An Investigation of the Array of Domestic and Foreign Tax Haven Location Decisions for U.S. Multinational Firms

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Abstract

We investigate U.S. multinational firms' relative use of foreign and/or U.S. domestic tax havens (i.e., Delaware) and the determinants of these choices. Using Exhibit 21 data on the geographic locations of subsidiaries from 1996 through 2020, we examine the relative importance of firm-level economic characteristics for firms' choices to utilize only domestic tax havens, only foreign tax havens, or both types of tax havens. We find that a surprisingly high percentage of U.S. multinationals (around 25 percent) choose to utilize only domestic tax havens and that state tax planning opportunities are the most important driver of this choice. We also find that greater financial constraints, lower income mobility, and more frequent foreign losses increase firms' propensity to use domestic tax havens. Finally, we provide evidence on how the array and determinants of foreign and domestic tax havens changes following the Tax Cuts and Jobs Act of 2017 (TCJA). We find some weak evidence that firms increased their use of domestic tax havens after TCJA, but we find very little change in the determinants of firms' tax haven choices in the post TCJA period. This study is of interest to tax policymakers and academic researchers as firms' use of both foreign and domestic tax havens are highly scrutinized by noncorporate stakeholders.

1. Introduction

In this paper, we investigate the firm-level economic characteristics that motivate U.S. multinational corporations (hereafter "MNCs") to strategically locate their intangible assets solely in domestic tax havens, solely in foreign tax havens, or in a combination of both domestic and foreign tax havens. We compare the relative importance of firm-level characteristics across this spectrum of tax haven firm strategies. We also examine whether and how the array and the determinants of these tax haven choices change following the Tax Cuts and Jobs Act of 2017 (TCJA). The U.S. Treasury and U.S. states lose billions of dollars each year from MNCs that deploy foreign and domestic tax haven tax haven strategies (Gravelle 2015; Tax Justice Network 2023; Van Heeke et al. 2014). MNCs face increased scrutiny by government regulators and the popular press for the use of tax havens (Rubin 2014; Wayne 2012). As a result, a better understanding of firms' choices surrounding where to locate their tax haven operations is of interest to policymakers, corporate stakeholders, other taxpayers, and academic researchers.

Prior studies have investigated the economic factors that motivate firms to use foreign tax havens or domestic tax havens such as Delaware independently in isolation (Desai et al. 2006; Dyreng et al. 2013; Dyreng and Lindsey 2009). These papers generally draw inferences about economic characteristics based solely on the signs of the coefficients for the variables of interest and do not compare or interpret the relative economic magnitude of multiple determinants. Moreover, these papers do not acknowledge or compare the economic magnitude of determinants over the array of different domestic and foreign tax haven strategies. An MNC's decision of where to locate tax haven subsidiaries is a function of the potential net tax benefits associated with the choice to operate in Delaware and/or a foreign tax haven. We contribute to the tax avoidance literature generally and the tax haven literature in particular by examining the

relative explanatory power of firm-level characteristics for MNCs' choices to use only domestic tax havens, only foreign tax havens, or both types of tax havens and how these choices changed following a recent monumental U.S. tax regime change. To the best of our knowledge, this is the first study to recognize and evaluate MNCs' choices between domestic and foreign tax haven strategies and how these choices have evolved and changed across tax regimes.

One economic factor that obviously influences MNCs in their choice of a tax haven strategy (foreign and/or domestic) is the magnitude of the potential tax savings. Before the TCJA, MNCs could potentially achieve substantial tax savings of up to 35 percent from the use of foreign tax havens with the potential for all or a portion of the savings to be temporary. After the TCJA, the maximum tax savings from using foreign tax havens is around 8 percent, which is comparable to the magnitude of tax savings from using a Delaware subsidiary. [1,2] Moreover, shifting income abroad through foreign tax havens may be more difficult after the TJCA due to the new anti-base erosion rules (e.g., Global Intangible Low-Taxed Income (GILTI) and Base Erosion and Anti-abuse Tax (BEAT), so Delaware-tax haven strategies may have increased in popularity since that time.

