

The Effect of the Tax Cuts and Jobs Act of 2017 on Multinational Firms' Capital Investment: Internal Capital Market Frictions and Tax Incentives

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ABSTRACT: The Tax Cuts and Jobs Act of 2017 (TCJA) imposes a mandatory repatriation tax on multinational firms' unremitted foreign earnings. The new tax policy reduces internal capital market frictions through this deemed repatriation of unremitted foreign earnings and the elimination of future repatriation tax costs. This change to the United States corporate tax policy gives multinational firms access to lower cost internal capital which could be used to fund domestic investment opportunities. However, provisions within the TCJA also incentivize multinational firms to increase investment in foreign rather than domestic tangible assets. This study provides evidence that firms with high pre-TCJA repatriation costs have an increase in foreign, rather than domestic, capital expenditures. This outcome conflicts with a stated goal of the TCJA to spur domestic economic growth and highlights an unintended consequence of the TCJA.

Keywords: Tax Cuts and Jobs Act; capital investment; internal capital market; Global Low-Taxed Intangible Income; Foreign-Derived Intangible Income.

JEL Classifications: F23, G31, G38, H25, M40, M48.

Data Availability: Data are available from the public sources cited in the text.

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1. INTRODUCTION

The Tax Cuts and Jobs Act of 2017 (TCJA) dramatically changed the United States (U.S.) corporate tax landscape. Before the TCJA, if U.S. multinational firms repatriated earnings from a foreign subsidiary to the U.S. parent, they were required to pay repatriation taxes on the difference between the U.S. statutory tax rate and the effective foreign tax rate when the U.S. tax rate was higher. As a result, many firms avoided repatriation taxes and consequently held large amounts of cash overseas (Foley, Hartzell, Titman, and Twite 2007; Hanlon, Lester, and Verdi 2015), which created internal capital market frictions between foreign subsidiaries and the U.S. parent (De Simone and Lester 2018). The TCJA requires a deemed repatriation of undistributed foreign earnings (UFE) and eliminates future federal repatriation tax costs for U.S. multinational firms.¹ The intent of this change is to decrease internal capital market frictions and allow large amounts of foreign cash to be repatriated to the domestic parent (Garber 2017) to increase domestic capital investment. This is one of the stated goals for the tax legislation.^{2,3}

The TCJA also includes several provisions which could result in the unintended consequence of incentivizing multinational firms to invest in foreign assets. First, the TCJA introduces a global intangible low-taxed income (GILTI) inclusion to discourage income shifting from the U.S. to foreign jurisdictions and/or among foreign jurisdictions. In addition to the GILTI inclusion, the TCJA also creates the foreign-derived intangible income (FDII) deduction, which

¹ See Section 2 for additional details.

² Additionally, the TCJA increases bonus depreciation to 100 percent for qualified property acquired after September 27, 2017, encouraging capital expenditures.

³ According to the then Speaker of the House, Paul Ryan, the TCJA would, "...help economic growth and jobs and higher wages" (Inskeep 2017). President Trump claimed that these provisions would provide "rocket fuel" to the U.S. economy by spurring domestic investment and increasing jobs for American workers.

incentivizes U.S. firms to export products and services to foreign markets and maintain ownership of intellectual property in the U.S. Importantly, both GILTI and FDII proxy for intangible income using a return on domestic and foreign tangible assets respectively. Thus, to minimize overall taxes, firms can minimize their GILTI inclusion and maximize their FDII deduction by increasing foreign rather than domestic investment in tangible assets. Accordingly, this study examines whether the TCJA influences multinational firms' capital investment behavior and, in particular, whether the TCJA induces firms to increase domestic or foreign investment.

The recent passing of the TCJA provides a salient setting to investigate the effect of internal capital market inefficiencies on firm investment. In particular, does a decrease in internal capital market frictions affect firms' capital investment behavior? The literature provides evidence that repatriation costs lead to an increase in cash held by foreign subsidiaries (Foley et al. 2007; Hanlon et al. 2015), resulting in a higher likelihood of managers using foreign cash for value-destroying foreign investments (Hanlon et al. 2015; Edwards, Kravet, and Wilson 2016), less efficient investment (Amberger, Markle, and Samuel 2018), fewer shareholder payouts and higher levels of abnormal debt (Beyer, Downes, and Rapley 2017; Nessa 2017; De Simone and Lester 2018). If firms have domestic capital investment opportunities and financial constraints (i.e., limited internal funds and costly access to external funds), a decrease in internal capital market frictions from reduced repatriation costs should increase their capital investment. Based on internal capital market theory, we expect an increase in firms' domestic capital expenditures following a decrease in internal capital market frictions (i.e., a decrease in repatriation costs) from the TCJA (Myers and Majluf 1984).

Opponents of the TCJA argue that the repatriated earnings would have a significant effect on shareholder payouts, but not domestic investment (Bloomberg 2017). For example, economist Kyle Pomerleau stated: “A company could get an extra couple of billion from overseas, but that doesn’t change their willingness to invest the cash. Most analysts, myself included, assumed that repatriation would provide no boost in investments” (Davis and Chandra 2018). Relatedly, S&P 500 dividends and stock repurchases were the highest they have ever been during the fourth quarter of 2018; these firms’ shareholder payout totaled a record-high \$1.26 trillion during 2018 (PR Newswire 2019). Consistent with these expectations, prior research documents that the American Jobs Creation Act (AJCA) tax holiday resulted in repatriations by firms with limited investment opportunities, and these firms increased payouts to shareholders, but only marginally increased domestic investment (Blouin and Krull 2009; Dharmapala, Foley, and Forbes 2011). According to the literature on the AJCA tax holiday, if firms do not have domestic investment opportunities and/or are not financially constrained, we would not expect a change to domestic investment following the TCJA.

We examine our research question using the TCJA as an exogenous shock to firms’ internal capital markets. The sample is comprised of 1,804 (993) U.S. firms (U.S. multinational firms) with three quarters of data before and after the TCJA enactment (December 22, 2017) comprising 10,824 (5,958) firm-quarter observations.⁴ Using a difference-in-differences design, we first document a significant increase in capital expenditures after the TCJA passage for U.S. multinational firms but not for domestic-only firms, suggesting that the change in capital expenditures is not only a function of the change in bonus depreciation rules or the reduced statutory tax rate. Limiting the sample to only multinational firms, we provide evidence that

⁴ To be included in the sample, each firm must have quarterly data for all six quarters.

firms with higher (pre-TCJA) repatriation costs increase their capital expenditures in the post-TCJA period more than firms with lower repatriation costs. The increase in investment post-TCJA for firms with high repatriation costs is greater for firms with more total cash and foreign cash. These firms could have utilized this cash in foreign operations pre-TCJA, suggesting that if the documented increase in capital expenditures relates to foreign operations, the TCJA changes incentives for investment in foreign capital expenditures through GILTI and FDII.

We next examine whether the increase in investment post-TCJA is an increase in domestic or foreign investment. Our initial investment proxy, total capital expenditures, is an aggregate firm-level proxy and does not differentiate between domestic and foreign investment. Lower tangible foreign assets increase the GILTI inclusion and higher tangible domestic assets decrease the FDII deduction. Therefore, an increase in general investment post-TCJA could represent the unintended consequence of increasing foreign rather than domestic investment. We hand-collect required segment disclosures of net property, plant, and equipment for domestic and foreign operations (see ASC 280-10-50-41). We directly examine whether domestic or foreign investment underlies the documented increase in total investment. We find that firms with high repatriation costs have a significantly greater increase in foreign property, plant, and equipment investments post-TCJA than pre-TCJA while these same firms with high repatriation costs have no change in domestic property, plant, and equipment investments during the same periods. Our results are consistent with foreign capital expenditures rather than domestic capital expenditures influencing the increase in investment post-TCJA, which is opposite of Congressional intent. This finding is consistent with the idea that firms are incentivized to increase tangible foreign property (GILTI inclusion) and penalized for increasing tangible domestic property (FDII deduction) to reduce overall tax expenditures.

To provide large sample evidence, we use cross-sectional analysis based on foreign versus domestic investment characteristics to identify what type of firms are increasing investments. The partitions include the ratio of foreign versus domestic property, plant, and equipment, the ratio of foreign pretax income to total pretax income, and median income shifting measures. Our results concentrate in those firms with more foreign property, plant, and equipment compared to domestic property, plant, and equipment levels, more foreign pretax income, and more income shifting. These results indicate that our primary results relate to firms with the highest investment in foreign operations and thus the greatest ability to engage in tax planning to minimize the GILTI inclusion and maximize the FDII deduction.

In additional analysis, we examine whether our results relate to firms most likely to benefit from a decrease in internal capital market frictions. Specifically, the opportunity for internal capital markets to provide value is greatest for financially constrained firms (Weston 1970; Williamson 1975; Stein 1997; Billett and Mauer 2003). We use Altman's Z-Score as our measure of financial constraint, partitioning the sample based on median Z-Score. If domestic investments underlie our results, we expect the association between pre-TCJA repatriation costs and capital expenditures to only exist for financially constrained firms. However, if foreign investments underlie our main results, we should find no difference in capital expenditures post-TCJA between the two partitions. We find that capital expenditures increased significantly post-TCJA for firms with high repatriation costs regardless of financial constraint.

We make three contributions to the literature. First, Clemons and Shevlin (2016) argue that policymakers only consider academic research when it is directly useful to those involved in the policymaking process, and the authors argue the most effective way for research to affect tax policy is to specifically discuss tax policy in research papers. This paper accomplishes both of

those objectives. The findings in our study highlight an unintended consequence of GILTI and FDII, and we identify a potential source of this outcome. Given a stated objective of tax reform was to increase domestic investment but foreign investment increased for firms with high (pre-TCJA) repatriation costs, we believe our findings are particularly relevant to policymakers. Specifically, we provide evidence about investment behavior after the enactment of the TCJA.

Second, this study builds on the prior literature examining the effect of the AJCA tax holiday on domestic investment (Blouin and Krull 2009; Dharmapala et al. 2011). Specifically, the prior literature findings are inconsistent with the idea that domestic operations of U.S. multinationals were financially constrained because they do not document an increase in investment following the AJCA tax holiday. While the AJCA was a temporary, non-mandatory tax holiday, the TCJA is mandatory, requiring a deemed repatriation with a change to a modified territorial system. However, despite the differences in the tax policies, our results also indicate that domestic operations of U.S. multinationals with high (pre-TCJA) repatriation costs were not financially constrained before the TCJA because we do not document an increase in their domestic investment following the TCJA.

Finally, we contribute to the literature examining the influence of taxes on firm decision-making. Edwards et al. (2016) and Hanlon et al. (2015) provide evidence that firms make less successful foreign acquisitions with trapped foreign cash. Additionally, Blouin and Krull (2009) and Dharmapala et al. (2011) provide evidence that firms increased share repurchases in response to the AJCA tax holiday. We contribute to this literature by providing evidence that firms increased foreign capital expenditures in response to the TCJA, indicating that taxes play a significant role in firm investment decisions.

