William Gale

Miller Chair, Brookings Institution; Codirector, Urban-Brookings Tax Policy Center

House Select Committee on Economic Disparity and Fairness in Growth

Testimony Submitted for a Hearing on
"Tackling the Tax Code: Evaluating Fairness, Efficiency, and Potential to Spur Inclusive Economic Growth"

June 22, 2022

Dear Chairman Himes, Ranking Member Steil, and Members of the Committee:

Thank you for inviting me to testify today on this important subject. My testimony has two major conclusions:

- An avalanche of evidence indicates that tax cuts in general, and tax cuts for high-income households in particular, have had very small impacts on economic growth.

- There are several auspicious ways to reduce economic disparities without hurting growth including: taxing capital gains at death, eliminating the section 199A deduction for noncorporate business income, converting the estate tax to an inheritance tax, and raising funding for the Internal Revenue Service.

My testimony is divided into several sections. The first section provides background information, explaining the various definitions of economic growth and how taxes can affect growth. The next four sections provide evidence showing that taxes in general and taxes on high-income households and corporations in particular need not be a deterrent to growth. This evidence stems from a long view of U.S. history, cross-country analysis, studies of the effects of the Tax Cut and Jobs Act of 2017, and analyses of other major tax changes over the last 40 years. The last section describes several policies that could raise revenue, would not hurt–and could boost–economic growth, and could be used to finance programs to boost the economic prospects for less affluent households and reduce economic disparities.

This testimony is based largely on previous research that I have undertaken. I have aimed, in particular, to illustrate points via graphs and accessible language. The testimony represents my own views. As an independent think tank, the Brookings Institution does not take institutional positions on any issue. I would be delighted to discuss all these issues further.

I. Background–What is economic growth and how can taxes affect it?

Before discussing taxes and growth, it is helpful to clarify both the definition of growth I focus on and how taxes can affect growth.

There are two very distinct phenomena that are often called economic growth and are often confused: increases in aggregate demand and increases in aggregate supply. Think of the economy as the amount of sand in a bucket. Pouring more sand into a given bucket is the equivalent to an increase in aggregate demand–an increase in government purchases or consumer spending, for example. This can help bring an economy out of recession and restore it to full economic resource utilization. It is thus sometimes referred to as "growth" but it is not the focus of comments. (To the extent that one focuses on how tax policy boosts aggregate demand, it is clear that tax cuts for low- and moderate-income households are more effective–they generate a bigger spending "bang for the buck"–than tax cuts for higher-income or wealthy households. See Zidar (2019).)

The other way to get more sand in the bucket is to first create a bigger bucket and then fill it with sand. The larger bucket, corresponding to an increase in the capacity of the economy, represents an increase in aggregate supply–and might take the form of more labor supply, more capital, better infrastructure or technology, etc. This–and not an aggregate demand response–is the definition of growth used in this testimony. It is the definition that supply-side economics focuses on. The increase in economic capacity could be an increase in the annual growth rate, a one-time increase in the size of the economy that does not affect the future growth rate but puts the economy on a higher growth path, or both.

Supply siders assert that higher taxes stymie economic growth and that tax cuts boost it. Indeed, the idea that tax cuts raise growth is taken as gospel in some quarters. This is one of the clearest cases, however, where ideology dominates both theory and evidence. The real story is more complex. While there is no doubt that tax policy can influence economic choices, it is by no means obvious, on an ex-ante basis, that tax rate cuts will ultimately lead to a larger economy in the long run.

By themselves, tax cuts can either increase or reduce growth. Lower tax rates boost the reward for firms to invest and hire and for people to work and save. In addition, lower tax rates shift resources from untaxed sectors, where there may be too much economic activity, toward taxed sectors, where there may be too little. For both reasons, tax cuts can boost the size of the economy. These are typically the "intended" effects of tax cuts and the ones that supply siders emphasize.

But there's more to that story as well. First, tax cuts raise the after-tax income that people receive from their current activity, which *lessens* their need to work, save, and invest, and, thus, could reduce such activity. Over the last 200 years, for example, wages rose dramatically, but the length of the workweek *declined* substantially. Thus, tax cuts–which boost after-tax wages–may not work as intended. Second, lower tax rates can lead to incentives to increase rent-seeking behavior or efforts to transfer funds to particular groups. Third, tax cuts must be paid for and how they're financed matters. If they're financed with increased government debt, the borrowing

will reduce long-term growth and thus offset some or all of the direct effects of the tax cut on growth. Fourth, federal tax cuts can also generate responses from other governmental entities—including the Federal Reserve Board, state governments, and foreign governments—that reduce growth. Cuts in U.S. taxes that induce capital inflows from abroad, for example, may encourage other countries to reduce their taxes to retain capital or attract U.S. funds. To the extent that other countries respond, the net effect of income tax cuts on growth will be smaller than otherwise.

An important consideration is that tax cuts are less effective when taxes are already low, holding other factors–like being cash-constrained–constant. For example, if the initial tax rate–on wages, say–is 90 percent, a 10-percentage point reduction in taxes doubles the after-tax wage from 10 percent to 20 percent of the pre-tax wage. If the initial tax rate is 20 percent, however, the same 10 percentage point reduction in taxes only raises the after-tax wage by one-eighth, from 80 percent to 90 percent of the pre-tax wage. Although income effects would be the same in the two cases, the substitution effect on labor supply and saving would be larger when tax rates are higher, so that the net gain in labor supply from a tax cut would be larger (or the net loss would be smaller in absolute value) when tax rates are high. In addition, because the economic cost of the tax rises with the square of the tax rate, the efficiency gains from reducing tax rates are larger when tax rates are higher to begin with.

Ultimately, the impact of specific tax changes on the size of the economy is an empirical question. Rigorous empirical studies of actual U.S. tax changes are relatively rare, however, for several reasons. First, the U.S. has only had a few major tax policy changes over the past 50 years. Second, most major tax changes alter many features of the code simultaneously. Third, it is difficult to isolate the impact of tax changes relative to other changes in policy and the economy. Thus, the next several sections review a variety of approaches to analyzing tax changes.

II. U.S. Evidence on taxes and growth: the long view

U.S. historical data show huge shifts in taxes with virtually no observable shift in growth rates (Figure 1). From 1870 to 1912, the U.S. had no income tax, and tax revenues were just 3 percent of Gross Domestic Product (GDP). From 1913 to 1946, the economy experienced an especially volatile period, including two World Wars and the Great Depression, along with the introduction and expansion of the income and payroll taxes and expansion of estate and corporate taxes.

By 1947, the economy had entered a new period with permanently higher taxes and government spending. From 1947 to 2000, the highest marginal income tax rate averaged 66 percent, and federal revenues averaged about 18 percent of GDP (Gale and Potter 2002). In addition, estate and corporate taxes were imposed at high marginal rates and state-level taxes rose significantly over earlier levels.

The vast differences between taxes before 1913 and after World War II can therefore provide at least a first-order sense of the lack of any relationship between tax policy and growth. In fact, the growth rate of real GDP per capita was identical–2.2 percent–in the 1870-1912 period and between 1947 and 1999, despite the massive increases in tax revenues and tax rates in the

latter period.

More formally, Stokey and Rebelo (1995) look at the significant increase in income tax rates during World War II and its effect on the growth rate of per capita real Gross National Product (GNP). Figure 2 shows the basic trends they highlight–namely, a massive increase in income tax and overall tax revenues during World War II that has persisted and since proven to be more or less permanent. There is, as shown in Figure 2, no corresponding break in the growth rate of per capita real GNP before or after World War II (though it is less volatile). A variety of statistical tests confirm formally what Figure 2 shows: namely, the finding that the increase in tax revenue around World War II had no discernible impact on the long-term per-capita GNP growth rate.[1]

To be clear, many factors affect economic growth rates. Nonetheless, if taxes were as crucial to long-term growth as is sometimes claimed, the extremely large historical increases in tax burdens and marginal tax rates that occurred between World War I and the end of World War II, as well as the historic reduction in top marginal income tax rates that has occurred since then, might be expected to affect the aggregate growth rate of the economy.

The declining taxation of capital income

A central tenet of supply side economics is lower taxation of capital income, in particular, will stimulate growth. So, it is important to emphasize that over the last several decades, while growth has been the same as in the no-tax era shown in Figure 1, the taxation of capital income has *declined*, while the taxation of labor income has risen. The decline in tax on capital income is due to numerous policy choices: increases in investment subsidies; massive cuts in the top income tax rate and the corporate income tax rate; reductions in tax rates on capital gains, dividends, and non-corporate businesses; and a virtual evisceration of estate and gift taxes.[2]

Figure 3 shows how the taxation of capital income has declined over time.[3] The figure shows that the share of business income and financial income that is reported on tax forms was

[1] Hungerford (2012) plots the annual real per-capita GDP growth rate against the top marginal income tax rate and the top capital gains tax rate from 1945 to 2010, a period that spanned wide variation in the top rate. The fitted values suggest that higher tax rates are not associated with higher or lower real per-capita GDP growth rates to any significant degree. In multivariate regression analysis, neither the top income tax rate nor the top capital gains tax rate has a statistically significant association with the real GDP growth rate. An obvious caveat to this result is that the share of households facing the top rate is generally quite small. However, historically, the highest several marginal tax rates were moved together, so that changes in the top rate per se proxy for changes in a broader set of higher tax rates that do affect many taxpayers.

[2]For example, in 1972, 6.5 percent of decedents paid estate taxes that generated 0.42 percent of GDP in revenues. By 2019, only 0.1 percent of decedents paid estate taxes that raised just 0.07 percent of GDP in revenue. This reduction in revenues is even more surprising, given that the ratio of aggregate net worth to GDP rose from 3.6 in 1972 to 5.0 in 2019.

[3] The data in the Figure 2 have been adjusted so as to align the income concepts in the National Income and Product Accounts and the IRS's Statistics of Income. see Gale et al. (2022).

already low, at 44 percent, in 1994 and has since declined to 32 percent by 2018. That is, the United States has shifted from taxing less than half of economic measures of business and financial income to taxing less than a third of such incomes over that period. In contrast, the share of "other" income (chiefly wages) that is reported on tax forms has been high and relatively constant, at 86 percent in 1994 and 84 percent in 2018.

III. Cross-Country Evidence

Relative to other OECD countries, the U.S. has–and always has had–low taxes (Figure 4). In addition, U.S. tax and spending policy provides significantly less redistribution than other OECD governments (Figure 5). If lower taxes and less redistribution helped growth significantly, as supply siders argue, relative growth statistics would show the U.S. growing faster than OECD countries. But the data do not support that idea.

Over the 1970-2015 period, for example, taxes at all levels of government were *much* higher as a share of GDP on average in the other G7 countries (34 percent) than in the United States (26 percent). Yet, real per capita annual growth was virtually identical in those countries (1.82 percent) and the United States (1.80 percent) (Figure 6).[4]

Piketty, Saez, and Stantcheva (2014) examine evidence from 18 OECD countries on top income tax rates, top income shares, and economic growth for the 1960-2010 time period. They find, essentially, that reductions in the top income tax rate generate an increased income share for high-income households (Figure 7) but do *not* generate higher rates of economic growth (Figure 8). This implies that the higher income shares for affluent households that high-income tax cuts generate *are coming at the expense of middle- and lower-income households*. This exemplifies the impact of taxes on rent-seeking behavior. (Theoretically, the results could be coming from reduced tax avoidance but their data suggest that the avoidance mechanism is not strong.)

IV. TCJA

The Tax Cut and Jobs Act (TCJA) of 2017 created the most substantial changes in tax policy since the Tax Reform Act of 1986. 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. Consistent with these goals, TCJA reduced marginal effective tax rates (METRs) on new investment and reduced the dispersion of METRs 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.

