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Republican Tax Plans Cost More — and Add Less to Growth — Than Proponents Claim

By Joel Friedman and Chad Stone

In describing their tax plans, Republican lawmakers have relied on overstated claims of economic growth, fuzzy math, and wishful thinking. As Majority Leader Mitch McConnell stated after passage of the Senate tax plan: "I'm confident this is not only revenue-neutral for the government, but it will be a revenue producer."[1] Such assertions reflect the belief that the tax bills would provide a very large boost to economic growth and thereby generate enough additional revenues to fully offset their cost. But estimates by the Joint Committee on Taxation (JCT), the official revenue estimator for Congress, and other credible analysts show otherwise. They make clear that the tax bills moving rapidly through Congress would add significantly to the deficit and do little to increase growth, especially after the first few years.

- The Senate and House bills would cost roughly $1.4 trillion between 2018 and 2027, according to JCT's official estimates.[2] But both bills rely to varying degrees on sunsetting provisions and imposing future tax hikes to hold down their official cost in order to comply with the budget rules guiding consideration of the bills. Absent these provisions, which a number of Republican lawmakers have made clear they have no intention of allowing to take effect, both bills would cost roughly $2 trillion over the decade.
- The bills' positive economic effects almost surely would be far too muted to generate the additional revenue needed to pay for the bills. JCT finds that the additional growth generated by the House and Senate bills would offset just over $400 billion of their cost over ten years.[3]

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[1] ABC News, "'This Week' Transcript 12-3-17: Sen. Mitch McConnell and Rep. Adam Schiff," December 3, 2017, http://abcnews.go.com/Politics/week-transcript-12-17-sen-mitch-mcconnell-rep/story?id=51533836.

[2] See the following Joint Committee on Taxation reports: "Comparison Of The Revenue Provisions Contained In H.R.1, The 'Tax Cuts And Jobs Act,' As Passed By The House Of Representatives, And As Amended By The Senate," December 13, 2017, https://www.jct.gov/publications.html?func=startdown&id=5049; "Estimated Revenue Effects Of The 'Tax Cuts And Jobs Act,' As Passed By The Senate On December 2, 2017," December 2, 2017, https://www.jct.gov/publications.html?func=startdown&id=5047; "Estimated Revenue Effects Of H.R. 1, The 'Tax Cuts and Jobs Act,' As Ordered Reported By The Committee On Ways And Means On November 9, 2017," November 11, 2017, https://www.jct.gov/publications.html?func=startdown&id=5034.

[3] Joint Committee on Taxation, "Macroeconomic Analysis of The 'Tax Cut And Jobs Act' As Ordered Reported By The Senate Committee On Finance On November 16, 2017," November 30, 2017, https://www.jct.gov/publications.html?func=startdown&id=5045; Joint Committee on Taxation, "Macroeconomic Analysis

That amount is $1 trillion short of each bill's official cost, and even further below its likely cost if lawmakers undo provisions (such as the sunsets) designed to help the bills comply with the budget rules.

- Estimates by the Tax Policy Center (TPC) and the Penn Wharton Budget Model (PWBM) also show only modest economic effects from the House and Senate bills. TPC finds that neither bill would produce offsetting revenues of more than $190 billion over ten years.[4] PWBM provides two sets of estimates for both bills, and their most optimistic scenario anticipates offsetting revenues of no more than $441 billion for either bill.[5]
- TPC and PWBM find that the House and Senate bills would add, at most, 0.1 percentage points to average annual economic growth over the next decade, and likely even less. These estimates are far below the 0.4 percentage point boost to annual growth that many Republicans claim the bills would generate. And even the Republicans' claim of 0.4 percentage points of added growth would be insufficient to fully pay for these bills.

In short, both the House- and Senate-passed bills fail to live up to the fiscal claims from many of their proponents. While the final bill will differ somewhat from the current bills, it is unlikely to change radically; the basic structure of the two bills is quite similar, which is why their estimated effects on the economy are also similar. Any changes are unlikely to substantially improve the impact on the economy or lower the cost. As a result, the final tax bill would surely add to the nation's long-term fiscal challenges.

