Dynamic Analysis of the House GOP Tax Plan: An Update

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This paper presents estimates of the macroeconomic effects, and resulting dynamic impact on revenues, of the House GOP tax plan announced in June 2016. The estimates were produced in two ways. One set of estimates uses a combination of TPC's Keynesian model (to project short-run effects on output relative to its full-employment, or potential, level) and TPC's Neoclassical model (to project longer run effects on potential output). Those models are based on reduced-form relationships between aggregate variables, derived primarily from historical correlations. A second set of estimates is based on the Penn-Wharton Budget Model, which explicitly models the effects of incentives on individual households. Both methods find positive dynamic effects on output and revenues over the first few years, and negative effects in later years.

INTRODUCTION

House Speaker Paul Ryan announced on June 24, 2016 the House GOP blueprint for broad income tax reform. The proposal would reduce tax rates, simplify many provisions, and convert the taxation of business income into a cash-flow consumption tax.[1] In September 2016, the Tax Policy Center (TPC) released an analysis of that tax plan.[2] That analysis included "conventional" estimates of the effects of the plan, as well as "dynamic" estimates of the effects of the plan on the economy, and the resulting effects on revenues. This paper presents a new dynamic analysis of the plan's economic and revenue effects based on a combination of TPC's Keynesian and Neoclassical models, as well as an updated analysis based on the Penn-Wharton Budget Model (PWBM) of the Wharton School at the University of Pennsylvania. (The conventional estimates of the revenue effects of the plan have not changed.)

THE HOUSE GOP TAX PLAN

The House GOP plan would reduce the top individual income tax rate to 33 percent, reduce the corporate rate to 20 percent, and cap at 25 percent the rate on profits of pass-through businesses (such as sole proprietorships and partnerships) that are taxed under the individual income tax. Individuals could deduct half of their capital gains, dividends, and interest, reducing the top rate on such income to 16.5 percent.

The plan would increase the standard deduction and child tax credit. It would repeal personal exemptions and all itemized deductions except those for charitable contributions and home mortgage interest. The plan would also eliminate the alternative minimum tax (AMT), estate and gift taxes, and all taxes associated with the Affordable Care Act (ACA).

The corporate income tax would be replaced by a cash-flow consumption tax that would apply to all businesses: investments would be immediately deducted (i.e., expensed) and business interest would no longer be deductible. The cash flow tax would be border adjustable, meaning receipts from exports would be excluded and purchases of imports would not be deductible. The

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[1] See Ryan, Paul Ryan, Paul. 2016. *A Better Way: Tax.* Washington, DC. A Better Way.
http://abetterway.speaker.gov/_assets/pdf/ABetterWay-Tax-PolicyPaper.pdf
[2] For details on that analysis, see Nunns, Jim, Len Burman, Ben Page, Jeff Rohaly, and Joe Rosenberg. 2016. "An Analysis of the House GOP Tax Plan." Washington, DC: The Urban-Brookings Tax Policy Center.
http://www.taxpolicycenter.org/sites/default/files/alfresco/publication-pdfs/2000923-An-Analysis-of-the-House-GOP-Tax-Plan.pdf

plan would move the US tax system to a destination-based system in which only income from sales to US consumers would be taxable.

TPC has estimated that a plan such as this would reduce federal revenue by $3.1 trillion over the first decade of implementation and by an additional $2.2 trillion in the second decade, before accounting for added interest costs or considering macroeconomic feedback effects.[3] The revenue loss is primarily due to reductions in business taxes.

The marginal tax rate cuts in the plan would boost incentives to work, save, and invest if interest rates do not change. The plan would reduce the marginal effective tax rate on most new investments, which would increase the incentive for investment in the US and reduce tax distortions in the allocation of capital. Increased investment would raise labor productivity and US wages by increasing capital per worker. However, increased government borrowing could push up interest rates and crowd out private investment, thereby offsetting some or all of the plan's positive effects on private investment unless federal spending was sharply reduced to offset the effect of the tax cuts on the deficit.

TPC, in collaboration with the PWBM, also prepared two sets of estimates of the House GOP plan that take into account macroeconomic feedback effects.[4] Both sets of estimates indicate that the plan would boost GDP in the short run, reducing the revenue cost of the plan. However, longer-run estimates indicate that over time the effect on output would become negative, increasing the revenue cost of the plan. Including macroeconomic feedbacks has a small positive impact on revenues over the first decade, but a negative impact of between $470 billion and $1.1 trillion over the second decade. Eventually, rising debt pushes up interest rates, which crowds out private investment and slows growth. By 2036, GDP would be between 1.0 and 2.6 percent lower than if the tax cuts had not been enacted. These estimates are sensitive to parameter assumptions and the effects on GDP could be larger or smaller in both the short- and the long-run.