[4] See OECD (2017a, 2017b). Cross-country studies generally find very small long-term effects of taxes on growth among developed countries (Slemrod 1995; Mendoza et al. 1997; Garrison and Lee 1992; Padovano and Galli 2001; Engen and Skinner 1992). Evidence shows that pooling data from developed and developing countries is inappropriate because the growth processes differ (Garrison and Lee 1992; Grier and Tullock 1989).

Analysis of the impact of TCJA provides another set of evidence that tax changes do not exert powerful influences on economic growth. I describe three different ways to look at TCJA: the predicted effects; the effects through 2019, before the COVID pandemic; and more recent effects.

A. Predicted effects

Congressional Budget Office (CBO 2018) predictions implied that TCJA would have virtually zero effect on Americans' aggregate net income after 10 years. Instead, CBO found it would simply redistribute income towards higher-income households.

CBO (2018) estimated that TCJA will increase U.S. GDP–the amount of goods and services produced in the United States–by 0.5 percent in 2028, largely because lower tax rates on capital income would boost the stock of productive capital such as computers or factories. But CBO also estimated that most of that additional capital will be financed by foreigners–for example, from overseas corporations building factories in the US, or foreign investors buying US stocks and bonds. As a result, net payments of profits, dividends, and interest to foreigners also will rise.

By using Gross National Product (GNP), which subtracts net payments to foreigners from domestic production, economists can measure the income accruing to Americans. CBO projected that the tax bill will boost GNP by just 0.1 percent in 2028.

But GNP still tells only part of the story. Because the increase in output stems mostly from additional investment in capital goods, the nation's capital stock will be higher relative to output. That's good because it can raise worker productivity and wages, on average. But to maintain that larger capital stock, a larger share of output must be devoted to offsetting depreciation–the wear and tear on those additional capital goods.

Net National Product (NNP) captures this effect by measuring GNP less depreciation of capital. It turns out that the rise in depreciation will be about 0.1 percent of output in 2028 – enough to erase the already meager boost to GNP. Thus, long-run aggregate incomes for Americans as measured by NNP will be more or less unchanged by the TCJA.

But, as documented elsewhere, see Gale et al. (2018), TCJA will raise after-tax incomes of affluent households. Together with the NNP effect, this implies that TCJA will reduce resources available to low- and moderate-income households, especially if realistic methods of eventually financing the tax cuts are considered.

B. Effects through 2019

Starting in early 2020, the COVID-19 pandemic wreaked havoc on the U.S. (and world) economy, which may make it difficult to isolate the long-term empirical effects of TCJA using data after 2019. As a result, Gale and Haldeman (2021) examine the supply-side impacts of TCJA through the end of 2019, reaching the overarching conclusion, derived from analysis of

several major economic aggregates, that the supply-side reaction to TCJA was at best muted, and is likely to have been vanishingly small.

First, 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 (Figure 9).

Second, the impact of TCJA on GDP growth is difficult to pin down. The economy did grow faster after 2017 than had been predicted under a baseline that did not include TCJA, but the supply-side effects of TCJA are confounded by several other factors that were not included in the pre-TCJA baseline: the demand-side effects that TCJA created from via an increase in disposable income; contemporaneous changes in oil prices; and shifts in monetary, fiscal, and international trade policy.

Third, 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, which happened in the quarter after TCJA was enacted, was inconsistent with a supply-side response, which generally is thought to take some time (Figure 10). 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 (Figure 11). By 2019, investment was weak in the oil-related and other sectors. Relative investment growth across asset types (equipment, structures, intellectual property) did not correlate with changes in marginal effective tax rates (Figure 12 and Table 1). 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 (Figure 13).

Fourth, growth of employment and median wages slowed in 2018 and 2019 relative to 2016 and 2017 (Figure 13). 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 (Hanlon, Hoopes, and Slemrod 2018).

Fifth, 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”).

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, as noted above, where several other factors affected the economy between 2017 and 2019, making it difficult to isolate the supply-side effects of TCJA. 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.

C. More recent evidence

Corporate tax revenues boomed in 2021 and some supporters of TCJA argue that the big tax reductions in the bill deserve the credit (Goodspeed and Hassett 2022). But there is a much better explanation: Last year's strong economic growth, high inflation, and pandemic-related relief legislation increased both corporate profits and the taxes business paid.

Soon after the TCJA was passed, the CBO forecast corporate tax receipts would fall from 1.5 percent of GDP in 2017 to 1.2 percent in 2018 and 1.3 percent in 2019 and remain below the 2017 share until 2022 (Figure 14). Actual corporate tax receipts fell even farther to 1.0 percent of GDP in 2018 and 1.1 percent in 2019. The onset of the pandemic in early 2020 drove the economy into recession and kept corporate tax receipts low.

In 2021, corporate tax receipts grew dramatically to 1.7 percent of GDP, higher than CBO's (2018) forecast. For 2022, CBO (2022) now forecasts corporate tax receipts will remain strong but fall to 1.6 percent of GDP, only slightly higher than it predicted in 2018.

The reasons are pretty clear: in 2021, the economy grew at its fastest pace in three decades and inflation rose at its highest rate in four decades. From early 2020 to early 2021, Congress passed multiple bills designed both to cushion the economic and public health impact of the pandemic and help the economy recover. These measures will pump more than $5 trillion into the economy over their respective 10-year budget horizons compared to the TCJA that totaled $1.9 trillion (CBO 2018). The Fed's accommodative monetary policy also stimulated the economy. Fiscal stimulus and easy money raised the demand for goods and services much faster than they increased output, which was restricted by pandemic-related supply constraints.

Together, those factors drove prices higher. In general, higher demand translates into higher profits for corporations and higher compensation for workers. Profits increase despite the higher compensation largely because prices of goods tend to respond more quickly to increased demand than wages. Higher corporate profits translate into higher corporate taxes. Profits rose to an average of 12.2 percent of GDP in 2021, more than a percentage point higher than the 11.1 percent average between 2017 and 2019.[5]

Some have suggested that the higher profits were the result of strong business investment. However, this is inconsistent with the data on rate of return for corporations. As

[5] Recent tax legislation also played a role in raising corporate tax receipts in 2021. However, much of that was due to timing changes in reporting income. For example, the TCJA accelerated deductions for business investments, which reduced taxes early but increased them later. The 2020 CARES Act permitted business to use that year's losses to reduce prior year taxes. As a result, some corporations accelerated deductions to 2020 and delayed income from 2020 until 2021–all intended to create or increase 2020 losses. In addition, corporations had an incentive to accelerate income into 2021 and delay deductions until after 2021 to avoid proposed tax increases under the Build Back Better Act (Dowd et al. 2020).

profits rose from 2020 to 2021, the rate of return on assets for nonfinancial corporations increased from 7.8 percent to 9.4 percent, higher than the average of 8.4 percent over 2017 and 2019. If higher investment boosted US corporate assets during that period, the pre-tax rate of return on corporate assets would have fallen–not increase as it did.

V. Earlier Policy Changes

The lack of growth effects from TCJA is consistent with a long line of research that suggests little impact of major tax cuts, increases, and reforms over the last 40-plus years. In particular, several studies have aimed to disentangle the impact of the major tax cuts that occurred in 1981, 2001, and 2003, as well as the tax increases that occurred in 1990 and 1993.

The Economic Recovery Act of 1981 (ERTA) included a 23 percent across-the-board reduction in personal income tax rates, a deduction for two-earner families, expanded IRAs, numerous reductions in capital income taxes, and indexed the income tax brackets for inflation. Many features of ERTA, particularly some of the subsidies for capital income, were trimmed back in the 1982 and 1984 tax acts. Feldstein (1986) provides estimates indicating that all of the growth of nominal GNP between 1981 and 1985 can be explained by changes in monetary policy. Of the change in real GNP during that period, he finds that only about 2 percentage points of the 15-percentage-point rise cannot be explained by monetary policy. But he also notes that the data do not strongly support either the traditional Keynesian view that the tax cuts significantly raise aggregate demand or traditional supply-side claims that they significantly increase labor supply. He finds, rather, that exchange rate changes and the induced changes in net exports account for the small part of growth not explained by monetary policy. Feldstein and Elmendorf (1989) find that the 1981 tax cuts had virtually no net impact on economic growth. They find that the strength of the recovery over the 1980s could be ascribed to monetary policy. In particular, they find no evidence that the tax cuts in 1981 stimulated labor supply.

The Tax Reform Act (TRA) of 1986 greatly reduced the top income tax rate and broadened the base, in a revenue- and distributionally-neutral manner. Auerbach and Slemrod (1997) address numerous features of TRA on economic growth and its components. They suggest that, although there may have been substantial impacts on the timing and composition of economic activity–for example, a reduction in tax sheltering activity–there was little effect on the overall level of economic activity. They conclude that there were small impacts on labor supply, saving, entrepreneurship, and other productive activities. Although they do not provide an overall estimate for the impact on economic growth, it seems clear from their conclusions that any growth impact of TRA was quite small.

The 1993 increases in the top income tax rate–from 31 percent to 39.6 percent–were predicted by supply-siders to cause an economic downturn. Instead, the economy boomed. A Center on Budget and Policy Priorities study looks at the relationship between the 1993 tax hikes and the 2001 tax cuts with respect to employment and GDP growth over the periods following the respective reforms (Huang 2012). As Figure 15 shows, job creation and economic growth were significantly stronger in the years following the marginal income tax increases enacted in 1993 (the top marginal tax rate went up from 31 percent to 39.6 percent) than they were following the 2001 tax cuts (described below). While correlation does not imply causation, and

while the 1993 and 2001 tax changes occurred at different times in the business cycle, making comparisons between the two of them more difficult, the evidence presented above at the very least discredits the argument that higher growth cannot take place during a period of higher tax rates.

The tax cuts in 2001 (The Economic Growth and Tax Relief Reconciliation Act of 2001, or EGTRRA) reduced income tax rates, phased out and temporarily eliminated the estate tax, expanded the child credit, and made other changes. The 2003 tax cut (The Jobs and Growth Tax Relief Reconciliation Act of 2003, or JGTRRA) reduced rates on dividends and capital gains. A variety of forms of evidence suggest that the impact on growth of these changes was negligible. A cursory look at growth between 2001 and 2007 (before the onset of the Great Recession) suggests that overall growth rate was both mediocre–real per-capita income grew at an annual rate of 1.5 percent during that period, compared to 2.3 percent from 1950 to 2001– and was concentrated in housing and finance, two sectors that were not favored by the tax cuts. There is, in short, no first-order evidence in the aggregate data that these tax cuts generated growth.

Careful microeconomic analyses give similar conclusions. Eissa (2008) tabulates the unconditional distribution of hours worked over the 2000-2006 period using the March Current Population Surveys. Her results, displayed in Figure 16, show that hours worked by prime-age males did not change over this period, while the distributions of hours worked for women–married women and particularly single mothers–shifted lower. This is reflected in the second and third panels of Figure 14by the increase in the probability mass at zero hours of work. This lower likelihood of labor force participation is inconsistent with the view that lower tax rates encourage labor supply. The lack of a positive shift in the years following the Bush tax cuts occurred despite the economic recovery from the recession in the early part of the period, suggesting that any impact of tax cuts on average hours worked was minimal.

