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The Tax Cuts and Jobs Act:
Searching for supply-side effects

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ABSTRACT

The Tax Cuts and Jobs Act of 2017 (TCJA) instituted the most substantial changes in taxation in decades and was designed to boost the economy via supply-side incentives. This paper reviews these changes and examines the impacts on economic aggregates through 2019. The Act clearly reduced revenue. The effect on GDP is difficult to tease out of the data. Investment growth rose after TCJA was enacted but was driven by trends in aggregate demand, oil prices, and intellectual capital that were unrelated to TCJA's supply-side incentives. Growth in business formation, employment, and median wages slowed after TCJA was enacted. International profit shifting fell only slightly, and the boost in repatriated profits primarily led to increased share repurchases rather than new investment.

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I. Introduction

The Tax Cut and Jobs Act (TCJA) of 2017 created the most substantial changes in tax policy since the Tax Reform Act of 1986.[1] For individuals, major provisions in the Act reduced marginal tax rates, eliminated personal exemptions, raised the standard deduction, expanded the child tax credit, and increased the estate tax exemption. The major domestic business-related provisions include a 20 percent deduction for certain forms of income earned through unincorporated businesses, a historic drop in the corporate tax rate from 35 percent to 21 percent, and a variety of changes that shift the base toward cash-flow taxation for both corporations and pass-through entities. TCJA also created a territorial system by eliminating tax on repatriations of actively-earned profits by foreign affiliates to U.S. parent companies (coupled with a one-time transition tax on previously accumulated but unrepatriated actively-earned foreign profits). To help protect the integrity of the territorial system, reduce profit shifting, and encourage companies to locate profits and real activity within the United States, policy makers included an alphabet soup of international tax changes that relate to global intangible low-taxed income (GILTI), foreign-derived intangible income (FDII), and the base-erosion anti-abuse tax (BEAT).

TCJA was substantially motivated by supply side concerns – the idea that the tax system discouraged companies from locating, investing, and reporting profits in the United States. Specifically, the Trump administration's claim was that lower effective tax rates on new investment would raise investment, which would make workers more productive and raise output and wages.[2] Consistent with these goals, TCJA reduced marginal effective tax rates on new investment and reduced the dispersion of marginal effective tax rates (METR) across asset types, financing methods, and organizational forms. A lower corporate rate combined with measures to stem profit shifting was intended to bring funds and real activity back to the United States.

This paper reviews changes in economic aggregates through the end of 2019 and relates those changes to the supply-side incentives in TCJA.[3] There are at least two justifications for undertaking this study at this point. First, TCJA's historic and sweeping changes merit close examination as researchers and policy makers consider what steps to take next. Second, the COVID-19 pandemic wreaked havoc on the U.S. (and world) economy and may make it difficult to isolate the long-term empirical effects of TCJA using data after 2019.

Several caveats are germane, however. First, it is not always easy to establish a compelling counterfactual. This is particularly true for analysis of GDP growth, where the supply-side effects of TCJA are confounded with the increase in disposable income that TCJA created and with contemporaneous changes in oil prices and monetary, fiscal, and international trade policy. Second, in considering results only through 2019, we focus on short-term effects, which may be a poor guide to the long-term effects. Short-term growth dynamics are typically dominated by changes in aggregate demand whereas long-term growth stems from changes in aggregate supply. The long-term effects could be larger or smaller (or different in sign) than the short-run impact. Mathur (2019), Viard (2019), and others emphasize that the supply-side process may take a significant amount of time to take full effect. Third, the available information takes the form of aggregate time series data, which is not always dispositive. With these cautions, we examine the impact of TCJA on several aspects of the economy. [4]

[1] Public Law No. 115-97 is commonly called the Tax Cuts and Jobs Act, but the official title is "An Act to Provide for Reconciliation Pursuant to Titles II and V of the Concurrent Resolution on the Budget for Fiscal Year 2018."
[2] For example, the Council of Economic Advisers (2017) argued that "reductions in corporate tax rates have substantial effects on wages. By inducing higher capital investment, reductions in corporate tax rates increase the demand for workers and heighten their productivity," and therefore that average household income would increase on the order of $4,000 to $9,000 and median household income would rise by between $3,000 and $7,000.
[3] Previous analyses of various aspects of TCJA include Auerbach (2018), Barro and Furman (2018), CBO (2018a), Slemrod (2018), Gale et al. (2019), Gravelle and Marples (2019), Holtz-Eakin (2020), Rubin and Francis (2020), Wagner et al. (2020), Gale and Haldeman (2021), and a series of blogs organized by Aparna Mathur (American Enterprise Institute (2019)).
[4] Two factors help isolate the effects of TCJA. First, other countries by and large did not respond to TCJA's changes with tax policy changes of their own. Second, the legislation was enacted very quickly and so did not leave firms or individuals with much time to anticipate the effects.

One clear conclusion is that, despite the ardent claims of its advocates, TCJA reduced revenue significantly relative to what would have been generated had the law not passed. That is, nothing approaching a Laffer Curve effect applies to TCJA.

The impact of TCJA on GDP growth is difficult to pin down. The economy did grow faster after 2017 than had been predicted before TCJA, but as noted above, several other factors affected the economy between 2017 and 2019, making it difficult to isolate the effects of TCJA.

Patterns in investment offer clearer evidence that the supply-side incentives in TCJA had little impact through 2019. Investment growth increased after 2017, but several factors suggest that this was not a reaction to changes in effective tax rates. The timing of the investment response was not consistent with a supply-side response. Much of the investment increase was concentrated in oil and related industries in reaction to oil prices; indeed, other investment did not grow very much. Investment growth across asset types (equipment, structures, intellectual property) did not correlate with changes in marginal effective tax rates. In addition, rates of business formation did not rise after TCJA was enacted and surveys suggest that only a small minority of businesses made TCJA-induced investments.

Growth of employment and median wages slowed in 2018 and 2019 relative to 2016 and 2017. The much-vaunted bonuses that some firms provided at the end of 2017 were tiny relative to wages and appear to have been motivated mainly by tax avoidance or political considerations.

Despite the substantial reduction in the corporate tax rate and the new provisions that target cross-country tax avoidance, TCJA reduced international profit shifting only by small amounts, at most, and had little effect on inversions. The one-time spike in repatriated funds after TCJA repealed the repatriation tax did not boost investment or wages. Instead, it generated a wave of corporate stock repurchases ("buybacks").

