



# **The Impact of the Tax Cuts and Jobs Act on Capital Investment in Publicly Traded United States Manufacturing Firms through 2020**

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## Abstract

The 2017 Tax Cuts and Jobs Act (TCJA) represents the most significant tax overhaul since the Tax Reform Act of 1986, and one of the most substantial fiscal policies in American history. This paper examines the impact of the TCJA on capital investment in publicly traded U.S. manufacturing firms through 2020. It first outlines the corporate provisions of the TCJA, then delineates three classic theoretical models of how business investment should respond to tax cuts. Finally, this paper evaluates the TCJA's empirical results through three sources. The Albertus et al. paper focuses solely on investment behavior from repatriations, while Kopp et al. and Erkmekjian and Snyder's papers cover the TCJA's overall effects. The exogenous shock had no impact on investment from repatriations, and broader investment growth was muffled; firms instead chose decisive stock market activity to raise share prices.

## Introduction

Following a heated congressional debate, President Donald Trump signed the bill into law effective January 1, 2018. Notwithstanding that the Tax Cuts and Jobs Act was passed almost 8 years before this article, understanding its effects is not only critical for economic theory regarding tax cuts and their correlation to investment, but also for informing current policy decisions. The TCJA serves as a precedent for future domestic tax reform. For instance, the One Big Beautiful Bill Act (BBB), signed into law on the nation's 250th anniversary, was a continuation of the TCJA, with individual income tax rates and bonus depreciation provisions set to expire in 2025 extended permanently. The GOP tax reform presents a perfect test case for analyzing whether real-world effects align with economic models.

While the Trump administration heavily favored the Tax Cuts and Jobs Act to promote domestic growth, this paper concludes that the TCJA had an underwhelming impact on business investment by U.S. corporations. Albertus, Glover, and Levine (2023) report no statistically significant investment resulting from repatriations. Furthermore, we find that the failure to meet proponents' policy expectations was driven by policy uncertainty and increased corporate market power, whilst most positive impacts primarily resulted from demand-side influences. The lack of an investment boom challenged existing financial theory, but our paper affirms that more typical behaviors, such as stock buybacks and shareholder payouts, were observed. Any short-term growth proved to be temporary and unsustainable.

The most drastic corporate provision of the bill was a permanent reduction in the corporate tax rate from 35% to a flat rate of 21%. Next, the act permitted 100% bonus depreciation while doubling the Section 179 Expensing limit and heightening the investment phaseout. Finally, the TCJA accelerated the shift to a territorial tax system through the provisions of Global Intangible Low-Taxed Income, Foreign-Derived Intangible Income, Base Erosion and Anti-Abuse Tax, and a one-time repatriation tax. Meanwhile, the TCJA limited both deductions of Net Operating Losses and the Net Interest Expense Deduction.

The key effects can be summarized as follows. The one-time repatriation tax unlocked large sums of money—but how did firms actually use this liquidity? Albertus et al. (2025) found that firms hoarded over half of the cash, with the remainder mainly being returned to shareholders. The investment story was similar: it had virtually no impact on capital expenditure, employment, or R&D. The paper found no dissimilarity between constrained and unconstrained firms, nor between firms with high governance and those with weak governance. The study concludes that U.S. firms were not financially constrained—instead, investment relied on demand-side factors and policy uncertainty.

These same factors—demand-side conditions and policy uncertainty—are also emphasized in the IMF Working Paper by Kopp et al. (2019). Using pre-TCJA forecasts, their preliminary paper finds that 2018 business investment exceeded forecasts, but not nearly as much as earlier U.S. tax cuts had produced. The article attributes this to policy uncertainty, trade wars, and Federal Reserve policy. Secondly, corporate market power—with studies identifying firms that experience higher markups over time—reduces responsiveness to tax cuts. Kopp et al. argue that much of the investment boost was demand-driven, from the Bipartisan Budget Act and household tax cuts. Ekmekjian and Snyder (2022) also demonstrated that while stock prices increased, fixed investment and employment remained unchanged. Taken together, the three studies suggest that while the TCJA improved liquidity and briefly boosted investment, it ultimately fell short of its objectives, with gains stemming from demand-side factors rather than from supply-side factors.