The Cost of the Bills

Congressional Republicans chose to rely on a special fast-track budget process known as "reconciliation" for consideration of the tax bill.[6] Its primary procedural advantage is that a reconciliation bill only requires a majority vote to pass the Senate. But this process is also guided by special rules, which impose two important constraints on the bill's cost:

- The bill cannot cost more than $1.5 trillion between 2018 and 2027, the cost ceiling that Republicans set as part of their 2018 budget resolution.

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of The 'Tax Cut And Jobs Act' As Passed By The House Of Representatives On November 16, 2017," December 11, 2017, https://www.jct.gov/publications.html?func=startdown&id=5050.

4 Benjamin R. Page *et al.*, "Macroeconomic Analysis of the Tax Cuts and Jobs Act as Passed by the Senate," Tax Policy Center, December 11, 2017, http://www.taxpolicycenter.org/publications/macroeconomic-analysis-tax-cuts-and-jobs-act-passed-senate; Benjamin R. Page *et al.*, "Macroeconomic Analysis of the Tax Cuts and Jobs Act as Passed by the House of Representatives," Tax Policy Center, November 20, 2017, http://www.taxpolicycenter.org/publications/macroeconomic-analysis-tax-cuts-and-jobs-act-passed-house-representatives.

5 Penn Wharton Budget Model, "The Senate Tax Cuts and Jobs Act, as Passed by Senate (12/2/17): Static and Dynamic Effects on the Budget and the Economy," December 11, 2017, http://budgetmodel.wharton.upenn.edu/issues/2017/12/8/the-senate-tax-cuts-and-jobs-act-as-passed-by-senate-12217-static-and-dynamic-effects-on-the-budget-and-the-economy; Penn Wharton Budget Model, "The House Tax Cuts and Jobs Act, Amended (11/9/17): The Dynamic Effect on the Budget and the Economy," November 13, 2017, http://budgetmodel.wharton.upenn.edu/issues/2017/11/13/the-house-tax-cuts-and-jobs-act-amended-11917-the-dynamic-effect-on-the-budget-and-the-economy. PWBM's estimates are for the bills that passed the House and Senate.

6 David Reich and Richard Kogan, "Introduction to Budget 'Reconciliation,'" Center on Budget and Policy Priorities, November 9, 2016, https://www.cbpp.org/research/federal-budget/introduction-to-budget-reconciliation.

- It cannot increase the deficit in any year *after* 2027. This requirement is part of the Senate's Byrd rules (named after former Senator Robert Byrd) that apply when the Senate considers a reconciliation bill. It reflects the fact that reconciliation was initially designed to make it easier for Congress to pass deficit-*reduction* legislation, though policymakers used it to pass deficit-increasing tax cuts in 2001. While these rules technically do not apply to the House, the House and Senate ultimately must agree on the same version of the bill for it to become law, so the final agreement must comply with these rules.

Both the House and Senate bills met the reconciliation requirement that it not cost more than $1.5 trillion over the decade. JCT estimates show that both bills cost about $1.4 trillion over ten years.

To meet that requirement, the House bill sunsets two provisions — a new $300 non-refundable tax credit for non-child dependents and a generous deduction for business investments — after 2022. In addition, the bill includes a revenue-raising change in the tax treatment of companies' research and experimentation spending that takes effect in 2023. Absent these changes to suppress the bill's revenue losses, it would cost about $1.9 trillion over ten years.[7] While reducing the bill's cost by more than $450 billion over ten years, these provisions did not address the Byrd rule issue concerning costs after 2027. TPC, for instance, estimates that over the second decade (2028-2037), the bill would cost $1.6 trillion under traditional scoring (that is, before any macroeconomic feedback effects are considered).[8]

The Senate bill, too, employs sunsets and delayed tax increases to meet the reconciliation requirements. But because it must also meet the Byrd rule requirements, its sunsets are more dramatic, affecting all of the individual income tax provisions except two: the adoption of a lower measure of inflation (the chained Consumer Price Index) for adjusting tax brackets and certain tax provisions each year, and the repeal of the individual mandate requiring most people to purchase health insurance or pay a penalty. Both of those permanent provisions impose a cost on individuals and help pay for the bill's corporate tax changes, which likewise would be permanent.[9]

The Senate bill further lowers its cost by phasing out its 100 percent deduction for business investment in the second half of the decade. It also changes the treatment of research expenses and adjusts other corporate tax rules to raise revenue starting in 2026. Still other Senate tax-cut provisions are only in effect for two years.