Section II discusses the revenue effects. Section III examines the impact on GDP and investment. Sections IV and V cover labor markets and international rules. Section VI concludes.

II. Revenue

The revenue effects of TCJA should not be controversial, but leading advocates of the bill made what are essentially ludicrous claims in this regard. Former Treasury Secretary Steven Mnuchin claimed TCJA would "not only pay for itself but in fact create additional revenue for the government." Former Senate majority leader Mitch McConnell said he was "totally convinced [it was] a revenue neutral bill."[5]

In fact, the TCJA reduced revenues significantly, a conclusion reached by every credible analysis of the fiscal effects of the Act; see results from Page et al. (2017), Penn-Wharton Budget Model (2017), Tax Foundation (2017), Zandi (2017), Barro and Furman (2018), International Monetary Fund (2018), and Mertens (2018). The non-partisan Joint Committee on Taxation (2017) estimated that TCJA would lose almost $1.5 trillion in revenue between 2018 and 2027 ($1.1 trillion on a dynamic basis), including $416 billion in 2018 and 2019. The Congressional Budget Office (2018c) obtained similar numbers.

In 2018 and 2019, total federal revenue was $545 billion or 7.4 percent lower than projected before TCJA (CBO 2020a). Relative to pre-TCJA projections, income tax revenue declined 6.9 percent, and corporate tax revenue declined by more than 37 percent (Figure 1). These declines are not the product of overly optimistic prior projections. If they were, payroll tax revenues, which were unaffected by TCJA, would have declined relative to pre-TCJA projections. But predicted and observed payroll tax revenue track very closely in 2018 and 2019.

[5] Bryan (2018); Tankersley and Phillips (2018). In contrast, Holtz-Eakin (2020) reflects that the decline of almost a third in corporate income tax receipts from FY 2015 to FY 2019 "was to be expected" given the tax cut.

III. Economic Growth

A. GDP

The facts are straightforward. GDP grew at the same rate in the first two years after the tax cut as it had in the last two years before the legislation (see Figure 2), but it grew faster (at 2.4 percent per year) than had been predicted under pre-TCJA baselines (1.7 percent).[6] The interpretation of these facts is difficult for several reasons. First, the predicted impact of TCJA on GDP was fairly small—CBO (2018a) estimated the Act would raise GDP by 0.3 percent in 2018 and 0.6 percent in 2019 and reports several other groups' estimates that are similar in magnitude—which makes detecting the impact more difficult. Second, much of the short-term projected growth derived from increases in consumer spending but consumption growth actually declined in 2018 and 2019 relative to 2016 and 2017 (Figure 2).[7] Third, several other policies and events during the period in question likely had significant impacts on GDP. Campbell et al. (2019) and Furman (2020) estimate that the Bipartisan Budget Acts of 2018 and 2019 boosted the economy by around 0.75 percentage points. As shown in Figure 2, the economy was able to maintain previous years' GDP growth in part because real government expenditure made a larger contribution to growth post-TCJA than pre-TCJA. In addition, Furman (2020) notes that monetary policy was more accommodating in 2018 and 2019 than had been predicted pre-TCJA; at the time TCJA was enacted, Federal Reserve officials projected a federal funds rate of 2.7 percent at the end of 2019, but it ended up being substantially lower at 1.625 percent. On the other hand, rising trade tensions and tariffs likely slowed growth, by about 0.30 percentage points according to Fried (2019). We do not attempt to disentangle these effects.

B. Components of GDP

Real business fixed investment did in fact grow at a faster rate post-TCJA than pre-TCJA, and the picture looks even rosier if the 2017 Q4 is considered "post-TCJA" to account for the retroactivity of the equipment expensing provisions. This appears, on a first pass, to be consistent with the theory of how TCJA could affect long-term growth through supply-side effects. But several factors suggest that tax-based investment incentives were not the source of the increase in investment.

First, the timing of investment growth is not consistent with a supply-side effect (Figure 3). Investment growth peaked in 2017 Q4 and remained elevated only through 2018 Q1, the first quarter after TCJA was enacted. For this to have been a supply-side effect induced by TCJA's incentives would have required a remarkably rapid firm-level adjustment to the tax regime when it was in its infancy and pre-infancy. This seems especially unlikely given that proponents of TCJA typically emphasize that the supply-side effects would take time to arise.[8] Then, investment growth petered out by the end of 2019. The supply-side story would have implied a rising effect over time, as firms adjusted to the new regime. For example, CBO's (2018a, Figure B-2) projections show an investment effect that is rising over time through 2019.[9]

Second, the spike and subsequent decline in investment growth is well explained by changes in oil prices and the resulting changes in oil- and mining-related investment, which accounts for almost all the growth investment in 2018, according to a Penn-Wharton Budget Model study; see results in Arnon (2019) and

[6] GDP overstates well-being because it encompasses some income owed to foreigners, and it does not account for increased depreciation alongside increased investment. See Page and Gale (2018) for a more detailed explanation.
[7] Of the 0.6 percent impact on real GDP in 2019, CBO (2018a) attributes 0.6 percent to higher consumer spending, 0.4 percent to higher non-residential investment, and negative amounts to residential investment and net exports.
[8] For discussion of adjustment costs in investment, see Abel (1983), Auerbach (1989), Caballero (1991), and Avner and Strange (1996).
[9] TCJA's provisions regarding equipment investment were made retroactive to the beginning of the fourth quarter of 2017. It is unclear and in our view unlikely that this provision boosted investment in 2017: IV, before TCJA was enacted. Nevertheless, if the data are split before and after 2017: III, the boost in short-term equipment investment is larger. The tepid investment response in 2019, however, remains.

the discussion in Furman (2020). And as Figure 4 illustrates, the trends in investment outside of oil and mining were substantially more muted than the trends in the oil and mining sector.

The third pattern inconsistent with the supply-side story is that changes in METRs or the user cost of capital (UCC) across different asset types do not correlate well with changes in investment across asset types. Several studies—including Barro and Furman (2018), CBO (2018b), DeBacker and Kasher (2019), and Gravelle and Marples (2019)—show that TCJA reduced METRs and UCCs for investments in equipment and structures by more than for intellectual property (Table 1). But investment in intellectual property grew faster than investment in equipment and structures (Figure 5).