The next section describes the Tax Cuts and Jobs Act of 2017. Section 3 reviews the relevant literature and develops hypotheses. Section 4 presents the research methodology and sample selection. Section 5 discusses the empirical results, and Section 6 concludes the paper.

2. THE TAX CUTS AND JOBS ACT OF 2017

President Trump and a Republican-controlled Congress turned their attention to tax reform in the late stages of summer 2017. The House Ways and Means Committee released a draft bill on November 2nd and approved it on November 9th. On November 16th the House floor passed a revised version, and the Senate Finance Committee approved a version of the tax reform bill. The Senate passed a revised bill on December 2nd. The final TCJA was passed in the House and Senate on December 19th and December 20th, respectively. President Trump then signed the TCJA into law on December 22, 2017.

Major corporate tax changes under the TCJA fall into four categories: statutory tax rate decrease, 100 percent bonus depreciation, interest deductibility, and foreign earnings taxation. First, the TCJA reduces the corporate statutory tax rate from 35 to 21 percent. Second, the TCJA allows firms to deduct 100 percent of qualified capital expenditures as bonus depreciation and increases IRC Sec. 179 expensing to \$1,000,000. Previously, firms could deduct 50 percent of capital expenditures as bonus depreciation with the ability to expense an additional \$510,000 in qualifying IRC Sec. 179 depreciation. Third, the TCJA limits the deductibility of business interest expense to business interest income plus 30 percent of adjusted taxable income.⁵ Fourth, the TCJA moves from a modified worldwide tax system to a modified territorial tax system.

⁵ Adjusted taxable income is computed without allowable deductions for amortization, depreciation, depletion, or business interest expense. Additionally, firms whose average gross receipts do not exceed \$25 million for the three prior years are exempt from the business interest expense limitation.

To transition the system that U.S. corporations use to calculate their tax liabilities, the TCJA required a deemed repatriation of unremitted foreign earnings from specified foreign corporations (SFCs).⁶ The deemed repatriation is subject to a dividends received deduction (DRD) that effectively reduces the tax rate to 15.5 percent for foreign cash and 8 percent for other assets with the ability to utilize foreign tax credits (FTCs) to reduce this tax liability, which is payable over eight years (Nevius 2017). Under the new, modified territorial tax system, SFCs receive a 100 percent dividends received deduction for foreign earnings, effectively eliminating U.S. federal repatriation taxes on those future earnings.⁷

However, the modified territorial tax system contains several new provisions intended to reduce income shifting. First, the TCJA introduces a GILTI inclusion to discourage income shifting from the U.S. to foreign jurisdictions and/or among foreign jurisdictions. Before the TCJA, Subpart F rules were intended to prevent U.S. firms from shifting income to low-tax foreign jurisdictions. The TCJA enactment of the GILTI inclusion is a much broader inclusion regime, requiring immediate taxation of controlled foreign corporations (CFCs) foreign earnings. IRS Sec 951(A)(b) requires U.S. firms to calculate “tested income” or “tested loss” of each CFC; firms then net these amounts, arriving at “net CFC tested income.” Finally, to arrive at firms’ GILTI inclusion amount, firms must calculate their deemed tangible income return for the year. Firms calculate the deemed tangible income return as the excess of 10 percent of the aggregate of a shareholder’s pro rata share of the qualified business asset investment for each of its CFCs for a tax year, which is tangible property used in a trade or business of a CFC. Firms then receive a

⁶ SFCs are controlled foreign corporations with a domestic corporation shareholder owning 10 percent or more of the stock for its last tax year prior to January 1, 2018. U.S. multinational companies include as subpart F income their pro-rata share of the greater of the SFCs accumulated post-1986 deferred foreign income determined as of November 2 or December 31, 2017.

⁷ U.S. multinational firms could still have state repatriation taxes and foreign withholding taxes on remitted earnings. As a result, some firms have significantly reduced rather than eliminated internal capital market frictions with regards to repatriated funds.

50 percent deduction of their net GILTI inclusion under IRC Sec. 250(a)(1)(B). Because of the complexity involved in the GILTI calculation, we provide examples of calculating the GILTI inclusion in Appendix A.

In addition to the GILTI inclusion, the TCJA also creates the FDII deduction, which incentivizes U.S. firms to export products and services to foreign markets and maintain ownership of intellectual property in the U.S. The FDII deduction is equal to 37.5 percent of FDII for U.S. firms. The FDII deduction proxies for intangible income from intellectual property located in the U.S. by allowing a deduction for income exceeding a 10 percent return on tangible assets rather than calculating intangible income from intellectual property located in the U.S. directly. When firms increase their investment in tangible domestic assets, they decrease their FDII deduction. Because of its complexity, we provide examples of FDII deduction calculations in Appendix A. Importantly, both GILTI and FDII proxy for intangible income rather than calculating these amounts directly. Thus, to minimize overall taxes, firms can minimize their GILTI inclusion and maximize their FDII deduction by decreasing domestic investment and increasing foreign investment in tangible assets.

3. HYPOTHESIS DEVELOPMENT

3.1 Internal Capital Market and Domestic Investment

Firms with efficient internal capital markets create value by allocating resources to business segments unable to generate sufficient funding for investment opportunities (Weston 1970; Williamson 1975; Stein 1997; Billett and Mauer 2003). For example, firms can use cash flow from one business segment or division to fund a capital project in another business segment or division. Efficient internal capital markets allow financially constrained business segments to access lower cost internal capital to fund positive net present value projects.

The literature documents several frictions that create inefficient internal capital markets: internal agency costs, external agency costs, and repatriation costs. First, Desai, Foley, and Hines (2007) suggest that when internal agency problems between parent company managers and foreign operations managers increase, firms are more likely to repatriate cash held in foreign subsidiaries to avoid foreign operations managers' self-maximizing behavior. For firms with centralized Treasury functions, internal agency costs are less of a concern. However, external agency costs, arising from agency conflict between parent company managers and shareholders, may also increase the likelihood of misallocation of internal resources. The literature suggests external agency costs could encourage managers to extract private benefits of control by investing in suboptimal growth opportunities (Jensen 1986; Hope and Thomas 2008), make value-destroying capital expenditures (Shin and Stulz 1998) and acquisitions (Hanlon et al. 2015), and acquiesce to rent-seeking behavior by subsidiary managers (Datta, D'Mello, and Iskandar-Datta 2009).

Finally, repatriation costs limit firms' ability to allocate resources among their domestic and international business operations efficiently. Theory and prior empirical work indicate that using internal capital to fund operations within a firm is generally less costly than external capital because of information asymmetry problems (Myers 1984; Myers and Majluf 1984; Shyam-Sundars and Myers 1999). However, large multinational firms continued to issue debt to satisfy investors' demands of return of capital in the pre-TCJA era. For example, to complete repurchases and the payment of dividends, Apple borrowed \$17 billion in 2013 (Lattman and Eavis 2013), and eBay borrowed \$3 billion in 2012 (Mead and Kucera 2012). Beyer et al. (2017) provide evidence consistent with repatriation costs increasing abnormal debt to fund shareholder payouts. De Simone and Lester (2018) document that frictions created by repatriation taxes

explain the use of external domestic debt financing by these cash-rich firms. Because of the increased tax and financial reporting costs associated with repatriations, research suggests a positive association between repatriation costs and cash held by foreign subsidiaries (Foley et al. 2007; Hanlon et al. 2015).

Prior literature explores the effect of the American Jobs Creation Act on firm behavior. The AJCA temporarily decreased repatriation taxes on foreign earnings, presumably making internal capital less costly to access.⁸ On the one hand, Blouin and Krull (2009) and Dharmapala et al. (2011) provide evidence consistent with firms using repatriated earnings from the AJCA tax holiday to increase shareholder payouts instead of domestic capital investments. On the other hand, Faulkender and Petersen (2012) find that while most firms that voluntarily repatriated earnings increased shareholder payouts, financially constrained firms increased domestic investment after the AJCA. These results confirm that reductions of internal capital market frictions only increase domestic investment when firms have financial constraints and domestic investment opportunities. Firms will increase domestic investment when the internal capital market frictions previously resulted in foregoing positive net present value projects because the cost of internal capital was too high. Proponents of both the AJCA and TCJA argue that the worldwide tax system leaves U.S. firms financially less flexible and prevents U.S. multinational firms from taking advantage of positive net present value domestic projects.

⁸ Similar to the TCJA, the AJCA provided a dividends received deduction for repatriating firms. However, the AJCA provided an 85 percent dividends received deduction when the statutory tax rate was 35 percent, resulting in an effective 5.25 percent tax rate on repatriated earnings minus any available foreign tax credits. The dividends received deduction was offered on the greater of \$500 million or earnings designated as permanently reinvested in the financial statements issued on or before June 20, 2003. Additionally, repatriation under the AJCA was optional.

3.2 Foreign Investment Incentives

To curb income shifting to foreign jurisdictions under the new territorial tax system, the TCJA includes several new provisions. The GILTI inclusion was designed to not only prevent income shifting to foreign jurisdictions but also to prevent income shifting among foreign subsidiaries. As previously discussed, the GILTI inclusion does not directly calculate intangible income from foreign operations. Thus, increasing investment in tangible foreign assets decreases the GILTI inclusion. At the same time, the FDII deduction was designed to encourage exports and for U.S. firms to maintain intellectual property in the U.S. However, as detailed in Appendix A, because the FDII deduction does not directly calculate intangible income of the U.S. firm, firms can maximize their FDII deduction by *decreasing* domestic investment in tangible assets. Therefore, the new provisions of the TCJA encourage firms to increase foreign investment in tangible assets rather than domestic investment in tangible assets.⁹ Given that most firms did not increase domestic capital expenditures following the AJCA (Blouin and Krull 2009; Dharmapala et al. 2011; Faulkender and Petersen 2012), and the GILTI's incentive (FDII's penalty) to increase foreign (domestic) capital expenditures, we believe foreign capital expenditures will increase post-TCJA for firms with high repatriation costs. Specifically, the TCJA incentivizes increased investment in general through bonus depreciation and the deemed repatriation, but the GILTI inclusion and FDII deduction incentivize firms to take bonus depreciation on foreign rather than domestic capital expenditures. Presumably, firms with previously high repatriation costs on unremitted foreign earnings are now in the best position to take advantage of these provisions.

⁹ Additionally, bonus depreciation is available to U.S. parent firms on qualified property placed into service after September 27, 2017 with no distinction between domestic and foreign qualified property.

