**Summary**

This brief reports Penn Wharton Budget Model's (PWBM) static and dynamic analysis of the Tax Cuts and Jobs Act (TCJA), reported by the conference committee on December 15, 2017. The TCJA increases debt by between $1.9 trillion to $2.2 trillion over the next decade.

**Key Points**

- By 2027, under our standard economics assumptions, we project that GDP is between 0.6 percent and 1.1 percent larger, relative to no tax changes. Debt increases between $1.9 trillion and $2.2 trillion, inclusive of economic growth.
- By 2040, we project that GDP is between 0.7 percent and 1.6 percent larger under our baseline assumptions, and debt increases by $2.2 to $3.5 trillion.

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# The Tax Cuts and Jobs Act, as Reported by Conference Committee (12/15/17): Static and Dynamic Effects on the Budget and the Economy

**Introduction**

Penn Wharton Budget Model (PWBM) previously reported static analysis and dynamic analysis of the House Tax Cuts and Jobs Act (TCJA), as of November 5, 2017. That analysis was updated when the bill was changed by the 1st amendment and the 2nd amendment, and reported out of the Ways and Means Committee on November 9, 2017.

Penn Wharton Budget Model (PWBM) previously reported static and dynamic analysis of the Senate Tax Cuts and Jobs Act (TCJA), as of November 9, 2017. The bill was amended on November 15, 2017, thereby generating updates to static and dynamic analysis. Our static and dynamic analysis was also updated for amendments when the bill was passed by the Senate on December 2, 2017.

This brief reports our static and dynamic analysis for the bill reported by the conference committee on December 15, 2017. Readers are encouraged to read some of our previous analyses for related definitions used in this brief.

**Conference Agreement**

The TCJA would change U.S. individual, corporate, and international taxes.

For individuals, the bill would keep seven tax brackets with new rates. The top rate would be lowered from 39.6% to 37 percent and the exemption from the Alternative Minimum Tax (AMT) would be increased. The standard deduction would be roughly doubled and personal exemptions would be eliminated. For households who itemize deductions, the cap on the Mortgage Interest Deduction would be reduced to $750,000 in mortgage debt and up to $10,000 of State and Local taxes could be deducted. The Child Tax Credit would increase to $2,000, the amount refundable to $1,400 and begin to phase out at $400,000 of income. Households would be able to deduct 20 percent of the first $315,000 in income from pass-through businesses. The individual mandate for health insurance would be repealed and estate tax exemptions would increase. For individuals, many provisions would sunset in 2026.

For corporations, the bill would introduce a tax rate of 21 percent, down from 35 percent and eliminate the corporate AMT. The bill would extend, expand and then phase out bonus depreciation. The net interest deduction would be capped at 30 percent of income. For multinational corporations, a territorial tax system would be introduced with a deemed repatriation tax of eight percent for non-cash and 15.5 percent for cash assets.

**Modeling Sunsets in the Dynamic Model**

To maintain consistency with budget reconciliation requirements, the TCJA involves numerous major expiry of provisions (sunsets). However, in making those amendments, the bill's creators announced that they expect that sunsetting provisions would eventually be extended. We, therefore, model the *dynamic* (economic) effects of the amended bill as households and investors *expecting* no sunsets prior to the sunset dates. However, to be consistent with the actual bill, the sunsets then *unexpectedly* expire as scheduled. This modeling approach is generally more favorable for generating positive growth relative to alternatives.

**Revenue Effects: Static and Dynamic**

PWBM reports the static effects on revenues with and without changes to federal outlays in Table 1. Including outlay effects is consistent with the Joint Committee on Taxation's estimates, which finds that the TCJA reduces revenue by $1,456 billion from 2018 to 2027. PWBM's static model projects that, including outlay effects, the bill reduces revenue by $1,968 billion over the first 10 years. Not including outlays, PWBM finds a $2,209 billion revenue loss over the first 10 years.

Between PWBM and JCT, there are considerable differences in the estimated costs of individual items, especially the individual AMT. These differences are due to several factors: interactions when changing multiple parts of the tax code at the same time; moderately different macroeconomic forecasts and parameters; and PWBM's forecast of demographic changes compared to JCT's focus on tax filers.