All three theoretical models we use confirm an increase in investment, albeit through divergent mechanisms. We start with the traditional neoclassical theory of investment. Although the Wicksellian and Fisher models preceded Jorgenson's theory, we focus on the Jorgensonian model, as it is universally accepted and builds upon its precursors. This model conceptualizes investment through capital stock maximization under diminishing marginal returns. Firms invest until the Marginal Product of Capital equals the User Cost of Capital. When tax cuts and tax benefits lower this user cost, they lead to an expected immediate surge in investment from a cheaper capital stock. Tobin's Q theory of investment offers a stock market indicator for business investment. We will examine James Tobin's original writings and Fumio Hayashi's work on marginal q. Specifically, marginal q equals Tobin's average q under certain conditions. Regardless, a tax cut would both increase a firm's stock value and decrease its capital replacement. Unlike the neoclassical framework, this model assumes a more extended investment period that unfolds over time to compensate for adjustment costs. Our final theory is the accelerator theory of investment: demand-side incentives influence firms to invest at a rate proportional to the change in national income. We will consider the flexible accelerator model and the multiplier accelerator model, variations of the naive accelerator model. The former adapts for adjustment lags and predicts a gradual investment phase, whereas the latter predicts escalating cycles of investment. Tax cuts increase national income, thereby prompting firms to undertake some level of positive investment.

This literature review compiles various empirical studies with traditional theory. First, this paper will outline in detail the provisions of the TCJA most relevant to influencing corporate investment. Next, we will establish a theoretical framework based on existing neoclassical propositions, Tobin's Q theory of investment, and accelerator models, as well as the expected results of the TCJA in accordance with these principles. We will then contrast the predicted results with the observed empirical data from the literature. Along with discussing the TCJA's somewhat contradictory results, the paper will explain the limitations of the traditional models. By focusing on the effects only through 2020, we attempt to isolate the short-term consequences of the TCJA while avoiding behavioral deviations attributable to the COVID-19 shock. A short-term lens allows us to highlight the inconsistency between theoretical predictions and observed behavior.

### **Provisions of the Tax Cuts and Jobs Act**

The Republican Congressman Kevin Brady, a member of the United States House of Representatives serving Texas's 8th congressional district, introduced the Tax Cuts and Jobs

Act on November 2, 2017. The TCJA was signed into law on December 22, 2017, as the 97th public law passed by the 115th Congress of the United States. The fight in Congress echoed the nation's extreme political polarization; the Trump tax cuts were passed through the House after a 224-201 vote and narrowly sent to the President's desk after a 51-49 split in the Senate.

The TCJA reduced the 35% statutory corporate tax rate to a permanent rate of 21%, and repealed the prior Alternative Minimum Tax for corporations (IRS, *Comparison*).

The TCJA introduced an immediate expensing clause with a 100% bonus deduction for qualified property placed in service after September 27, 2017, and before January 1, 2023, and a 20% phaseout for each year after. Bonus depreciation enables firms to deduct a portion of the cost of qualified assets from their tax liability. By raising bonus depreciation to 100%, purchases could be immediately deducted rather than being deducted over several years. Similarly, while bonus depreciation allows a deduction of a percentage of the capital cost, Section 179 allows a deduction of a set dollar amount of new capital assets. Section 179 increased the immediate expensing from \$500,000 to \$1 million, and the phaseout threshold, which is annually indexed for inflation, rose from \$2 million to \$2.5 million (IRS, *Comparison*).

The TCJA capped the net interest expense deduction at 30%, meaning that firms could only deduct 30% of the interest payments on loans from their Adjusted Taxable Income. Net Operating Losses were also capped at 80%. Companies can fully offset their net operating losses against taxable income from the two most recent years. The TCJA scrapped such carrybacks but allowed firms to claim 80% of net operating losses for indefinite carryforwards (IRS, *Comparison*).