As summarized above, the TCJA enables firms to increase domestic investment because of a reduction in internal capital market frictions and incentivizes firms to increase foreign investment. Both situations lead us to predict an increase in total investment after the TCJA. Whether firms increase domestic and/or foreign capital investment is less clear. Multinational firms are often the largest, most financially healthy firms, and therefore may not need to access internal capital to increase domestic investment. If they can access external capital already, then the change in access to internal capital may not affect domestic investment. We formally state our first hypothesis as follows:

Hypothesis 1. *Firms with higher repatriation costs increase total capital expenditures more than firms with lower repatriation costs after the enactment of the Tax Cuts and Jobs Act of 2017.*

Additionally, if U.S. multinationals were financially constrained pre-TCJA, then utilizing internal capital markets post-TCJA for investing in positive, domestic net present value projects could provide benefits that outweigh the costs of an increased GILTI inclusion and reduced FDII deduction. In other words, if the after-tax benefits of domestic investment outweigh the after-tax costs of domestic investment (i.e., increased GILTI inclusion and reduced FDII deduction), firms could invest in domestic rather than foreign capital expenditures. Prior literature (e.g., Desai, Foley, and Hines 2005; Lester 2019) shows that U.S. multinationals' domestic and foreign investment can be complements or substitutes. Accordingly, we state the following hypotheses in the null form:

Hypothesis 2a. *Firms with higher repatriation costs do not change domestic capital expenditures more than firms with lower repatriation costs after the enactment of the Tax Cuts and Jobs Act of 2017.*

Hypothesis 2b. *Firms with higher repatriation costs do not change foreign capital expenditures more than firms with lower repatriation costs after the enactment of the Tax Cuts and Jobs Act of 2017.*

While Blouin and Krull (2009) and Dharmapala et al. (2011) find that domestic investment remained unchanged post-AJCA, there are differences between the TCJA and AJCA that could result in differences in firms' investment. Specifically, while the AJCA was temporary and participation was optional, the deemed repatriation under the TCJA and the modified territorial tax system are mandatory. Additionally, Hanlon, Hoopes, and Slemrod (2018) analyze earnings conference calls and find a number of firms stating they would increase investment post-TCJA. Further, their study finds that firms with greater expected tax savings from the TCJA are more likely to announce investment plans. Therefore, because repatriation taxes increase the cost of accessing internal capital, the new U.S. tax policy significantly reduces repatriation taxes, and firms are communicating plans to increase investment, U.S. multinational firms could increase capital expenditures post-TCJA despite results in the prior literature regarding the AJCA.

4. RESEARCH DESIGN AND DATA

4.1 Research Design

To analyze the TCJA's effect on corporate investment, we first use a difference-in-differences approach in which we compare the investment of multinational firms to domestic-only firms before and after the TCJA's enactment. We then limit our analysis to only multinational firms and examine the change in investments after the TCJA's enactment. Our model examines investment levels (capital expenditures) as a function of repatriation costs and other firm characteristics. The model is similar to Canace, Jackson, and Ma (2018), modified for quarterly data.

$$\begin{aligned}
 CAPX_{i,q} = & \alpha_0 + \alpha_1 POST_q + \alpha_2 MNC_i \text{ (or } REPAT\ COST_i) \\
 & + \alpha_3 MNC_i \text{ (or } REPAT\ COST_i) \times POST_q + \alpha_4 SIZE_i + \alpha_5 TOBINSQ_i + \alpha_6 CF_{i,q} \\
 & + \alpha_7 CAPX2016_i + \alpha_8 BTM_i + \alpha_9 SALES\ CHANGE_{i,q} + \alpha_{10} LEVERAGE_i \\
 & + \alpha_{11} TOTAL\ CASH_i + \alpha_{12} DIV_{i,q} + \alpha_{13} TSTK_{i,q} + \alpha_{14} RD_{i,q} + \alpha_{15} ACQ_{i,q} + \varepsilon
 \end{aligned} \tag{1}$$

CAPX is quarterly capital expenditures scaled by total assets at the beginning of the quarter.¹⁰ Research and development expense (R&D) is another potential proxy for investment. However, R&D does not add to QBAI and thus is not a useful proxy in our setting based on our research question. *POST* is 1 for quarters ending after December 22, 2017, and zero otherwise.

We measure repatriation costs two ways. First, *MNC* is 1 if the firm reports a value for pretax foreign income in any year from 2014 – 2016. Our second measure of repatriation costs, *REPAT COST*, represents the cost to repatriate before the TCJA and is permanently reinvested earnings (PRE) multiplied by the difference between 0.35 and the three-year foreign effective tax rate. We measure the three-year foreign effective tax rate as the cumulative total of 2014 – 2016 current portion of foreign tax expense (as a proxy for foreign taxes paid) scaled by the cumulative total of pretax foreign income over the same period. If this calculation is negative or contains missing data, then *REPAT COST* is zero. Our measure is similar to Nessa (2017) and Foley et al. (2007), but we use PRE instead of current year pretax foreign income because their research questions relate to the cost of repatriating current year foreign earnings. In contrast, our research question examines the pre-TCJA cost of repatriating cumulative foreign earnings because this cost represents the internal capital market friction created by repatriation taxes. Therefore, PRE is a better proxy for the cumulative total of foreign earnings in our setting.

We estimate Equation (1) for two sets of samples. The first sample includes both multinational and domestic-only firms. The coefficient estimate on $MNC \times POST$ provides an estimate of the change in investment for multinational firms versus the change in investment for domestic-only firms. We continue the analysis with this sample and replace *MNC* in the model

¹⁰ Inferences are similar to those presented when we scale by total assets at the end of the 2016 fiscal year (untabulated)

with *REPAT COST*. Next, we restrict the second sample to be only multinational firms for our primary test of Hypothesis 1, which predicts post-TCJA capital expenditure increase more for firms with higher repatriation costs. A positive and significant estimated coefficient on the interaction $REPAT\ COST \times POST$ (α_3) provides support for Hypothesis 1. Our test of Hypothesis 2 is discussed in more detail later.

SIZE is the natural logarithm of total assets at the end of 2016. *TOBINSQ* is the market value of assets at the end of the 2016 divided by the book value of assets at the end of the 2016. The market value of assets equals the book value of assets plus the market value of equity minus the sum of the book value of equity and deferred taxes on the balance sheet. Consistent with Kaplan and Zingales (1997), we truncate *TOBINSQ* at a value of 10. *CF* is the firms' quarterly operating income before depreciation and amortization scaled by beginning of the quarter total assets. *CAPX2016* is 2016 annual capital expenditures scaled by total assets at the end of 2016. *BTM* is the book value of equity scaled by the market value of equity, all measured at the end of the 2016 fiscal year. *SALES CHANGE* is equal to quarterly sales minus lagged quarterly sales, scaled by lagged quarterly sales. *LEVERAGE* is long term debt scaled by total assets, all measured at the end of the 2016 fiscal year. *TOTAL CASH* is total cash scaled by total assets at the end of the 2016 fiscal year. *DIV* is quarterly dividends scaled by beginning of the quarter total assets. *TSTK* is equal to the change in quarterly treasury stock scaled by the beginning of the quarter total assets. *RD* is quarterly research and development expense scaled by the beginning of the quarter total assets. *ACQ* is quarterly acquisition costs scaled by the beginning of quarter total assets. *DIV*, *TSTK*, *RD*, and *ACQ* are zero when missing. All continuous variables are winsorized at the 1st and 99th percentiles to lessen the influence of outliers.

4.2 Sample Selection

The TCJA became law on December 22, 2017. To reduce noise in the comparison between pre-TCJA to post-TCJA investment, the sample is limited to firms with a fiscal year-end on December 31st and includes the three quarters before and three quarters after the enactment of the TCJA. We exclude fiscal quarters ending on December 31, 2017, because they include both pre- and post-TCJA activity. The sample ends three quarters after enactment (i.e., September 30, 2018) because of data availability and to make the post-period comparable to the pre-period. Specifically, we exclude the fourth quarter of the fiscal year 2018 because we also exclude the fourth quarter of the fiscal year 2017.¹¹ We include firms in the sample if they have six quarters of data available. Thus, the initial analysis utilizes 10,824 quarterly observations for 1,804 individual firms (i.e., multinational and domestic-only firms) with data available on Standard and Poor's Compustat. For the subsequent analysis that is restricted to multinational firms, the sample includes 5,838 quarterly observations for 973 individual firms.

Table 1 reports the summary statistics for the variables used in the study. The mean (median) quarterly capital expenditure is 1.0 (0.6) percent of total assets. By construction, the average for *POST* is 0.5 indicating that each firm has six quarters of data included (i.e., three quarters for both the pre- and post-TCJA periods). Multinational firms comprise 54 percent of the sample. On average, the quarterly sales change is 8 percent and on average total cash comprises 21 percent of total assets. Repatriation cost descriptive statistics are presented for the full sample in addition to the restricted multinational sample (*REPAT COST (MNC)*). Table 1 also includes summary

¹¹ Inferences are similar to those presented when we include the fourth quarter of both 2016 and 2018. The data for fourth quarter 2018 is sparse (62 percent of data from 2018 Q3 is not yet available for 2018 Q4) given that the Compustat download was dated March 18, 2019. Therefore, the results presented use only the three-quarter period. Because capital expenditures tend to increase during the last quarter of the year (Callen, Livnat, and Ryan 1996), we made the research design choice to avoid including different number of fourth quarters between the pre-TCJA and post-TCJA sample-periods.

statistics for a sample of 2018 (scaled) changes in domestic PPE (*CHANGE DA*) and foreign PPE (*CHANGE FA*) that was hand-collected from recently available 10-K data.¹²

5. RESULTS

5.1 Univariate Results

Figure 1 presents univariate statistics for investment levels around the TCJA. Panel A of Figure 1 presents the mean of *CAPX* in the pre- and post-TCJA periods for three sets of firms. Panel A is presented mainly for descriptive evidence of the changes in investment. The first set of firms includes the full sample comprised of both multinational and domestic-only firms (blue/solid). The total number of firm-quarter observations included in this sample is 10,824. The mean capital expenditures for this set of firms decreased from 1.17 percent to 1.15 percent of assets. This difference is not statistically different from zero (t-statistic = 0.65). We then split the sample into its domestic-only (i.e., Compustat reports pretax foreign income as zero or missing value) and U.S. multinational subgroups. The orange/dotted line represents the domestic-only sample and includes 4,986 firm-quarter observations. The mean capital expenditures in the pre- and post-TCJA periods were 1.43 percent and 1.36 percent of assets, respectively (i.e., a 5.2 percent decrease). This difference is not statistically different from zero (t-statistic = 1.21). The third group includes the sample of U.S. multinationals, which the gray/long dash line represents. The mean capital expenditure investment for our sample of multinational firms increased from 0.95 percent (pre-TCJA) to 0.98 percent (post-TCJA) of assets or 2.4 percent. This difference is

¹² The *CHANGE DA* and *CHANGE FA* are the changes in domestic and foreign PPE, all scaled by lagged total assets. On average, domestic PPE increases more compared to foreign PPE. Firms have twice as much domestic PPE levels compared to foreign PPE levels, on average. Foreign PPE levels are also much more stable (i.e., less volatile) compared to domestic PPE levels. As shown in Table 5, firms with high repatriation costs increased foreign investment even though the average firm in the sample has small changes in foreign PPE.

not statistically different from zero (t-statistic = 0.72). Based on univariate statistics, on average, neither domestic-only nor multinational firms appeared to have a response to the TCJA regarding investment levels. However, the difference in the slope of domestic versus multinational firms is significant suggesting that relative to domestic-only firms, multinational firms increased investment (see Table 2, column 3).

