of the Tax Changes

Individual Cuts

Table 8, on page 10, displays the changes in after-tax income that the individual rate cuts would produce for people in various AGI ranges. The static estimates are in the center column. Under the conventional, static, revenue estimating assumption that tax changes do not speed up or slow down growth, the tax reductions do not benefit people in the lowest AGI ranges because their before-tax incomes are unchanged and they were not paying any income tax initially.

The lower tax rates do raise the after-tax incomes of people who pay income taxes, with the largest percentage changes for the people currently in the highest tax brackets. For instance, if growth effects are assumed to be zero, our dynamic model estimates that after-tax income would rise 0.67 percent for a taxpayer with an

Table 8. Distributional Analysis: Individual Income Tax Brackets Cut to 10% & 25%
Percentage Changes in After-Tax Incomes

	After-Tax AGI	
AGI Class	**Static Estimates**	**Dynamic Estimates**
$0 - $5,000	0.00%	2.25%
$5,000 - $10,000	0.00%	2.21%
$10,000 - $20,000	0.06%	2.24%
$20,000 - $30,000	0.67%	2.88%
$30,000 - $40,000	1.29%	3.58%
$40,000 - $50,000	1.65%	3.88%
$50,000 - $75,000	1.87%	4.13%
$75,000 - $100,000	2.25%	4.47%
$100,000 - $150,000	2.11%	4.19%
$150,000 - $200,000	1.91%	4.05%
$200,000 - $250,000	2.48%	4.65%
$250,000 - $500,000	4.85%	7.17%
$500,000 - $1,000,000	8.54%	11.08%
> $1,000,000	10.79%	13.51%
TOTAL FOR ALL	**3.17%**	**5.43%**

Notes: Dynamic estimates are results after economy has fully adjusted. AGI brackets are in 2008 dollars.
Source: Tax Foundation calculations

AGI between $20,000 and $30,000, 1.87 percent for a taxpayer with an AGI between $50,000 and $75,000, and 8.54 percent for a taxpayer with an AGI between $500,000 and $1 million. The average across all AGI ranges is 3.17 percent more after-tax income.

The dynamic estimates in the right-hand column capture growth effects. Now we see that people in the lowest income ranges do gain: they are better off because the stronger economy affords them more jobs, higher wages, and other income-earning opportunities. Similarly, people in other income ranges also realize the growth dividend.

For example, the model estimates that after-tax income would rise 2.88 percent for a taxpayer with an AGI between $20,000 and $30,000, 4.13 percent for a taxpayer with an AGI between $50,000 and $75,000, and 11.08 percent for a taxpayer with an AGI between $500,000 and $1 million. These taxpayers gain for two reasons. First, because economic growth leads to higher pre-tax incomes, and second, because their tax bite is smaller due to lower tax rates. The average increase in after-tax income across all AGI ranges is 5.43 percent.

Corporate Cut

Our model does not estimate the degree to which the corporate rate cut would be passed through to business owners in larger profits, employees in higher wages, and customers in lower prices. For that reason, Table 9, which shows the distributional consequences of the corporate rate cut, is left blank in the static case.

In the dynamic case, however, the growth flowing from the 25 percent corporate rate would lift people's incomes throughout the income spectrum. The right-hand column of Table 6 shows that growth-related income boost. On average, Americans would see an increase in after-tax incomes of 1.93 percent.

Combined Effects of Individual and Corporate Rate Cuts

Table 10 provides distributional estimates for the combined effects of the individual and corporate rate cuts. In the static case, the after-tax numbers are the same as for the individual cuts alone. (As mentioned earlier, the model does not estimate how lower corporate taxes will be passed through to owners, employees, and customers.) In the more realistic dynamic case, the combined growth effects of the individual and corporate rate reductions, plus the smaller tax bite at the individual level, produce substantial gains in after-tax

Table 9. Distributional Analysis: Corporate Income Tax Rate Cut to 25%
Percentage Changes in After-Tax Incomes

	After-Tax AGI	
AGI Class	Static Estimates	Dynamic Estimates
$0 - $5,000	--	2.09%
$5,000 - $10,000	--	2.00%
$10,000 - $20,000	--	1.95%
$20,000 - $30,000	--	1.95%
$30,000 - $40,000	--	1.99%
$40,000 - $50,000	--	1.95%
$50,000 - $75,000	--	1.96%
$75,000 - $100,000	--	1.95%
$100,000 - $150,000	--	1.86%
$150,000 - $200,000	--	1.89%
$200,000 - $250,000	--	1.82%
$250,000 - $500,000	--	1.86%
$500,000 - $1,000,000	--	1.93%
> $1,000,000	--	2.06%
TOTAL FOR ALL	**--**	**1.93%**

Notes: Dynamic estimates are results after economy has fully adjusted. AGI brackets are in 2008 dollars.
Source: Tax Foundation calculations

Table 10. Distributional Analysis: Cut Individual Income Tax Rates to 10%/25%, Corporate Rate to 25%
Percentage Changes in After-Tax Incomes