Given the potentially larger tax savings from operating in foreign tax havens historically, perhaps surprisingly, prior research by Dyreng and Lindsey (2009) suggests that a nontrivial

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[1] For example, corporate tax rates in common tax havens such as the Cayman Islands and Bermuda are zero percent, compared to pre-TCJA average marginal tax rates in the U.S. of up to 35 percent. Thus, firms could achieve tax savings of up to 35 cents on the dollar for each dollar shifted from the U.S. to a tax haven with a zero-percent tax rate. After the TCJA, corporate foreign profits could be taxed in the U.S. at a rate as low as 13.125 percent instead of 21 percent due to the Global Intangible Low-Taxed Income (GILTI) deduction allowance. In 2026, the GILTI deduction percentage drops again, so the maximum tax savings from a foreign tax haven will drop to 4.5 percent. Similarly, Delaware (the most common domestic tax haven) also taxes income from intangible assets at zero percent, which presents opportunities for firms to shift income from higher tax states (as high as 12 percent) to Delaware.

[2] While U.S. firms could also save taxes by operating in states that do not impose a corporate income tax (e.g., Nevada, South Dakota, Wyoming, and Washington), we follow Dyreng et al. (2013)and focus solely on Delaware because of the abnormally high amount of business activity in the state of Delaware. Untabulated results show there is little activity in states that do not levy a corporate income tax by firms that are not already operating in Delaware.

percentage (around 40 percent) of their sample of U.S. MNCs choose not to utilize foreign tax havens. Thus, the empirical question remains why *more* MNCs do not utilize a foreign tax haven strategy, and if they instead choose to utilize a domestic tax haven. Related research has identified potential costs of operating in foreign tax havens, including less flexibility with cash flows (Dyreng and Markle 2016; Edwards et al. 2016; Foley et al. 2007). Moreover, while the tax savings generated from foreign tax havens were only temporary before the TCJA when the U.S. taxed the worldwide income of corporations, the tax savings derived from domestic tax havens are permanent. While firms must have income mobility to shift income to foreign tax havens (De Simone et al. 2019), the definition of "intangible" income in Delaware is very broad (Dyreng et al. 2013), which may create expanded opportunities for domestic tax haven strategies for firms with less intangible intensity. In sum, the tax and nontax benefits of operating in foreign tax havens may differ among MNCs, and as a result, some firms may adopt a tax haven location strategy that includes or focuses solely on the state-level tax savings from a Delaware tax haven strategy.

We use Exhibit 21 data from public SEC filings to identify whether MNCs operate in foreign and/or domestic (i.e., Delaware) tax havens for the sample period 1996 through 2020. We focus exclusively on a sample of firms that have foreign income and operate in at least one type of tax haven (i.e., foreign or domestic). We compare the relative explanatory power of various determinants for the choice to operate only in domestic or foreign tax havens, or both. The firm-level determinants we primarily focus on include income mobility, financial constraints, foreign and domestic tax planning opportunities, and foreign losses.

We begin by comparing the relative explanatory power of determinants of MNCs' choices to utilize *only* domestic tax havens. We find, perhaps surprisingly, that a sizeable portion

of our sample MNCs – around 25 percent – choose to forego foreign tax havens and utilize only domestic tax havens despite having foreign income. We find that the most prominent determinant of operating only in domestic tax havens is state tax planning opportunities in terms of the scale of domestic operations and subsidiaries in states that are conducive to tax planning (i.e., states that allow separate filing). In economic terms, we find that holding all other variables constant, substantial state tax planning opportunities increase the probability of being a "domestic haven only" firm by around 18.9 percentage points. We also find that being a low intangible intensity firm, having financial constraints, and experiencing recent foreign losses each increase the probability of choosing to operate only in domestic tax havens by around 4 to 6 percentage points. Finally, we find that having relatively high foreign sales, which may increase foreign tax planning opportunities, decreases the probability of having only domestic tax havens by around 6 percentage points.

Our second set of tests compare the economic magnitudes of the determinants for different tax haven alternatives: (1) domestic only relative to both havens, (2) domestic only relative to only foreign havens, and (3) both havens relative to only foreign havens. We find that financial constraints, low intangible intensity, and foreign losses are only related to the choices to operate in only domestic havens relative to foreign havens (i.e., alternatives (1) and (2) above). We also find that the economic magnitudes of low intangible intensity and financial constraints are similar in explaining the probability of operating in domestic only relative to both havens and domestic only relative to foreign havens (around 7-8 percentage points). However, the economic magnitude of high state tax planning opportunities is about two times larger in explaining the probability of choosing domestic only relative to only foreign havens compared to the probability of choosing domestic only relative to both havens (34.85 versus 15.69 percentage

points, respectively). In sum, domestic tax planning opportunities appear to be a larger driver of domestic tax haven activity compared to factors that may impose costs or limitations on foreign tax planning.