The TCJA's international tax reforms transformed a worldwide tax system into a territorial tax system, in which global profits earned by U.S. corporations are not subject to U.S. taxes. A one-time transition tax was imposed on global profits already earned, at rates of 15.5% for cash assets and 8% for non-cash assets. The Participation Exemption allows U.S. shareholders to repatriate dividends from foreign firms tax-free. The TCJA employed a stick-and-carrot strategy to discourage firms from avoiding taxes by shifting profits into low-tax nations by instituting the Global Intangible Low-Taxed Income (GILTI), Foreign-Derived Intangible Income (FDII), and Base Erosion and Anti-Abuse Tax (BEAT) provisions. GILTI applies to U.S. corporations owning a 10% or more stake in a controlled foreign corporation (CFC). The tax amount of GILTI is calculated by subtracting the CFC's tangible assets abroad (Qualified Business Asset Investment) from the CFC's foreign profits. FDII is a tax break for U.S. manufacturers who export intangible assets to foreign consumers. 37.5% of the firm's net profits, reduced by 10% of QBAI from the firm's profit, is deducted from taxable income, and the remaining amount is taxed at a lower rate. Lastly, BEAT applies to firms with \$500 million or more in annual domestic gross receipts over three years and a base erosion percentage of 3% or higher. BEAT is a minimum tax on corporations that make deductible payments, like royalties or interest, to foreign subsidiaries to alleviate U.S. taxes. If these deductible payments exceed 3%, a BEAT tax rate of 5% is levied on these firms in 2018, and doubles to 10% from 2019 to 2025 (IRS, *Topic II*).

### Neoclassical Theory of Investment

Let us examine the Jorgensonian model of Investment, developed in the 1960s by Dale Weldeau Jorgensen. This model holds a few primary assumptions: Firms are rational and seek to maximize profits, firms operate in perfect competition (markets in which producers have no exclusive market power and sell at the same price), firms are fully informed about current factors such as market demand, interest rates, etc. and have no future uncertainty about policy, and the

available capital stock is fully utilized. (Neo-Classical Theory of Investment). For this section, we will use the Cobb-Douglas Production Function as a baseline:

$$F(K, L) = Y \text{ (output)} = AL^a K^b$$

$K$  stands for capital,  $L$  for labor, and the constant  $A$  for total factor productivity (which we will ignore).  $b$  is the output elasticity of capital, or the percent change in output measured from a 1% change in capital. A higher elasticity of capital output indicates that the capital the firm is using is highly valuable in the production process. The Jorgensonian model's principal assertion is that a profit-maximizing firm will invest until the Marginal Product of Capital ( $MPK$ ) equals the user cost of capital ( $UCC$ ) (Neo-Classical Theory of Investment).  $MPK$  denotes the additional capital generated by a unit of capital. The user cost is defined as the total cost of a unit of capital over a specified period of time. It depends on the price of capital ( $PK$ ) goods, the rate of depreciation ( $\delta$ ), and the real rate of interest ( $r$ ) (if the firm bought the capital outright, then  $r$  is the opportunity cost). Excluding tax effects, the formula for user cost is:

$$UCC = PK(r + \delta) \text{ (Jorgenson 249).}$$

If interest rates or the price of capital decrease, user cost decreases. Since we are trying to compare the TCJA with theoretical anchorage, let us now consider the whole equation with taxes:

$$UCC = (r + \delta) * (1 - k) (1 - uz) / (1 - u) \text{ (Hall and Jorgenson 394).}$$

$k$  is the investment tax credit,  $z$  is the present value of depreciation deductions, and  $u$  is the corporate income tax rate. We do not need to concern ourselves with the derivation, as it is exceedingly complex. From this equation, we notice that the tax rate is directly proportional to  $UCC$ - the user cost declines with the tax rate. Firms are left with greater profit, and are therefore expected to accumulate capital stock. In addition, the TCJA's new policy of 100% bonus depreciation essentially raised  $z$  to 1; unlike  $u$ , the equation shows  $d$  as inversely proportional to  $UCC$ . With both  $u$  and  $z$  being guided towards a lower user cost, considerably so by the TCJA, theory anticipates an increase in investment.