None of the three patterns described above is consistent with TCJA boosting investment through supply-side incentives. Consistent with these findings, Kopp et al. (2019) estimates that investment growth after TCJA was smaller than would have been expected based on the effects of previous corporate tax cuts and that the rise in investment that did occur can be explained almost fully by higher aggregate demand brought on by the increased government spending discussed above and the rise in disposable income due to tax cuts.

Finally, in a 2019 survey undertaken by the National Association for Business Economics (2019), 84 percent of businesses reported that the tax cut had not altered their investment or hiring decisions. Given the small minority of firms that altered their behavior and Zwick and Mahon's (2017) finding that small businesses respond more to tax policies than big businesses do, it is not surprising that there appears to be little impact on aggregate investment.[10]

C. Business Formation

Patterns in new business formation, like the patterns in investment, cast doubt on the potency of the supply-side incentives that TCJA provided. Figure 6 reports census data showing that growth in new business formation fell considerably in 2018 and 2019 relative to the two previous years.[11] Despite a strong economy, despite the findings of Fort et al. (2013) that new business formations are procyclical, and despite TCJA's favorable changes for pass-through businesses—the organizational form chosen by almost all new enterprises—growth in new business formation fell 2.1 percentage points from 6.8 percent over 2016-17 to 4.7 percent over 2018-19 (31 percent). The U.S. Census Bureau (2019c) distinguishes all businesses from so-called "high-propensity" businesses, which are those most likely to hire employees in the future.[12] Growth in high-propensity business formation fell by 0.83 percentage points from 2.2 percent over 2016-17 to 1.4 percent over 2018-19 (38 percent; see Figure 6).

Goodman et al. (2021) obtain similar results using deidentified tax return data. They show that the pass-through deduction established in TCJA did not have any effect on real economic activity. They find that partnerships reduced compensation paid to owners in an avoidance response to 199A but that S corporations did not, and workers were not sensitive to the incentive to switch from worker to contractor status. The deduction did not increase physical investment, wages to non-owners, or employment of nonowners.

[10] The Dobridge et al. (2021) presentation at the National Tax Association 2021 Spring Symposium contains results using micro data on firms that we interpret as consistent with the general findings in this section.
[11] U.S. Census Bureau (2019a and 2019b). Dinlersoz et al. (2021) explain that the business formation data are taken from new applications for Employer Identification Numbers (EINs) and that the data can inform projections of current and future business formation because businesses must have an EIN for payroll tax purposes.
[12] These include any corporate entity; any business purchasing a business, changing organizational type, or already hiring employees; any business with planned wages; or any other business with a North American Industry Classification System industry code in manufacturing, retail stores, health care, or food service.

IV. Labor Markets

The Trump administration claimed that the TCJA would provide significant benefits to workers. In particular, the Council of Economic Advisers claimed that cutting the corporate tax rate from 35 to 20 would "increase average household income in the United States by, very conservatively, $4,000 annually," and with "more optimistic estimates… wage boosts [would be] over $9,000 for the average U.S. household." CEA also predicted that annual *median* household wages would rise by $3,000 to $7,000. CEA (2017) also claimed that there would be significant short-term effects, arguing that by repealing the tax on repatriation earnings "U.S. workers would retain 30 percent of the 2016 profits of U.S. firms earned abroad and not currently repatriated."

There is no evidence that any wage response close to these claims occurred in 2018 and 2019, though there was a large increase in repatriations (discussed below). Indeed, the claims themselves stretch the bounds of credibility.[13] The patterns in the data suggest instead that corporate tax cuts did not help workers very much. This result is consistent with the view that, as corporate market power increases and labor power declines, the share of corporate profits represented by rents (as opposed to normal returns) rises and thus corporate tax cuts will increasingly benefit shareholders rather than wage-earners, as described in Auerbach (2006).

A. Wages and employment

Figure 6 shows the growth of various measures of employment and wages in the two years before and after the passage of TCJA. The economy grew faster after TCJA was enacted than had been predicted before TCJA, as noted above, but it was not enough to maintain employment growth. After TCJA was enacted, employment growth slowed. Growth in total non-farm employment declined by 0.22 percentage points. Growth in the employment-to-population ratio among prime-age (25-54) individuals declined by 0.08 percentage points.

Employment levels were approaching historically high levels when TCJA passed, so the slowdown in employment growth may have been a product of marginal employment gains being more difficult to achieve as the economy approaches full employment. But if that is the case, it is hard to explain why growth in real median earnings of all wage and salary employees *fell* by 0.21 percentage points.[14] If employment growth slowed because the labor market was tightening, one would have expected wage growth to rise, not fall.

An alternative measure of wages did rise faster after TCJA than before. Growth in the employer cost index (ECI) for wages and salaries increased by 0.56 percentage points. The ECI measures mean rather than median wages. Faster mean wage growth combined with slower median wage growth suggests that the ECI change was driven by trends for high-income workers and that low- and middle-income workers did not experience increases in wage growth.

B. Bonuses

After TCJA was enacted and before the end of 2017, several corporations gave their employees bonuses. The bonuses were well-publicized but small. They averaged about $225 per worker at firms reporting tax-cut related bonuses (Tankersley and Phillips (2018)). In aggregate, they totaled $4.4 billion, about $28 per employee in the population (Gravelle and Marples (2019)). This figure represents 0.05 percent of the annual aggregate wage bill in 2019 ($9.3 trillion), 3.3 percent of the 2018 tax cut for corporations ($135 billion), and 0.6 percent of the increase in repatriated funds from 2017 to 2018.[15]

[13] For example, as Furman (2017) points out, the claim that wages would rise by $4,000 to $9,000 implies that workers bear between 137 percent and 275 percent of the corporate tax, which is an order of magnitude greater than estimates by Nunns (2012), JCT (2013), and CBO (2018d).
[14] Real median earnings are "usual weekly earnings" measured on a quarterly basis.
[15] Bureau of Economic Analysis, National Income and Product Accounts, Table 2.2B, "Wages and Salaries by Industry," and Table 4.1, "U.S. International Transactions in Primary Income." The Council of Economic Advisers (2019) reports that 645 companies "offered bonuses or increased retirement contributions," in the time period since the TCJA was enacted. They claim that such changes affected six million people,

The companies that gave bonuses were more likely to have received larger tax cuts under TCJA and thus benefitted disproportionately from deducting worker compensation in 2017 under higher pre-TCJA tax rates, rather than in 2018. Companies that gave bonuses were also more likely to have contributed to Republican PACs than Democratic ones, as shown by Hanlon, Hoopes, and Slemrod (2018), and Rosenthal (2019). In short, the bonuses are most charitably considered tax avoidance and less charitably considered, in the words of AEI economist Alan Viard (2019), "a public relations gimmick."