These various provisions reduce the bill's cost over the first decade by more than $500 billion, allowing it to meet with the Byrd rule requirement that it not add to deficits after 2027. The bill's savings are much more concentrated late in the decade than in the House bill; by 2027, in fact, the

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[7] Committee for a Responsible Federal Budget, "House Tax Plan May Add Over $2 Trillion to the Debt," November 3, 2017, http://www.crfb.org/blogs/house-tax-plan-may-add-over-2-trillion-debt.

[8] Benjamin R. Page *et al.,* "Macroeconomic Analysis of the Tax Cuts and Jobs Act as Passed by the House of Representatives," Table 2.

[9] Chye-Ching Huang, Guillermo Herrera, and Brendan Duke, "JCT Estimates: Amended Senate Tax Bill Skewed to Top, Hurts Many Low- and Middle-Income Americans," Center on Budget and Policy Priorities, November 27, 2017, https://www.cbpp.org/research/federal-tax/jct-estimates-amended-senate-tax-bill-skewed-to-top-hurts-many-low-and-middle.

Senate bill would actually raise revenue by roughly $34 billion, JCT estimates. Without these changes, the bill would cost about $2.0 trillion over ten years.[10]

Leading Republicans have made clear that these provisions are intended to hold down the bills' estimated cost (both in the first decade and beyond) to meet the rules of reconciliation, so a bill can be enacted now — *not* to constrain the bills' *actual* long-term costs. House Speaker Paul Ryan said, "[t]he point is to get this policy in place, and we do not intend to have these sunsets occur, but we have to do this to make it compliant."[11] Office of Management and Budget Director Mick Mulvaney acknowledged that "[o]ne of the ways to game the system is to make things expire,"[12] while Treasury Secretary Steven Mnuchin said that "[o]f course Congress is going to vote down the road to keep these [tax] cuts."[13]

If policymakers do not allow the sunsets and delayed tax hikes to take effect, the bills' ten-year cost would rise by more than 30 percent, to roughly $2 trillion over the first decade. In addition, the costs would be notably higher in 2027 — indicating that the bills' annual costs over the long term would be considerable if the sunsets and revenue-raising provisions never take effect.

The Economic Effects of the Bills

Not only would the true cost of the House and Senate bills likely exceed official estimates, but analyses of the bills' effects on the economy show that any offsetting revenue gains from stronger economic growth would likely be far more muted than bill supporters claim.

Congressional Republicans have held up their assumption that the bill would spark a 0.4 percentage point increase in the average annual growth rate of gross domestic product (GDP) over the next ten years as something that would substantially lower the bill's cost. Senate Majority Leader Mitch McConnell said, "We're confident that the $1.5 trillion gap would be filled" by the added 0.4 percentage points of growth.[14] Senator John Thune declared, "Even if we get up to 2.2 or 2.3 [percent growth], we cover the cost of this bill" — figures roughly 0.4 percentage points above the Congressional Budget Office's (CBO) current estimate that growth will average a little over 1.8

[10] Joel Friedman, "Senate Tax Bill Could Prove Costlier Than Official Estimate," Center on Budget and Policy Priorities, November 16, 2017, https://www.cbpp.org/blog/senate-tax-bill-could-prove-costlier-than-official-estimate; Committee for a Responsible Federal Budget, "Senate Tax Bill Could Ultimately Cost Up to $2 Trillion," December 5, 2017, http://www.crfb.org/blogs/senate-tax-bill-could-ultimately-cost-2-trillion.

[11] Speaker Paul Ryan, "Speaker Ryan Talks Tax Reform, Defense Bill at Leadership Conference," YouTube, November 14, 2017, https://youtu.be/c7-fbp3M41k?t=3m4s.

[12] Damian Paletta, "Expiring tax-cut provisions threaten to upend Republicans' promised relief for middle class," *Portland Press Herald,* November 23, 2017, http://www.pressherald.com/2017/11/23/expiring-tax-cut-provisions-threaten-to-upend-republicans-promised-relief-for-middle-class/.