Third, we analyze firms that change between different types of haven structures. We focus on a nontrivial number of firms that change their haven array, transitioning into domestic tax havens (819 firms) or foreign tax havens (927 firms). We examine in firm fixed effects regressions how our variables of interest explain the various choices to go into foreign or domestic tax havens or to abandon foreign or domestic tax havens (i.e., transition into domestic or foreign only). We find very similar inferences to our primary results that low intangible intensity and state tax planning opportunities increase the probability of transitioning into domestic havens. We find that financial constraints and state tax planning opportunities decrease the probability of transitioning into foreign tax havens. Overall, these results help corroborate our main analyses and provide more causal evidence on the economic factors that are most important in explaining various tax haven choices.

Finally, we explore whether and how MNCs' relative array of foreign and domestic tax haven strategies change in the post-TCJA period (i.e., after 2017).[3] In univariate tests, we find a higher probability of operating in both tax havens of around 4 percentage points and a lower probability of operating either in only domestic or only foreign tax havens (each around 2 percentage points) post TJCA. We find in multivariate tests a higher probability (20.35 percentage points) of operating in both havens relative to only foreign havens in the post-TJCA period, but no change in the probability of choosing only domestic relative to either both havens or only foreign tax havens. We also find that the determinants' economic magnitudes of MNCs'

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[3] Our post-TCJA period includes 2018 through 2020, which are the years for which we have Exhibit 21 data on subsidiary locations.

tax haven choices are very similar across both tax regimes. The significant difference we report post TCJA with economic determinants is that state tax planning opportunities appear to incrementally increase the probability of choosing only domestic tax havens relative to only foreign tax havens by 8.24 percentage points in the post-TCJA period. Overall, our tests suggest that firms have not decreased their use of foreign tax havens on average, but they may have moderately increased their use of domestic tax havens, and the determinants of these choices have changed very little in the post TCJA period.

This study contributes to the academic literature examining MNCs' location decisions. We provide evidence on MNCs' use of foreign and/or domestic tax havens, which are both highly scrutinized by noncorporate stakeholders. Numerous other studies that span many years have established that taxes influence subsidiary location decisions (Altshuler and Grubert 2001; Desai et al. 2004; Devereux et al. 2007; Friedman et al. 1992; Grubert and Mutti 2000). Recent studies have examined firms' use of foreign tax havens and domestic tax havens independently (Dyreng et al. 2013; Dyreng and Lindsey 2009; Dyreng and Markle 2016; Klassen and Laplante 2012). We extend these studies by examining how firm-level factors and tax policy changes influence MNCs' array of domestic and foreign tax haven strategies across the tax haven strategy spectrum.

Our study should also be of interest to policymakers. A major motivation behind the monumental changes to the taxation of foreign corporate profits under the TCJA was to curb income shifting to foreign tax havens and to stimulate domestic investment. Our study sheds light on the extent to which U.S. tax policy influences investment both inside and outside the U.S. and how Delaware corporate tax law reinforces U.S. tax policy by serving as a motivating force to encourage U.S. investment and slow the loss of intangible asset investment to foreign

jurisdictions. We find a small shift towards domestic tax planning through U.S. tax havens following the TCJA, suggesting that some of the policies of the TCJA may have motivated firms to increase their domestic tax planning opportunities at least to some extent.

2. Background and Economic Predictions

2.1 Background

Our research question focuses on the economic factors that motivate MNCs' foreign and domestic tax haven strategies to generate tax savings. Similar to any other economic decision, an MNC must identify and evaluate the net tax benefits of establishing subsidiaries in foreign tax havens and/or domestic tax havens to determine whether and how to implement a comprehensive tax haven tax savings strategy.

Central to a tax haven strategy is a mechanism to shift profits out of high-tax jurisdictions by creating a deduction in the high-tax jurisdiction while the associated income is tax-exempt or taxed lightly in the tax haven jurisdiction. Given their portable nature, intangible assets are often ideally suited as the mechanism to shift profits between tax jurisdictions because firms can generally locate intangible assets in a desirable U.S. state or foreign country with a simple legal transfer, even if the asset is created and developed elsewhere (Desai et al. 2006; Dischinger and Riedel 2011; Dyreng et al. 2013; Wilson 2005). Typically, MNCs use intangible assets to shift profits via royalty arrangements, intercompany debt, and cost-sharing agreements (De Simone and Sansing 2019). Moreover, firms may use management corporations to shift income to other jurisdictions (e.g., Dyreng et al. 2013). Foreign tax havens and domestic tax havens could generally be viewed as substitutes or complements for the same overarching tax haven strategy to strategically locate intangible assets and shift profits to lower tax jurisdictions.