V. International effects

A major purpose of TCJA, as evidenced by Council of Economic Advisers (2017, 2018), was to encourage businesses to locate more of their real activity and profits in the United States. To accomplish this goal, TCJA reduced the corporate tax rate to 21 percent, created a territorial system (with deemed repatriation of previously accumulated but unrepatriated foreign profits) and enacted GILTI, BEAT, and FDII provisions. Evidence suggests, however, that any decline in profit shifting was small. A substantial rise in repatriations led principally to increased corporate share repurchases rather than higher domestic investment or wages.

A. Profit shifting

Figure 7, taken from Clausing (2020a), shows the share of U.S. multinational corporation profits reported in seven major tax havens around the world.[16] That share rose steadily from 2000 to 2014. Since then, it has leveled off as a share of U.S. GDP. As a share of corporate profits, it rose through 2017, when it reached over 65 percent and then leveled off in 2018 and 2019 at its 2015 level of about 60 percent. That is, depending on the measure used there may have been a small reduction in aggregate profit shifting after TCJA was enacted.

Similar patterns—that is, a small reduction or no change in profit shifting—can be gleaned from several other sources. First, evidence from pharmaceutical firms and technology companies is particularly germane. Firms in these industries often paid very low effective tax rates before TCJA because they were able to shift profits out of the country to a remarkable degree. But TCJA generated at best only small reductions in profit shifting for each type of firm. The foreign share of worldwide profits for the 10 largest U.S. pharmaceutical companies hovered around 78 percent in the three most recent pre-TCJA years and fell only slightly—to 75 percent—by 2019.[17] Sullivan (2021) shows that seven of the 10 largest pharma companies increased the share of their profits held in foreign countries in 2018-2020 compared to 2015-2017. Likewise, among large American technology corporations foreign profit as a share of worldwide profit fell from 66 percent to 61 percent, though there was substantial heterogeneity across firms.[18]

These findings suggest at most a small reduction in profit shifting, which should not be surprising. The new international rules reduced but did not eliminate incentives to shift profits. Firms that already had existing avoidance systems in place may well have chosen to continue their previous patterns. In addition,

with the average bonus size of $1,154. Even if all those changes were due to TCJA, the aggregate amount would only be about $7 billion, or just 0.08 percent of the 2019 wage bill.

[16] These data are disputed by Blouin and Robinson (2020) who argue that they double count foreign income and misattribute the jurisdictions of some of this income. In response, Clausing (2020b) points out problems with the data and results from Blouin and Robinson and shows that additional data sources are consistent with her view of the magnitude of profit-shifting.

[17] The figure skyrocketed to 89 percent in 2020.

[18] Sullivan (2020b). Sullivan (2020a) reports that data from 10-K reports from 33 major corporations suggest a small reduction in profit shifting in 2018 and 2019 relative to earlier years: 67 percent of world-wide profits were reported in foreign jurisdictions in the three years before TCJA compared to 61 percent in 2018 and 2019. Two caveats are relevant, however: there is considerable variation across companies and there is almost no net change in location of profits (62 percent foreign before TCJA compared to 60 percent after TCJA) after removing firms that had one-time special events right around TCJA An alternative source, Commerce department data covering all U.S. firms, but only through 2018, are consistent with the view that TCJA slowed the growth of profit shifting, but foreign profits still grew at a faster rate than domestic profits in 2018.

the new provisions in TCJA–GILTI and FDII in particular–may have inadvertently encouraged profit shifting, as we explain in Gale and Haldeman (2021).

Consistent with these concerns, U.S. multinational corporations increased their foreign capital expenditures since the TCJA was enacted. But—as shown in Beyer et al. (2019) and Rosenthal (2020)—foreign investment in the United States did not rise.

B. Repatriations and buybacks

TCJA's advocates expected that moving to a territorial system would unleash a torrent of repatriated funds that would then generate increased domestic investment and higher wages. TCJA did result in a major increase in repatriated funds at the beginning of 2018, and though they declined somewhat later in the year, repatriations remained elevated relative to pre-TCJA levels through 2019. The lack of impact on investment and wages is discussed above.[19] Instead, the data suggest that much of the repatriated funds financed stock repurchases, as discussed by Gravelle and Marples (2019). The rise in repurchases helped firms avoid taxes that would otherwise have been due had the funds been paid out as dividends, as Hemel and Polsky (2019) illustrate. In 2018 and 2019, real annual repatriated funds rose by $470 billion compared to their average in 2010-17. The increase in stock buybacks, $282 billion per year, relative to the 2016-17 average thus accounted for about 60 percent of the increase in repatriated funds.

C. Inversions

Another claim (Holtz-Eakin (2020)) is that the law would reduce corporate inversions—the practice of American companies moving their headquarters abroad for tax reasons. By reducing the corporate tax rate and making other changes, TCJA certainly reduced the incentive to invert, and there have been no major corporate inversions since TCJA was enacted. But it is also the case that there were no major inversions in 2017, after a second round of Obama-era regulations designed to curb the practice took effect but before TCJA.[20] Of course it might be possible that there would have been inversions after 2017 in the absence of TCJA, but the major decline appears to have happened before the law was enacted.

VI. Conclusion

TCJA was advocated as a way to increase tax-based supply-side incentives that could boost the economy. Discerning the short-term impact on GDP is difficult. But TCJA clearly reduced federal revenues significantly and several pieces of evidence suggest that TCJA's supply-side incentives had little effect on investment, wages, or profit-shifting. As discussed in Auerbach (2006), Clausing (2019) and Kopp et al. (2019), the insensitivity of aggregate investment to tax incentives may be due in part to a rise in economic uncertainty or to increasing market power of big businesses in the economy. But the U.S. Census Bureau (2019) data on business formation and the Goodman et al. (2021) results on the effects of the pass-through deduction imply that the insensitivity of business choices to taxes appears to hold at the business start-up level, too.

The major caveat to our work is that the results are short-term and based on aggregate data. Ultimately, research using micro data (perhaps along the lines of Cummins, Hassett, and Hubbard (1995) or Zwick and Mahon (2017)) will extend our understanding of the impact of TCJA. But the COVID pandemic may make research into longer-term effects of TCJA difficult.