[13] Bloomberg Government, "Chris Wallace, Fox News Hosts Fox News Sunday, sked FINAL," November 19, 2017, https://www.bgov.com/core/news/#!/articles/OZOB9X8JMDC0.

[14] Jim Tankersley, "Republicans Search for Proof Their Tax Plans Will Pay for Themselves," *New York Times,* November 12, 2017, https://www.nytimes.com/2017/11/12/us/politics/republican-tax-plans-deficit-debt.html?_r=0.

percent per year over the decade. [15] Senator James Lankford asserted that the assumed 0.4 percentage point increase in growth is "a reasonable estimate" of the bill's economic effects.[16]

In fact, these desired growth rates would *not* pay for the bills' $1.4 trillion official cost, much less the likely additional costs if the sunsets and delayed tax hikes do not take effect. CBO estimates that an additional 0.1 percentage point of annual growth would reduce the budget deficit by $273 billion, hence a boost of 0.4 percentage points would reduce it by about $1.1 trillion.[17] And in any event, *no credible estimate shows the bills generating anything close to 0.4 percentage points of additional economic growth*. (See Appendix.)

JCT estimates that the bill the Senate Finance Committee approved would generate enough additional economic growth to offset only $407 billion of the bill's cost over ten years. To derive this estimate, JCT averaged the results from three of its models. One of these models tends to produce more positive results because it assumes that businesses and households will act as though they expect future policymakers to enact deficit-reduction measures, which will offset the negative effects of earlier deficits on investment.[18] It is likely for this reason that the JCT estimates tend to be slightly more optimistic than other mainstream estimates.

For instance, the analysts at TPC and PWBM both take into account the adverse effects of large budget deficits in their estimates, and both also show only modest revenue effects. TPC estimates that the bill passed by the Senate would boost growth enough to recoup only about $186 billion of its cost over the decade,[19] while PWBM estimates that the Senate bill would recover a range of between $219 billion and $441 billion.[20]

These estimates by JCT, PWBM, and TPC use assumptions about the effect of tax cuts on labor-force participation, saving, and investment consistent with the empirical evidence on the size of such effects. PWBM provides two sets of estimates: one assuming a high rate of return to invested capital and one a lower rate of return.

None of these estimates come close to offsetting the bill's $1.4 trillion cost, leaving a shortfall of $1 trillion or more. And they are even further below the roughly $2 trillion cost if the bill's sunsets and delayed tax increases never take effect. (See Figure 1 for the Senate bill.)

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15 See Fox News, "Carly Fiorina on sexual harassment claims rocking Washington," 11/26/2017, http://www.foxnews.com/transcript/2017/11/26/carly-fiorina-on-sexual-harassment-claims-rocking-washington.html.

16 Stephen Loiaconi, "As Republicans advance tax bill, economists say deficit concerns remain," WJLA, November 2, 2017, http://wjla.com/news/nation-world/as-republicans-advance-tax-bill-economists-say-deficit-concerns-remain.

17 Congressional Budget Office, "The Budget and Economic Outlook: 2017 to 2027," Appendix B, January 2017, https://www.cbo.gov/sites/default/files/115th-congress-2017-2018/reports/52370-outlookonecolumn.pdf.

18 Joint Committee on Taxation, "Macroeconomic Analysis of The 'Tax Cut And Jobs Act' As Ordered Reported By The Senate Committee On Finance On November 16, 2017." See page 6.