Differences in tax laws between U.S. states provide opportunities for corporations to

reduce their overall state tax burden by shifting income to state tax havens such as Delaware. Delaware is commonly considered a tax haven because the Delaware corporate statute exempts from taxation income derived from intangible assets.[4] Given the Delaware statute, numerous U.S. corporations have established passive investment companies (PICs) in Delaware for the transfer of income-generating intangible assets. Benefiting from tax laws in other accommodating states, the firm's non-Delaware operating subsidiaries make tax-deductible payments to the Delaware PIC for the right to use the intangible asset.[5] Thus, the Delaware statute provides the means to shift profits because the firm takes a tax deduction in the high-tax state and the corresponding income related to the deduction is exempt from taxation in Delaware. The resulting state income tax savings equals the product of the amount of profits shifted and the difference between the high-tax state tax rate and the Delaware state tax rate of zero percent. The highest tax state during our sample period is Iowa at 12 percent and around a dozen other states have rates of at or above 8 percent as of 2020. Therefore, the magnitude of the savings from shifting income to Delaware is non-trivial and could in some cases be higher than the tax savings from foreign tax havens. In addition, it is worth emphasizing that profits shifted to Delaware from high-tax states generate permanent tax savings potentially unlike profits shifted to low-tax foreign jurisdictions before the TCJA.

U.S. MNCs could also choose to locate intangibles in a foreign tax haven such as the Cayman Islands. Foreign tax havens generally impose a low tax rate, or no tax at all, on

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[4] Corporations operating in multiple states are generally required to allocate a proportion of total profits to each state tax jurisdiction based on an apportionment formula that includes sales, property, and/or payroll factors in a state relative to the total sales, property, and payroll in all states. Each state then applies a statutory corporate tax rate on its share of corporate profits. In some states, certain types of income can be excluded from the apportionable income, presenting an opportunity to shift this type of income to jurisdictions where it is lightly taxed like Delaware.
[5] The Delaware corporate statute Section 1902 specifically defines intercompany debt as an intangible asset. We incorporate the same broad definition of intangible assets when referring to intangible assets in this study. Dyreng et al. (2013) contains a more comprehensive discussion of the Delaware PIC state tax avoidance strategy.

corporate profits. Similar to the Delaware strategy, other subsidiaries of the same MNC that are operating in high-tax countries make tax-deductible payments to the foreign tax haven entity for the right to use the intangible asset. The immediate tax savings generated from profit shifting in the foreign context equals the product of the amount of the profits shifted and the difference between the rate in the high-tax country and the rate in the foreign tax haven country. Before the TCJA, the top U.S. corporate tax rate was 35 percent, and the U.S. taxed the worldwide income of corporations. The U.S. federal government imposed a residual tax on the worldwide profits of U.S. MNCs above what was already taxed in a foreign jurisdiction when the earnings were repatriated to the U.S. parent.[6] Furthermore, under this regime, many MNCs were able to "park" large sums of foreign profits overseas to avoid the residual U.S. tax due when repatriated to the U.S. (Rubin 2014). Therefore, tax haven-derived income that MNCs never intended to repatriate could potentially escape taxation completely.

Following the TCJA, the U.S. corporate tax rate is 21 percent. Depending on how foreign corporate profits are generated and the foreign tax rate imposed where the foreign profits are generated, the U.S. tax rate on foreign corporate profits can generally range from 0 percent to 21 percent due to the Subpart F income, GILTI, and BEAT rules.[7] Thus, the relative tax savings from utilizing a foreign tax haven are much lower in the post TCJA period. In sum, the direct tax savings can differ between foreign and domestic tax haven strategies, and the relative tax savings also differ in the pre and post TCJA regime time periods.

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[6] For example, if a firm paid tax on foreign income at a rate of 20 percent, the firm would be required to pay U.S. tax at the rate of approximately 15 cents on the dollar (the difference between the U.S. statutory rate and the foreign jurisdiction rate) on earnings repatriated. Details regarding the U.S. foreign tax credit are outlined in Section 901 of the Internal Revenue Code.