[19]The lack of investment or wage response and the boost to buy backs is not surprising, given that many large U.S. companies were already holding substantial amounts of cash before TCJA, indicating that investment was not constrained by cash-flow constraints. In addition, it is worth noting that "repatriation" refers only to the recognition of the funds by the parent corporation for tax purposes. It does not imply that the funds were not already being used to help the American economy.

[20] CBO (2017b), and Gravelle and Marples (2019). Because inversions are large and infrequent events, they are best tracked through news stories. Bloomberg (2017) kept a tally but ceased updating at the beginning of 2017. Marples and Gravelle (2019) argue that the Obama-era regulations succeeded in curbing the practice before TCJA was introduced.

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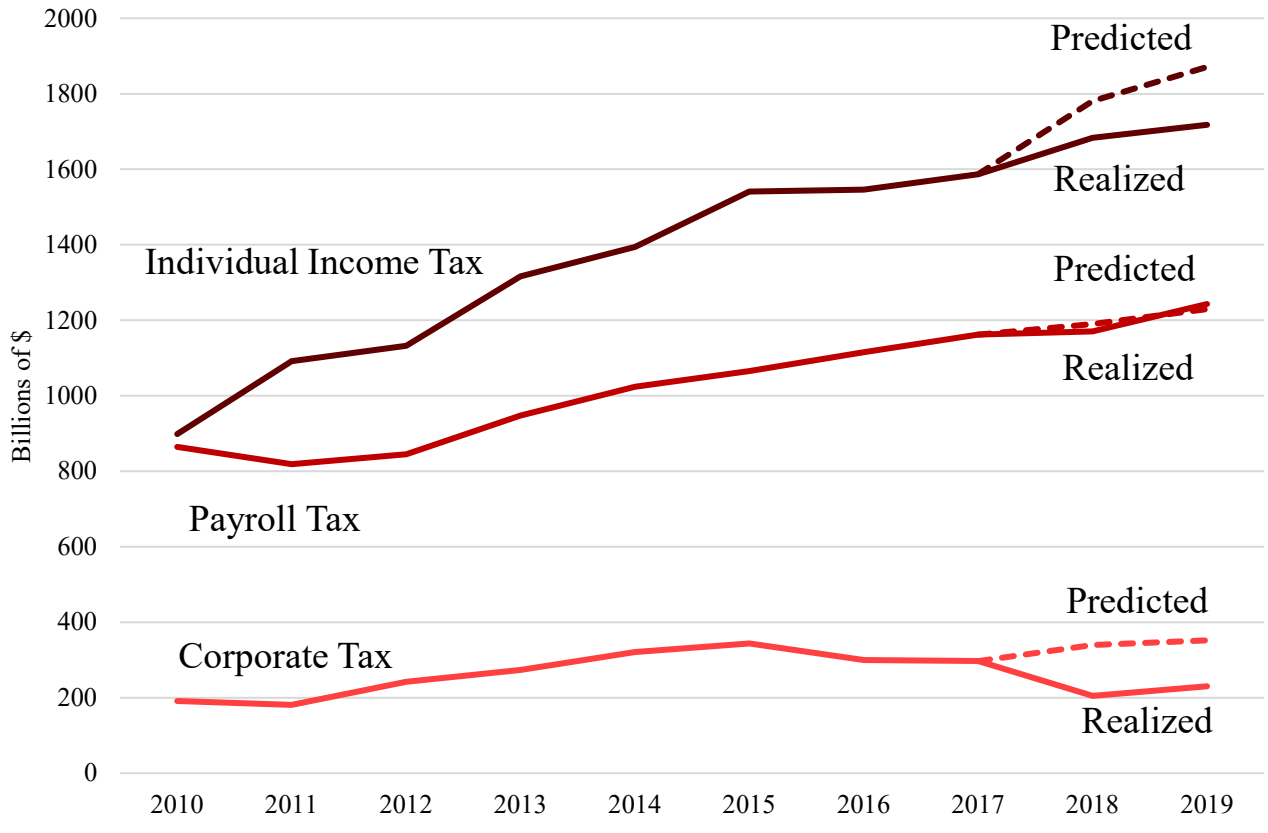
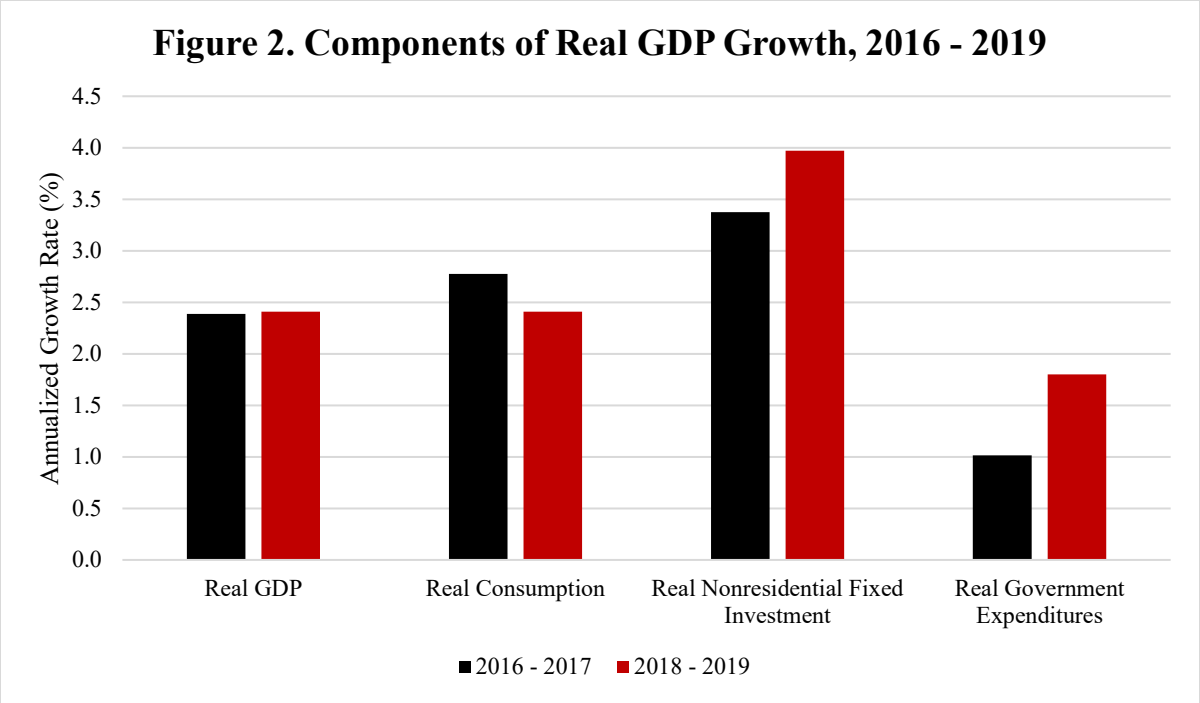
Figures