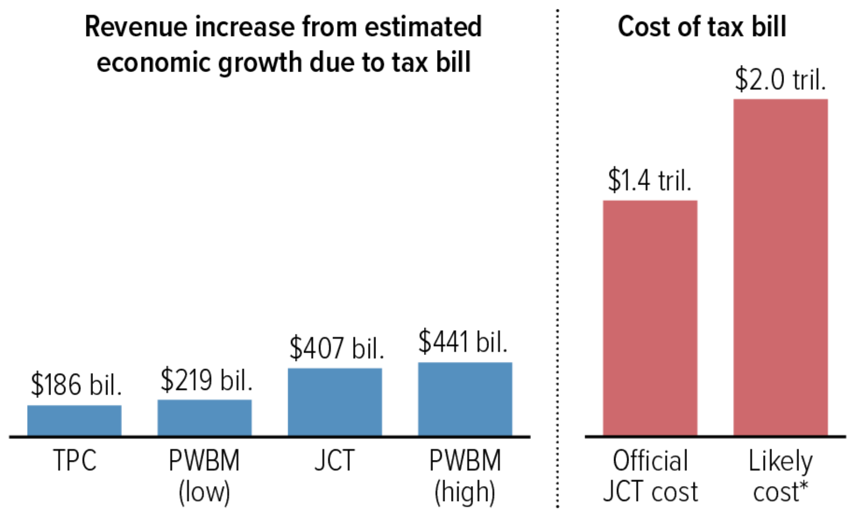
19 Benjamin R. Page *et al.*, "Macroeconomic Analysis of the Tax Cuts and Jobs Act as Passed by the Senate."

20 Penn Wharton Budget Model, "The Senate Tax Cuts and Jobs Act, as Passed by Senate (12/2/17): Static and Dynamic Effects on the Budget and the Economy."

FIGURE 1

Revenue Boost From Senate GOP Tax Bill Won't Offset Cost

Ten-year estimates



*Assumes that the bill's sunsets and delayed tax increases do not take effect.

Note: JCT = Joint Committee on Taxation; TPC = Tax Policy Center; PWBM = Penn Wharton Budget Model. TPC's and PWBM's estimates are for the Senate-passed bill. JCT's estimate is for the bill approved by the Senate Finance Committee, which was very similar to the Senate-passed bill.

Source: CBPP analysis of JCT, PWBM, and TPC data

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Similar to its Senate analysis, JCT estimates that the House-passed bill would generate enough additional economic growth to offset only $428 billion of its cost over ten years.[21] TPC's and PWBM's analyses show even more modest effects: TPC finds that the House bill would generate enough growth to reduce its cost by $170 billion over the decade, while PWBM estimates that revenues of between $143 billion and $370 billion would be recouped.[22]

Supporters of the Republican tax bills have generally embraced estimates indicating much larger economic effects. For instance, Tax Foundation analyses of the House and Senate bills as initially introduced by the chairmen of the tax-writing committees estimate growth effects closer to those touted by the Trump Administration and congressional supporters. But the Tax Foundation's estimating model relies on assumptions that are well outside the economic mainstream. In particular, the Tax Foundation makes very aggressive assumptions about how certain tax changes

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[21] Joint Committee on Taxation, "Macroeconomic Analysis of the 'Tax Cut and Jobs Act' As Passed By The House Of Representatives On November 16, 2017."

[22] Penn Wharton Budget Model, "The House Tax Cuts and Jobs Act: Dynamic Effect on the Budget and the Economy"; Benjamin R. Page *et al.*, "Macroeconomic Analysis of the Tax Cuts and Jobs Act as Passed by the House of Representatives."

affect business investment decisions — and thereby generates outsized estimates of the responses to various tax policy changes. It also ignores any impact of unpaid-for tax cuts on budget deficits and debt.[23] But even the Tax Foundation estimates do not show that these bills pay for themselves.

Bill supporters have also pointed to claims by President Trump's Council of Economic Advisers that a tax cut like the House bill would have large growth effects, particularly on workers' wages. But mainstream economists have sharply criticized those estimates as extremely implausible.[24]

In the same vein, the Treasury Department has issued a one-page "analysis" of the Senate Finance Committee-passed tax bill that purports to analyze how much more economic growth and revenue that bill would generate.[25] In reality, all it does is report how much additional revenue would be generated if average yearly growth over the next decade rose from a baseline of 2.2 percent under current laws and policies to the 2.9 percent assumed in the President's 2018 Budget — an unrealistic assumption that was widely criticized when the budget was released. The Treasury document provides no real analysis of the Senate bill's effects on the economy to support that estimate.[26]

Finally, some conservative economists have claimed, in an open letter to Treasury Secretary Steven Mnuchin published in *The Wall Street Journal*,[27] that cutting corporate tax rates could boost economic growth by the desired 0.4 percentage points a year. But those assertions are based on economic analyses of *revenue-neutral* tax cuts — not on the specific provisions in the House and Senate bills, which are far from revenue neutral. Former Treasury Secretary Larry Summers and former Chairman of President Obama's Council of Economic Advisers Jason Furman point this out in an open letter of their own raising a number of questions about that analysis.[28]