## Table 1: Estimates of the Effect of the Tax Cuts and Jobs Act on Federal Tax Revenues Relative to Current Policy 1

| | Revenue Effect 2018-2027 (billions of $) | | Revenue Effect 2018-2040 (billions of $) |
|---|---|---|---|
| **Tax Provision** | **JCT** | **PWBM** | **PWBM** |
| **Individual** | | | |
| New tax rate and bracket structure | -1,214 | -1,307 | -1,364 |
| Expand the standard deduction and repeal personal exemptions | 491 | 438 | 438 |

| | | | |
|---|---|---|---|
| Index tax provisions to chained CPI | 134 | 88 | 765 |
| New pass-through business deduction | -415 | -542 | -758 |
| Pass-through business loss limits | 150 | 140 | 114 |
| Expand Child Tax Credit (CTC) and new non-child dependent credit | -573 | -511 | -532 |
| Repeal and modifications to itemized deductions | 668 | 459 | 496 |
| Increase Alternative Minimum Tax (AMT) exemption phaseout threshold 2 | -637 | -317 | -313 |
| Reforms to certain deductions and credits 3 | 25 | 26 | 9 |
| Reforms to certain individual tax expenditures, including the ACA's individual mandate 4 5 | 328 | 328 | 1,169 |
| Estate Tax Exemption Doubled 6 | -83 | -83 | -83 |
| *Subtotal* | *-1,127* | *-1,281* | *-59* |
| **Corporate** | | | |
| Reduce corporate tax rate to 21%, repeal corporate AMT | -1,389 | -1,435 | -4,185 |
| Net interest deduction capped at 30% of income | 253 | 193 | 753 |
| Changes to the treatment of investment | -86 | -180 | -152 |
| Modification to net operating loss deductions | 201 | 145 | 169 |
| Amortize research & experimentation costs | 120 | 51 | 88 |
| Repeal of Domestic Production Deduction | 98 | 100 | 300 |
| Reforms to certain business tax expenditures 7 | 149 | 148 | 584 |
| *Subtotal* | *-654* | *-978* | *-2,443* |

| **International** 8 | | | |
|---|---|---|---|
| Territorial System | -224 | -173 | -509 |
| Special one-time repatriation rate | 339 | 254 | 232 |
| Other international reforms 9 | 210 | 210 | 772 |
| *Subtotal* | *324* | *291* | *495* |
| ***TOTAL (with Outlay Effects)*** | **-1,456** | **-1,968** | **-2,007** |
| ***REVENUE (Total without Outlay Effects)*** | **-1,649** | **-2,209** | **-3,077** |

Note: Effects on federal outlays include tax refunds and the repeal of the individual mandate for health insurance.

Table 2 shows that over the 10-year budget window ending in 2027, the TCJA is, on a dynamic basis, projected to reduce federal tax revenues between $1.8 trillion (high initial return to capital) to $2.0 trillion (low initial return to capital). Over this period, debt rises by more, between $1.9 trillion to $2.2 trillion, due to debt service. By 2040, revenue falls between $1.5 trillion to $2.4 trillion, whereas debt increases by $2.2 trillion to $3.5 trillion.

## Table 2: TCJA Effects on Revenue and Debt Relative to Current Policy

| | **Cumulative Revenue (billions of $)** | | | **Change in Debt (billions of $)** | | |
|---|---|---|---|---|---|---|
| | **Static** | **Dynamic** | | **Static** | **Dynamic** | |
| **Years** | | **High return to capital** | **Low return to capital** | | **High return to capital** | **Low return to capital** |
| 2018-2027 | -$2,209 | -$1,786 | -$2,038 | $2,387 | $1,941 | $2,238 |
| 2018-2040 | -$3,077 | -$1,540 | -$2,442 | $4,005 | $2,181 | $3,466 |

Note: The revenue estimates in this table focuses on the official definition of "revenue" and, therefore, does not incorporate changes in outlays. Table 1 reports static analysis both inclusive and exclusive of changes in outlays. Changes in debt include changes in outlays. Consistent with our previous dynamic analysis and the empirical evidence, the projections above assume that the U.S. economy is 40 percent open and 60 percent closed. Specifically, 40 percent of new government debt is purchased by foreigners.