Gale and Potter (2002) estimate that the 2001 tax cut would have little or no net effect on GDP over the next 10 years and could have even reduced it; that is, they find that the negative effect of higher deficits and the decline in national saving would outweigh the positive effect of reduced marginal tax rates. The intuition behind these results is noteworthy. Gale and Potter (2002) do not show that reductions in tax rates have no effect, or negative effects, on economic behavior. Rather, the improved incentives of reduced tax rates–analyzed in isolation–increase economic activity by raising labor supply, human capital, and private saving. Indeed, these factors are estimated to increase the size of the economy in 2011 by almost 1 percent. But EGTRRA and JGTRRA were sets of tax incentives financed by increased deficits. The key point is that the tax cut reduced public saving (through higher deficits) by more than it raised private saving. As a result, national saving fell, which reduced the capital stock, even after adjusting for international capital flows, and lowered GDP and GNP. Thus, the effects on the deficit are central to the findings.

Based on analysis in Gale and Potter (2002) and Gale and Orszag (2005), the 2001 tax cut raised the cost of capital for investments in residential housing, sole proprietorships, and corporate structures because the higher deficits raised interest rates. By contrast, the cost of capital for corporate equipment fell slightly because the tax act also contained provisions for

bonus depreciation that more than offset the rise in interest rates.

It might also be thought that the 2003 tax cut would have more beneficial effects on investment, since it focused on dividend and capital gains tax cuts, but Desai and Goolsbee (2004) argue that the effects were likely to be small and Yagan (2015) presents empirical evidence that the 2003 tax cuts had little impact on investment or employment.

VI. Policy Reforms for Growth and Inclusion

While there are many options for raising taxes in ways to raise revenue and promote inclusive growth, I focus on four options here.

- **Tax capital gains at death**

The largest loophole in the entire income tax system is that capital gains on assets that are held until the owner's death *never* face income taxes. Under the so-called "Angel of Death" loophole, the basis of an asset left to an heir is "stepped up" to the asset's current value. This provides an enormous tax benefit to the very wealthiest households. In a typical year, more than 90 percent of the tax benefits from long-term capital gains tax rates goes to households in the top 20 percent of income in 2017, including 69 percent to the top 1 percent (Tax Policy Center 2017b).69

Taxing capital gains at death would eliminate this loophole, raise revenue, make the tax system more progressive and more equitable. It would eliminate one of the most lucrative strategies for tax sheltering, which provides individual gains only at the cost of a social loss. In particular, it would reduce the attractiveness of the "buy, borrow, die" strategy that wealthy households employ to avoid taxes.

It would also significantly reduce the "lock-in" effect that plagues the current system. When the tax rate on capital gains is constant with respect to the holding period, investors are financially rewarded for deferring the sale of the asset for as long as possible. Under taxation upon realization, the effective after-tax return rises with the length of the holding period, even if the pre-tax return and tax rates are constant. This lock-in effect encourages investors to retain their assets when the economy would benefit from a change in investment. In addition, lock-in subsidizes underperforming assets; investors will hold onto assets (say, an underperforming business) for longer than socially ideal to lower their effective tax rate. The "Angel of Death" loophole vastly increases the scope for the lock-in effect and appeal of sheltering, especially for the super-rich households that receive a very large share of capital gains in the economy.

Under this regime, death would be treated as if the holder sold the asset. The decedent would owe capital gains tax on unrealized capital gains accrued during his or her lifetime. The heir would then inherit the asset at its current value through basis step-up. According to the Gravelle (2021), taxing accrued gains at death and raising the capital gains tax rate to 39.6 percent would bring in an estimated $332 billion between 2022 and 2031.

The concerns expressed with taxing gains at death–including liquidity and uncertainty

regarding the basis–could be easily addressed. Taxes could be paid (by the decedent's estate) over a period of five years–or asset owners could buy life insurance while they were still alive to cover the eventual taxes. Likewise, a "standard basis" could be legislated–at say 15 percent of the asset's value. If taxpayers could show that the basis was in fact higher than that, that would be fine. If not, the standard basis would apply. If the asset was purchased so long ago that records do not exist regarding the basis, it stands to reason that the vast portion of the asset value represents a gain.

- **Eliminate the Section 199A Business Deduction**

The new qualified business income deduction for certain pass-throughs is complex, but one outcome is very straightforward: it dramatically reduces the top effective marginal tax rate on qualified business income. Under prior law, the top income tax rate was 39.6 percent. TCJA reduced this nominal rate to 37 percent, but the deduction reduces the effective rate on qualified business income to 29.6 percent.

The 199A deduction creates numerous problems. First, the rules are inequitable, violating the norms of both horizontal equity and vertical equity. Regarding the former, the deduction implies that a taxpayer's liability depends not only the level of income but the form that it takes–wages, qualified business income, or unqualified business income. Regarding the latter, the benefits of the deduction are weighted very heavily toward very high-income taxpayers. The Joint Committee on Taxation (JCT) found that 44 percent of the direct tax benefits in 2018 (rising to 52 percent by 2024) would go to taxpayers with incomes greater than $1,000,000 per year (Joint Committee on Taxation 2018). A Tax Policy Center (TPC) study found that 55 percent of the direct tax benefits in 2019 would go to households in the top 1 percent of the income distribution and more than 26 percent would go to the top 0.1 percent ("Tax Benefit" 2020). Recent research indicates that roughly 15-18 percent of taxes on pass-throughs are passed on to workers, with the rest being borne by owners (Risch 2020). Adjusting for this factor, at least 36 percent of the benefits went to taxpayers with annual income above $1 million (based on the JCT study) and at least 45 percent of the benefits go the top 1 percent (based on the TPC study). Based on tax return data for 2018, among those who claimed the deduction, the average amount was $3,136 for taxpayers with adjusted gross income (AGI) below $200,000 but rose to $157,000 for those with AGI above $1 million and $1.04 million for taxpayers with AGI above $10 million (Sullivan 2020).

Second, the deduction will have low bang for the buck in terms of investment and employment. Evidence suggests that sole proprietors do raise investment and hire more workers when marginal tax rates on those activities are lower (Carroll et al. 1998a, 1998b, 2000). TCJA will also reduce the cost of investing on average for pass-throughs (but not in all cases–debt-financed investment will be more expensive, as will investments in research and development). But business income in a given year is largely the result of investments made in the past. By cutting the tax rate rather than providing direct subsidies to new investment, the new deduction will provide some incentive to invest now by reducing the cost of new capital investment, but much of the revenue loss will finance windfall gains to business owners who made investments in the past, which will not increase current investment. A direct subsidy to new investment would have avoided the windfall gains and provided a bigger bang for the buck.

The distinction between using rate cuts to subsidize returns on old investments and directly subsidizing new investment is crucially important given the role of young firms in increasing innovation, discussed above. Rate cuts do not help young firms very much because they typically do not have a lot of income from past investments, precisely because they are young. Subsidies for new investment would be more targeted.

Turning to employment effects, it turns out that under several sets of circumstances, taxpayers can claim the 199A deduction without increasing employment. While that condition is true of many tax rules, it is an inconsistent feature of a bill originally called the "Tax Cuts and Jobs Act."

The potential effects of the deduction on investment and employment are further dulled by two factors. First, the high rate of evasion for pass-through income means that much pass-through income was already untaxed under pre-TCJA law and will likely remain so under TCJA. Second, the deduction is complicated and hence may be little used. A Treasury Inspector General for Tax Administration (TIGTA) investigation suggested that a main reason why so many people failed to claim the deduction was its complexity (TIGTA 2020). Presumably, take-up will rise over time, yet almost three years after the law was enacted, there was still considerable ambiguity about how to treat various forms of income and expense under section 199A rules (Foster 2020).[6]

That the new deduction is complicated provides more avenues for sophisticated business owners to capture the tax savings via re-arranging and relabeling their investments and expenses rather than by making new net investments. In one example, called "cracking," doctors or lawyers split (crack apart) their operations into two companies: one that provides medical or legal services, and another that contracts with the service provider and acts as a leasing firm that owns all the property and equipment.[7] TCJA regulations, discussed in section V below, put a limit on such activities. As another example, the rules create incentives for people to relabel wage income as business income as a tax avoidance strategy. Under the so-called "Gingrich-Edwards" loophole (which existed pre-TCJA), owners of S corporations pay payroll taxes on their "reasonable compensation" but not on the rest of their income from business, encouraging them to under-report reasonable compensation and thus avoid payroll taxes (Rosenthal 2016). The new pass-through deduction exacerbates that incentive in most circumstances by increasing the difference between the overall taxation of wage income and business income (for exceptions, see Sullivan 2018).

- **Convert the estate tax to an inheritance tax with a low exemption**

Taxes on estates and gifts have shrunk dramatically over the past 40 years. Less than 0.1 percent of all estates are subject to the estate tax, down from a peak of 7.65 percent in 1977

[6] For evidence that complexity reduces corporate behavior, see Zwick (2021).

[7] There are many more ways enterprising taxpayers can use this provision to reduce their taxes. For details and examples, see Kamin et al. (2018).

(Joint Committee on Taxation 2015; Tax Policy Center 2017c). But taxing wealth transfers from one generation to the next can play an important role in making taxes more progressive and offsetting disparities in opportunity across economic classes.

Critics argue that the taxes adversely affect entrepreneurship and family farms, with the children of business owners and farmers who die forced to sell their inherited businesses and farms to pay the tax. There's little to no evidence to support these claims, however, nor was there even in earlier years when the exemption was much lower than today. Several analyses, including by the American Farm Bureau Federation and *New York Times*, did not reveal a *single* farm that went out of business due to estate tax liability (Johnston 2001). In fact, only 80 small businesses and farms faced the estate tax in 2017, paying a total of $30 million, equal to 0.15 of 1 percent of total estate tax revenue (Tax Policy Center 2017a).[8]

As baby boomers die, they could potentially transfer massive amounts of resources to the next generation. If left untaxed, those transfers will exacerbate the inequality that has widened over the past 40 years.

To help level the intergenerational playing field, policy makers should convert the estate tax to an inheritance tax on recipients. It would apply to all gifts and inheritances above, say, a $1 million threshold, and the tax rate would equal the heir's income tax rate plus some amount–say, 15 percentage points (Batchelder 2009, 2016, 2017). Using this combined tax rate would integrate income and estate taxes. It would also change the moral direction of the debate–rather than focus on those who accumulated wealth, it would justify the levy as a windfall tax on those who, merely by their luck to be born into a rich family, inherited significant wealth. The distributional impact would be similar (but not quite as progressive) to that of the estate tax, targeting those who receive the largest inheritances, as the heirs to wealthy estates tend to be wealthy themselves.

- **Raise Funding for the IRS**

Tax evasion–the act of not paying taxes that are owed–is illegal and is an underappreciated problem in the United States. Along with the obvious problem of depriving the government of essential revenue, tax evasion raises fundamental questions about the fairness of the tax system. When people do not pay their taxes, they are not just cheating the government, they are ripping off their neighbors.

Treasury Department studies project that the tax gap—the difference between what people pay and what people owe—now hovers around $600 billion per year (Sarin 2021). More than one out of every seven dollars that are owed in taxes are not paid.

[8] Two other provisions give special preferences to farms and closely-held businesses. The first, called special use valuation, allows farmers to value their farms based on their current use rather than their most profitable use. This provision allows owners to reduce the value of their assets by 40 to 70 percent. Under the second, if a farm or business comprises at least 35 percent of the gross estate, owners can pay the tax they owe in installments over 14 years. Over the first 5 years, only interest payments would be due. In the following years, interest plus principal would be due. Interest rates would be lower than normal.

This has occurred in part because IRS funding and staffing levels have gone downhill over the past 10 years (CBO 2020). The IRS is falling farther and farther behind state-of-the-art computing. Many of its computer systems and programs belong in museums; they are running applications from the 1960s. Meanwhile, Congress has asked the IRS to assume new administrative and enforcement responsibilities, related to interpreting and implementing TCJA, the Affordable Care Act, the American Opportunity Tax Credit, expansions of the Earned Income Tax Credit, and the Foreign Account Tax Compliance Act. Lower funding combined with increased responsibility generates predictable results: worse taxpayer service, fewer audits, and worse enforcement of the tax system.