[7] The rules surrounding Subpart F, GILTI, and BEAT are very complicated. At a high level, Subpart F income is income that is deemed abusive and does not qualify for special deductions. GILTI imposes additional tax on intangible-derived foreign income that is taxed at relatively lower foreign tax rates. BEAT imposes additional tax on related party payments to foreign entities.

2.2 Firm-level factors that may increase firms' propensity to use domestic tax havens

MNCs that incorporate a tax haven strategy into their tax planning have several choices for their firm structure. They could choose to forego foreign tax havens and solely utilize domestic tax havens. In contrast, they could choose to forego domestic tax havens and only use foreign tax havens. Finally, firms could choose an array of both types of tax havens to garner both state-level tax savings and tax savings at the federal and foreign levels. A domestic tax haven strategy can sometimes offer distinct advantages, which could motivate firms to focus solely on domestic tax havens or also include domestic tax havens along with foreign tax havens. We discuss several important firm-level factors that affect the net benefits of domestic tax havens and can therefore affect MNCs' propensity to utilize them.

2.2.1 Low intangible intensity

The scope of income shifting may differ between foreign and domestic tax haven strategies. Delaware's classification of an "intangible" is extremely broad, so intercompany debt, management fees, and investments in stocks and bonds can be classified as intangibles, facilitating broader income shifting. In contrast, due to intense scrutiny over international tax avoidance in recent years (e.g., Gravelle 2015), firms may be more limited in the scope of their income shifting to foreign jurisdictions, which may require them to locate actual intangible assets such as patents in tax havens and make royalty payments to these low tax subsidiaries to substantially reduce tax burdens.[8] For firms that are less intangible intensive, anti-tax avoidance rules may limit opportunities for shifting income to foreign tax havens. Therefore, we predict that relatively lower intangible intensity will increase the probability that a firm focuses its tax

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[8] For example, Thin Capitalization rules may reduce firms' abilities to strategically locate debt in high tax subsidiaries to reduce tax burdens. Moreover, Subpart F limits certain types of tax reduction techniques through low tax foreign holding corporations with no substantial business purpose.

haven strategy more on domestic tax havens relative to foreign tax havens.

2.2.2 Financial constraints

Second, although it appears to be a simple choice for MNCs to take advantage of *both* types of tax havens, greater potential costs of operating in foreign tax havens may exist for financially constrained firms, and thus, financial constraints may deter firms from taking advantage of foreign tax haven strategies and increase their propensity to rely on domestic tax planning. Prior to TJCA, the tax savings from a foreign tax haven strategy were only achieved if the firm designated the earnings and cash flows held abroad as "permanently reinvested earnings." Therefore, firms may be faced with less flexibility with their cash as a result of tax haven strategies (Foley et al. 2007; Graham et al. 2010).

Moreover, the complexity of tax planning through foreign operations could lead financially constrained MNCs more towards domestic tax planning. Tax planning through a foreign tax haven is more involved than merely setting up a subsidiary in the Cayman Islands, locating an intangible in the Cayman Islands subsidiary, and making royalty payments to the subsidiary. A strategy such as this would likely be subject to Subpart F income rules and therefore would not escape U.S. taxation. Rules related to foreign taxation are complicated and firms must design their foreign income shifting strategy to navigate all of these rules.[9] Thus, a foreign tax haven strategy requires multiple foreign holding companies and a thorough analysis of the immediate (e.g., withholding tax) and eventual tax at each level in the organizational structure (Dyreng et al. 2015) and likely requires a sizeable investment in tax planning and the

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[9] Dyreng and Markle (2016) find that financially constrained firms, who have a greater need for flexibility of cash, shift less income abroad. However, they do not examine whether financially constrained firms modify their tax planning strategies to focus more on domestic tax savings. Thus, our study extends their findings with regards to financial constraints by examining whether financially constrained firms are more likely to choose a within-U.S. income shifting strategy to overcome their limitations of outbound income-shifting strategies.

design of transfer pricing agreements.

In contrast, a domestic tax haven strategy could be as simple as the Cayman Islands example above (except using Delaware instead of the Cayman Islands). In sum, the domestic tax haven strategy is not as complicated and presumably could require less effort and cost to set up, and therefore could be more accessible to firms with financial constraints. For these reasons, we propose that the costs of engaging in a foreign tax haven structure may be significant for firms with financial constraints, which will increase the probability of an MNC choosing to use domestic tax havens relative to foreign tax havens.