HOW DOES DYNAMIC ANALYSIS DIFFER FROM TPC'S USUAL ANALYSIS?

TPC uses its large-scale microsimulation model to estimate the revenue effects of tax policy changes. Those "conventional" revenue estimates reflect changes in microeconomic behavior, such as the level of realizations when the tax rate on capital gains changes, but exclude

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[3] These estimates account for many microeconomic behavioral responses, such as reduced use of tax preferences and increased capital gains realizations when marginal tax rates on income and capital gains decline. The methodology we follow in preparing these estimates follows the conventional approach used by the Joint Committee on Taxation and the US Department of the Treasury to estimate revenue effects before considering the macroeconomic effects. As noted in the text, we do not model certain potentially large tax avoidance responses because of uncertainty about exactly how the proposal would be implemented.

[4] For a detailed description of the macroeconomic models used in TPC's analysis, see Page, Benjamin R. and Kent Smetters. 2017. "Dynamic Analysis of Tax Plans: An Update." Washington, DC: The Urban-Brookings Tax Policy Center. http://www.taxpolicycenter.org/sites/default/files/publication/140016/2001217-dynamic-analysis-of-tax-plans-an-update.pdf

macroeconomic responses, such as changes in the size of the economy, the overall price level, investment, and employment.

Dynamic analysis expands conventional analysis by incorporating the macroeconomic effects of policy proposals. For example, reducing marginal tax rates on labor earnings may encourage people to work more, thereby increasing overall labor supply and output. Or, a policy that increases deficits may push up interest rates and crowd out private capital investment, lowering the capital stock and output. Macroeconomic changes in turn can affect revenues, because changes in output generally imply changes in the base of income and other taxes.

In theory, by incorporating macroeconomic effects, dynamic analysis could improve revenue forecasts. However, predicting economic effects requires us to make assumptions about very uncertain economic relationships and behavioral responses. For our base case estimates, TPC and PWBM have incorporated assumptions that we consider to lie within the central range of economists' expert opinion.

We find that incorporating macroeconomic effects generally has limited impact on our revenue estimates, compared with our conventional analysis. Tax policies that result in large revenue losses when estimated conventionally typically result in large revenue losses when estimated dynamically, using our models and the range of assumptions that we consider reasonable. In addition, conventional scoring is the method most often used by the Joint Committee on Taxation, the official government scorekeeper for tax legislation. For these reasons, conventional scoring remains an important tool in evaluating tax policy, and TPC will continue to display traditional analysis alongside dynamic estimates.

HOW TPC AND PWBM DYNAMICALLY ANALYZE TAX PLANS

To estimate macroeconomic effects, analysts generally rely on models of the economy—equations that represent economic relationships. Those models attempt to capture the effects that policy changes may have on such activities as household consumption, labor supply, and business investment. Changes in the level of such activities affect the economy and, in turn, affect estimated revenues.

Different economic models can capture different types of effects on the economy. For our analysis, we include results based on three different models: TPC's Keynesian model, which captures short-run effects on aggregate demand, and two models that capture longer-term effects on the economy's potential output: TPC's Neoclassical model and PWBM's overlapping generations model.

The three models use different approaches in producing estimates. The Keynesian and Neoclassical models both consist of equations that relate aggregate economic variables such as

consumption, investment, and output. The relationships are based largely on how those variables have been related in the past. The Keynesian and Neoclassical models differ, however, in their assumptions about how output is determined. The former is more relevant for predicting short run changes in economic output, while the latter better represents long-term determinants of economic growth.

The Keynesian model assumes that economic output is driven by the level of overall demand in the economy—for example, that output will rise when demand increases as firms gear up production and hiring to meet the demand. Historical evidence suggests that this assumption is likely to hold in the short run—over a year or two. Qualitatively, the predictions of the Keynesian model are fairly simple: policies such as tax cuts that increase aggregate demand are estimated to boost output, while policies such as tax increases have the opposite effect. The effects on output estimated using the Keynesian model can be viewed as shifts in actual output relative to its potential level—shifts that would result in changes in the unemployment rate, for example.