Adequately funding the IRS would raise revenues and assure the public that the system is not rigged in favor of the wealthy. We should give the Internal Revenue Service the resources it needs to enforce and administer the system.

President Biden has launched an ambitious agenda to crack down on people and corporations who are not paying the taxes they owe. The first part of his plan would beef up IRS technology and staff on a sustained basis. The second part would boost timely information reporting by financial institutions, which the administration estimates would raise a whopping $460 billion over the next decade (U.S. Department of Treasury 2021). The information would materially help the IRS in its efforts to identify likely and actual evasion.

Opponents have put forth two main claims: the reform would not help the IRS as much as predicted, and it would place large burdens on financial institutions. The first claim misses the point that third-party information reporting is essential to increase voluntary compliance and root out evasion. Compliance is highest when third parties report income information to the government and withhold taxes. For example, only one percent of income from wages and salaries is misreported on tax forms (Internal Revenue Service 2016). Compliance is lower when a third party reports the income but does not withhold taxes. Some 16 percent of partnership income and 21 percent of net capital gains are unreported to the government by the recipient. The lowest compliance rates occur when there is no cross-party reporting of income and no withholding. This helps explain the estimate that more than 60 percent of farm income and sole proprietorship income is not reported to the government. Underreporting of sole proprietorship income is estimated to account for almost 30 percent of the individual income tax underreporting tax gap (Internal Revenue Service 2016). Even if the proposal raises somewhat less than the predicted $460 billion, the revenue effect would be substantial.

The second claim strains credulity. Financial institutions are quite capable of complying with regulations and are prompt, for example, to tell customers about even small overdrafts. Credit card companies are able to record even the tiniest transactions on a near-immediate basis. The rules that the administration proposes would expand the use of an already existing form (the 1099-INT) and would pertain to *information that the financial institution already has.*

A third argument sometimes put forth is that the proposal would somehow burden or harm moderate-income taxpayers, particularly minorities. No additional burden or requirements, however, would be imposed on individuals or (non-financial) businesses. Despite some claims to the contrary, businesses would not be required to reconcile financial accounts and income tax

returns. If anything, it would help ordinary (honest) taxpayers by reducing the likelihood that they were targeted with audits. There does not appear to be an added risk to taxpayer privacy.

Right now, the IRS is trying to fight tax evasion with one hand tied behind its back. President Biden has proposed transformational policies that could substantially reduce tax cheating and thus make the tax system fairer for the large majority of taxpayers who are honest. Cracking down on evasion would be an ideal way to raise revenue without boosting official marginal tax rates.

VII. Conclusion

Evidence spanning decades of research shows that tax cuts, especially those for high-income households, have little to no impact on economic growth. Subsidies for high-income households do not benefit the country as a whole, only the households whose incomes grow even larger as a result of them. By reducing high-income tax liabilities, tax cuts redistribute income from the ordinary households to the best-off Americans, reducing opportunities to devote those funds to other important priorities.

I have suggested several ways of reducing economic inequality without sacrificing growth. Any of these reforms could individually play a significant role in alleviating economic disparities by placing the emphasis on high-income households, including by keeping them from lowering their tax bill through evasion or avoidance. Together, the reforms could have an even greater impact. I urge this Committee to enact these proposals to make the tax code more equitable.

References

Auerbach, Alan J., and Joel Slemrod. 1997. "The Economic Effects of the Tax Reform Act of 1986." *Journal of Economic Literature* 35(2): 589-632.

Batchelder, Lily. 2009. "What Should Society Expect from Heirs? The Case for a Comprehensive Inheritance Tax." *Tax Law Review* 62(1): 1-111.

Batchelder, Lily. 2016. "The 'Silver Spoon' Tax: How to Strengthen Wealth Transfer Taxation." Washington Center for Equitable Growth, Washington, D.C.

Batchelder, Lily. 2017. "Opportunities and Risks in Individual Tax Reform." Testimony before the Senate Committee on Finance, United States Senate, (September 13).

Carroll, Robert, Douglas Holtz-Eakin, Mark Rider and Harvey S. Rosen. 1998a. "Entrepreneurs, Income Taxes, and Investment." NBER Working Paper 6374. National Bureau of Economic Research: Cambridge, MA. https://www.nber.org/system/files/working_papers/w6374/w6374.pdf.

Carroll, Robert, Douglas Holtz-Eakin, Mark Rider and Harvey S. Rosen. 1998b. "Income Taxes and Entrepreneurs' Use of Labor." NBER WP6 578. National Bureau of Economic Research: Cambridge, MA. https://www.nber.org/system/files/working_papers/w6578/w6578.pdf.

Carroll, Robert, Douglas Holtz-Eakin, Mark Rider and Harvey S. Rosen. 2000. "Personal Income Taxes and the Growth of Small Firms." NBER Working Paper 7980. National Bureau of Economic Research: Cambridge, MA. https://www.nber.org/system/files/working_papers/w7980/w7980.pdf.

CBO. 2018. "The Budget and Economic Outlook: 2018 to 2028." Congressional Budget Office, Washington, DC. https://www.cbo.gov/system/files/2019-04/53651-outlook-2.pdf.

CBO. 2020. "Trends in the Internal Revenue Service's Funding and Enforcement." Congressional Budget Office, Washington, DC. https://www.cbo.gov/publication/56467.

CBO. 2022. "The Budget and Economic Outlook: 2022 to 2032." Congressional Budget Office, Washington, DC. https://www.cbo.gov/publication/57950.

Desai, Mihir A., and Austan D. Goolsbee. 2004. "Investment, Overhang, and Tax Policy." *Brookings Papers on Economic Activity* 2004(2): 285-355.

Dowd, Tim, Christopher Giosa, and Thomas Willingham. 2020. "Corporate Behavioral Responses to the TCJA for Tax Years 2017–2018." *National Tax Journal* 73(4): 1109-1134.

Eissa, Nada. 2008. "Evidence on Labor Supply and Taxes, and Implications for Tax Policy." *Tax Policy Lessons from the 2000s*: 45-91.

Engen, Eric, and Jonathan Skinner. 1992. "Fiscal Policy and Economic Growth." NBER Working Paper W4223, Cambridge, MA: National Bureau of Economic Research. http://www.nber.org/papers/w4223.pdf.

Feldstein, Martin. 1986. "Supply Side Economics: Old Truths and New Claims." *American Economic Review* 76(2): 26-30.

Feldstein, Martin, and Douglas W. Elmendorf. 1989. "Budget Deficits, Tax Incentives, and Inflation: A Surprising Lesson from the 1983-1984 Recovery." Edited by Lawrence H. Summers. *Tax Policy and the Economy* 3. Cambridge: National Bureau of Economic Research.

Gale, William G. 2019. *Fiscal Therapy: Curing America's Debt Addiction and Investing in the Future*. New York: Oxford University Press.

Gale, William G., Swati Joshi, Christopher Pulliam, and John Sabelhaus. 2022. "Taxing business incomes: Evidence from the Survey of Consumer Finances." Brookings Institution, Washington, D.C. https://www.brookings.edu/research/taxing-business-incomes-evidence-from-the-survey-of-consumer-finances/.

Gale, William G., Hilary Gelfond, Aaron Krupkin, Mark J. Mazur, and Eric Toder. 2018. "A Preliminary Assessment of the Tax Cuts and Jobs Act of 2017." *National Tax Journal* 71(4): 589-612.

Gale, William G., and Claire Haldeman. 2021. "The Tax Cuts and Jobs Act: Searching for Supply-Side Effects." *National Tax Journal* 74(4): 895-914.

Gale, William G., and Peter R. Orszag. 2005. "Deficits, Interest Rates, and the User Cost of Capital: Reconsidering the Effects of Tax Cuts on Investment." *National Tax Journal* 58(3): 409-426.

Gale, William G., Kyle Pomerleau, and Steven M. Rosenthal. 2022. "The Booming Economy, Not The 2017 Tax Act, Is Fueling Corporate Tax Receipts." *Tax Vox*, June 3. https://www.brookings.edu/blog/up-front/2022/06/03/the-booming-economy-not-the-2017-tax-act-is-fueling-corporate-tax-receipts/.

Gale, William G., and Samara Potter. 2002. "An Economic Evaluation of the Economic Growth and Tax Relief Reconciliation Act." *National Tax Journal* 55 no. 1: 133-86.

Gale, William G., and Andrew Samwick. 2016. "Effects of Income Tax Changes on Economic Growth." Brookings Institution, Washington, D.C. https://www.brookings.edu/wp-content/uploads/2016/06/09_effects_income_tax_changes_economic_growth_gale_samwick.pdf.

Garrison, Charles B., and Feng-Yao Lee. 1992. "Taxation, Aggregate Activity and Economic Growth: Further Cross-Country Evidence on Some Supply-Side Hypotheses." *Economic Inquiry* 30(1): 172-176.

Gravelle, Jane G. 2021. "Tax Treatment of Capital Gains at Death" Congressional Research Service, Washington, D.C.

Grier, Kevin B., and Gordon Tullock. 1989. "An Empirical Analysis of Cross-National Economic Growth, 1951–1980." *Journal of Monetary Economics* 24(2): 259–76. https://doi.org/10.1016/0304-3932(89)90006-8.

Goodspeed, Tyler, and Kevin Hassett. 2022. "The 2017 Tax Reform Delivered as Promised." *The Wall Street Journal*. May 8. https://www.wsj.com/articles/the-2017-tax-reform-delivered-as-promised-predictions-jobs-act-economic-data-boost-11652036657

Hanlon, Michelle, Jeffrey L. Hoopes, and Joel Slemrod. 2018. "Tax Reform Made Me Do It!" NBER WP 25283, National Bureau of Economic Research, Cambridge, MA. https://www.nber.org/system/files/working_papers/w25283/w25283.pdf

Huang, Chye-Ching. 2012. "Recent Studies Find Raising Taxes on High-Income Households Would Not Harm the Economy: Policy Should Be Included in Balanced Deficit Reduction Effort." Washington, D.C: Center on Budget and Policy Priorities.

Hungerford, Thomas L. 2012. "Taxes and the Economy: An Economic Analysis of the Top Tax Rates Since 1945 (Updated)." Congressional Research Service, Washington, D.C.

Internal Revenue Service. 2016. "Federal Tax Compliance Research: Tax Gap Estimates for Tax Years 2008–2010" Publication 1415. U.S. Department of Treasury: Washington, D.C https://www.irs.gov/pub/irs-soi/p1415.pdf.

Joint Committee on Taxation. 2015. "History, Present Law, and Analysis of the Federal Wealth Transfer System." Joint Committee on Taxation, US Congress, Washington, D.C.