It is essential to note that  $MPK$  gradually declines over time due to the law of diminishing returns. Imagine a firm continuing to purchase equipment at a rate that outpaces the employment of extra workers. The workers will not require infinite capital, so the marginal capital becomes unnecessary and produces fewer and fewer goods. When the aggregate user cost exceeds  $MPK$ , firms pause investment. By considering the benefits and costs of capital, firms have a desired capital stock-  $K^*$ - where  $MPK = UCC$  (Neo-Classical Theory of Investment). In his 1963 paper, *Capital Theory and Investment Behavior*, Jorgenson sets the equation:

$$K_{t+1} = I_t + (1 - \delta)K \text{ (Jorgenson 252).}$$

This equation is relatively simple to understand:  $K_{t+1}$  represents the capital stock in the following time period, which is equal to the sum of any further investments in capital stock the firm makes, plus the current capital stock adjusted for depreciation. Jorgensen assumes that firms have an instantaneous ability to change their capital stock; that is, there is no delay for firms to access extra capital. To find the equation for  $K^*$ , the derivation is simple. Since  $Y = \text{output} = AL^a K^b$ ,  $MPK$  is the derivative of production with respect to capital (a change in output measured from a change in capital):

$$MPK = a(Y/K)$$

$$MPK = a(Y/K^*) = UCC$$

$$K^* = a^*(Y/UCC) \text{ (Neo-Classical Theory of Investment)}$$

As  $UCC$  decreases due to a corporate tax cut, the capital stock for the next period is expected to increase.



## Tobin's Q Theory of Investment

James Tobin introduced his renowned Q ratio in his 1969 paper, *A General Equilibrium Approach to Monetary Theory*. Tobin connected stock market valuations to investment strategies. Tobin's Q is the ratio of a firm's market value to its replacement value:

$$\text{Tobin's Q} = \text{Total Market Value of Firm} / \text{Total Replacement Cost of Firm}$$

The market value of a firm is the value of the company's equity and debt, or the firm's stock market valuation. It is calculated by multiplying the firm's stock price by its total number of outstanding shares. The replacement cost is the cost for the firm to replace its current assets by purchasing new capital stock at the current price. We can also express the equation as:

$$\text{Tobin's Q} = \text{Equity Market Value} + \text{Liabilities Market Value} / \text{Equity Book Value} + \text{Liabilities Book Value}$$

Of course, the ratio can also be applied to entire markets, in which case the numerator represents the collective stock market valuation of all the firms that comprise a specific industry. Suppose a firm's market value is measured at \$1 million, but its replacement cost is only \$500,000. This imputes a high Q ratio of 2, indicating that investors view the firm as profitable or flourishing. A Q ratio greater than 1 incentivizes firms to invest because they are overvalued. Likewise, a Q ratio below 1 indicates that a firm's replacement cost exceeds its market value, which can deter the firm from investing, as it may be perceived as undervalued. ("Tobin's Q Ratio," Investopedia)

There are two types of Q: average Q, developed by Tobin, and marginal Q, later expounded by Fumio Hayashi. Marginal Q is the measure of how much a firm's market value changes from spending on an extra unit of capital. For example, if a firm builds a factory worth \$1 million and its new market value is \$1.1 million, then its marginal Q is 1.1. While marginal Q theoretically is more precise than average Q, its effects are complicated to measure. In his paper, *"Tobin's Marginal q and Average q: A Neoclassical Interpretation,"* Hayashi reported a rough equivalence between marginal q and average q under perfect competition, constant returns to scale, and no adjustment costs (Hayashi 215–221). Hayashi contributed to the standard Q ratio with the investment equation:

$$I/K = f(Q)$$

$I$  is investment,  $K$  is capital, and  $f(Q)$  is an increasing function of Q. As Q rises, we observe that investment also increases in relation to capital.

While the Jorgensonian model presumed adjustment costs as immediate, firms must experience some level of lag. Hayashi works with an adjustment cost function that is convex, an increasing quadratic model, meaning that the costs associated with higher investment increase (Hayashi 215–216). Therefore, even when Q exceeds 1, firms are unable to invest instantly (Hayashi 220).

Let us transition to discuss the effects of taxes on the Tobin Q model. Increased after-tax profits and further cash from repatriations, accompanied by additional behaviors such as stock buybacks, elevate the share price, raising the numerator. The TCJA's generous expensing policies, including bonus depreciation, Section 179, and depreciation credits, lower the present costs of replacement.