2.2.3 Foreign and domestic tax planning opportunities

MNCs need a sufficient, profitable foreign presence to justify incurring the costs necessary to engage in foreign tax planning and profit shifting described previously. We assert that MNCs with a greater foreign presence are likely to have the motivation and ability to leverage foreign tax haven strategies to generate tax savings and are therefore less likely to rely only on domestic tax havens.

In addition to foreign tax haven planning opportunities, MNCs may also implement domestic tax haven planning opportunities under the right conditions. While we explain the opportunities for shifting income to Delaware relatively simply above, firms face constraints to using this strategy based on the tax laws of the other states in which they operate. Dyreng et al. (2013) describe in detail the requirements of a viable Delaware PIC strategy. Importantly, many states have implemented laws such as combined filing and economic nexus doctrines that can substantially reduce or eliminate firms' opportunities to shift income to Delaware.[10] Quite a few

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[10] Combined filing states require firms to consolidate income across states before determining the portion of earnings taxable in the state, reducing opportunities for shifting income to another state. Economic nexus rules can allow states to tax the royalty income that escapes taxation in Delaware.

states still allow separate filing or do not have economic nexus rules, so firms still have opportunities for state-level tax planning through Delaware; however, doing so requires strategically locating or relocating subsidiaries in states that are amenable to tax planning through Delaware. Therefore, we predict that greater exposure to states that are more conducive to state tax planning increases the probability that a firm chooses to include domestic tax havens in its array of planning strategies.

2.2.4 Foreign losses

An MNC's assessed likelihood of incurring losses or past loss history may also decrease their propensity to be involved in foreign tax havens. When an MNC establishes a subsidiary in a foreign tax haven and incurs losses, losses in foreign jurisdictions may remain "trapped" (waiting for future income to offset the loss) in the foreign tax haven. In years of income, the income in tax havens gets taxed at zero percent. However, during loss years, there is also no corresponding immediate tax benefit associated with the loss. In contrast, if the firm incurred the losses in the U.S., the firm would have had the ability to carry back losses to obtain tax refunds during most years of our sample or offset future high tax income in subsequent years. Therefore, trapped losses in foreign tax havens pose significant risks to the firm in terms of accessing cash flows from tax refunds during loss years or as a shield to future taxable profits. We predict that past foreign loss history increases the likelihood that a firm focuses more on domestic tax havens.

2.2.5 Comparison between the determinants

Our predictions above focus mostly on the determinants of a firm's propensity to operate in a domestic tax haven relative to a foreign tax haven. Therefore, these predictions focus more on the sign of coefficients rather than the relative magnitudes. Prior research has not investigated the relative explanatory power of the various determinants, and therefore, we have no ex-ante

predictions about which factors will be more important for explaining firms' tax haven strategy choices. However, we assert that understanding the relative importance of different economic factors could be extremely useful to practitioners, academics, policymakers, and other stakeholders as they design and interpret policies that could influence firms' location decision choices. For this reason, we explore the relative explanatory power of each firm-level determinant we discuss above.

2.2.6 Changes in the determinants in the post TCJA period

The TCJA vastly changed foreign tax planning opportunities, and for this reason, we also examine whether MNCs' propensity to use domestic and/or foreign tax haven strategies and the determinants of these choices, change in the post TCJA period. The TCJA reduced opportunities to shift income abroad and included some provisions to try to incentivize firms to locate intangibles in the U.S. (e.g., Foreign Derived Intangible Income or "FDII"). For these reasons, domestic tax haven activity may have increased in the post TCJA period.

We examine how the economic determinants of firms' tax haven arrays change post TCJA. We have no ex-ante predictions for changes in the association between low intangible intensity or state tax planning opportunities and firms' tax haven choices in the post TCJA period. Delaware continues to allow and classify a broad range of income types as intangible income which is exempt from taxation. In addition, there have been no major shifts in state tax planning opportunities, which would suggest that there may be no significant change in these determinants post TCJA. However, due to decreased opportunities for tax savings through foreign tax havens, these factors could be more important motivators of domestic tax haven activity post TCJA.

With regards to financial constraints, there are reasons why the association between

financial constraints and MNCs' tax haven choices could or could not change in the post TCJA period. The TCJA increased firms' flexibility to repatriate their earnings without a tax consequence, so financially constrained firms may not face the same deterrent to engage in foreign tax havens as they did before TCJA. However, the benefits of tax planning through foreign tax havens are also after TCJA, so firms that avoided foreign tax havens due to financial constraints may not change their structure to include foreign tax havens, which would predict no change in the post TCJA period. Finally, firm location decisions and financial constraints are both likely sticky, so firms that were financially constrained pre TCJA may also face similar constraints post TCJA and therefore may still not be able to afford to invest in foreign tax planning in the post TCJA period.