Figure 1. Predicted vs. Realized Revenues, Selected Components, 2010 - 2019

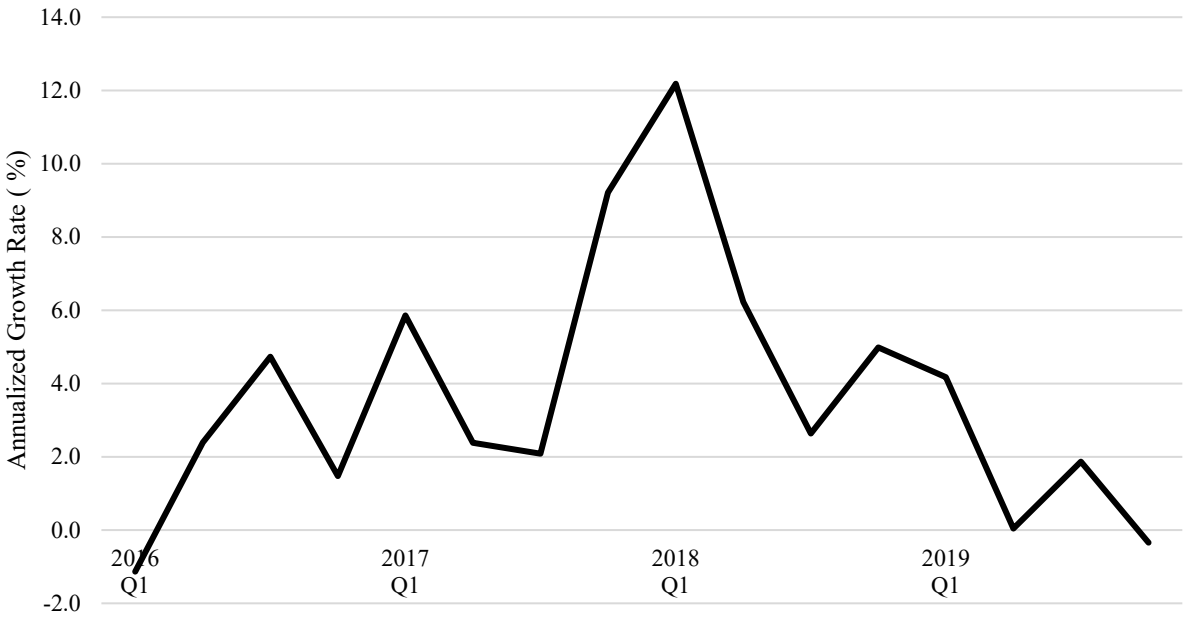


Source: CBO (2017a); CBO (2020a).



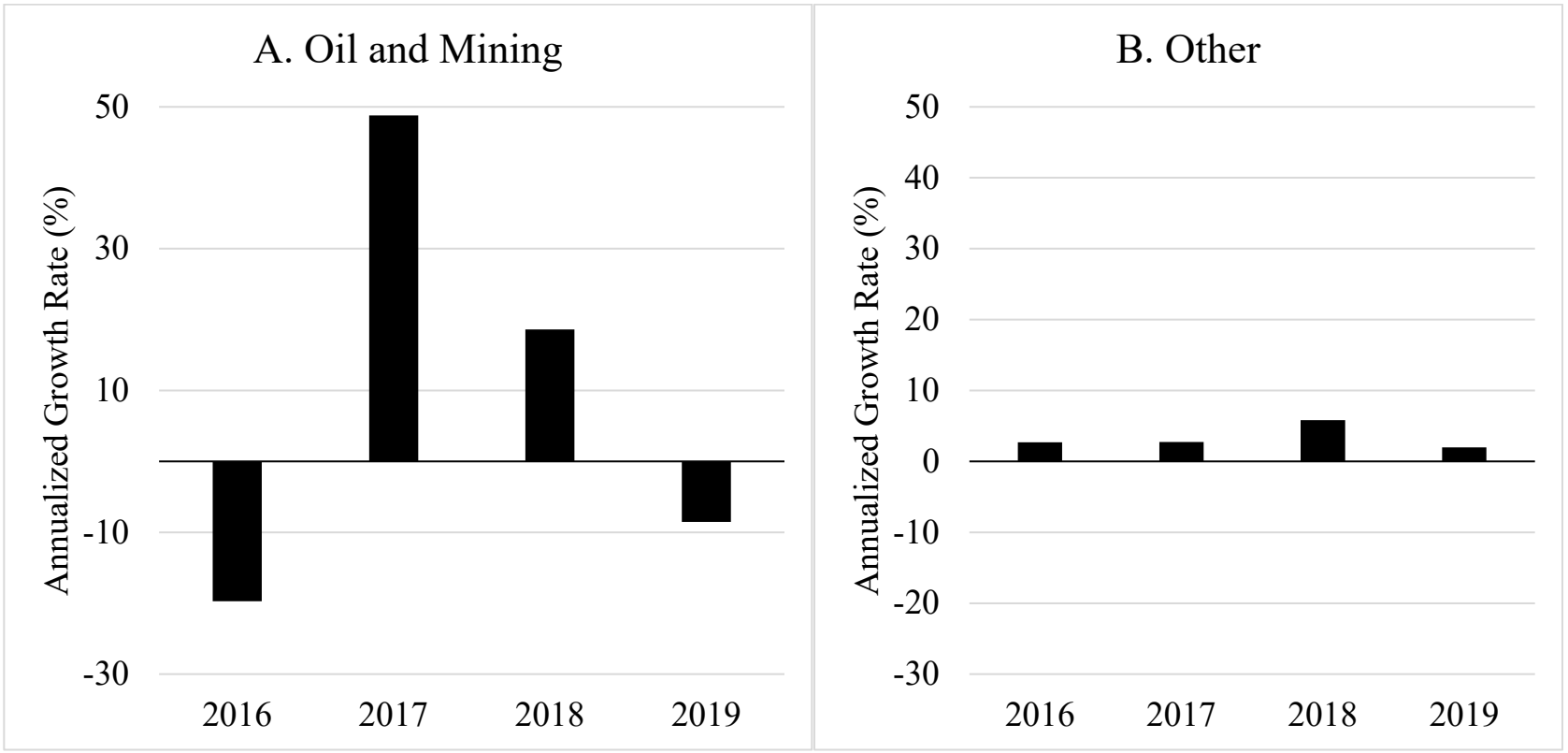
Source: CBO (2020b); Bureau of Economic Analysis, National Income and Product Accounts, Table 2.8.6, "Real Personal Consumption Expenditures by Major Type of Product," Table 5.3.6. "Real Private Fixed Investment by Type, Chained Dollars," and Table 3.10.6, "Real Personal Consumption Expenditures by Major Type of Product."