Figure 2. Response to a Corporate Tax Cut

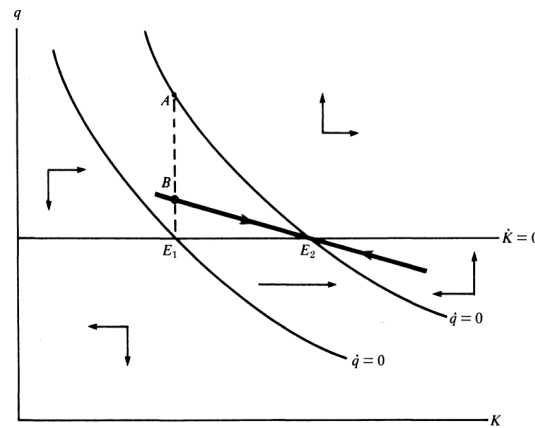


Fig 1.

The figure above illustrates how a corporate tax cut leads to long-term capital accumulation. The line labeled  $K^* = 0$  marks the line where the rate of change of capital stock is in equilibrium, and the curves labeled  $q^*$  mark the steady-state value of the Q ratio. Summers explicates that in the short run, a tax cut promptly raises the value of Q from  $E_1$  to  $A$  or  $B$ , depending on the investors' foresight. However, adjustment costs permit only gradual capital accumulation. Assuming perfect foresight, Q immediately jumps to  $B$ . As more and more capital is purchased in the long run, the marginal product of capital precipitously declines, pushing Q down to  $E_2$  (Summers 82).

While Tobin's model predicts that investment should rise after a tax cut, especially after a concession as steep as the TCJA, we have explored how rapid investment is attached to higher costs from ordering, receiving, and installing equipment.

### Accelerator Theory of Investment

The accelerator theory posits that investment is proportional to the change in national income. While first developed at the onset of the twentieth century by Thomas Carver and Albert Alfalion, the accelerator model was advanced in John Maynard Keynes's *The General Theory of Employment, Interest and Money* ("Theory of Investment" 1–2). In essence, an increase in national income leads to greater induced consumption. Since consumption is a component of Gross Domestic Product (GDP), firms invest more to satisfy the higher level of demand. Comparably, firms may hold their investments constant when national income steadies or engage in disinvestment when national income decreases (Investopedia). The model depends on a fixed accelerator constant,  $v$ , which is the capital-to-output ratio ( $K/Y$ ).

$$K_t = vY_t$$

$K$  is the optimal capital stock in period  $t$ , and  $Y_t$  is the national output or national income in period  $t$ .

$$K_{t-1} = vY_{t-1}$$

The equation below considers capital and output in time period  $t-1$ .

$$K_t - K_{t-1} = vY_t - vY_{t-1}$$

$K_t - K_{t-1}$  is just the difference in capital stock between time periods  $t$  and  $t-1$ . Hence, it is the measure of investment, and the final equation can be written as:

$$I = v(Y_t - Y_{t-1})$$

Thus, investment corresponds to the fluctuation of output by the accelerator constant (“Theory of Investment” 2).

Just like in the Jorgensonian model, the accelerator theory assumes that the capital stock is adjusted without any lag. However, the Flexible Accelerator model takes into account decision-making lag, administrative lag in ordering capital, financial lag in raising money for capital, and the delivery lag in receiving capital. Capital increases progressively with demand rather than instantly.

Paul Samuelson's multiplier accelerator model relates these changes as part of a cycle. The equation for GDP is:

$$GDP = Y = C + I + G + NX$$

**C** is consumption, **I** is investment, and **G** is government spending (**NX** is net exports, but it is immaterial for our purposes). Suppose an increase in national income occurs. According to the accelerator model, investment would also likely increase. However, as investment increases, GDP follows suit, creating a positive feedback loop where more demand leads to more investment, which in turn generates additional demand. The same can occur for a reduction in national income, except that both investment and demand are continuously decreased. In his paper *Interactions Between the Multiplier Analysis and the Principle of Acceleration*, Samuelson asserts that even small changes in the demand cycle can cause significant disruptions through explosive cycles (Ecoholics).