Summers and Furman subsequently called on the conservative authors to clarify where they stand on the question of whether the tax cuts will largely pay for themselves with growth (in particular after Senator Susan Collins cited some of the authors to defend her vote for the Senate tax bill). [29]

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23 Chad Stone and Chye-Ching Huang, "Trump Campaign's 'Dynamic Scoring' of Revised Tax Plan Should Be Taken With More Than a Grain of Salt," Center on Budget and Policy Priorities, September 15, 2016, https://www.cbpp.org/research/federal-tax/trump-campaigns-dynamic-scoring-of-revised-tax-plan-should-be-taken-with-more; Greg Leiserson, "The Tax Foundation's score of the Tax Cuts and Jobs Act," Washington Center for Equitable Growth, November 7, 2017, http://equitablegrowth.org/research-analysis/the-tax-foundations-score-of-the-tax-cuts-and-jobs-act/.

24 Chad Stone, "GOP Making Highly Unrealistic Claims for Wage Gains from Tax Cuts," Center on Budget and Policy Priorities, November 13, 2017, https://www.cbpp.org/blog/gop-making-highly-unrealistic-claims-for-wage-gains-from-tax-cuts.

25 Department of the Treasury, "Analysis of Growth and Revenue Estimates Based on the U.S. Senate Committee on Finance Tax Reform Plan," December 11, 2017, https://www.treasury.gov/press-center/press-releases/Documents/TreasuryGrowthMemo12-11-17.pdf.

26 Chad Stone, "Treasury 'Analysis' of Tax Bill Assumes What It Claims to Prove," Center on Budget and Policy Priorities, December 12, 2017, https://www.cbpp.org/blog/treasury-analysis-of-tax-bill-assumes-what-it-claims-to-prove.

27 "How Tax Reform Will Lift the Economy," *Wall Street Journal,* November 26, 2017, https://www.wsj.com/articles/how-tax-reform-will-lift-the-economy-1511729894.

28 Lawrence H. Summers and Jason Furman, "'Dear colleagues, please explain your letter to Steven Mnuchin,'" *Washington Post*, November 28, 2017, https://www.washingtonpost.com/news/wonk/wp/2017/11/28/lawrence-summers-dear-colleagues-please-explain-your-letter-to-steven-mnuchin/?tid=a_inl&utm_term=.f5c1126de75d

29 Lawrence H. Summers and Jason Furman, "Susan Collins is wrong to say that the tax cuts will pay for themselves, despite the economists she cites," *Washington Post,* December 4, 2017,

They cited members of a nonpartisan panel of distinguished economists assembled by the University of Chicago, as well as earlier assertions by two of the conservative authors, themselves, that tax cuts don't come close to paying for themselves. Summers and Furman also urged any of the authors to clarify that JCT's modeling and analysis is "nonpartisan, expert and superior to more partial and partisan analyses."

Bills' Overall Priorities Also Flawed

Proponents of the House and Senate tax bills have consistently overstated the bills' potential to produce large economic benefits at minimal or no cost. No credible analysis supports these claims. But beyond their fiscal and economic effects, the bills embody skewed and damaging policies, as we have discussed elsewhere.[30]

The bills would deliver the large bulk of their benefits to wealthy households and profitable corporations while ultimately *raising* taxes on millions of low- and moderate-income taxpayers and swelling deficits and debt. If the final bill includes repeal of the Affordable Care Act's individual mandate, it also would add millions of people to the ranks of the uninsured and raise premiums in the individual insurance market. In addition, when the bill's claimed economic benefits fail to materialize and its effects on the deficit become more evident, its proponents can be expected to call for budget cuts that would leave low- and moderate-income working families far worse off, even after considering the paltry tax benefits that some of them might receive.

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https://www.washingtonpost.com/news/wonk/wp/2017/12/04/susan-collins-is-wrong-that-the-tax-cuts-will-pay-for-themselves-despite-the-economists-she-cites/?utm_term=.ec634b45ee7a.