**Economic Effects**

The Tax Cuts and Jobs Act has effects beyond federal revenues, including effects on GDP, labor income and U.S. capital services, as summarized in Table 3. By 2027, GDP is between 0.6 percent and 1.1 percent larger than current policy in that year. By 2040, GDP is between 0.7 percent and 1.6 percent larger than current policy in that year.

## Table 3: TCJA Effects on Key Macroeconomic Variables Relative to Current Policy in Year Shown

| Year | GDP (% change) | | Labor Income (% change) | | Capital Services (% change) | |
|---|---|---|---|---|---|---|
| | High return to capital | Low return to capital | High return to capital | Low return to capital | High return to capital | Low return to capital |
| 2027 | 1.1% | 0.6% | 1.1% | 0.6% | 2.4% | 0.8% |
| 2040 | 1.6% | 0.7% | 1.6% | 0.7% | 4.5% | 1.3% |

Note: Percentage change relative to current policy in 2027 and 2040, respectively. Consistent with our previous dynamic analysis and the empirical evidence, the projections above assume that the U.S. economy is 40 percent open and 60 percent closed. Specifically, 40 percent of new government debt is purchased by foreigners.

Table 3 shows changes in the level of GDP in the shown years relative to current policy. An alternative measure, as shown in Table 4, is to examine changes in the *annual growth rate* of GDP that is needed to produce the different levels shown in GDP over time. PWBM finds that over the next 10 years, average annual GDP growth will be 0.06 percentage points to 0.12 percentage points higher under TCJA than with no tax changes. However, from 2028 to 2040, average annual GDP growth will be 0.01 percentage points to 0.03 percentage points larger than under current law, due to the effects of larger debt.

## Table 4: TCJA Effects on Average Annual GDP Growth Relative to Current Policy over Period of Time Shown

| Years | Average Annual GDP Growth Rate (percentage point change) | |
|---|---|---|
| | Dynamic | |
| | High return to capital | Low return to capital |
| 2018-2027 | 0.12 | 0.06 |
| 2028-2040 | 0.03 | 0.01 |

Note: Percentage point change relative to current policy from 2018-2027 and 2028-2040, respectively. Consistent with our previous dynamic analysis and the empirical evidence, the projections above assume that the U.S. economy is 40 percent open and 60 percent closed. Specifically, 40 percent of new government debt is purchased by foreigners.

**Conclusion**

Penn Wharton Budget Model's dynamic analysis projects that The Tax Cuts and Jobs Act increases federal debt in both the short- and long-run relative to current policy. In the near term, there is a small boost to GDP, but that increase diminishes over time.

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1. PWBM's integrated model includes both revenue and spending policy. For our tax simulator, we model "current law" that allows tax provisions to expire as scheduled, consistent with JCT's approach. For our spending side, we model "current policy" that does not, for example, allow changes to mandatory changes when, for example, the Social Security's trust funds are exhausted. For debt calculations and

dynamic analysis, this integration provides a more holistic analysis since some government benefit formulas, including the initial calculation of Social Security benefits upon retirement, are explicitly tied to the growth in average wages throughout a participant's lifetime. ↩

2. Absent other changes, PWBM's estimate of the revenue loss of repealing the individual AMT compared to baseline is $515 billion. ↩
3. Reforms to certain credits and deductions includes requiring Social Security numbers for for each child to claim refundable portion of CTC and repeal of the moving expense deduction. ↩
4. Reforms to certain exclusions includes repeal of exclusion for employer-provided bicycle commuter fringe benefit, qualified moving expense reimbursements, modified exclusion of gain from sale of a principal residence, repeal of the ACA individual mandate, and other provisions. ↩
5. For these items PWBM applies PWBM's macroeconomic forecast to JCT estimates. ↩
6. For these items PWBM applies PWBM's macroeconomic forecast to JCT estimates. ↩
7. For these items PWBM applies PWBM's macroeconomic forecast to JCT estimates. ↩
8. PWBM's estimates include lower cross-border profit flows than JCT's. ↩
9. For these items PWBM applies PWBM's macroeconomic forecast to JCT estimates. ↩