To conclude this section, let us examine how tax cuts factor into this model. The TCJA reduced not only corporate tax rates but also personal income taxes across all tax brackets. For consumers, lower taxes result in a higher take-home income, which in turn leads to an increase in national disposable income. In this case, both the naive accelerator model and Samuelson's multiplier accelerator model predict an increase in the capital stock, addressing a moderate or volatile increase in GDP. Even for the flexible accelerator theory, higher demand pushes firms to reduce their adjustment lag for business investment. Ultimately, like the neoclassical model and Tobin's Q model, the accelerator theory of investment forecasts an increase in investment.

## The Effects On Investment

This section will begin with an examination of the effects of repatriations, drawing on Albertus et al.'s work, *The Real and Financial Effects of Internal Liquidity: Evidence from the Tax Cuts and Jobs Act*. The antithetical relationship between liquidity and investment reveals that the link is far less straightforward than policymakers believed. Before the Tax Cuts and Jobs Act, the United States administered a worldwide tax system on repatriated global earnings. To avoid paying the steep repatriation tax rate—up to 35%—firms hoarded foreign profits. However, the TCJA replaced the worldwide tax system with a quasi-territorial system, allowing foreign profits generated from 2018 to be repatriated tax-free. It also enacted a far lower one-time repatriation tax on current overseas holdings: 15.5% for cash and cash equivalents, and only 8% for non-cash assets. Albertus's paper examines how firms utilize the \$1.7 trillion in unlocked offshore cash (Albertus, Glover, and Levine 1).

The paper utilizes confidential data from the Bureau of Economic Analysis (BEA) to measure the domestic and foreign activities of U.S. firms, which is then merged with data from Compustat, SDC, and FactSet. They analyzed 489 firms and 3,146 firm-year observations from 2010 until 2019, excluding firms in the financial services, public administration, and utility industries. The firm's methodology employs a difference-in-differences approach. This method compares the effects of a treatment on a control group and a treatment group to highlight the



differences between them. In this paper, the groups are categorized by the amount of foreign trapped cash, using the authors' treatment intensity measure ( $\text{ForeignCash}_i$ ), which is a ratio of foreign money to firm assets that determines which firms are likely to have been more affected by the liquidity windfall (Albertus, Glover, and Levine 9–11).

Pre-TCJA statistics show that, on average, firms maintained a cash-to-assets ratio of 15.1, of which approximately 5% was comprised by foreign cash. Additionally, the U.S. statutory tax rate exceeded the weighted average foreign statutory tax rate in 2017 by 10%, validating the meager 0.7% repatriated by American firms. The measurements conducted support the theoretical notion that the one-time repatriation tax should have significantly aided U.S. corporations by providing a means to obtain extra cash inexpensively (Albertus, Glover, and Levine 9).

The results directly defy financial wisdom about corporate investment behavior. Remarkably, the liquidity shock had no impact on capital expenditures, employment, wage expenses, research and development spending, or mergers and acquisitions activity (Albertus, Glover, and Levine 14–16).

Compelling evidence suggests that more than half of the untrapped cash went unused, refuting the standard practice. Financial constraints theory states that liquidity shocks benefit firms that are financially constrained more. However, both financially constrained and unconstrained firms had no mismatch in investment. Precautionary Savings Theory also predicts that stock repurchases should have been greater among financially unconstrained businesses since they are less pressed for cash. Nevertheless, only about one-third of the repatriated cash was paid out to shareholders—far less than the 92% payout rate observed during the 2005 American Jobs Creation Act's repatriation holiday (Albertus, Glover, and Levine 20–22).

Agency theory suggests that firms with weaker agency may misuse cash; however, no statistical distinction could be discerned between firms with high agency and those with low agency when examining an increase in either wasteful spending or merger and acquisition activity. Moreover, there has been no meaningful debt reduction. If 30% of repatriations were designated to shareholder payouts and consolidated cash holdings decreased by 48% in total, why did firms retain roughly half of the freed cash on their balance sheets (Albertus, Glover, and Levine 21)?

Albertus et al. propose several explanations for these counterintuitive findings. The initial interpretation is that liquidity and access to capital markets were not a constraint for U.S. firms. The paper tests for adjustment lags by extending the sample through 2021 and finds a slight reversal in cash-holding behavior. One possibility is that the lower corporate tax rate made it less costly for the company to hold cash, and firms felt less incentivized to distribute it. Firms also hoarded cash due to policy uncertainty, especially a lack of clarity towards policies implemented by the new administration.