Joint Committee on Taxation. 2018. "Tables Related to the Federal Tax System as in Effect 2017 through 2026." JCX-32R-18. US Congress: Washington, D.C.
Johnston, David Cay. 2001. "Talk of Lost Farms Reflects Muddle of Estate Tax Debate." *New York Times*.
Kamin, David, David Gamage, Ari Glogower, Rebecca Kysar, Darien Shanske, Reuven S. Avi-Yonah, Lily Batchelder, J. Clifton Fleming, Daniel Hemel, Mitchell Kane, David Miller, Daniel Shaviro, and Manoj Viswanathan. 2019. "The Games They Will Play: Tax Games, Roadblocks, and Glitches Under the 2017 Tax Legislation." *Minnesota Law Review* 103(3): 1439-1521.
Mathur, Aparna, 2019. "Don't Give Up on the Tax Cuts and Jobs Act Just Yet." *AEIdeas*, September 16.
Mendoza, Enrique G., Gian Maria Milesi-Ferretti, and Patrick Asea. 1997. "On the Ineffectiveness of Tax Policy in Altering Long-Run Growth: Harberger's Super neutrality Conjecture." *Journal of Public Economics* 66(1): 99-126. https://doi.org/10.1016/S0047-2727(97)00011-X.
OECD. 2017a. "National Accounts at a Glance." *OECD. Stat*. OECD, Paris.
OECD. 2017b. "Revenue Statistics–OECD Countries: Comparative Tables." *OECD. Stat*. OECD, Paris.
OECD. 2018. "Income Distribution Database" *OECD. Stat.* OECD, Paris. https://stats.oecd.org/Index.aspx?DataSetCode=IDD
OECD. 2022. "Tax Revenue." OECD. https://data.oecd.org/tax/tax-revenue.htm.
Padovano, F., and E. Galli. 2007. "Tax Rates and Economic Growth in the OECD Countries." *Economic Inquiry* 39(1): 44-57. https://doi.org/10.1111/j.1465-7295.2001.tb00049.x.
Piketty, Thomas, Emmanuel Saez, and Stefanie Stantcheva. 2014. "Optimal Taxation of Top Labor Incomes: A Tale of Three Elasticities." *American Economic Journal: Economic Policy* 6(1): 230-271.
Rosenthal, Steven M. 2016. "Did Donald Trump Take Advantage of the Gingrich-Edwards Payroll Tax Loophole?" *Tax Vox*, October 7.
Risch, Max. 2020. "Does Taxing Business Owners Affect Employees? Evidence from a Change in the Top Marginal Tax Rate." Unpublished manuscript.
Sarin, Natasha. 2021. "The Case for a Robust Attack on the Tax Gap." U.S. Department of Treasury, Washington DC, September 7. https://home.treasury.gov/news/featured-stories/the-case-for-a-robust-attack-on-the-tax-gap
Slemrod, Joel. 1995. "What Do Cross-Country Studies Teach About Government Involvement, Prosperity and Economic Growth?" *Brookings Papers on Economic Activity* 2: 373-431.
Stokey, Nancy L., and Sergio Rebelo. 1995. "Growth Effects of Flat-Rate Taxes." *Journal of Political Economy* 103(3): 519-550.
Sullivan, Martin. 2018. "A Dozen Ways to Increase the TCJA Passthrough Benefits." *Tax Notes*, (April 9): 148-154.
Sullivan, Martin. 2020. "19 Million Taxpayers Take the 199A Passthrough Deduction." *Tax Notes* (September 14): 1949-1950.
Tax Policy Center. 2017a. "Who Pays the Estate Tax?" Briefing Book. Urban-Brookings Tax Policy Center, Washington, D.C. https://www.taxpolicycenter.org/briefing-book/who-pays-estate-tax.
Tax Policy Center. 2017b. "T17-0137–Tax Benefit of the Preferential Rates on Long-Term Capital Gains and Qualified Dividends." Tax Policy Center, Washington, D.C.

Tax Policy Center. 2017c. “T17-0308–Estate Tax Returns and Liability under Current Law and the House and Senate Versions of the Tax Cuts and Jobs Act, 2018-2027.” Tax Policy Center, Washington, D.C.

“Tax Benefit of the Sec199A Deduction for Qualified Business Income (QBI); Baseline: Current Law, Distribution of Federal Tax Change by Expanded Cash Income Percentile, 2019.” 2020. Tax Policy Center. https://www.taxpolicycenter.org/model-estimates/sec199a-deduction-qualified-business-income-qbi-july-2020/t20-0227-tax-benefit.

Treasury Inspector General for Tax Administration. 2020. “Results for the 2019 Filing Season.” Report 2020-44-07. U.S. Department of the Treasury: Washington, D.C. https://www.treasury.gov/tigta/auditreports/2020reports/202044007_oa_highlights.html.

U.S. Department of Treasury. 2021. “General Explanations of the Administration’s Fiscal Year 2022 Revenue Proposals.” Washington, D.C. https://home.treasury.gov/system/files/131/General-Explanations-FY2022.pdf.

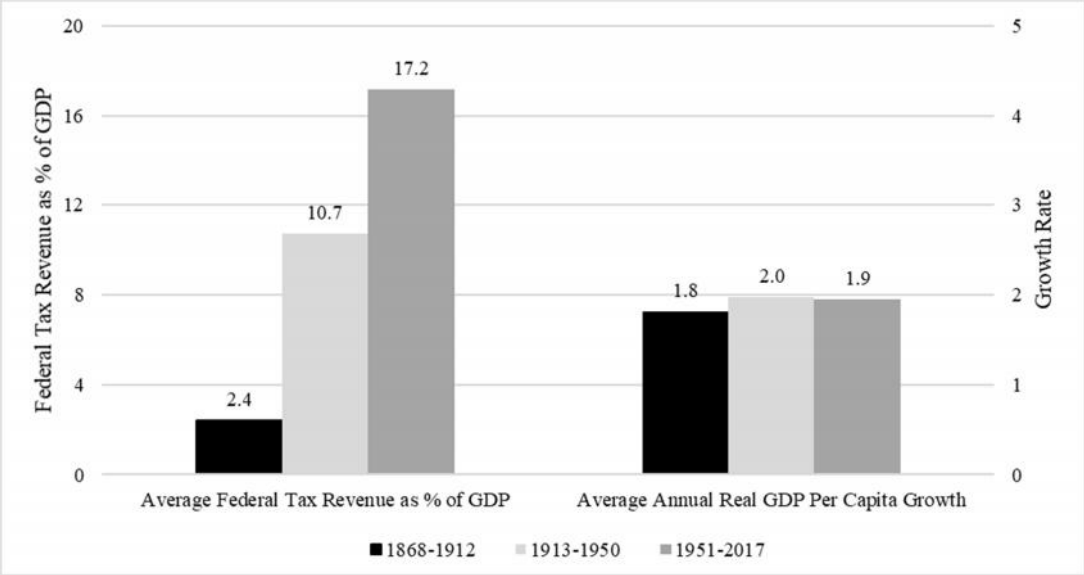
Viard, Alan D. 2019. “The Misdirected Debate About the Corporate Tax Cut.” *AEIdeas*, October 11. https://www.aei.org/economics/the-misdirected-debate-about-the-corporate-tax-cut/.

Yagan, Danny. 2015. “Capital Tax Reform and the Real Economy: The Effects of the 2003 Dividend Tax Cut.” *American Economic Review* 105(12): 3531-3563

Zidar, Owen. 2019. “Tax cuts for Whom? Heterogeneous Effects of Income Tax Changes on Growth and Employment.” *Journal of Political Economy* 127(3): 1437-1472.

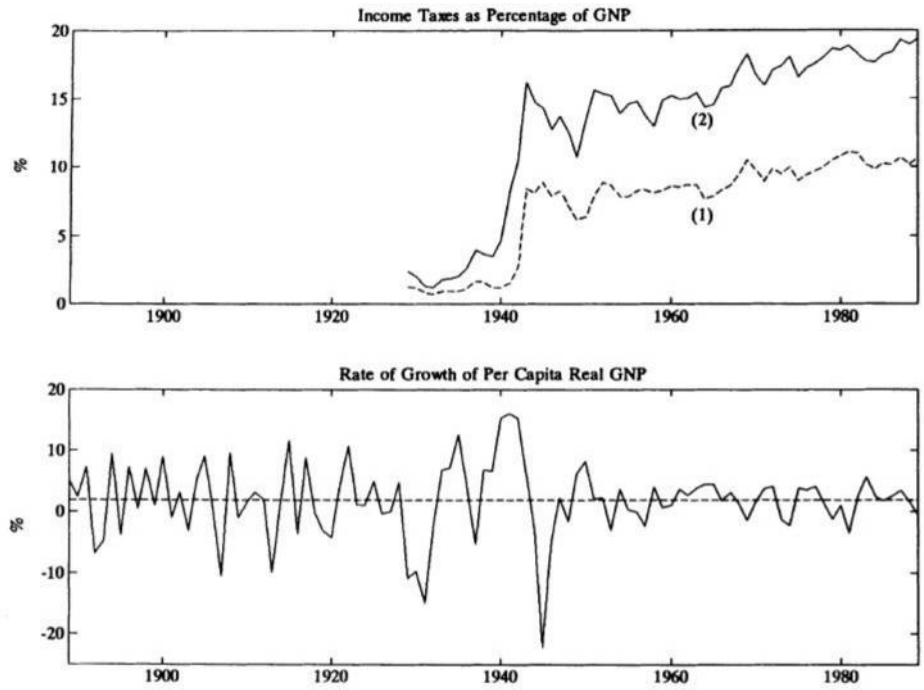
Zwick, Eric. 2021. “The costs of corporate tax complexity.” *American Economic Journal: Economic Policy* 13(2): 467-500.

Figure 1: Taxes and growth by time period



Source: Gale (2019).

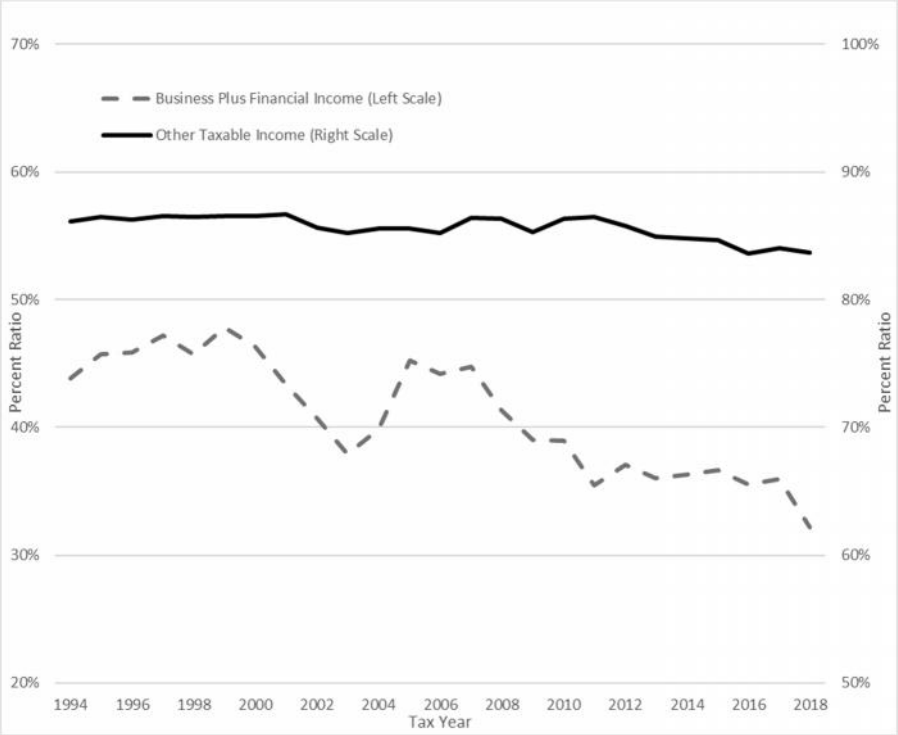
Figure 2: Taxes as a Share of GNP and Growth of Real GNP per Capita



Source: Gale and Samwick (2016).