Figure 3. Real Nonresidential Fixed Investment Growth, 2016 - 2019



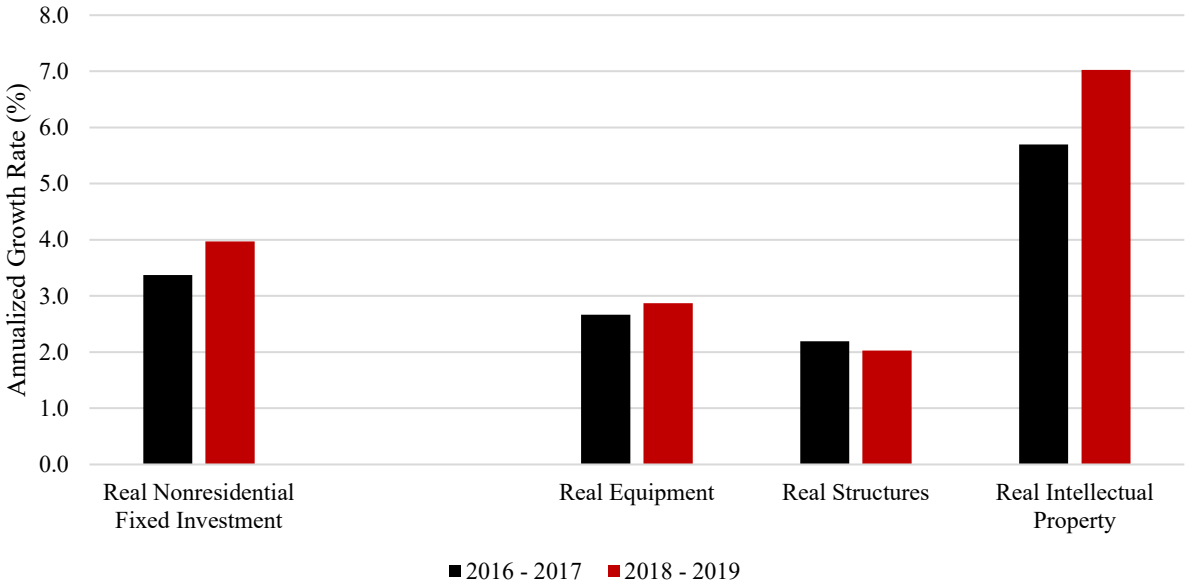
Source: Bureau of Economic Analysis, National Income and Product Accounts, Table 5.3.6. "Real Private Fixed Investment by Type, Chained Dollars."

Figure 4. Real Nonresidential Fixed Investment Growth, Oil and Mining vs. Other, 2016 – 2019



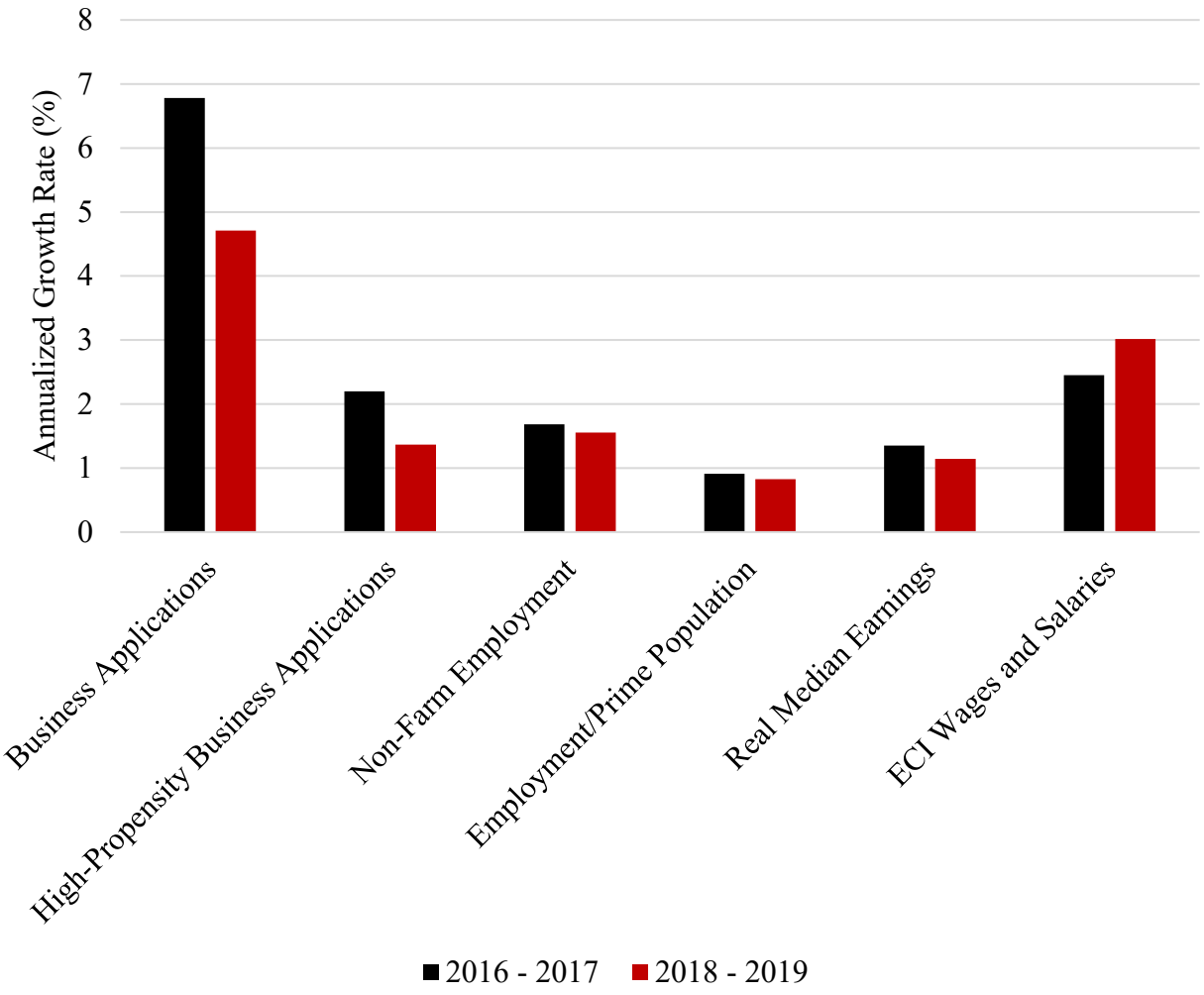
Source: Bureau of Economic Analysis, National Income and Product Accounts, Table 5.3.6. "Real Private Fixed Investment by Type, Chained Dollars," Table 5.5.6. Real Private Fixed Investment in Equipment by Type, Chained Dollars," and authors' calculations.