This paper serves as a cautionary example of the limitations of supply-side tax cuts in stimulating economic growth (Albertus, Glover, and Levine 23–24).

Our second paper is an IMF Working Paper by Kopp et al., titled *U.S. Investment Since the Tax Cuts and Jobs Act of 2017*. While Albertus et al. found that repatriated cash failed to invigorate investment, Kopp et al.'s broader analysis reveals that firms' altered responsiveness to tax incentives limited even demand-side mechanisms. Policymakers in favor of the Tax Cuts and Jobs Act argued that its reduction of the user cost of capital would stimulate investment to cover its \$1.9 to \$2.3 trillion 10-year cost (Kopp et al. 4). Unlike the Albertus paper, this paper investigates the comprehensive impact of the TCJA, rather than focusing on a specific provision.

The authors compare 2018 actual investment outcomes with pre-TCJA forecasts from 2015 through 2017 to ensure that estimates were unaffected by tax reform expectations, alongside corporate outlook surveys and balance sheets (Kopp et al. 8).

Studies found that business investment exceeded forecasts by 4.5% by the end of 2018, and Q4/Q4 growth was 3.5 percentage points higher than predicted. The United States outperformed other advanced economies in 2018, with tax cuts aligning with or underperforming expectations, and the most pronounced growth centered on equipment, software, and intellectual property (Kopp et al. 3-4).

The paper suggests that the strong investment response was driven mainly by demand growth rather than the lower cost of capital. Both the national personal income tax reduction provisions issued by the TCJA and the increased government spending of the 2018 Bipartisan Budget Act significantly boosted aggregate demand. (Kopp et al. 4) The authors' forward-looking accelerator model yielded results that heavily tied the increased investment by U.S. firms to demand-side conditions (Kopp et al. 7). Multiple surveys conducted concluded that there was a rising demand from the end of 2017, based on credible and undisputed empirical data. Other inspections revealed that only 10 to 25% of firms accredited greater investment to the TCJA's tax savings and business deductions (Kopp et al. 8).

While reliance on aggregate demand through higher disposable income and stronger GDP enhanced firm preparedness for investment in line with the accelerator theory, the paper finds that the TCJA's effect was disappointing compared to previous U.S. tax cuts, despite exceeding short-run forecasts.

According to U.S. Treasury data, even though corporate tax revenues fell by 31%, merely 20% of the incremental cash was designated towards capital expenditures or research and development. The surplus was used for healthy stock market behavior, adhering to established corporate practices. Experimental elasticity variables suggest that the TCJA should have increased real investment by 3.4 - 7.2 percentage points and sponsored a real GDP growth by 0.9 - 1.8 percentage points. Observed GDP was only 0.7 percentage points, completely falling short of predictions, and as we know, observed investment growth was only 3.5 percentage points (Kopp et al. 9). Two key elements were at play: policy uncertainty and an increased average corporate market power.

With the risk of various trade wars and tariff threats looming, firms and households found it financially precarious to make bold investments or expenditures, respectively. In the absence of such uncertainty, approximately a 0.4% increase in investments could have commenced (Kopp et al. 10-11).

Perhaps a more considerable factor is market power. Average corporate market power rose by 42% from 1980 to 2016. Higher market power, which enables firms to impose larger markups on their products, reduces their sensitivity to tax cuts and results in a more modest boost to GDP. The paper finds that firms with greater market power invested less in 2018 than those with weaker market presence, since the latter felt the impact of the tax cuts more strongly. However, the rise of hierarchically high-market-share industries weakened the effectiveness of the tax cuts on national output (Kopp et al. 11).

Our last paper is *How Did the Tax Cuts and Jobs Act Impact Stock Prices, Business Investment, Economic Growth, and Unemployment in the United States?*, by Ekmekjian and Snyder. The paper confirms that supply-side models of business tax cuts, which were intended to initiate a trickle-down effect and accelerate GDP growth and employment, were unfulfilled by the TCJA (Ekmekjian and Snyder 4).