Panel B of Figure 1, presents graphical evidence related to our first hypothesis for observations included in the multivariate analysis. Hypothesis 1 predicts that U.S. Multinational firms with higher repatriation costs increase capital expenditures more than U.S. Multinational firms with lower repatriation costs after enactment of the TCJA. Panel B only includes multinational firms; the orange/dashed (blue/solid) line includes firms with repatriation costs in the top quartile (equal to zero). The plotted points are the average capital expenditures for the pre- and post-TCJA periods. From pre- to post-TCJA, firms with zero repatriation costs kept their capital expenditures at 0.98 percent of assets. Firms with repatriation costs in the top quartile increased their capital expenditures from 0.86 percent to 0.98 percent of assets, a 12 percent increase. This difference is statistically significant with a t-statistic of 1.71 (p-value = 0.044). The difference in pre-TCJA capital expenditures for high versus low repatriation cost firms (comparing within pre-TCJA column) is statistically significant (t-statistic = 1.94). The difference in the post-TCJA capital expenditures for high versus low repatriation cost firms is not statistically significant (t-statistic = 0.25).

Using the sample median of assets (1.4 billion, untabulated), the increase of quarterly capital expenditures for high repatriation cost firms equates to a change from 12 million (pre-TCJA) to 14 million (post-TCJA). On an annualized basis, this increase is approximately 8 million or 0.6 percent of assets. The evidence presented in Panel B suggests that, compared to multinational

firms with zero repatriation costs, the TCJA incentivizes firms with high repatriation costs to engage in an economically small increase in capital expenditures. We next utilize multivariate analysis to investigate our hypotheses.

5.2 Repatriation Costs, and Investment: Baseline Regressions

Table 2 presents the coefficient estimates from our baseline regression specification described above in section 4.1. The sample includes three quarters pre-TCJA and three quarters post-TCJA for both multinational and domestic-only firms. The dependent variable is *CAPX* in all columns. Multiple models are presented with the variable of interest, some including and others excluding control variables. Given the similarity in the interpretation of results, we only discuss columns 4 and 8. In column 4, the coefficient estimate on *POST* is not significantly different from zero. Consistent with the univariate evidence, we do not find support for an increase in capital expenditures post-TCJA for domestic-only firms. However, the coefficient estimate on $MNC \times POST$ is positive and significant (t-statistic = 1.89) suggesting that, compared to domestic-only firms, multinational firms increased their capital expenditures in the post-TCJA period. As discussed in the hypothesis development section, this increase could represent domestic or foreign capital expenditures. In column 8, *REPAT COST* is zero for all domestic-only firms. The coefficient estimate on the interaction $REPAT COST \times POST$ is positive and significant (t-statistic = 2.74), suggesting U.S. multinational firms with high repatriation costs increase investment post-TCJA, relative to domestic-only firms.

Table 3 excludes domestic-only firms and presents regression estimates for the sample of multinational firms. The interaction $REPAT COST \times POST$ in column 4 is positive and significant (t-statistic = 2.24) which provides support for Hypothesis 1 and suggests that U.S. multinational firms with higher repatriation costs increase their capital expenditures in the post-

TCJA era. Economically, a one standard deviation increase in repatriation costs (0.0273) results in a 4 percent increase in capital expenditures.¹³

5.3 Total Cash and Foreign Cash

In Table 4, we present cross-sectional analysis based on levels of total cash and cash held by foreign subsidiaries. We expect that the largest increases in investment following the TCJA were among firms that had both higher levels of total cash and, more specifically, foreign cash. These firms are more likely to have the resources (i.e., internal capital) to take advantage of the decreased restriction in internal capital frictions based on the assumption that it is less likely that firms issue additional debt following the TCJA to finance an increase in investment. We use total cash because it allows us to maintain our full sample. We hand-collect foreign cash data from 10-K filings; our foreign cash sample size is reduced because all firms do not disclose disaggregated cash balances. Consistent with the previous tables, the dependent variable is quarterly capital expenditures. Table 4 provides evidence consistent with the expectation that a decrease in repatriation cost leads to increased investment for firms with higher cash reserves. Specifically, the coefficient estimate on $REPAT\ COST \times POST$ is positive and significant when the firm has higher amounts of total cash (column 1) (t-statistic = 2.11) and foreign cash (column 3) (t-statistic = 2.17). Additionally, both coefficient estimates are larger than subsamples with low total cash and low foreign cash (p-value < 0.05). Only firms with more cash, especially cash available at their foreign subsidiaries, benefit from the TCJA's reduction of repatriation costs in terms of increased capital expenditure investment.

¹³ $[\alpha_2 \times \sigma REPAT\ COST + \alpha_3 \times \sigma REPAT\ COST] \div \mu CAPX$

5.4 Domestic and Foreign Investment

The regression results presented in Tables 2, 3 and 4 suggest that multinational firms with high (pre-TCJA) repatriation costs increase capital expenditure investment in the post-TCJA era. This increase in investment could take place in the domestic market as a result of access to lower cost internal capital, or it could take place in foreign markets as a result of the tax incentive included in the TCJA. Disaggregated capital expenditures are not a required disclosure for firms. However, firms are required to include the net property, plant, and equipment levels for both domestic and foreign operations in their annual segment disclosures within their 10-Ks (ASC 280-10-50-41).¹⁴ We hand-collect domestic and foreign net property, plant, and equipment for fiscal years ending during the period 2015 – 2018 for our sample.¹⁵ We perform two tests on whether the increase in investment occurs in the domestic or foreign markets. The first test uses these hand-collected disclosures to compute changes in net domestic and foreign property, plant, and equipment from 2015 to 2016 and 2017 to 2018. We omit the 2016 to 2017 change because the TCJA became effective in this period, and details were made public before the enactment. Therefore, our analysis compares the 2016 change with the 2018 change. Because more than just capital expenditures influence changes in property, plant, and equipment (e.g., asset disposition, discontinued operations, impairments, depreciation horizons, acquisitions), we omit observations with an absolute change in domestic or foreign property, plant, and equipment of greater than 10 percent of assets.¹⁶ However, calculations to determine the GILTI inclusion and the FDII

¹⁴ The Computstat Segment database does provide foreign versus domestic capital expenditures, but less than 10 percent of firms in the database have data for these amounts due to infrequent disclosure.

¹⁵ We acknowledge that net property, plant, and equipment is an imperfect proxy for the tax adjusted basis of Qualified Business Asset Investment (QBAI). However, QBAI is determined using the adjusted basis of tangible property net of depreciation. Depreciation is calculated using the alternative depreciation system (i.e., straight-line) (Ernst and Young 2018), which is consistent with the most common method of depreciation for financial statement purposes. Thus, we believe domestic and foreign property, plant, and equipment are meaningful proxies for QBAI.

¹⁶ Even with this restriction, we acknowledge that the change in PPE is a noisy measure for capital expenditures. However, this is the best publicly available data for disaggregated domestic and foreign capital expenditures.

deduction are based on the level of “specified tangible property” rather than the change. To the extent asset disposition, discontinued operations, impairments, depreciation horizons, and acquisitions affect the level of “specified tangible property,” and the disclosure of domestic/foreign property, plant, and equipment, our inferences remain the same regarding the influence of GILTI and FDII on foreign investment.

Table 5 presents the coefficient estimates for examining the second two hypotheses for a sample of multinational firms. The dependent variable in column 1 (column 2) is the change in net domestic (foreign) property, plant, and equipment. We add *DEPR* measured as annual depreciation scaled by lagged total assets to control for depreciation. All other variables are the same as previously defined. The sample is reduced to 430 observations because it requires annual data, and not all firms’ 2018 data is yet available. The interaction on *REPAT COST* × *POST* is positive and significant only when the dependent variable is the change in net foreign property, plant, and equipment (t-statistic = 1.94). The evidence in Table 5 fails to reject Hypothesis 2a and rejects Hypothesis 2b suggesting that multinational firms were less enabled by the reduction in internal capital market frictions to increase domestic investment than they are incentivized to increase foreign investment to take advantage of tax incentives. Therefore, our findings suggest the increase in investment in the post-TCJA period relates to foreign investment rather than domestic investment. This change in investment is an unintended consequence and contrary to the Congressional intent of the TCJA.

Because the data is limited to the hand-collected sample in Table 5, we perform an additional test examining potential domestic and foreign investment to support our findings. We use three partitions of foreign versus domestic characteristics. We base the partitions on hand-collected net foreign property, plant, and equipment versus net domestic property, plant, and equipment, the

foreign pretax income-to-total pretax income ratio, and high income shifting versus low income shifting.¹⁷ Table 6 presents the regression estimates for the partition regressions. Columns 1 and 2 are disaggregated based on the foreign-to-domestic ratio of net property, plant, and equipment. The coefficient estimate on $REPAT\ COST \times POST$ is positive and significant only when firms have a greater portion of property, plant, and equipment in foreign locations compared to domestic locations. Similarly, columns 3 and 4 are partitioned based on the ratio of pretax foreign income-to-total pretax income. The coefficient estimate on $REPAT\ COST \times POST$ is positive and significant only for the sample that generates a greater portion of pretax income from foreign sources (i.e., column 3). Columns 5 and 6 are partitioned based on the median value of the De Simone, Mills, and Stomberg (2019) income shifting measure.¹⁸ The coefficient estimate on $REPAT\ COST \times POST$ is positive and significant only in the high-income shifting sample. Together, these results suggest that the increase in investment for firms with high repatriation costs is greater among the firms with the greatest reliance on foreign operations. Assuming that a firm will not change its operational focus to the domestic market within the first three quarters following TCJA, this evidence suggests that the increase in investment is greater for foreign markets and not domestic markets. This result provides additional support for the notion that firms increased their tangible foreign property base to avoid taxes based on GILTI inclusions and FDII deductions.

¹⁷ All partitions are based on measures at the end of fiscal year 2016. The sample sizes are reduced from the full sample for each partition because of data availability.

¹⁸ This measure is obtained from Lisa De Simon's website "<https://web.stanford.edu/~lnds/research.html>."

5.5 Additional Analysis

5.5.1 Financial Constraint

Our primary results suggest that firms with high repatriation costs increase foreign investment post-TCJA. We next examine the cross-section of financial constraints using Altman's Z-score measure of financial health. If firms increased domestic investment post-TCJA, then we could expect our results to be stronger for firms in weaker financial health (i.e., greater financial constraints) because these firms would benefit more from the internal capital market friction reduction. Firms that are in a strong financial position should be less affected by a reduction in internal capital market frictions because they have less costly access to external financing and thus are less likely to forgo positive net present value projects. Table 7 partitions the sample into greater or equal to the median Z-Score (column 1) and below the median Z-Score (column 2). The coefficient estimate on $REPAT\ COST \times POST$ is positive and significant in both columns. Additionally, the coefficient estimates are not statistically different between columns. These results are consistent with the notion that the increase in total capital expenditures is a potential unintended consequence of the TCJA providing tax incentives for investment in foreign operations rather than reduced internal capital market frictions increasing domestic investment.