[30] CBPP, "JCT Estimates: Amended Senate Tax Bill Skewed to Top, Hurts Many Low- and Middle-Income Americans"; Chye-Ching Huang and Guillermo Herrera, "Joint Committee on Taxation Distribution Tables Confirm Skewed Priorities of House Tax Bill," Center on Budget and Policy Priorities, November 5, 2017, https://www.cbpp.org/research/federal-tax/joint-committee-on-taxation-distribution-tables-confirm-skewed-priorities-of.

Appendix: Estimated Economic Effects of the Congressional Tax Bills

The House and Senate bills contain several provisions that economists believe can increase economic growth over the longer term by boosting the economy's capacity to supply goods and services through increases in labor-force participation, hours worked, saving, and business investment. On the other hand, economists also generally believe that larger budget deficits slow economic growth. A "dynamic analysis" of a tax bill assesses the combined effects of all the bill's provisions on economic growth and hence the "feedback effect" that growth has on revenues and the budget deficit.

TPC and PWBM estimated the economic effects of both the House- and Senate-passed bills. JCT assessed the Senate Finance Committee bill and the House-passed bill. The Tax Foundation estimated the House and Senate bills, but only as introduced in the tax-writing committees.

Except for the Tax Foundation, all of these analyses found that the bills would have only modest effects on economic growth. But the organizations differed in how they showed the growth effects, which could create confusion.

When Republicans claim that the tax bill would raise average annual growth by 0.4 percentage points, for example, the most natural interpretation is that the growth rate would increase by that much each year, so that after a decade, the level of GDP would be 4 percent higher (roughly 0.4 percentage points times ten) due to the tax bill. The *average* increase in the level of GDP over the decade, however, would be about 2 percent (half of the difference between the increases in the level of GDP at the decade's beginning and end).

In reality, the economic growth effects of a tax bill may vary over time. A temporary boost to aggregate demand will increase the level of GDP in the early years but have little or no effect in the later years, and the drag from deficits can depress growth in the later years. For instance, suppose a tax cut raised the level of GDP by 4 percent in the first year, but the effects dissipated over the decade so that the level of GDP was the same in the tenth year with or without the tax cut. In that case, the average boost to the level of GDP over the decade would still be about 2 percent, but the increase in the average annual *growth rate* over the decade would be *zero,* indicating that the tax cut has no effect on long-term growth.

Table 1 below focuses on changes the tax bills would cause in the average annual economic growth rate (based on the analyses by TPC, PWBM, and JCT), because average growth rates provide a better indicator of the bills' longer-term effects on the economy. Following the table, we consider the estimates from each of these institutions — TPC, PWBM, and JCT — individually.

TABLE 1

Credible Analyses Show GOP Tax Proposals Would Have Only Modest Impact on Economic Growth

	Percentage-Point Increase in Average Annual Growth Rate, 2018-2027	
	Senate	House
Tax Policy Center	0.00	0.04
Penn-Wharton (low)	0.05	0.04
Penn-Wharton (high)	0.10	0.09
Joint Committee on Taxation	<0.08	<0.07
Addendum:		
Tax Foundation	0.36	0.34
GOP claims	0.4	0.4

Source: CBPP estimates, based on estimates from the Tax Policy Center (for the House- and Senate-passed bills), Penn Wharton Budget Model (House- and Senate-passed), Joint Committee on Taxation (House-passed, Senate Finance Committee-approved), and Tax Foundation (as introduced in the House Ways and Means Committee and Senate Finance Committee).

The TPC Estimates

TPC reports that, under the Senate bill, GDP in 2027 is effectively *unchanged* relative to CBO's January 2017 baseline. Hence, the bill's increase in the average annual growth rate is basically zero. TPC estimates that under the House bill, the annual growth rate is increased, but only by a tiny amount — 0.04 percentage points per year over the coming decade.[31]

Turning to the change in the *level* of GDP, as distinguished from its growth rate, under both bills, the level of GDP is above the baseline by a greater amount in the earlier years, reflecting the initial increase in demand that the bills are expected to create. In the Senate bill, the effects on GDP diminish when the individual provisions expire after 2025. Over the decade (2018-2027), TPC estimates that the average level of GDP for both bills would be about 0.4 percent higher than under the baseline.[32] But that is only *one-fifth* as much as the 2 percent average increase in the level of GDP that would result from the 0.4 percentage point boost to the average annual growth rate that many Republican lawmakers are claiming.