The Neoclassical model also uses a framework based on equations relating aggregate variables. However, it assumes that output is determined by the economy's potential, which depends on the level of productive capital in the economy, the quantity of labor that individuals wish to supply, and the level of productivity. The Neoclassical model estimates that policies that boost the capital stock or increase the supply of labor will increase output by raising the economy's potential. That type of effect is likely to be most relevant beyond the first couple of years after a policy change. The Neoclassical model is based on relationships between current and past economic and policy variables, so anticipated future developments have no explicit effect on the model estimates. However, the model's equations incorporate some ways that current policies may affect expectations, on average—for example, the extent to which current deficits lead people to expect future increases in taxes, which leads them to save more in preparation.

For the analysis of the GOP tax plan, TPC used a combination of model estimates that gradually adjusts from the projections of the Keynesian model to those of the neoclassical growth model. Specifically, the combination is derived by putting a weight of 1 on the projections of the Keynesian model in the first year that the tax plan is implemented, and weights of 0.75, 0.5, and 0.25 in the second, third and fourth years; the weight is zero in later years. The balance of the estimates in each of those years is from the projections of the neoclassical growth model.

In contrast to the Keynesian and Neoclassical models, the PWBM is based on choices by households of how much to work and save in order to maximize their well-being. (The neoclassical growth model incorporates analogous effects on work and saving, but they are based on simple relationships among aggregate variables rather than by explicitly modeling household decision-making). Households are forward-looking, so their choices depend on both

current and future wages, interest rates, and government policies. Because the PWBM incorporates forward-looking households, future policy changes can affect the current economy. However, in the PWBM (as in the neoclassical growth model) output is always at its potential level and unemployment is always at its natural rate—the rate consistent with full employment and stable inflation.

DYNAMIC EFFECTS ON THE ECONOMY

The GOP tax plan would affect the economy in a variety of ways, including effects on aggregate demand, incentives to work and save, and the budget deficit. The resulting economic changes would in turn influence the federal government's revenues. We present two sets of "dynamic" estimates of those effects that are generated in different ways. However, the estimates have similar implications, broadly speaking. According to both sets of estimates, the GOP plan would have a positive effect on output and revenues over the first few years, but an increasingly negative effect in later years.

Impact on Aggregate Demand

The House GOP tax plan would increase aggregate demand, and therefore output, in two main ways. First, by reducing average tax rates for most households, the plan would increase after-tax incomes (figure 1). Households would spend some of that additional income, increasing demand. This effect would be attenuated to some degree because most of the tax reduction would accrue to high-income households, which are likely to increase spending proportionately less than would lower-income households in response to increased after-tax income. Second, the provision allowing businesses to expense investment would create an incentive for businesses to raise investment spending, further increasing demand. These effects on aggregate demand would raise output relative to its potential level for the next few years, until actions by the Federal Reserve and equilibrating forces in the economy returned output to its long-run potential level.

Percent Change in After-Tax Income under House GOP Tax Plan

By expanded cash income percentile, 2017 and 2025
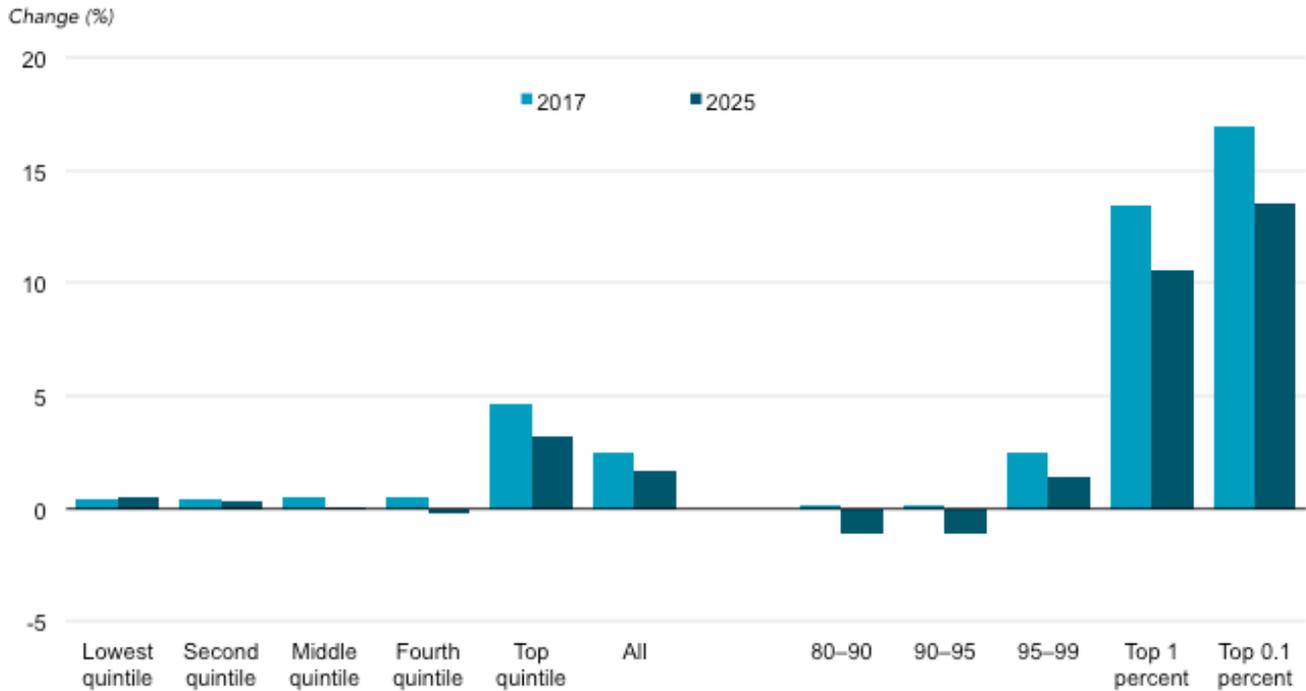
Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0516-1).