Focusing on foreign losses, the TCJA removed U.S. tax loss carryback provisions, so the most immediate benefits of not having losses trapped in a foreign tax haven in terms of accessing refunds from losses would be more salient before TCJA. The TCJA also reduced the corporate tax rate from 35 to 21 percent, so tax loss carryforwards in the U.S. that could be achieved by foregoing foreign tax planning would also be less valuable post TCJA. This discussion suggests that the predicted positive association between foreign losses and a greater propensity to use domestic tax havens is an empirical question and could be less prominent post TCJA.

3. Research design

3.1 Data and Sample Selection

Our sample selection procedure is detailed in Table 1. Our sample consists of U.S. incorporated MNCs that report the geographic locations of material operations in subsidiaries located across the U.S. and around the world in Exhibit 21 of Form 10-K (Dyreng et al. 2013; Dyreng and Lindsey 2009). We obtain 174,222 firm-year observations with positive values of

total assets from Compustat between 1996 and 2020.[11] We match these data with Compustat

segment data for foreign sales and set the foreign sales ratio equal to 0 if the firm is missing

foreign sales data. We drop non-corporate firms and those missing the CIK to match to Exhibit

21 data. Following Dyreng and Lindsey (2009), we set the haven variables equal to 0 if the

Exhibit 21 shows no evidence of foreign/domestic tax haven activity.[12] We also drop financial

firms (SIC 6000-6999) and utilities (SIC 4900–4949). We drop firms with less than $10 million

in total assets to eliminate very small firms. Since our research question focuses on the choice

between foreign and domestic tax havens, we drop firms with no evidence of multinational

operations (since domestic-only firms have no demand for a foreign tax haven). We define a firm

as a multinational if either foreign pretax income (*PIFO*) or foreign tax expense (*TXFO*) is

greater than zero in year *t*. We retain observations with variables needed to calculate regression

variables (including lagged independent variables). Finally, we drop firms without at least one

tax haven subsidiary (either foreign or domestic) during the sample period. Our final sample

consists of 35,392 observations (4,541 firms).

We provide sample statistics in Table 2. Panel A of Table 2 reports the number of

observations each year segmented by tax haven classification: firms with only foreign tax havens

(*FOR_ONLY*), firms with only domestic tax havens (*DOM_ONLY*), and firms with both foreign

and domestic tax haven subsidiaries (*BOTH_HAVENS*). The trends in panel A show an increase

in firms' propensity to use both types of tax havens over the sample period. The percentage of

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[11] The first year that firms were required to report geographic subsidiary locations in Exhibit 21 was 1995, thus the sample period begins in 1996 since we require lagged values for all the explanatory regression variables. Our sample ends in 2020 because this is the latest year we have data extracted from Exhibit 21. We thank Scott Dyreng for sharing his Exhibit 21 data containing subsidiary locations.

[12] Foreign tax havens identified in Dyreng and Lindsey (2009) are countries listed as a tax haven by at least three of the following four sources: (1) Organization for Economic Cooperation and Development (OECD), (2) the U.S. Stop Tax Havens Abuse Act, (3) The International Monetary Fund (IMF) and (4) the Tax Research Organization. Examples of foreign tax haven countries include Bermuda, the Cayman Islands, and Luxembourg. Delaware is the domestic tax haven, as in Dyreng et al. (2013).

firms with only domestic tax havens decreased over the sample period but still represents a

sizeable portion of the sample with a mean of 24.5 percent. The use of only foreign tax havens

has also declined over the sample period but still reflects a sample mean of 16.7 percent. Panel B

of Table 2 reports the distribution of firm-year observations across industries by haven status.

Although there is variation across industries, there do not appear to be any industries with

extreme variation in the propensity for firms to engage in either type of tax haven.