The PWBM Estimates

PWBM reports the increase in the average annual growth rate over the 2018-2027 period under the Senate bill and provides data to calculate it for the House bill. In the PWBM scenario that assumes a low rate of return to capital, the increase in the annual average growth rate is 0.05 percentage points under the Senate bill and 0.04 percentage points under the House bill. In the

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[31] This difference in the annual average growth rate between the two bills largely reflects the expiration of the Senate's individual provisions at the end of the decade, while the House's individual income tax provisions would remain in effect.

[32] Benjamin R. Page *et al.*, "Macroeconomic Analysis of the Tax Cuts and Jobs Act as Passed by the Senate"; Benjamin R. Page *et al.*, "Macroeconomic Analysis of the Tax Cuts and Jobs Act as Passed by the House of Representatives."

alternative scenario that assumes a relatively high rate of return to capital, the increase in the rate of economic growth is 0.10 percentage points under the Senate bill and 0.09 percentage points under the House bill. (It's worth noting that PWBM assumes that taxpayers will react to the Senate tax bill as if the expiring provisions will be continued, resulting in what PWBM describes as "an optimistic case" for the bill's growth effects.)[33]

The JCT Estimates

JCT reports only that the average increase in the *level* of GDP over the first decade is 0.8 percent under the Senate bill and 0.7 percent under the House bill. But it notes in each case that the boost to GDP is smaller toward the end of the budget window, suggesting that the increase in the average annual growth *rate* over the period from 2018 to 2027 is less than 0.08 percentage points in the Senate bill and less than 0.07 percentage points in the House bill.[34]

Estimates for the Longer Term

All three of these institutions generally find that any boost to growth under the bills would diminish in the second decade (2028-2037). TPC finds that GDP is just 0.2 percent higher than the baseline in 2037 under the House bill, and just 0.1 percent higher under the Senate bill. PWBM finds that GDP in 2040 is between 0.0 percent and 0.8 percent higher than baseline under the House bill, and between 0.4 percent and 1.2 percent higher under the Senate bill. JCT does not provide a quantitative estimate of the economic effects in the second decade but says of the Senate bill that it "expects that both an increase in GDP and resulting additional revenues would continue in the second decade after enactment, although at a lower level, as many of the provisions that are expected to increase GDP within the budget window expire before the second decade." JCT says of the House bill, "Because of competing incentive effects over time, it is uncertain whether GDP and possible revenue feedback will continue to be higher than under present law by [the third decade]."

The conservative Tax Foundation's average annual growth rate estimates are the outliers; none of the other institutions' estimates are anywhere close to the frequently cited Republican claim of an increase of 0.4 percentage points in the average annual rate of economic growth. Critics have warned, however, that the Tax Foundation's growth calculations are likely to be substantially overstated, due to modeling errors and serious inconsistencies.[35] Further, unlike the other models, the Tax Foundation *entirely ignores* the effects of budget deficits on growth, assuming that the enlarged deficits will be financed by foreign borrowing if domestic saving is insufficient. The other models take into account the adverse effects of larger budget deficits on investment and the trade deficit, which can lower future U.S. national income.

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[33] Penn Wharton Budget Model, "The Senate Tax Cuts and Jobs Act, as Passed by Senate (12/2/17): Static and Dynamic Effects on the Budget and the Economy"; Penn Wharton Budget Model, "The House Tax Cuts and Jobs Act, Amended (11/9/17): The Dynamic Effect on the Budget and the Economy."

[34] Summers and Furman also find that the JCT estimates indicate that the increase in the average annual growth rate under the Senate bill would be less than 0.08 percentage points. See Lawrence H. Summers and Jason Furman, "Susan Collins is wrong to say that the tax cuts will pay for themselves, despite the economists she cites."

[35] Greg Leiserson, "The Tax Foundation's treatment of the estate tax in its macroeconomic model," Washington Center for Equitable Growth, December 4, 2017, http://equitablegrowth.org/research-analysis/the-tax-foundations-treatment-of-the-estate-tax-in-its-macroeconomic-model/.