6. CONCLUSION

The recent enactment of the Tax Cuts and Jobs Act of 2017 is a significant change to U.S. corporate tax policy and in particular, significantly reduces repatriation costs of U.S. multinational companies. The TCJA provides a setting to examine whether a reduction in internal capital market frictions affects firms' capital investment behavior. An intent underlying the TCJA is to enable firms to increase domestic investment. However, prior research indicates

that a reduction in internal capital market frictions during the AJCA did not increase domestic investment or only increased domestic investment for a subset of firms who were financially constrained with limited access to external capital (Blouin and Krull 2009; Dharmapala et al. 2011; Faulkender and Petersen 2012).

Additionally, the TCJA also includes aspects that could have the unintended consequence of incentivizing firms to increase foreign rather than domestic investments. Because of the potential conflict created by decreasing internal capital market frictions (i.e., lower repatriation costs) to spur domestic investment and increasing tax incentives for foreign investment, this study examines whether the TCJA influences U.S. multinational firms' investment behavior. Specifically, we seek to understand whether U.S. multinational firms increased domestic or foreign investment after the passing of the new U.S. corporate tax legislation.

Consistent with the findings from the prior literature, we find no evidence of an increase in domestic investment post-TCJA for firms with internal capital market frictions pre-TCJA. However, we do find evidence consistent with an increase in *foreign* investment post-TCJA. We propose that the new provisions introduced by the TCJA provide tax incentives for multinational firms to increase foreign investment. Specifically, the GILTI inclusion (FDII deduction) incentivizing (penalizing) firms to increase foreign (domestic) investment.

We make several contributions to the literature. First, our findings should be of use to policymakers as they evaluate the effectiveness of the TCJA in encouraging domestic. The tax reform created a significant debate regarding its effect and ability to increase domestic investment. Our findings indicate that for some firms, the TCJA could have the opposite effect from its intended purposes. Second, prior research examines the investment consequences of the AJCA. However, the results are mixed on whether the AJCA increased capital investment

(Blouin and Krull 2009; Dharmapala et al. 2011; Faulkender and Petersen 2012). We provide evidence consistent with firms increasing foreign rather than domestic capital investment after the enactment of the TCJA. Finally, we contribute to the literature on the effect of taxes on firm decision-making. Our findings imply that taxes influence managers' investment decisions.

Appendix A

The TCJA incentivizes foreign investment in tangible property through the GILTI inclusion. Specifically, IRC Sec 951(A) requires firms to calculate their pro rata share of tested income from CFCs minus any tested loss from CFCs. This “net CFC tested income” is then reduced by the “net deemed tangible income return,” which is 10 percent of CFC qualified business asset investment. CFC QBAI is tangible property used in trade or business. Firms then receive a deduction for 50 percent of the net GILTI inclusion, which is taxed at the U.S. corporate rate of 21 percent.

The TCJA also disincentives domestic investment in tangible property through the FDII deduction. Specifically, IRC Sec. 250 details that firms receive a deduction for 37.5 percent of their FDII. The FDII calculation is as follows: Deemed Intangible Income \times inclusion percentage, where the inclusion percentage is foreign-derived deduction eligible income divided by total deduction eligible income. Deduction eligible income is a U.S. corporation’s gross income minus specific items including the GILTI inclusion. Foreign Derived Deduction Eligible Income is a subset of deduction eligible income from the sale of property intended for foreign use or services provided to persons, not in the U.S. Deemed Intangible income is the excess of Deduction eligible income over the deemed tangible income return. The deemed tangible income return is 10 percent of qualified business asset investment, which is generally tangible domestic assets that generate deduction eligible income.

Given the complexities of both the GILTI inclusion and the FDII deduction calculations, we provide an illustrative example below. The firm has \$700,000 of gross income of which \$150,000 is from foreign sales. The firm has one controlled foreign corporation (CFC) with an effective foreign tax rate of 5 percent and income of \$100,000. The firm also has \$500,000 to invest in tangible assets. Scenario A illustrates the post-TCJA outcome of making this investment domestically. Scenario B illustrates the post-TCJA outcome of making this investment in a foreign jurisdiction. Critically, the effective tax rate decreases when the firm invests in the foreign subsidiary.¹⁹

¹⁹ IRC Sec. 951 defines tested income, which is equivalent to gross income from a foreign CFC minus allocable deductions. For simplicity, we assume allocable deductions are zero in this example, but we note that foreign tax credit rules could exacerbate the effect we demonstrate when firms have large domestic research and development costs, administrative costs, and interest expense, and they have operations in high-tax countries (Rubin 2018).

Appendix A (continued)

	Scenario 1: \$500,000 PPE Investment in Domestic Parent	Scenario 2: \$500,000 PPE Investment in Foreign Subsidiary
<i>GILTI Inclusion:</i>		
Net CFC Tested Income	\$100,000	\$100,000
Foreign Taxes Paid (5% foreign tax rate)	<u>5,000</u>	<u>5,000</u>
Net CFC Tested Income minus Foreign Taxes Paid	<u>95,000</u>	<u>95,000</u>
CFC Qualified Business Asset Investment	0	500,000
IRC Sec. 951A QBAI Return Percentage	10%	10%
Net Deemed Tangible Income Return of CFC	<u>0</u>	<u>50,000</u>
GILTI Inclusion	95,000	45,000
GILTI Inclusion %	100%	47.4%
IRC Sec. 78 Gross Up for FTC ²⁰	<u>5,000</u>	<u>2,368</u>
Total GILTI Inclusion	100,000	47,368
50% Deduction for GILTI	<u>(50,000)</u>	<u>(23,684)</u>
Net GILTI Inclusion	<u>50,000</u>	<u>23,684</u>
U.S. Tax on Net GILTI Inclusion (at 21% statutory rate)	<u>10,500</u>	<u>4,974</u>
Allowable FTC (80% of IRC Sec. 78 Gross Up for FTC)	<u>(4,000)</u>	<u>(1,895)</u>
Residual U.S. Tax on GILTI	6,500	3,079
<i>FDII Deduction:</i>		
U.S. Gross Income	700,000	700,000
Minus: Subpart F and GILTI inclusions	<u>(100,000)</u>	<u>(47,368)</u>
Deduction Eligible Income (DEI)	600,000	652,632
U.S. Qualified Business Asset Investment	500,000	0
IRC Sec. 250 QBAI Return Percentage	10%	10%
Net Deemed U.S. Tangible Income Return	<u>50,000</u>	<u>0</u>
Deemed Intangible Income	<u>550,000</u>	<u>652,632</u>
Foreign Derived Deduction Eligible Income (FDDEI)	150,000	150,000
Inclusion Percentage: FDDEI/DEI	25%	23%
Foreign Derived Intangible Income	137,500	150,000
FDII Deduction (37.5%×Foreign Derived Intang. Income)	<u>(51,563)</u>	<u>(56,250)</u>
Taxable Income after FDII Deduction	<u>648,437</u>	<u>643,750</u>
U.S. Tax (at 21% U.S. statutory rate)	136,172	135,188
Total U.S. Tax with GILTI and FDII	142,672	138,267
Effective U.S. Tax Rate	20.38%	19.75%
Global Effective Tax Rate	18.46%	17.91%

²⁰ GILTI Inclusion % × Foreign Taxes Paid

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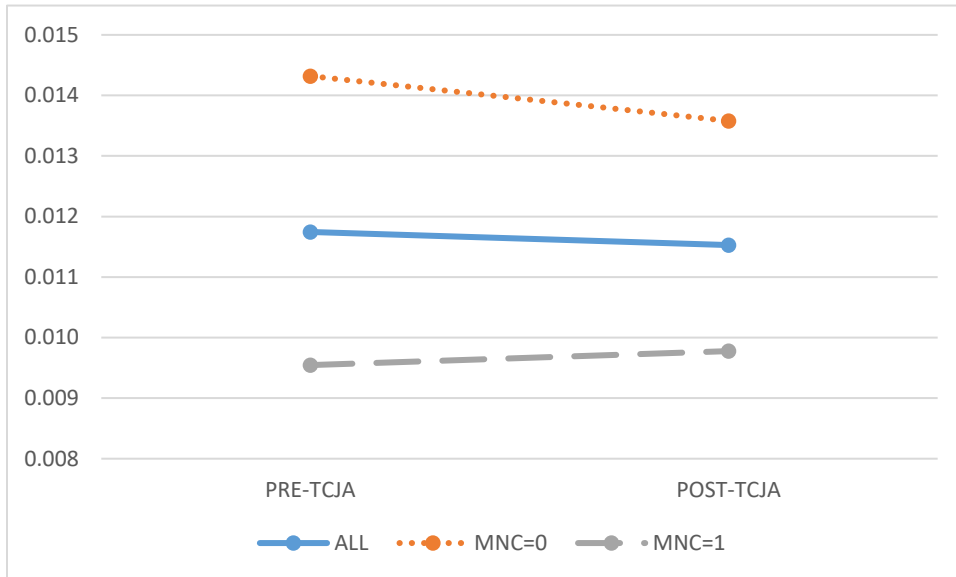
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Figure 1
Capital expenditure around the TCJA

These figures report the mean values of quarterly *CAPX* (capital expenditures scaled by lagged-quarter total assets) in the pre- and post-TCJA period. Panel A includes mean *CAPX* values for all firms, multinational firms (i.e., firms with non-missing pretax foreign income), and domestic-only firms. Panel B reports the mean *CAPX* values for the multinational firm sample with high (i.e., top quartile) and low repatriation costs (i.e., repatriation costs = 0).