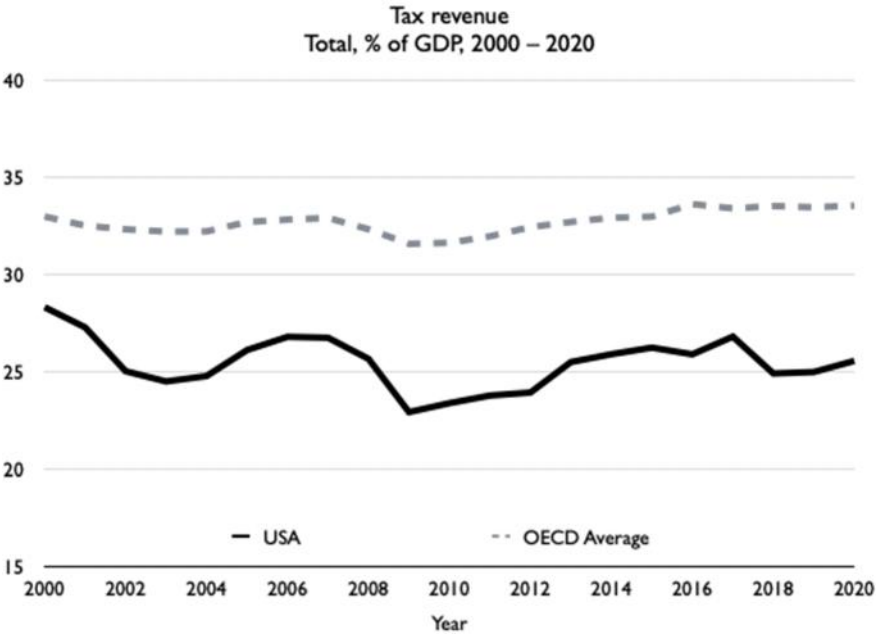
Note: In the top graph, line 1 consists of federal, state, and local individual income taxes. Line 2 adds social security and retirement taxes as well as federal corporate taxes.

Figure 3: SOI Income Relative to NIPA



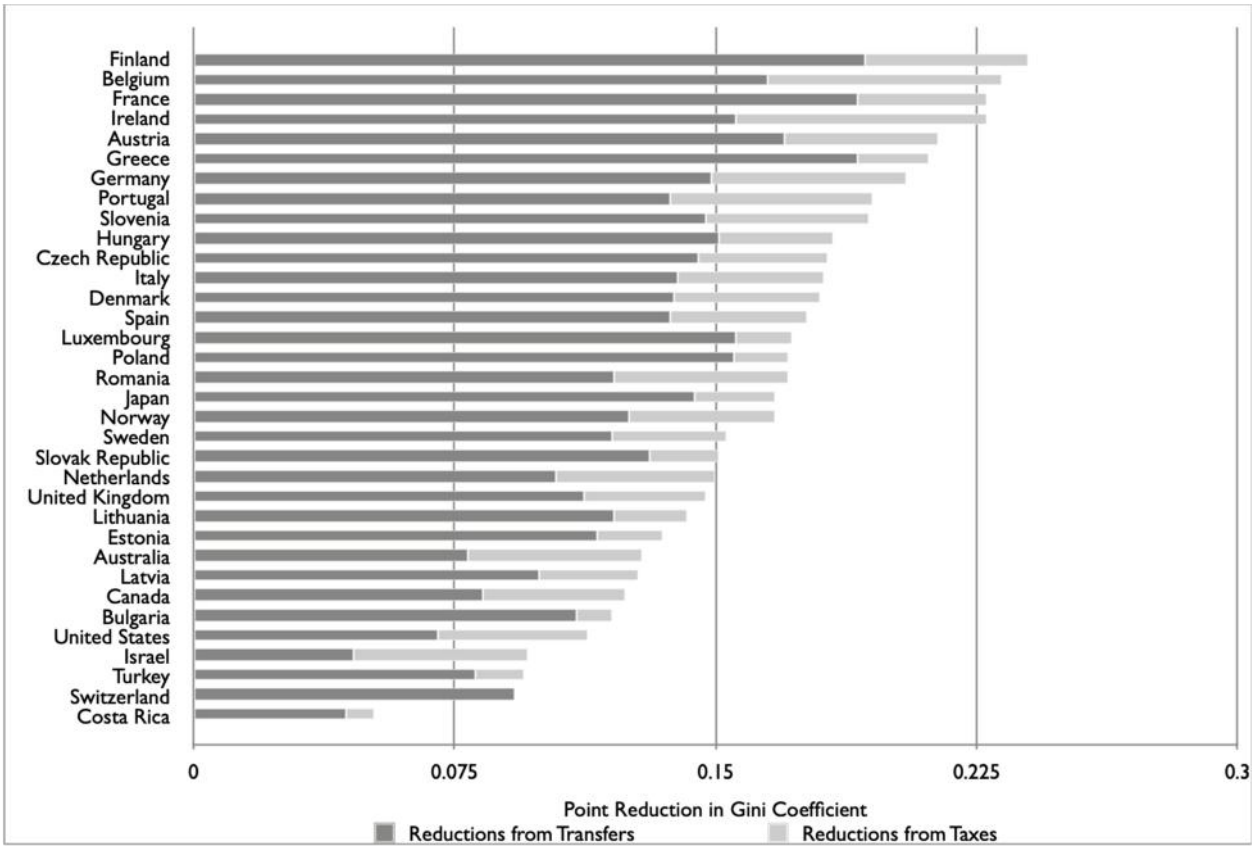
Source: Gale et al. (2022).

Figure 4: Tax Revenue as a Percent of GDP



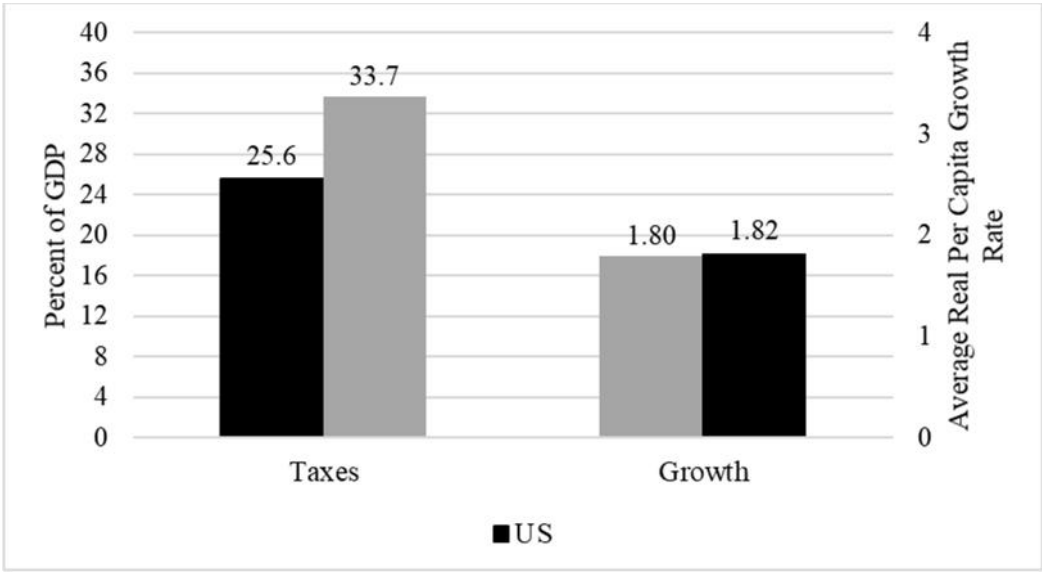
Source: OECD (2022).

Figure 5: Point Reduction in Gini Coefficient from Taxes and Transfers



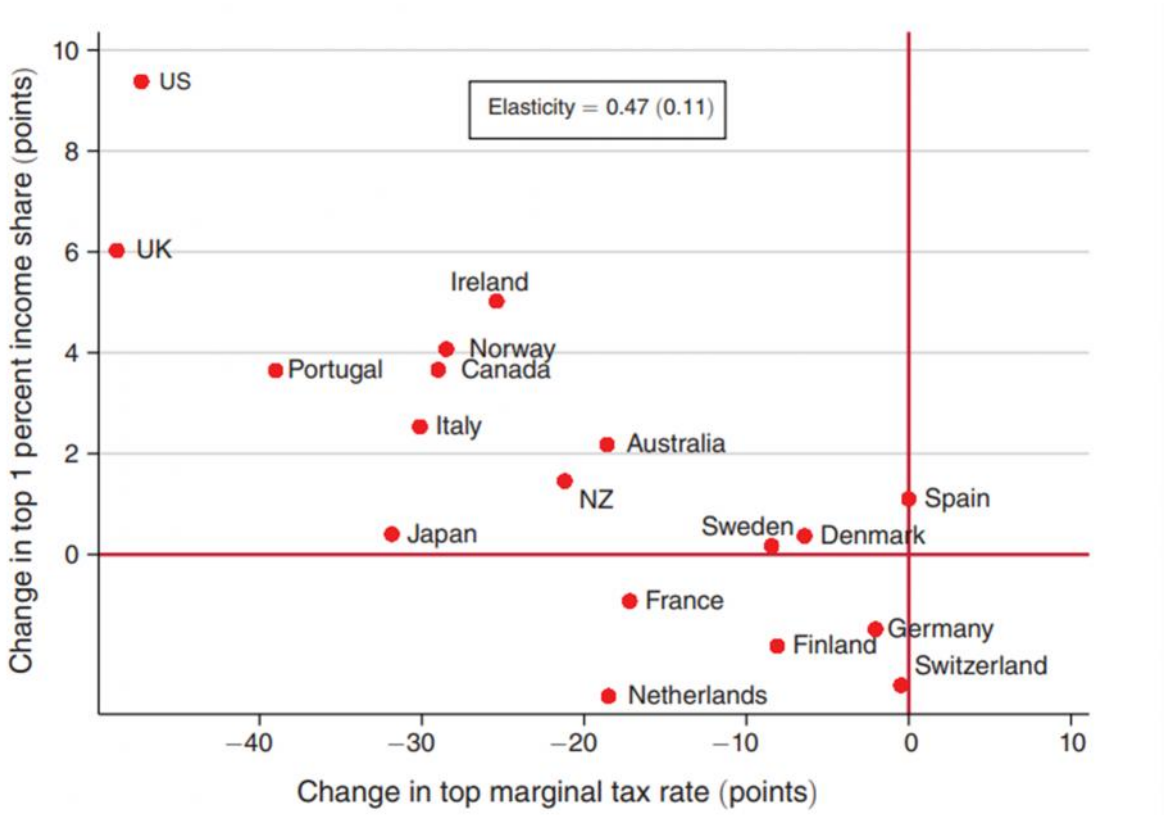
Source: OECD (2018).

Figure 6: Taxes and growth, 1970-2015, US vs. G7



Source: Gale (2019).