Impact on Potential Output

In addition to short-run effects through aggregate demand, the House GOP tax plan would have a lasting effect on potential output—altering incentives to work, save, and invest—as well as on the budget deficit. Those lasting effects, described below, were estimated using the neoclassical growth model and the PWBM.

Impact on Saving and Investment

The House GOP tax plan would alter incentives to save and invest in the United States. Large reductions in the tax rates on corporate and pass-through business income, lower effective marginal tax rates on long-term capital gains and qualified dividends for most taxpayers with such income, and much lower rates on interest income throughout the income distribution would all increase the after-tax return to savers (table 1). Assuming that interest rates do not change and that the tax cuts are not eventually financed in ways that reduce incentives to save and invest, these effects, in themselves, would tend to increase saving and investment in the US economy.

TABLE 1
Effective Marginal Individual Income Tax Rates on Capital Income
In percent, 2017[a]

Expanded cash income percentile[b,c]	Tax units (thousands)	Long-term capital gains			Qualified dividends			Interest income		
		Current law	House GOP Tax Plan	Change (percentage points)	Current law	House GOP Tax Plan	Change (percentage points)	Current law	House GOP Tax Plan	Change (percentage points)
Lowest quintile	48,340	0.7	2.0	1.3	0.3	1.1	0.8	1.7	0.9	-0.8
Second quintile	38,630	0.8	3.5	2.7	0.8	3.2	2.4	6.5	3.3	-3.2
Middle quintile	33,880	6.9	7.3	0.4	7.2	6.8	-0.4	17.7	7.7	-9.9
Fourth quintile	28,660	10.6	10.2	-0.4	10.7	10.5	-0.2	22.3	10.1	-12.1
Top quintile	23,960	23.2	15.7	-7.6	22.2	15.1	-7.1	34.1	14.6	-19.5
All	174,680	21.6	14.8	-6.7	19.2	13.6	-5.6	26.8	11.8	-15.0
Addendum										
80–90	12,390	14.3	11.4	-2.9	14.6	11.6	-3.0	25.0	11.8	-13.3
90–95	5,910	16.8	12.7	-4.1	16.7	12.6	-4.1	28.3	12.6	-15.7
95–99	4,530	22.9	14.5	-8.4	22.6	14.2	-8.5	35.0	14.5	-20.5
Top 1 percent	1,130	24.1	16.2	-8.0	24.0	16.1	-7.9	36.5	15.5	-21.0
Top 0.1 percent	120	24.1	16.3	-7.9	24.0	16.2	-7.8	35.4	15.4	-20.0

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0516-1).

(a) Projections are for calendar year 2017. Effective marginal tax rates are weighted by the appropriate income source.

(b) Includes both filing and non-filing units but excludes those that are dependents of other tax units. Tax units with negative adjusted gross income are excluded from their respective income class but are included in the totals. For a description of expanded cash income, see http://www.taxpolicycenter.org/TaxModel/income.cfm

(c) The income percentile classes used in this table are based on the income distribution for the entire population and contain an equal number of people, not tax units. The breaks are (in 2016 dollars): 20% $24,800; 40% $48,400; 60% $83,300; 80% $143,100; 90% $208,800; 95% $292,100; 99% $699,000; 99.9% $3,749,600.