Panel A: CAPX means for all firms in the pre- and post-TCJA periods



Panel B: CAPX means for MNC based on repatriation costs in the pre- and post-TCJA periods

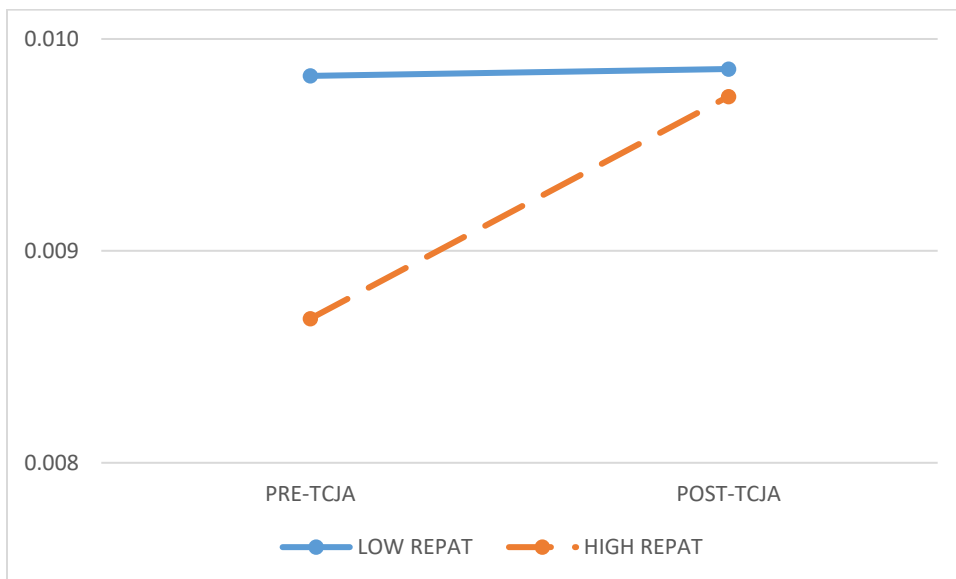


Table 1
Summary statistics

	N	Mean	St. Dev.	Q1	Median	Q3
<i>CAPX</i>	10,824	0.0116	0.0174	0.0023	0.0060	0.0132
<i>CHANGE DA</i>	430	0.0053	0.0220	-0.0025	0.0018	0.0099
<i>CHANGE FA</i>	430	0.0007	0.0173	-0.0038	0.0000	0.0040
<i>POST</i>	10,824	0.5000	0.5000	0.0000	0.5000	1.0000
<i>MNC</i>	10,824	0.5394	0.4985	0.0000	1.0000	1.0000
<i>REPAT COST</i>	10,824	0.0072	0.0216	0.0000	0.0000	0.0002
<i>REPAT COST (MNC)</i>	5,838	0.0126	0.0273	0.0000	0.0000	0.0105
<i>SIZE</i>	10,824	6.2110	2.3890	4.6100	6.3990	7.8660
<i>TOBINSQ</i>	10,824	2.3240	1.7860	1.2480	1.6990	2.7080
<i>CF</i>	10,824	-0.0133	0.1582	-0.0054	0.0229	0.0388
<i>CAPX2016</i>	10,824	0.0439	0.0540	0.0112	0.0262	0.0545
<i>BTM</i>	10,824	0.3201	0.8518	0.1526	0.3289	0.5929
<i>SALES CHANGE</i>	10,824	0.0815	0.4826	-0.0511	0.0203	0.1020
<i>LEVERAGE</i>	10,824	0.2577	0.2744	0.0090	0.2100	0.3870
<i>TOTAL CASH</i>	10,824	0.2119	0.2421	0.0367	0.1186	0.2849
<i>DIV</i>	10,824	0.0026	0.0059	0.0000	0.0000	0.0027
<i>TSTK</i>	10,824	0.0823	0.2097	0.0000	0.0000	0.0482
<i>RD</i>	10,824	0.0184	0.0404	0.0000	0.0000	0.0169
<i>ACQ</i>	10,824	0.0058	0.0286	0.0000	0.0000	0.0000
<i>DEPR</i>	430	0.0404	0.0202	0.0256	0.0356	0.0495

This table reports summary statistics for the main sample of firm-year-quarter observations for three quarters after December 31, 2017 and three quarters before December 22, 2017 for firms with a fiscal year-end of December 31, 2017. *CAPX* is capital expenditures scaled by the beginning of quarter total assets. *CHANGE FA* is the annual change in net foreign PPE scaled by lagged total assets. *CHANGE DA* is the annual change in net domestic PPE, scaled by lagged total assets. *REPAT COST* is permanently reinvested earnings multiplied by the difference between 0.35 and the three-year foreign effective tax rate, measured at the end of fiscal year 2016. Three-year foreign effective tax rate is equal to the current portion of foreign tax expense (to proxy for foreign taxes paid) from 2014 – 2016 scaled by foreign pretax income for the same period. *POST* is equal to one for quarters ending after December 31, 2017 and zero otherwise. *MNC* is equal to one if the firm reports pretax foreign income during the period 2014 – 2016, zero otherwise. *SIZE* is the natural logarithm of total assets at the end of fiscal year 2016. *TOBINSQ* is the ratio of market value of assets to book value of assets following Kaplan and Zingales (1997) and is bounded above at 10. *CF* is quarterly operating income before depreciation and amortization scaled by beginning of quarter total assets. *CAPX2016* is fiscal year capital expenditures scaled by total assets. *BTM* is book value of equity scaled by market value of equity, measured at the end of fiscal year 2016. *SALES CHANGE* is quarterly sales minus lagged quarterly sales, scaled by lagged quarterly sales. *LEVERAGE* is long-term debt scaled by total assets, measured at the end of fiscal year 2016. *TOTAL CASH* is equal to total cash scaled by total assets, measured at the end of fiscal year 2016. *DIV* is the quarterly dividend scaled by beginning of quarter total assets, set equal to zero when missing. *TSTK* is the quarterly change in treasury stock scaled by beginning of quarter total assets, set equal to zero when missing. *RD* is quarterly research and development expense, scaled by beginning of quarter total assets, set equal to zero when missing. *ACQ* is equal to quarterly acquisition costs scaled by beginning of quarter total assets, set equal to zero when missing. *DEPR* is equal to annual depreciation expense scaled by lagged total assets. Continuous variables are winsorized at the 1 and 99 percentiles.

Table 2

Repatriation cost and investment before and after the TCJA

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>POST</i>	-0.000 (-0.88)	-0.000 (-0.87)	-0.001 (-1.53)	-0.001 (-1.55)	-0.000 (-0.88)	-0.000 (-0.87)	-0.000 (-1.35)	-0.000 (-1.35)
<i>MNC</i>	-0.001** (-2.09)	-0.001* (-1.89)	-0.002** (-2.50)	-0.001*** (-2.65)				
<i>REPAT COST</i>					-0.004 (-0.41)	0.006 (0.61)	-0.015 (-1.44)	-0.004 (-0.50)
<i>MNC</i> × <i>POST</i>			0.001* (1.86)	0.001* (1.89)				
<i>REPAT COST</i> × <i>POST</i>							0.021*** (2.72)	0.021*** (2.74)
<i>SIZE</i>		0.000 (1.08)		0.000 (1.07)		0.000 (0.24)		0.000 (0.24)
<i>TOBINSQ</i>		0.000 (1.11)		0.000 (1.11)		0.000 (1.03)		0.000 (1.03)
<i>CF</i>		0.002* (1.76)		0.002* (1.80)		0.002* (1.76)		0.002* (1.78)
<i>CAPX2016</i>		0.177*** (20.39)		0.177*** (20.39)		0.177*** (20.42)		0.177*** (20.42)
<i>BTM</i>		-0.000 (-0.04)		-0.000 (-0.04)		-0.000 (-0.04)		-0.000 (-0.04)
<i>SALES CHANGE</i>		0.000 (1.10)		0.000 (1.09)		0.000 (1.14)		0.000 (1.14)
<i>LEVERAGE</i>		0.001 (0.67)		0.001 (0.67)		0.001 (0.69)		0.001 (0.69)
<i>TOTAL CASH</i>		0.004*** (3.54)		0.004*** (3.54)		0.004*** (3.46)		0.004*** (3.46)
<i>DIV</i>		-0.025 (-0.70)		-0.025 (-0.69)		-0.024 (-0.67)		-0.024 (-0.67)
<i>TSTK</i>		-0.001* (-1.83)		-0.001* (-1.83)		-0.001** (-2.06)		-0.001** (-2.06)
<i>RD</i>		-0.011* (-1.70)		-0.011* (-1.70)		-0.010 (-1.59)		-0.010 (-1.59)
<i>ACQ</i>		0.012*** (2.99)		0.011*** (2.96)		0.011*** (2.89)		0.011*** (2.87)
Intercept	0.010*** (58.09)	-0.001 (-0.50)	0.011*** (38.77)	-0.000 (-0.25)	0.010*** (58.09)	0.000 (0.02)	0.010*** (56.13)	0.000 (0.10)
<i>N</i>	10,824	10,824	10,824	10,824	10,824	10,824	10,824	10,824
adj. <i>R</i> ²	0.2801	0.5082	0.2802	0.5084	0.2790	0.5078	0.2791	0.5080

This table presents estimates from panel regressions on sample of multinational and domestic-only firms explaining firm-level quarterly investment for quarters with an end-date three quarters before December 22, 2017 and three quarters after December 31, 2017. *CAPX* is capital expenditures scaled by beginning of quarter total assets. *REPAT COST* is permanently reinvested earnings multiplied by the difference between 0.35 and the three-year foreign effective tax rate, measured at the end of fiscal year 2016. Three-year foreign effective tax rate is equal to the current portion of foreign tax expense (to proxy for foreign taxes paid) from 2014 – 2016 scaled by foreign pretax income for the same period. *POST* is equal to one for quarters ending after December 31, 2017 and zero otherwise. *MNC* is equal to one if the firm reports pretax foreign income during the period 2014 – 2016, zero otherwise. *SIZE* is the natural logarithm of total assets at the end of fiscal year 2016. *TOBINSQ* is the ratio of market value of assets to book value of assets following Kaplan and Zingales (1997) and is bounded above at 10. *CF* is quarterly operating income before depreciation and amortization scaled by beginning of quarter total assets. *CAPX2016* is fiscal year capital expenditures scaled by total assets. *BTM* is book value of equity scaled by market value of equity, measured at the end of fiscal year 2016. *SALES CHANGE* is quarterly sales minus lagged quarterly sales, scaled by lagged quarterly sales. *LEVERAGE* is long-term debt scaled by total assets, measured at the end of fiscal year 2016. *TOTAL CASH* is equal to total cash scaled by total assets, measured at the end of fiscal year 2016. *DIV* is the quarterly dividend scaled by beginning of quarter total assets, set equal to zero when missing. *TSTK* is the quarterly change in treasury stock scaled by beginning of quarter total assets, set equal to zero when missing. *RD* is quarterly research and development expense, scaled by beginning of quarter total assets, set equal to zero when missing. *ACQ* is equal to quarterly acquisition costs scaled by beginning of quarter total assets, set equal to zero when missing. Continuous variables are winsorized at the 1 and 99 percentiles. Standard errors are clustered by firm. Two-digit SIC code industry and quarterly fixed effects are included. ***, **, * represent significance at the 0.01, 0.05, 0.10 two-tailed significance levels.