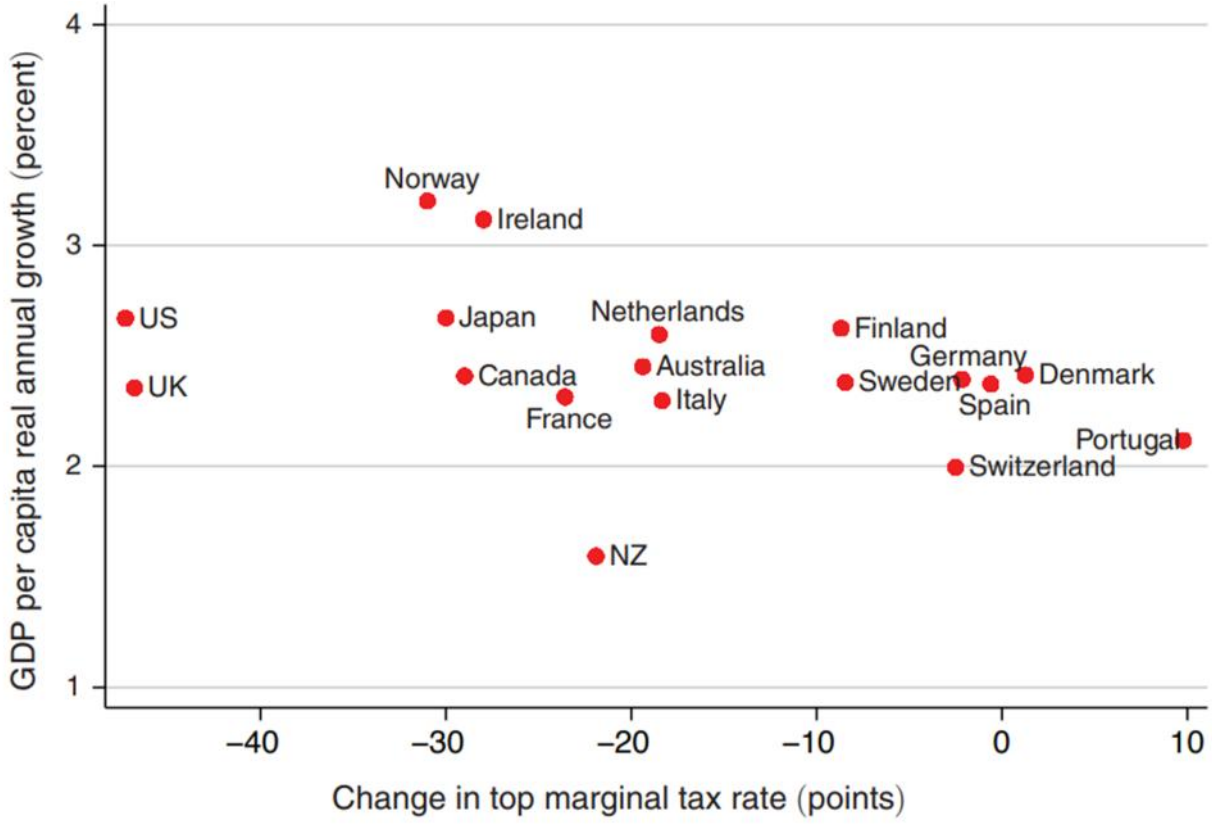
Figure 7: Changes in Top Income Shares and Top Marginal Tax Rates



Source: Piketty, Saez, and Stantcheva (2014).

Note: "The figure depicts the change in top 1 percent income shares against the change in top income tax rate from 1960–1964 to 2005–2009 based on… data for 18 OECD countries. The correlation between those changes is very strong. The figure reports the elasticity estimate of the OLS regression of Δ log(top 1 percent share) on Δ log(1 − MTR) based on the depicted dots." (Piketty, Saez, and Stantcheva 2014, pg. 254).

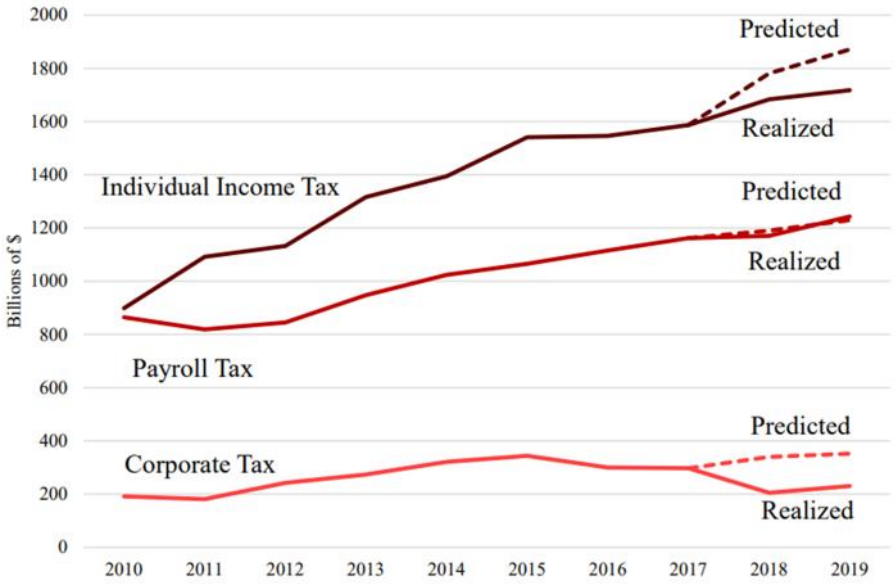
Figure 8: Top Marginal Tax Rates and Growth from 1960-1964 to 2006-2010



Source: Piketty, Saez, and Stantcheva (2014).

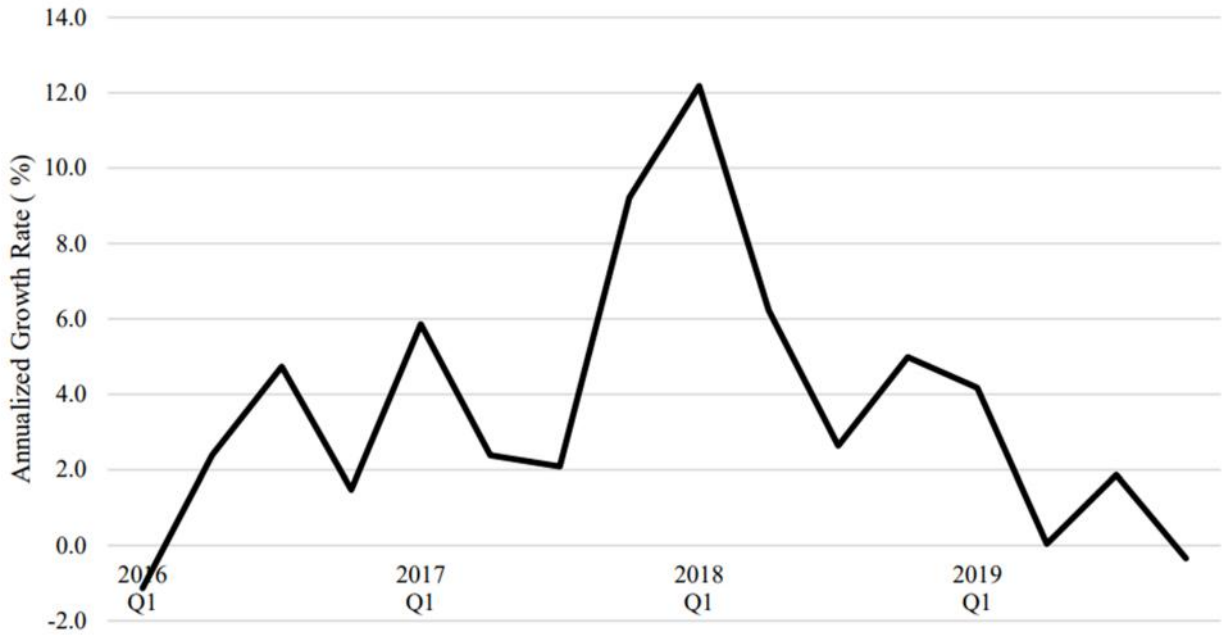
Note: Growth is adjusted for initial 1960 GDP.

Figure 9: Predicted vs. Realized Revenues, Selected Components, 2010-2019



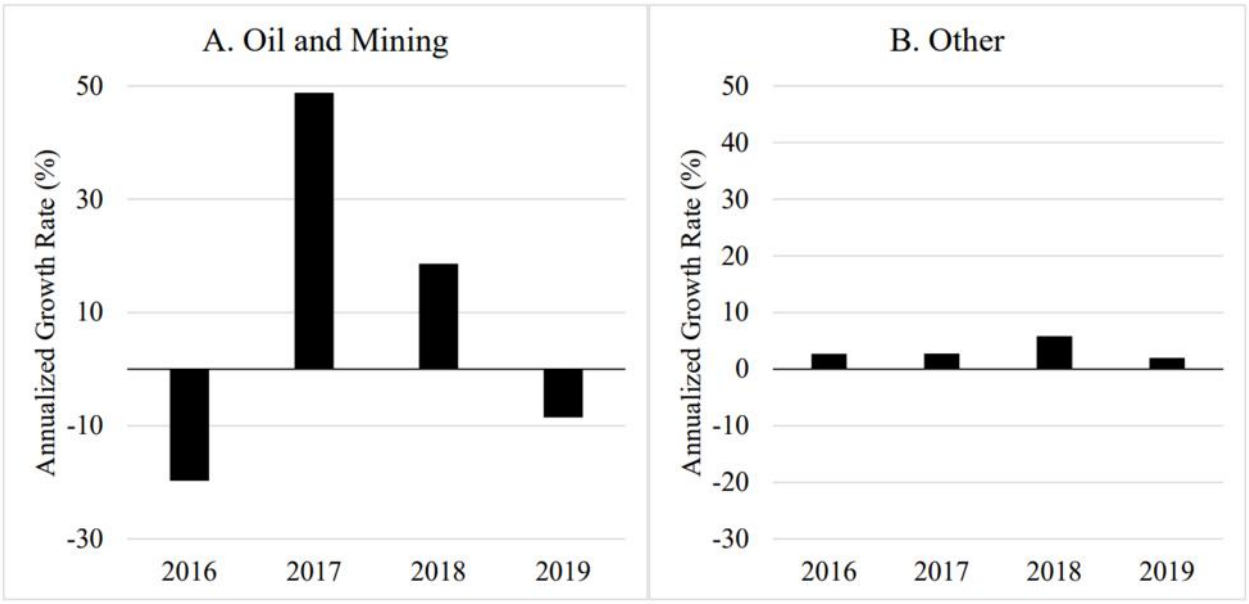
Source: Gale and Haldeman (2021).

Figure 10: Real Nonresidential Fixed Investment Growth, 2016-2019



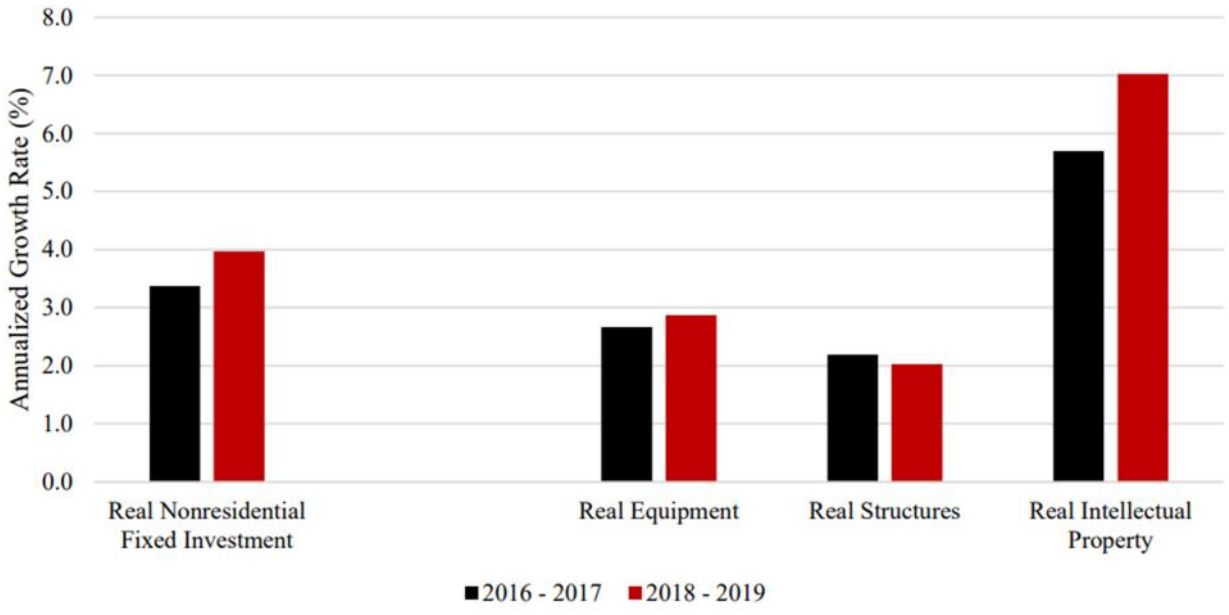
Source: Gale and Haldeman (2021).