The overall effect of taxes on incentives to save and invest can be summarized in the proposal's effect on marginal effective tax rates (METRs) on new investments. METR is a forward-looking measure of the tax system's effect on the rate of return of a hypothetical marginal investment project (i.e., one that just breaks even). We compare the METR on different investments under the House GOP tax plan with the METR under current law. Because the plan would allow expensing (i.e., immediate deduction) of all investment and would reduce average individual-level taxes on interest, capital gains, and dividends, METRs for most new business investment would decrease significantly (table 2). Investments in intellectual property would face higher METRs than under current law because business interest deductions would be disallowed, but intellectual property would still face the lowest METRs of any form of investment because the plan would retain the research and experimentation credit. Business investments financed by debt would face higher effective tax rates than under current law, because the loss of interest deductibility would exceed the benefit of expensing. Overall, the plan would lower METRs, making investment more attractive, and would eliminate the tax advantage for debt-over equity-financed investments, which could reduce corporate leverage.

TABLE 2

Marginal Effective Tax Rates on New Investment
In percent, 2017

Category	Current Law	House GOP Tax Plan	Change (percentage points)
Business investment	**22.0**	**6.3**	**-15.7**
Corporate	24.0	8.8	-15.2
Equipment	19.9	9.3	-10.6
Structures	27.9	9.3	-18.6
Intellectual property products	-0.1	4.1	4.2
Inventories	38.4	9.3	-29.1
Pass-through	18.9	2.5	-16.4
Equipment	15.5	3.1	-12.4
Structures	22.3	3.1	-19.2
Intellectual property products	-3.4	-3.0	0.4
Inventories	31.6	3.1	-28.5
Addendum			
Corporate (equity financed)	30.8	8.3	-22.5
Corporate (debt financed)	-7.4	9.8	17.2
Variation (s.d.) across assets	12.2	1.4	
Variation (s.d.) across industries	6.1	0.7	

Source: Urban-Brookings Tax Policy Center calculations. See Rosenberg and Marron (2015) for discussion.
Notes: s.d. = standard deviation. Estimates for are calendar year 2017. The baseline is current law.

Although the House GOP tax plan would improve incentives to save and invest, it would also substantially increase budget deficits unless offset by spending cuts, resulting in higher interest rates that would crowd out investment. While the plan would initially increase investment, rising interest rates would eventually decrease investment below baseline levels in later years.

Impact on Labor Supply

The House GOP tax plan would reduce effective tax rates on labor income (i.e., wages and salaries for employees and self-employment income for others). Effective marginal tax rates on labor income would be reduced by an average of about 2 percentage points and by over 7 percentage points for the top 0.1 percent (table 3). In combination with increased investment, which raises worker productivity and wages, these effects would initially raise labor supply. Over time, however, because the plan would eventually reduce investment and the capital stock, it would also ultimately depress pretax wages and reduce labor supply.

TABLE 3

Effective Marginal Individual Income Tax Rates on Wages, Salaries, and Self-Employment Income

In percent, 2017[a]

Expanded cash income percentile[b,c]	Tax units (thousands)	Individual income tax			Individual income tax plus payroll tax		
		Current law	House GOP Tax Plan	Change (percentage points)	Current law	House GOP Tax Plan	Change (percentage points)
Lowest quintile	48,340	2.3	2.2	-0.1	16.2	16.0	-0.1
Second quintile	38,630	15.6	14.1	-1.5	29.4	27.9	-1.5
Middle quintile	33,880	19.2	17.8	-1.4	32.8	31.4	-1.4
Fourth quintile	28,660	20.1	19.3	-0.8	33.7	32.9	-0.8
Top quintile	23,960	31.1	28.4	-2.6	38.4	35.4	-3.0
All	174,680	24.7	22.9	-1.9	35.1	33.0	-2.1
Addendum							
80–90	12,390	25.5	25.0	-0.5	36.6	36.1	-0.5
90–95	5,910	27.8	26.6	-1.3	35.7	34.4	-1.3
95–99	4,530	33.0	30.4	-2.6	38.6	35.3	-3.2
Top 1 percent	1,130	38.8	32.3	-6.5	42.7	35.3	-7.4
Top 0.1 percent	120	39.5	32.4	-7.2	43.3	35.3	-8.0

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0516-1).

(a) Projections are for calendar year 2017. Effective marginal tax rates are weighted by the wages and salaries.