Table 3

Repatriation cost and investment before and after the TCJA - Multinational firms only

	(1)	(2)	(3)	(4)
<i>POST</i>	0.000 (0.96)	0.000 (1.05)	-0.000 (-0.19)	-0.000 (-0.14)
<i>REPAT COST</i>	0.006 (0.68)	0.008 (0.80)	-0.002 (-0.26)	-0.001 (-0.11)
<i>REPAT COST</i> × <i>POST</i>			0.017** (2.18)	0.018** (2.24)
<i>SIZE</i>		0.000 (0.59)		0.000 (0.59)
<i>TOBINSQ</i>		-0.000 (-0.01)		-0.000 (-0.01)
<i>CF</i>		0.004*** (2.58)		0.004*** (2.59)
<i>CAPX2016</i>		0.182*** (17.06)		0.182*** (17.05)
<i>BTM</i>		0.000 (0.10)		0.000 (0.10)
<i>SALES CHANGE</i>		0.001* (1.68)		0.001* (1.69)
<i>LEVERAGE</i>		-0.000 (-0.32)		-0.000 (-0.32)
<i>TOTAL CASH</i>		0.001 (1.07)		0.001 (1.07)
<i>DIV</i>		0.001 (0.05)		0.001 (0.04)
<i>TSTK</i>		-0.001** (-1.98)		-0.001** (-1.98)
<i>RD</i>		-0.010 (-1.08)		-0.010 (-1.09)
<i>ACQ</i>		0.003 (1.24)		0.003 (1.21)
Intercept	0.017*** (3.23)	0.005 (1.15)	0.017*** (3.25)	0.005 (1.18)
<i>N</i>	5,838	5,838	5,838	5,838
adj. <i>R</i> ²	0.2194	0.5265	0.2198	0.5270

This table presents estimates from panel regressions on sample of multinational firms explaining firm-level quarterly investment for quarters with an end-date three quarters before December 22, 2017 and three quarters after December 31, 2017. *CAPX* is capital expenditures scaled by beginning of quarter total assets. *REPAT COST* is permanently reinvested earnings multiplied by the difference between 0.35 and the three-year foreign effective tax rate, measured at the end of fiscal year 2016. Three-year foreign effective tax rate is equal to the current portion of foreign tax expense (to proxy for foreign taxes paid) from 2014 – 2016 scaled by foreign pretax income for the same period. *POST* is equal to one for quarters ending after December 31, 2017 and zero otherwise. *MNC* is equal to one if the firm reports pretax foreign income during the period 2014 – 2016, zero otherwise. *SIZE* is the natural logarithm of total assets at the end of fiscal year 2016. *TOBINSQ* is the ratio of market value of assets to book value of assets following Kaplan and Zingales (1997) and is bounded above at 10. *CF* is quarterly operating income before depreciation and amortization scaled by beginning of quarter total assets. *CAPX2016* is fiscal year capital expenditures scaled by total assets. *BTM* is book value of equity scaled by market value of equity, measured at the end of fiscal year 2016. *SALES CHANGE* is quarterly sales minus lagged quarterly sales, scaled by lagged quarterly sales. *LEVERAGE* is long-term debt scaled by total assets, measured at the end of fiscal year 2016. *TOTAL CASH* is equal to total cash scaled by total assets, measured at the end of fiscal year 2016. *DIV* is the quarterly dividend scaled by beginning of quarter total assets, set equal to zero when missing. *TSTK* is the quarterly change in treasury stock scaled by beginning of quarter total assets, set equal to zero when missing. *RD* is quarterly research and development expense, scaled by beginning of quarter total assets, set equal to zero when missing. *ACQ* is equal to quarterly acquisition costs scaled by beginning of quarter total assets, set equal to zero when missing. Continuous variables are winsorized at the 1 and 99 percentiles. Standard errors are clustered by firm. Two-digit SIC code industry and quarterly fixed effects are included. ***, **, * represent significance at the 0.01, 0.05, 0.10 two-tailed significance levels.

Table 4
Total cash and foreign cash

	(1) High Total Cash	(2) Low Total Cash	(3) High Foreign Cash	(4) Low Foreign Cash
<i>POST</i>	-0.001* (-1.81)	0.000 (1.45)	-0.000 (-1.10)	-0.000 (-0.12)
<i>REPAT COST</i>	-0.000 (-0.04)	-0.007 (-0.47)	0.035 (1.21)	-0.007 (-1.55)
<i>REPAT COST</i> × <i>POST</i>	0.020** (2.11)	0.018 (1.24)	0.088** (2.17)	0.007 (1.06)
<i>SIZE</i>	0.000 (0.82)	0.000 (0.02)	0.000 (1.02)	0.000*** (4.08)
<i>TOBINSQ</i>	-0.000 (-0.38)	0.000 (0.16)	-0.000* (-1.92)	0.000* (1.88)
<i>CF</i>	0.003** (2.15)	0.004 (1.39)	-0.000 (-0.30)	-0.001 (-0.47)
<i>CAPX2016</i>	0.194*** (12.88)	0.173*** (10.98)	0.198*** (14.70)	0.178*** (13.91)
<i>BTM</i>	-0.001 (-0.92)	0.001 (0.83)	0.000 (0.64)	-0.000 (-0.22)
<i>SALES CHANGE</i>	0.000 (0.83)	0.002** (2.25)	0.001 (1.29)	0.003** (2.31)
<i>LEVERAGE</i>	-0.002 (-1.29)	0.002 (0.97)	0.002 (1.16)	-0.000 (-0.55)
<i>TOTAL CASH</i>	-0.000 (-0.29)	-0.009 (-1.29)	0.003** (2.44)	0.004*** (3.22)
<i>DIV</i>	-0.044 (-1.00)	0.048 (1.05)	-0.041 (-1.36)	-0.055** (-2.27)
<i>TSTK</i>	-0.001* (-1.66)	-0.000 (-0.20)	-0.000 (-0.45)	-0.000 (-0.49)
<i>RD</i>	-0.004 (-0.44)	-0.061* (-1.78)	-0.026*** (-2.67)	-0.005 (-0.39)
<i>ACQ</i>	0.000 (0.11)	0.005 (1.44)	0.002 (0.77)	0.003 (1.16)
Intercept	0.009* (1.67)	-0.001 (-0.36)	-0.001 (-0.41)	-0.004** (-2.27)
<i>N</i>	2,922	2,916	1,452	1,458
adj. <i>R</i> ²	0.5541	0.5333	0.5535	0.6784

This table presents estimates from panel regressions explaining firm-level quarterly investment for quarters with an end-date three quarters before December 22, 2017 and three quarters after December 31, 2017. Columns 1 and 2 are disaggregated by above/below median total cash scaled by total assets as of the end of fiscal year 2016. Columns 3 and 4 are disaggregated by above/below median foreign cash scaled by total assets as of the end of fiscal year 2016. *CAPX* is capital expenditures scaled by beginning of quarter total assets. *REPAT COST* is permanently reinvested earnings multiplied by the difference between 0.35 and the three-year foreign effective tax rate, measured at the end of fiscal year 2016. Three-year foreign effective tax rate is equal to the current portion of foreign tax expense (to proxy for foreign taxes paid) from 2014 – 2016 scaled by foreign pretax income for the same period. *POST* is equal to one for quarters ending after December 31, 2017 and zero otherwise. *MNC* is equal to one if the firm reports pretax foreign income during the period 2014 – 2016, zero otherwise. *SIZE* is the natural logarithm of total assets at the end of fiscal year 2016. *TOBINSQ* is the ratio of market value of assets to book value of assets following Kaplan and Zingales (1997) and is bounded above at 10. *CF* is quarterly operating income before depreciation and amortization scaled by beginning of quarter total assets. *CAPX2015* is fiscal year capital expenditures scaled by total assets. *BTM* is book value of equity scaled by market value of equity, measured at the end of fiscal year 2016. *SALES CHANGE* is quarterly sales minus lagged quarterly sales, scaled by lagged quarterly sales. *LEVERAGE* is long-term debt scaled by total assets, measured at the end of fiscal year 2016. *TOTAL CASH* is equal to total cash scaled by total assets, measured at the end of fiscal year 2016. *DIV* is the quarterly dividend scaled by beginning of quarter total assets, set equal to zero when missing. *TSTK* is the quarterly change in treasury stock scaled by beginning of quarter total assets, set equal to zero when missing. *RD* is quarterly research and development expense, scaled by beginning of quarter total assets, set equal to zero when missing. *ACQ* is equal to quarterly acquisition costs scaled by beginning of quarter total assets, set equal to zero when missing. Continuous variables are winsorized at the 1 and 99 percentiles. Standard errors are clustered by firm. Two-digit SIC code industry and quarterly fixed effects are included. ***, **, * represent significance at the 0.01, 0.05, 0.10 two-tailed significance levels.

Table 5
Domestic and foreign PPE changes

	(1) Domestic PPE Change	(2) Foreign PPE Change
<i>POST</i>	-0.031* (-1.76)	-0.010 (-0.76)
<i>REPAT COST</i>	-0.040 (-0.61)	0.016 (0.37)
<i>REPAT COST</i> × <i>POST</i>	-0.064 (-0.84)	0.117* (1.94)
<i>SIZE</i>	-0.001 (-0.61)	-0.001 (-0.74)
<i>TOBINSQ</i>	-0.000 (-0.08)	-0.003** (-2.06)
<i>CF</i>	0.021 (1.07)	0.021 (1.55)
<i>CAPX2015</i>	0.306** (2.41)	0.229*** (2.92)
<i>BTM</i>	0.004 (1.08)	-0.008** (-2.36)
<i>SALES CHANGE</i>	0.030* (1.82)	0.012 (0.76)
<i>LEVERAGE</i>	-0.015* (-1.66)	-0.011 (-1.52)
<i>TOTAL CASH</i>	0.003 (0.17)	-0.013 (-1.20)
<i>DIV</i>	0.155* (1.75)	-0.007 (-0.12)
<i>TSTK</i>	-0.002 (-0.33)	-0.003 (-0.54)
<i>RD</i>	-0.018 (-0.54)	0.069** (2.18)
<i>ACQ</i>	0.057** (2.31)	0.068* (1.85)
<i>DEPR</i>	-0.229* (-1.90)	-0.194** (-2.03)
Intercept	0.016 (0.57)	0.011 (0.74)
<i>N</i>	430	430
adj. <i>R</i> ²	0.1445	0.1680

This table presents estimates from panel regressions explaining firm-level annual change in domestic and foreign net PPE (2016 vs. 2018). *CHANGE DA* is the annual change in net domestic PPE, scaled by lagged total assets. *CHANGE FA* is the annual change in net foreign PPE scaled by lagged total assets. *REPAT COST* is permanently reinvested earnings multiplied by the difference between 0.35 and the three-year foreign effective tax rate, measured at the end of fiscal year 2016. Three-year foreign effective tax rate is equal to the current portion of foreign tax expense (to proxy for foreign taxes paid) from 2014 – 2016 scaled by foreign pretax income for the same period. *POST* is equal to one for quarters ending after December 31, 2017 and zero otherwise. *MNC* is equal to one if the firm reports pretax foreign income during the period 2014 – 2016, zero otherwise. *SIZE* is the natural logarithm of total assets at the end of fiscal year 2016. *TOBINSQ* is the ratio of market value of assets to book value of assets following Kaplan and Zingales (1997) and is bounded above at 10. *CF* is quarterly operating income before depreciation and amortization scaled by beginning of quarter total assets. *CAPX2016* is fiscal year capital expenditures scaled by total assets. *BTM* is book value of equity scaled by market value of equity, measured at the end of fiscal year 2016. *SALES CHANGE* is quarterly sales minus lagged quarterly sales, scaled by lagged quarterly sales. *LEVERAGE* is long-term debt scaled by total assets, measured at the end of fiscal year 2016. *TOTAL CASH* is equal to total cash scaled by total assets, measured at the end of fiscal year 2016. *DIV* is the quarterly dividend scaled by beginning of quarter total assets, set equal to zero when missing. *TSTK* is the quarterly change in treasury stock scaled by beginning of quarter total assets, set equal to zero when missing. *RD* is quarterly research and development expense, scaled by beginning of quarter total assets, set equal to zero when missing. *ACQ* is equal to quarterly acquisition costs scaled by beginning of quarter total assets, set equal to zero when missing. *DEPR* is equal to annual depreciation expense scaled by lagged total assets. Continuous variables are winsorized at the 1 and 99 percentiles. Standard errors are clustered by firm. Two-digit SIC code industry fixed effects are included. ***, **, * represent significance at the 0.01, 0.05, 0.10 two-tailed significance levels.