The authors utilize U.S. data from 1960 to 2019, including real GDP, employment, corporate after-tax profits, and the Dow Jones Industrial Average (DJIA), a prominent stock market index. They employ an Error Correction Vector Autoregression model. This statistical technique captures both short-term fluctuations and long-term equilibrium relationships to track how each variable responds to tax changes, demonstrating the extent to which shocks in different variables cause variation in a variable (Ekmekjian and Snyder 6-7).

Ekmekjian and Snyder conclude that the TCJA had little to no statistically significant effect on GDP, business investment, or unemployment, despite previous U.S. tax cuts delivering a 4 to 6% GDP boom (Ekmekjian and Snyder 5). However, it did indeed cause a sizable increase in stock market prices. Both Kopp et al. and Ekmekjian and Snyder agree that firms implemented conventional stock market practices after the corporate tax cut. Still, both studies disagree on the measure of the TCJA's lackluster effects on investment and GDP.

Corporate tax rates displayed a less than 2% relation to GDP variation, a less than 5% relation to business investment variation, and a less than 1% relation to employment variation. They also find that GDP explained most of its own innovations, with a moderate spike that faded quickly, suggesting that almost no long-run growth resulted from the TCJA (Ekmekjian and Snyder 8–11). Like Kopp et al.'s findings, the null correlation between tax cuts and GDP, real investment, and employment growth strengthens the claim that investment is tied not to tax cuts, but rather to aggregate demand. The Keynesian school of thought, which posits that business tax cuts are primarily used for stock buybacks and have little impact on spurring business investment, is corroborated by previous studies that found a 1% decrease in the corporate tax rate led to a statistically insignificant 0.4% increase in GDP and a 0.3% increase in employment (Ekmekjian and Snyder 5). Notably, the authors found that the 2017 corporate tax cuts accounted for 10 to 15% of the DJIA's movement and approximately 24% of innovation in the stock market (Ekmekjian and Snyder 10).

## Discussion

The three studies collectively present a discrepancy between supply-side expectations and empirical evidence, in that firms prioritized improved financial markets over capital expenditures. This gap can be attributed to the theoretical limitations of investment theories, whose underlying assumptions frequently fail to account for shifting economic conditions. Both the neoclassical and Tobin's Q investment theories assume that firms reside in perfectly competitive markets. However, Kopp et al. have shown that U.S. corporations have generally accrued significant market power, and firms in concentrated industries are less financially obliged to reinvest savings into capital formation. These theoretical models also assume perfect certainty about current and future economic circumstances, but all three papers convey a hesitancy in investing to mitigate risk. Because investment is irreversible, firms muted their investment behaviors due to a lack of clarity surrounding the new administration; uncertainty was concentrated around tariff escalations, potential trade wars, and the Tax Cuts and Jobs Act's newly established GILTI, FDII, and BEAT international tax reforms. Similarly, theories like Jorgenson's presume instantaneous adjustment to the desired capital stock, but policy uncertainty and real-world decision-making lags exist.

In contrast, the Accelerator Model of Investment was most accurate in predicting the financial reverberations of the TCJA. Kopp et al.'s data explicitly showcases the robust linkage between aggregate demand and investment, and Ekmekjian and Snyder's data note an impressive degree of covariance between greater post-tax profits and stock market pursuits.



This aligns with the findings of Albertus et al. and Erkmekjian and Snyder—that the TCJA failed to spur investment through repatriations and more broadly, respectively— which evince that lowering the user cost of capital is insufficient to boost investment when firms face policy uncertainty and already have ample access to financing. While Kopp et al. and Erkmekjian and Snyder differ on whether the TCJA generated short-term investment growth, both studies agree that any growth was only short-term. Demand-side growth was temporary since uncertainty and structural market power blunted the multiplier-accelerator effect.

## Conclusion

This paper elucidates the multifaceted interrelation between inveterate theoretical models and the empirical activity of firms in response to the Tax Cuts and Jobs Act. Hefty heterogeneous supply-side provisions that unlocked foreign capital, offered openhanded investment tax credits, and enacted a historic tax abatement somehow failed to elicit an appreciable investment response. However, the contrariness with both policymakers and decades of investment theory might be resolved by uncertainty, market power, and access to capital. Further avenues for research should be explored in the area of tax cuts to gather more conclusive evidence and improve policymaking.

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