(b) Includes both filing and non-filing units but excludes those that are dependents of other tax units. Tax units with negative adjusted gross income are excluded from their respective income class but are included in the totals. For a description of expanded cash income, see http://www.taxpolicycenter.org/TaxModel/income.cfm

(c) The income percentile classes used in this table are based on the income distribution for the entire population and contain an equal number of people, not tax units. The breaks are (in 2016 dollars): 20% $24,800; 40% $48,400; 60% $83,300; 80% $143,100; 90% $208,800; 95% $292,100; 99% $699,000; 99.9% $3,749,600.

Overall Impact on Output and Revenues

Combining the results of the Keynesian and Neoclassical models, TPC estimates that the House GOP tax plan would boost GDP by 1.0 percent in 2017, but reduce GDP by 0.5 percent in 2026 and by 1.0 percent in 2036. The PWBM estimates that the House GOP tax plan would boost GDP by 0.9 percent in 2017, but reduce it by 0.5 percent in 2026 and by 2.6 percent in 2036 (table 4). Those economic effects would in turn alter revenues. TPC's dynamic estimates project an increase of $43.0 billion in 2017 due to dynamic effects, a cumulative $0.5 billion increase between 2017 and 2026, and a cumulative decrease of $470.5 billion between 2027 and 2036 (table 5). The PWBM projects an increase in revenues of $49.6 in 2017, an increase of $64.0 billion between 2017 and 2026, and a decrease of $1.1 trillion between 2027 and 2036.

Taking into account the dynamic effects on GDP and revenues as estimated by TPC's dynamic models, the plan would increase debt by 13.6 percent of GDP by 2026 and 21.0 percent of GDP by 2036. The corresponding estimates by the PWBM are increases of 13.2 percent of GDP by 2026 and 22.7 percent of GDP by 2036 (table 6).

TABLE 4

Dynamic Effects of House GOP Tax Plan on GDP
FY 2016–36

	Fiscal Year											2016–26 [a]	2027–36 [a]
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026		
	GDP ($ billions)												
Before macro feedback	18,493.8	19,296.5	20,127.1	20,906.0	21,709.7	22,593.2	23,527.5	24,497.2	25,505.6	26,559.2	27,660.0	27,660.0	41,511.7
After macro feedback													
TPC Keynesian and Neoclassical models	18,493.8	19,497.2	20,261.0	20,956.9	21,719.1	22,550.1	23,456.7	24,409.7	25,402.4	26,440.7	27,525.8	27,525.8	41,103.5
PWBM overlapping generations model	18,493.8	19,461.1	20,284.1	21,018.7	21,790.1	22,639.1	23,540.3	24,476.4	25,451.4	26,467.5	27,526.9	27,526.9	40,425.1
	Exhibit: Percentage change in GDP due to macro feedback (%)												
TPC Keynesian and Neoclassical models	0.0	1.0	0.7	0.2	0.0	-0.2	-0.3	-0.4	-0.4	-0.4	-0.5	-0.5	-1.0
PWBM overlapping generations model	0.0	0.9	0.8	0.5	0.4	0.2	0.1	-0.1	-0.2	-0.3	-0.5	-0.5	-2.6

Source: Congressional Budget Office (2016a, 2016b); TPC Keynesian and neoclassical models; Penn-Wharton Budget Model (PWBM) overlapping generations model.
(a) End of period.