Figure 5. Growth in Real Nonresidential Fixed Investment by Asset Type, 2016 - 2019



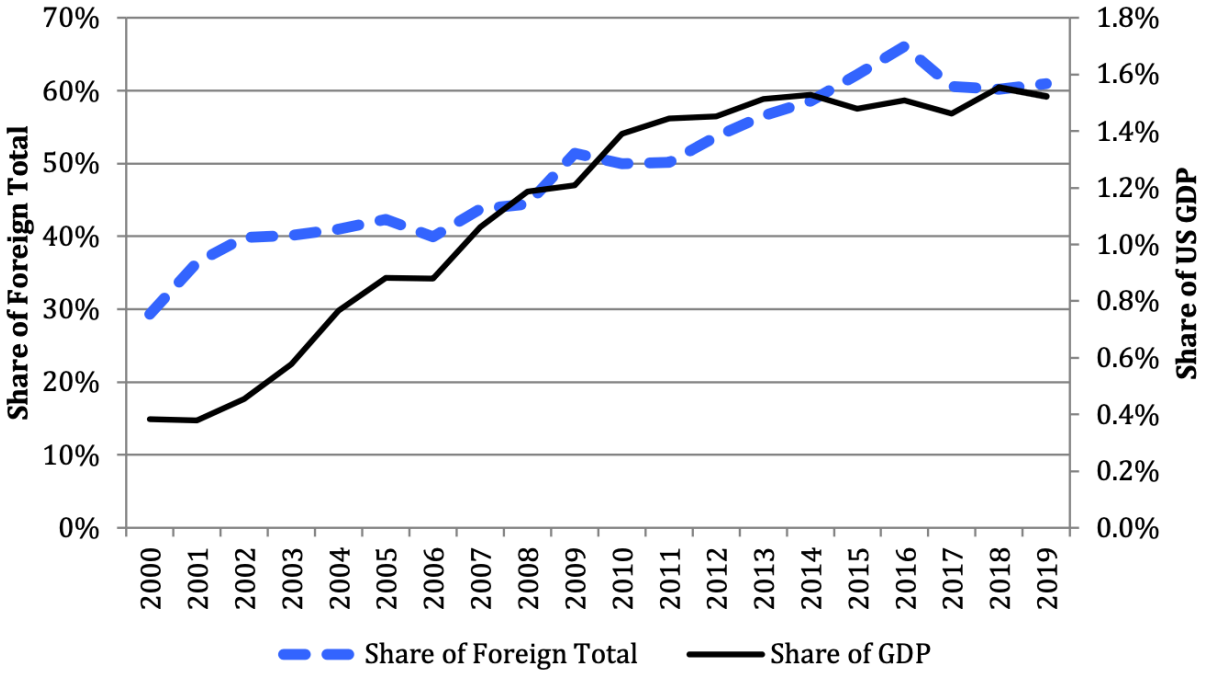
Source: Bureau of Economic Analysis, National Income and Product Accounts, Table 5.3.6. "Real Private Fixed Investment by Type, Chained Dollars."

Figure 6. Growth in Business Formation and Labor Market Indicators, 2016 - 2019



Source: U.S. Census Bureau (2019a, 2019b); Bureau of Labor Statistics, Current Employment and Earnings Tables, Table B-1A, "Employees on Nonfarm Payrolls by Industry Sector and Selected Industry Detail, Seasonally Adjusted;" Bureau of Economic Analysis, Current Population Survey, "Employment-Population Ratio - 25-54 Yrs, Seasonally Adjusted;" Bureau of Labor Statistics, Current Population Survey, "Median Usual Weekly Earnings of Full-Time Wage and Salary Workers by Sex, Quarterly, Seasonally Adjusted;" and Bureau of Labor Statistics, Employment Cost Index Tables, Table 2, "Employment Cost Index for Wages and Salaries, by Occupational Group and Industry: Quarterly, Seasonally Adjusted."

Figure 7. U.S. Multinational Corporation Foreign Income Claimed in Big Seven Havens, 2000-2019



Source: Clausing (2020a).

Note: Data are from the Bureau of Economic Analysis. The big seven havens are Bermuda, the Cayman Islands, Ireland, Luxembourg, the Netherlands, Singapore, and Switzerland.

Table 1. Change in Costs of Capital Investment After TCJA

A. Change in Marginal Effective Tax Rates (percentage points)

	All Business			Corporations			Pass-throughs		
	Equipment	Structures	Intellectual Property	Equipment	Structures	Intellectual Property	Equipment	Structures	Intellectual Property
Congressional Budget Office (2018b)				-8	-7	-6	-9	-3	-8
DeBacker and Kasher (2018)				-10	-8	-1	-10	-7	-1
Gravelle and Marples (2019)				-9	-9	21	-14	-5	2

B. Change in User Cost of Capital (percent)

	All Business			Corporations			Pass-throughs		
	Equipment	Structures	Intellectual Property	Equipment	Structures	Intellectual Property	Equipment	Structures	Intellectual Property
Gravelle and Marples (2019)	-3	-12	3						
Barro and Furman (2018)				-3	-10	2	0	1	1

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