	After-Tax AGI	
AGI Class	Static Estimates	Dynamic Estimates
$0 - $5,000	0.00%	4.45%
$5,000 - $10,000	0.00%	4.31%
$10,000 - $20,000	0.06%	4.31%
$20,000 - $30,000	0.67%	5.00%
$30,000 - $40,000	1.29%	5.77%
$40,000 - $50,000	1.65%	6.00%
$50,000 - $75,000	1.87%	6.28%
$75,000 - $100,000	2.25%	6.57%
$100,000 - $150,000	2.11%	6.17%
$150,000 - $200,000	1.91%	6.10%
$200,000 - $250,000	2.48%	6.70%
$250,000 - $500,000	4.85%	9.35%
$500,000 - $1,000,000	8.54%	13.45%
> $1,000,000	10.79%	16.00%
TOTAL FOR ALL	**3.17%**	**7.57%**

Notes: Dynamic estimates are results after economy has fully adjusted. AGI brackets are in 2008 dollars.
Source: Tax Foundation calculations

incomes for people at all income levels.

The dynamic analysis indicates that additions to income are larger than for either the individual or corporate rate decreases alone. For instance, the model estimates that after-tax income would rise 5 percent for a taxpayer with an AGI between $20,000 and $30,000, 6.28 percent for a taxpayer with an AGI between $50,000 and $75,000, and 13.45 percent for a taxpayer with an AGI between $500,000 and $1 million, with the average rise in after-tax income amounting to 7.57 percent.

Conclusion

Many tax reform advocates are no doubt disheartened by the Joint Committee on Taxation's $5 trillion conventional, static, estimate of the cost of cutting the corporate and individual tax rates to levels more conducive to economic growth and job creation. Depending upon what one considers a loophole, there simply may not be enough inappropriate or detrimental provisions in the tax code to eliminate in order to offset that amount of static revenue loss for the Treasury.

However, we determined using a more dynamic macroeconomic model that the true cost of tax reform is nearly 30 percent less than this static estimate after taking account of the economic and fiscal benefits that accrue from reducing the cost of labor and capital. This certainly makes the task of finding revenue or spending offsets less difficult.

Just as importantly, we find that benefits to businesses and workers from the tax rate cuts far outweigh the revenue losses to the government. Taken together, the individual and corporate rate cuts would boost private

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GDP by over 5 percent, increase the capital stock by 11.5 percent, and increase the wage rate by nearly 3 percent. Not only do the distributional results show that all workers would see higher after-tax incomes, but such a plan could create the full-time equivalent of more than 5.2 million jobs.

Seeing tax reform solely through the prism of a static lens makes the process all about what is good for government, not what is good for the private economy. Only by using a dynamic model can lawmakers get a true sense of what tax reform will mean to both the Treasury and the broader U.S. economy.

The Tax Foundation Model

The Tax Foundation's *Dynamic Tax Simulation Model* simulates the impact of tax policy changes on the U.S. economy, drawing its key data from the Internal Revenue Service, the U.S. Bureau of Economic Analysis and the Federal Reserve. It is comprised of two interactive components to capture the interaction between the tax system and economic growth:

A Tax Simulator: This simulator, or tax calculator, can be thought of as TurboTax® for the entire country. Unlike TurboTax®, which performs calculations for one taxpayer at a time, our model calculates the effects on taxpayers across the income spectrum based on a large dataset made available by the IRS that contains roughly 150,000 statistically representative tax returns. The calculator generates average and marginal income tax rates, after-tax incomes, and the familiar "distributional tables" that display the after-tax effects of policy changes by AGI ranges and deciles. The results flow into the Tax Foundation's Dynamic Macroeconomic model.

A Dynamic Macroeconomic Model: This is a "neoclassical" open-economy model that is driven by changes in the cost of labor and the cost of capital. Unlike some macroeconomic models, the Tax Foundation model holds Federal Reserve policy constant so that we can focus on the effects of tax changes, not the combination of monetary policy and tax policy. The model estimates the effect of tax changes on GDP, the cost of capital, wages, and federal tax revenues. More detail on this model can be found at http://taxfoundation.org/tax-topics/taxes-and-growth.

Note on the Methodology for this Study

In addition to using National Income and Products Account (NIPA) data from the Bureau of Labor Statistics and a large, representative tax filer dataset from the IRS, this study's estimates have been calibrated to government numbers in three other important respects. The study relies on the ten-year GDP baseline issued by the Congressional Budget Office (CBO).[5] It is calibrated to the static revenue estimates provided by the JCT. It also uses a Treasury Department estimate of the sensitivity of federal receipts to changes in GDP.[6]

[5] Congressional Budget Office, *The Budget And Economic Outlook: Fiscal Years 2013 To 2023*, *Appendix B* (Feb. 2013), http://www.cbo.gov/sites/default/files/cbofiles/attachments/43907-BudgetOutlook.pdf.

[6] Office of Management and Budget, *Analytical Perspectives-Budget of the U.S. Government, FY 2014*, ch. 2 (2013), http://www.whitehouse.gov/sites/default/files/omb/budget/fy2014/assets/spec.pdf.