Figure 11: Real Nonresidential Fixed Investment Growth, Oil and Mining vs. Other, 2016-2019



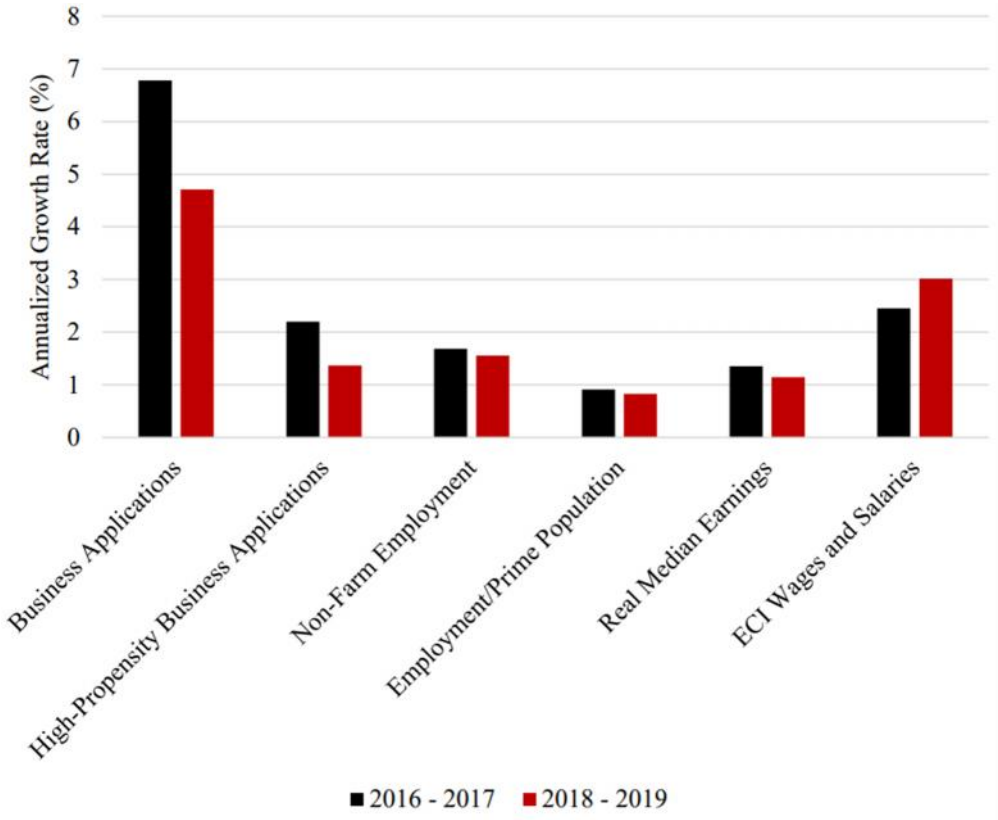
Source: Gale and Haldeman (2021).

Figure 12: Growth in Real Nonresidential Fixed Investment by Asset Type, 2016-2019



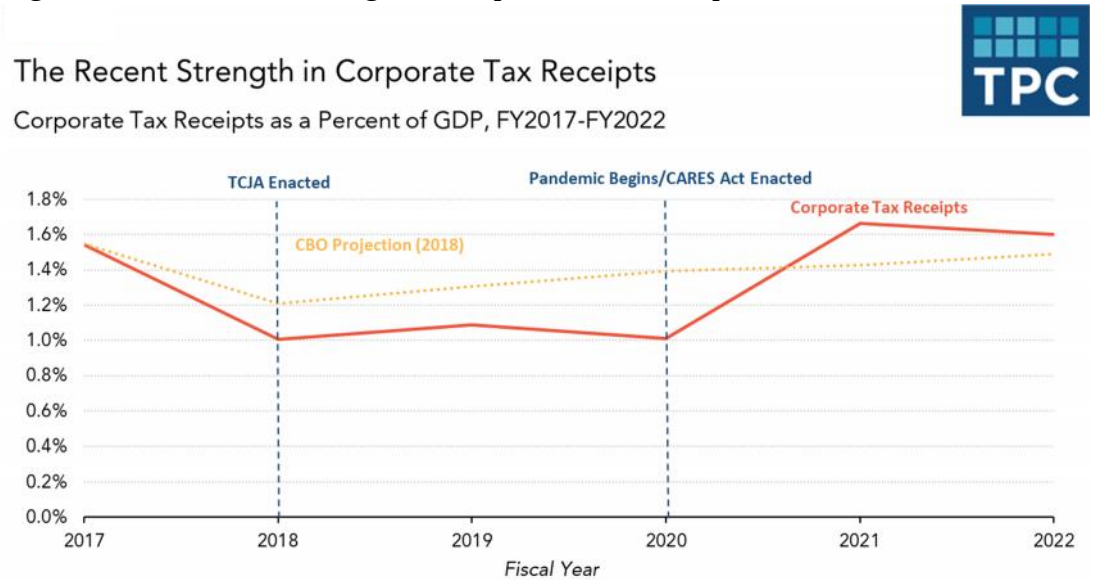
Source: Gale and Haldeman (2021).

Figure 13: Growth in Business Formation and Labor Market Indicators, 2016-2019



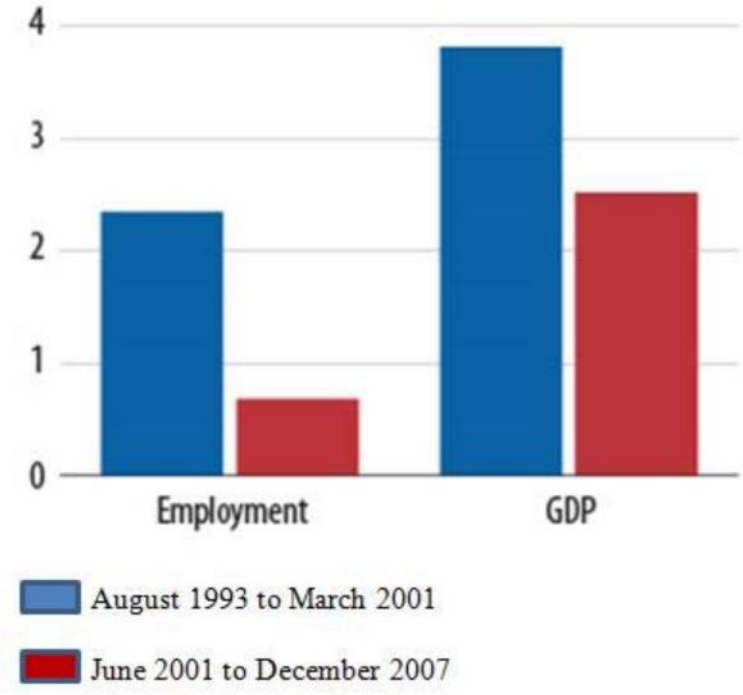
Source: Gale and Haldeman (2021).

Figure 14: The Recent Strength in Corporate Tax Receipts



Source: Gale, Pomerleau, and Rosenthal (2022).

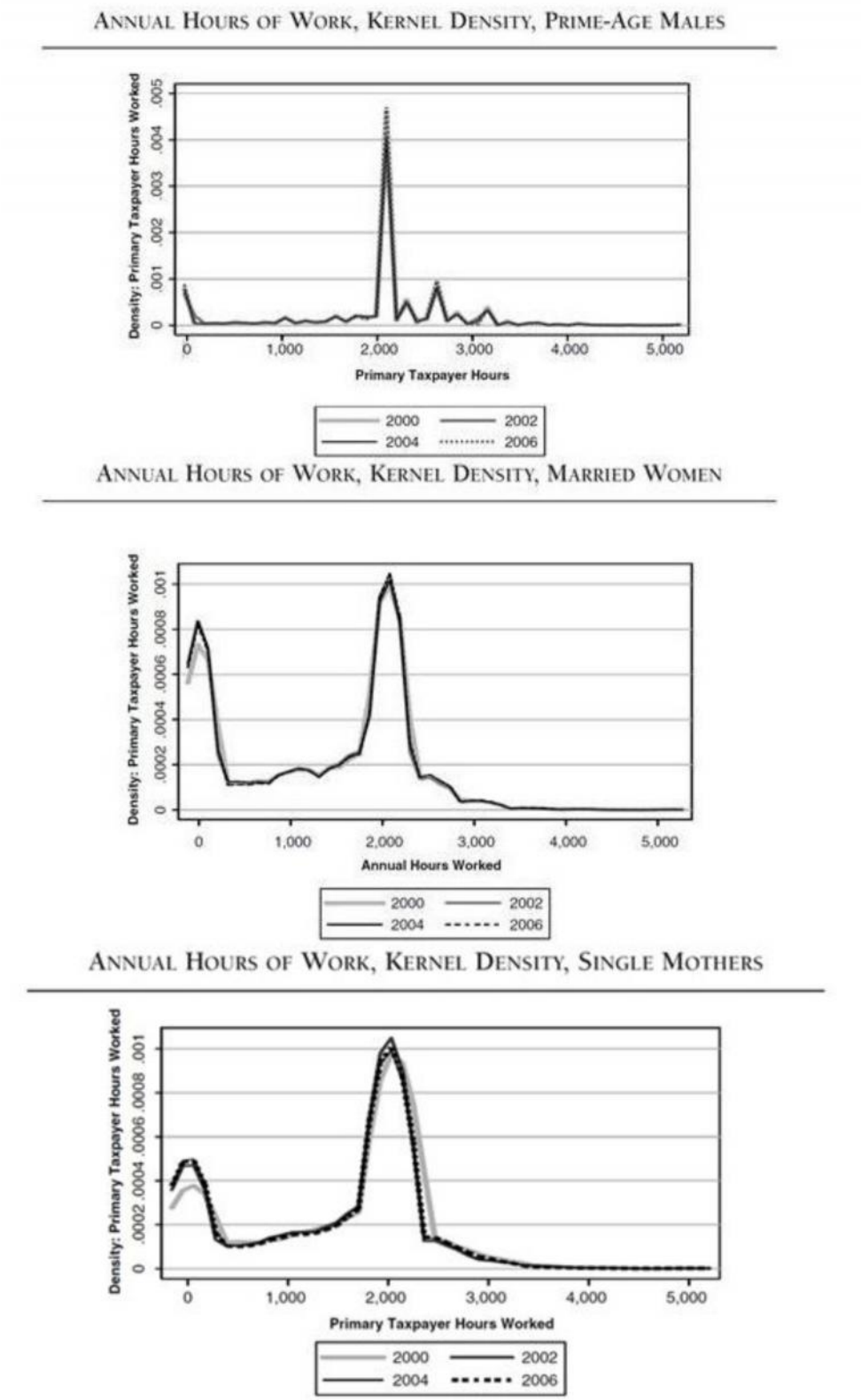
Figure 15: Employment and GDP Growth Following the 1993 Tax Increases and the 2001 Tax Cuts



Note: The vertical axis is the average annual growth rate during the time period.

Source: Gale and Samwick (2016).

Figure 16: Changes in Annual Hours of Work Around the Tax Cuts in 2001 and 2003



Source: Gale and Samwick (2016).

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

Source: Gale and Haldeman (2021).