TABLE 5

Estimated Effect of House GOP Tax Plan on Tax Receipts
$ billions, FY 2016–36

Provision	Fiscal Year							
	2016	2017	2018	2019	2020	2021	2016–26	2027–36
Individual income and payroll taxes								
Repeal ACA taxes	-5.6	-23.1	-57.0	-72.2	-78.5	-82.4	-803.1	-1,430.0
Repeal alternative minimum tax	0.0	-25.0	-34.7	-37.2	-40.1	-42.9	-427.3	-723.7
Individual income tax rates of 12, 25, and 33 percent	0.0	-92.6	-129.2	-135.9	-143.1	-149.8	-1,542.9	-2,620.4
Repeal itemized deductions (other than charitable and mortgage interest) and Pease	0.0	106.6	150.3	161.8	174.8	187.3	1,907.6	3,342.0
Increase standard deduction to $24,000/$18,000/$12,000	0.0	-93.5	-126.7	-128.9	-131.6	-135.9	-1,361.0	-1,911.1
50 percent inclusion rate for capital income	-5.2	-22.8	-34.4	-44.2	-48.3	-50.6	-497.8	-848.6
Top rate of 25 percent on active business income	0.0	-22.7	-32.3	-34.8	-37.5	-39.2	-412.8	-709.5
Repeal personal exemptions for taxpayer and dependents	0.0	108.8	148.3	153.2	158.6	165.3	1,653.6	2,427.9
Additional nonrefundable credit of $500 per dependent; increase CTC phaseout for MFJ	0.0	-25.3	-33.9	-33.8	-33.7	-33.6	-325.5	-312.6
Repeal child and dependent care and elderly credits	0.0	2.7	3.6	3.7	3.8	3.9	38.9	48.8
Expense all investment; disallow deduction for net interest expense on new loans	0.0	-93.6	-113.7	-99.0	-86.8	-71.9	-637.5	487.6
Repeal individual tax expenditures explicitly identified in House GOP plan	0.0	25.2	35.5	37.2	38.1	39.0	385.2	515.7
Total for individual income and payroll tax revenue	**-10.8**	**-155.3**	**-224.1**	**-230.2**	**-224.4**	**-210.7**	**-2,022.8**	**-1,733.9**
Corporate income tax								
Reduce corporate rate to 20% and repeal the corporate AMT	0.0	-80.7	-163.6	-183.4	-194.0	-192.7	-1,844.9	-2,751.5
Expense all investment; disallow deduction for net interest expense on new loans	0.0	-70.0	-120.3	-103.4	-86.1	-66.5	-447.5	636.4
Territorial system of taxing foreign-source income earned after 12-31-16	0.0	-3.6	-7.3	-8.4	-8.7	-9.0	-87.9	-139.2
Deemed repatriation of pre-2017 profits of CFCs; taxed at reduced rates; paid over 8 years	0.0	7.8	15.6	17.3	17.3	17.3	138.3	0.0
Border adjustments (export receipts excludable; purchases of imports not deductible)	0.0	49.9	101.4	115.5	118.9	122.4	1,179.6	1,689.3
Repeal corporate tax expenditures explicitly identified in House GOP plan	0.0	5.0	10.6	13.2	14.8	16.5	171.7	372.5
Total for corporate income tax revenues	**0.0**	**-91.7**	**-163.6**	**-149.1**	**-137.8**	**-112.0**	**-890.7**	**-192.5**
Estate and gift taxes								
Repeal the estate, gift and GST taxes; carryover basis for gains	0.0	0.4	-13.2	-20.1	-21.3	-21.4	-187.4	-299.2
Total for estate and gift tax revenues	**0.0**	**0.4**	**-13.2**	**-20.1**	**-21.3**	**-21.4**	**-187.4**	**-299.2**
Total revenue effect of all provisions								
Total revenue change before macro feedback (sum of amounts above)	-10.8	-246.6	-401.0	-399.5	-383.6	-344.1	-3,100.9	-2,225.6
Total revenue change after macro feedback (dynamic score)								
TPC Keynesian and Neoclassical model estimates	-10.8	-203.6	-372.2	-388.1	-379.7	-349.7	-3,100.4	-2,696.0
PWBM overlapping generations model estimates	-10.8	-197.0	-367.4	-381.4	-370.1	-336.7	-3,036.9	-3,371.7
Exhibit: Difference in total revenue change due to macro feedback								
TPC Keynesian and Neoclassical model estimates	0.0	43.0	28.8	11.4	3.9	-5.6	0.5	-470.5
PWBM overlapping generations model estimates	0.0	49.6	33.6	18.1	13.5	7.4	64.0	-1,146.1
ADDENDUM: Tax expenditures possibly included but not explicitly identified in the House GOP tax plan								
Individual income tax and payroll tax expenditures	0.0	30.1	51.9	54.5	56.9	59.7	602.8	1,053.0
Corporate income tax expenditures	0.0	8.4	17.1	19.6	20.1	20.7	198.9	286.1

Sources: Urban-Brookings Tax Policy Center (TPC) Microsimulation Model (version 0516-1); TPC off-model estimates; TPC Keynesian and neoclassical models; Penn-Wharton Budget Model (PWBM) overlapping generations model.

Note: AMT = alternative minimum tax; CFC = controlled foreign corporation; CTC = child tax credit; GDP = gross domestic product; GST = generation skipping transfer; MFJ = married filing jointly.