Table 6
Foreign intensity levels

	(1) High Foreign PPE	(2) Low Foreign PPE	(3) High Foreign EARN	(4) Low Foreign EARN	(5) High Income Shifting	(6) Low Income Shifting
<i>POST</i>	-0.000 (-0.93)	0.001* (1.81)	-0.000 (-0.04)	-0.000 (-0.07)	-0.000 (-0.47)	0.000 (0.71)
<i>REPAT COST</i>	0.008 (0.70)	-0.011 (-1.18)	0.010 (1.19)	-0.052** (-2.46)	0.021 (1.24)	-0.008 (-0.83)
<i>REPAT COST</i> × <i>POST</i>	0.026** (2.11)	-0.001 (-0.10)	0.019** (2.06)	0.005 (0.36)	0.036* (1.73)	0.010 (1.15)
<i>SIZE</i>	-0.000 (-1.53)	0.000 (1.27)	-0.000 (-0.91)	0.000** (1.98)	-0.000 (-0.33)	0.000 (1.55)
<i>TOBINSQ</i>	-0.001** (-2.07)	0.000 (1.07)	0.000 (0.70)	-0.000 (-1.03)	0.000 (0.08)	0.000 (0.72)
<i>CF</i>	0.006*** (2.68)	0.001 (0.33)	0.002** (2.15)	0.005** (2.00)	0.000 (0.01)	0.004*** (2.94)
<i>CAPX2016</i>	0.199*** (12.80)	0.201*** (5.71)	0.189*** (13.37)	0.183*** (12.51)	0.186*** (13.18)	0.199*** (8.65)
<i>BTM</i>	-0.004 (-1.17)	-0.001 (-0.75)	0.001 (0.71)	-0.000 (-0.32)	0.000 (0.14)	0.002 (0.97)
<i>SALES CHANGE</i>	0.002 (1.25)	0.001 (1.60)	0.001 (1.34)	0.001 (0.97)	0.002* (1.95)	0.001 (0.98)
<i>LEVERAGE</i>	-0.000 (-0.12)	0.002 (1.02)	-0.001 (-0.76)	0.000 (0.11)	-0.000 (-0.23)	0.003 (1.23)
<i>TOTAL CASH</i>	0.003 (1.12)	0.003 (1.14)	-0.001 (-0.66)	0.004** (2.09)	-0.001 (-0.55)	0.005*** (2.78)
<i>DIV</i>	0.026 (0.47)	-0.109 (-1.51)	-0.029 (-0.66)	0.019 (0.44)	-0.004 (-0.07)	-0.076 (-1.63)
<i>TSTK</i>	0.002 (1.22)	-0.000 (-0.48)	-0.000 (-0.70)	-0.001 (-1.21)	0.000 (0.04)	-0.001* (-1.69)
<i>RD</i>	0.026 (0.93)	-0.016 (-1.04)	0.000 (0.03)	-0.008 (-0.50)	-0.015 (-1.20)	-0.002 (-0.07)
<i>ACQ</i>	0.002 (0.78)	0.004 (0.92)	0.002 (0.75)	0.002 (0.64)	0.001 (0.14)	0.008*** (2.78)
Intercept	0.005 (1.16)	-0.003 (-0.93)	0.007* (1.71)	-0.008*** (-3.06)	0.004 (0.74)	-0.006* (-1.93)
<i>N</i>	990	984	2,556	2,556	1,890	1,896
adj. <i>R</i> ²	0.6037	0.6549	0.4828	0.6012	0.5597	0.5683

This table presents estimates from panel regressions explaining firm-level quarterly investment for quarters with an end-date three quarters before December 22, 2017 and three quarters after December 31, 2017. Columns 1 and 2 are disaggregated by above/below median foreign-to-domestic net PPE as of the end of fiscal year 2016. Columns 3 and 4 are disaggregated by above/below median foreign pretax-income-to-total pretax income for the period 2014 – 2016. Columns 5 and 6 are disaggregated by high/low income shifting measured as of the end of fiscal year 2016. *CAPX* is capital expenditures scaled by beginning of quarter total assets. *REPAT COST* is permanently reinvested earnings multiplied by the difference between 0.35 and the three-year foreign effective tax rate, measured at the end of fiscal year 2016. Three-year foreign effective tax rate is equal to the current portion of foreign tax expense (to proxy for foreign taxes paid) from 2014 – 2016 scaled by foreign pretax income for the same period. *POST* is equal to one for quarters ending after December 31, 2017 and zero otherwise. *MNC* is equal to one if the firm reports pretax foreign income during the period 2014 – 2016, zero otherwise. *SIZE* is the natural logarithm of total assets at the end of fiscal year 2016. *TOBINSQ* is the ratio of market value of assets to book value of assets following Kaplan and Zingales (1997) and is bounded above at 10. *CF* is quarterly operating income before depreciation and amortization scaled by beginning of quarter total assets. *CAPX2016* is fiscal year capital expenditures scaled by total assets. *BTM* is book value of equity scaled by market value of equity, measured at the end of fiscal year 2016. *SALES CHANGE* is quarterly sales minus lagged quarterly sales, scaled by lagged quarterly sales. *LEVERAGE* is long-term debt scaled by total assets, measured at the end of fiscal year 2016. *TOTAL CASH* is equal to total cash scaled by total assets, measured at the end of fiscal year 2016. *DIV* is the quarterly dividend scaled by beginning of quarter total assets, set equal to zero when missing. *TSTK* is the quarterly change in treasury stock scaled by beginning of quarter total assets, set equal to zero when missing. *RD* is quarterly research and development expense, scaled by beginning of quarter total assets, set equal to zero when missing. *ACQ* is equal to quarterly acquisition costs scaled by beginning of quarter total assets, set equal to zero when missing. Continuous variables are winsorized at the 1 and 99 percentiles. Standard errors are clustered by firm. Two-digit SIC code industry and quarterly fixed effects are included. ***, **, * represent significance at the 0.01, 0.05, 0.10 two-tailed significance levels.

Table 7
Financial constraints

	(1) High Z-Score Strong Health	(2) Low Z-Score Weak Health
<i>POST</i>	-0.000 (-1.48)	0.000 (0.97)
<i>REPAT COST</i>	0.000 (0.03)	-0.010 (-0.66)
<i>REPAT COST</i> × <i>POST</i>	0.018* (1.75)	0.022** (2.06)
<i>SIZE</i>	0.000 (0.72)	0.000 (0.15)
<i>TOBINSQ</i>	-0.000 (-0.05)	-0.000 (-0.42)
<i>CF</i>	0.002 (1.09)	0.005** (2.55)
<i>CAPX2016</i>	0.190*** (14.51)	0.172*** (10.76)
<i>BTM</i>	0.000 (0.12)	0.000 (0.07)
<i>SALES CHANGE</i>	0.001* (1.93)	0.000 (0.78)
<i>LEVERAGE</i>	0.000 (0.19)	0.000 (0.13)
<i>TOTAL CASH</i>	0.004** (2.33)	-0.001 (-0.31)
<i>DIV</i>	-0.004 (-0.12)	-0.005 (-0.07)
<i>TSTK</i>	-0.001 (-0.97)	-0.003** (-2.11)
<i>RD</i>	-0.006 (-0.51)	-0.006 (-0.39)
<i>ACQ</i>	0.002 (0.89)	0.003 (0.74)
Intercept	0.015 (1.44)	0.002 (0.79)
<i>N</i>	3,006	2,832
adj. <i>R</i> ²	0.5438	0.5313

This table presents estimates from panel regressions explaining firm-level quarterly investment for quarters with an end-date three quarters before December 22, 2017 and three quarters after December 31, 2017. Columns 1 and 2 are disaggregated by above/below median Altman (1968) Z-Score measured as of the end of fiscal year 2016. *CAPX* is capital expenditures scaled by beginning of quarter total assets. *REPAT COST* is permanently reinvested earnings multiplied by the difference between 0.35 and the three-year foreign effective tax rate, measured at the end of fiscal year 2016. Three-year foreign effective tax rate is equal to the current portion of foreign tax expense (to proxy for foreign taxes paid) from 2014 – 2016 scaled by foreign pretax income for the same period. *POST* is equal to one for quarters ending after December 31, 2017 and zero otherwise. *MNC* is equal to one if the firm reports pretax foreign income during the period 2014 – 2016, zero otherwise. *SIZE* is the natural logarithm of total assets at the end of fiscal year 2016. *TOBINSQ* is the ratio of market value of assets to book value of assets following Kaplan and Zingales (1997) and is bounded above at 10. *CF* is quarterly operating income before depreciation and amortization scaled by beginning of quarter total assets. *CAPX2016* is fiscal year capital expenditures scaled by total assets. *BTM* is book value of equity scaled by market value of equity, measured at the end of fiscal year 2016. *SALES CHANGE* is quarterly sales minus lagged quarterly sales, scaled by lagged quarterly sales. *LEVERAGE* is long-term debt scaled by total assets, measured at the end of fiscal year 2016. *TOTAL CASH* is equal to total cash scaled by total assets, measured at the end of fiscal year 2016. *DIV* is the quarterly dividend scaled by beginning of quarter total assets, set equal to zero when missing. *TSTK* is the quarterly change in treasury stock scaled by beginning of quarter total assets, set equal to zero when missing. *RD* is quarterly research and development expense, scaled by beginning of quarter total assets, set equal to zero when missing. *ACQ* is equal to quarterly acquisition costs scaled by beginning of quarter total assets, set equal to zero when missing. Continuous variables are winsorized at the 1 and 99 percentiles. Standard errors are clustered by firm. Two-digit SIC code industry and quarterly fixed effects are included. ***, **, * represent significance at the 0.01, 0.05, 0.10 two-tailed significance levels.