Effect of House GOP Tax Plan on Federal Revenues, Deficits, and the Debt
FY 2016–36

	Fiscal Year												
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2016–26	2027–36
Estimates before macro feedback													
Revenue loss[a] ($ billions)	10.8	246.6	401.0	399.5	383.6	344.1	301.1	272.4	253.9	245.2	242.7	3,100.9	2,225.6
As a percentage of GDP (%)	0.1	1.3	2.0	1.9	1.8	1.5	1.3	1.1	1.0	0.9	0.9	1.3	0.6
Additional interest ($ billions)	0.0	2.9	10.9	27.8	43.1	58.5	72.5	86.0	99.0	111.9	125.0	637.6	2,040.4
Increase in deficit ($ billions)	10.9	249.5	411.9	427.3	426.7	402.6	373.6	358.3	352.9	357.1	367.7	3,738.6	4,266.0
Increase in debt[b] ($ billions)	10.9	260.4	672.3	1,099.7	1,526.3	1,929.0	2,302.5	2,660.9	3,013.8	3,370.9	3,738.6	3,738.6	8,004.5
Cumulative increase in debt relative to GDP (%)	**0.1**	**1.3**	**3.3**	**5.3**	**7.0**	**8.5**	**9.8**	**10.9**	**11.8**	**12.7**	**13.5**	**13.5**	**19.3**
Addendum: GDP (end of period: $ billions)	18,493.8	19,296.5	20,127.1	20,906.0	21,709.7	22,593.2	23,527.5	24,497.2	25,505.6	26,559.2	27,660.0	27,660.0	41,511.7
Estimates after macro feedback from TPC Keynesian and Neoclassical models													
Revenue loss[a] ($ billions)	10.8	203.6	372.2	388.1	379.7	349.7	311.6	285.7	270.1	264.2	264.6	3,100.4	2,696.0
As a percentage of GDP (%)	0.1	1.0	1.8	1.9	1.7	1.6	1.3	1.2	1.1	1.0	1.0	1.3	0.8
Additional interest ($ billions)	0.0	3.2	11.2	26.9	41.3	56.6	71.2	85.5	99.5	113.6	128.0	636.9	2,192.0
Increase in deficit ($ billions)	10.9	206.8	383.4	414.9	421.0	406.3	382.7	371.2	369.6	377.8	392.6	3,737.3	4,888.0
Increase in debt[b] ($ billions)	10.9	217.7	601.1	1,016.0	1,437.0	1,843.3	2,226.0	2,597.2	2,966.8	3,344.6	3,737.3	3,737.3	8,625.2
Cumulative increase in debt relative to GDP (%)	**0.1**	**1.1**	**3.0**	**4.8**	**6.6**	**8.2**	**9.5**	**10.6**	**11.7**	**12.6**	**13.6**	**13.6**	**21.0**
Addendum: GDP (end of period: $ billions)	18,493.8	19,497.2	20,261.0	20,956.9	21,719.1	22,550.1	23,456.7	24,409.7	25,402.4	26,440.7	27,525.8	27,525.8	41,103.5
Estimates after macro feedback from PWBM overlapping generations model													
Revenue loss[a] ($ billions)	10.8	197.0	367.4	381.4	370.1	336.7	299.6	276.0	265.4	263.1	269.3	3,036.9	3,371.7
As a percentage of GDP (%)	0.1	1.0	1.8	1.8	1.7	1.5	1.3	1.1	1.0	1.0	1.0	1.3	1.0
Additional interest ($ billions)	0.0	2.4	9.3	24.9	39.5	54.2	67.9	81.2	94.2	107.5	121.1	602.3	2,152.0
Increase in deficit ($ billions)	10.9	199.4	376.8	406.3	409.6	390.9	367.5	357.2	359.7	370.6	390.4	3,639.2	5,523.7
Increase in debt[b] ($ billions)	10.9	210.2	587.0	993.4	1,402.9	1,793.9	2,161.4	2,518.6	2,878.3	3,248.8	3,639.2	3,639.2	9,162.9
Cumulative increase in debt relative to GDP (%)	**0.1**	**1.1**	**2.9**	**4.7**	**6.4**	**7.9**	**9.2**	**10.3**	**11.3**	**12.3**	**13.2**	**13.2**	**22.7**
Addendum: GDP (end of period: $ billions)	18,493.8	19,461.1	20,284.1	21,018.7	21,790.1	22,639.1	23,540.3	24,476.4	25,451.4	26,467.5	27,526.9	27,526.9	40,425.1

Source: Urban-Brookings Tax Policy Center (TPC) Microsimulation Model (version 0516-1); Congressional Budget Office (2016a, 2016b); TPC Keynesian and neoclassical models; Penn-Wharton Budget Model (PWBM) overlapping generations model.

(a) Revenue loss is expressed as the effect on the deficit.

(b) Increase in debt equals the cumulative increase in deficit plus additional interest on the debt. Amounts shown for 2016-26 and 2027-36 are as of the end of those periods.

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