3.2 Empirical models

Our economic predictions focus on firm-level characteristics associated with MNCs'

reliance on domestic tax havens relative to foreign tax haven subsidiaries. We begin testing our

economic predictions using the following linear probability model:

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\begin{aligned}
DOM\_ONLY = \beta_0 &+ \beta_1\,LOW\;INTANG_{-1} + \beta_2 CONSTRAINED_{it\text{-}1} \\
&+ \beta_3 HIGH\;FOR\;SALES_{it\text{-}1} + \beta_4\;STATE\;TAX\;PLAN_{it\text{-}1} + \beta_5 FOR\;LOSSES_{it\text{-}1} \\
&+ \Sigma\beta_k Controls_{\;it\text{-}1} + \Sigma\beta_j Industry + \Sigma\beta_t Year + \varepsilon_{it} \qquad\qquad (1)
\end{aligned}
$$

We use a linear probability model following recent research (e.g., Chyz and Gaertner

2017; Christensen et al. 2022; Amberger and Robinson 2024) because of the ease of interpreting

coefficients and to facilitate the inclusion of fixed effects.[13] This model examines the probability

that a firm chooses to operate only in domestic tax havens relative to only using foreign tax

havens or both types of tax havens, using a sample of firms that operate in at least one type of tax

haven (foreign or domestic). We assert that all MNCs with tax havens have income-shifting

incentives, and thus, our focus on firms with a tax haven presence allows us to compare the

determinants of location decisions among a sample of firms with similar tax-savings motives.

The dependent variable, *DOM_ONLY,* is an indicator variable equal to one if Exhibit 21 reports

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[13] Linear probability models facilitate the inclusion of fixed effects more easily than nonlinear models such as probit or logit (Amberger and Robinson 2024; Chyz and Gaertner 2018). Moreover, all our variables of interest are discrete variables. Linear probability models are well suited to discrete variables of interest and the coefficients on discrete variables are easy to interpret because they represent marginal effects (Chyz and Gaertner 2018).

at least one subsidiary located in a domestic tax haven and no subsidiaries in foreign tax havens (zero otherwise).

We include five firm-specific determinant variables of interest. We design each of these variables as discrete variables to ease the interpretation of the coefficients and allow us to compare their economic magnitudes. Thus, the coefficients on our variables of interest measure the relative probability of choosing to operate only in domestic tax havens for MNCs with each distinctive characteristic. Our first variable of interest measures low intangible intensity (*LOW INTANG*), which is equal to 1 if the firm is below the median in either advertising expense scaled by total assets or research and development expense scaled by total assets in year *t*, or if the firm operates in a non-income mobile industry (0 otherwise).[14] We predict that firms that are less intangible-intensive are more likely to focus more on domestic tax havens due to Delaware's broad definition and inclusion of many types of income as "intangible income."

Our second variable of interest is financial constraints (*CONSTRAINED*). We measure financial constraints using the firm's level of cash and debt under the assumption that firms with lower cash and higher debt will face greater financial constraints(Hadlock et al. 2010; Kaplan and Zingales 1997). *CONSTRAINED* is equal to 1 if the firm is in the highest quartile of both long-term debt to total assets and cash holdings scaled by total assets in year *t* (0 otherwise). Our third and fourth variables of interest measure firms' opportunities for foreign tax planning (*HIGH FOR SALES*) and state tax planning through Delaware (*STATE TAX PLAN*). We include *HIGH FOR SALES* as our measure of foreign tax planning opportunities, which is equal to 1 if the ratio of foreign sales to total sales is greater than the sample median in year *t*. To measure

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[14] We define income-mobile industries (based on SIC code classifications) as firms in the following industries: Pharmaceuticals, Healthcare, Medical Equipment and Pharmaceutical Products, (SIC 283), Computers and Business Equipment (SIC 357, 367, 737), and Personal and Business Services (SIC 783).

state tax planning opportunities, we begin by using a factor score of three factors that would increase firms' opportunities for state-level tax planning.[15] We then create an indicator variable equal to one if the firm's factor score is in the highest quartile of the sample. Our fifth and final variable of interest is the prevalence of foreign losses in recent years (*FOR LOSSES*). This variable is equal to 1 if the firm has at least two foreign losses in the past three years, and zero otherwise. We predict that *LOW INTANG, CONSTRAINED, STATE TAX PLAN,* and *FOR LOSSES* (*HIGH FOR SALES*) will be positively (negatively) associated with the probability of operating only in domestic tax havens.

We measure our variables of interest in year *t-1* assuming that firm characteristics in one year are likely to determine a firm's choice in the subsequent year, rather than simultaneously. We include as control variables other factors that may influence an MNC's location decisions. We include the tax incentives to shift income to a state tax haven as measured by a higher average state tax rate (*AVGSTRATE*). We include the control variables for growth, (*TOBINSQ*), firm size, (*SIZE* and *LOGEMPL*), firm complexity (*COMPLEX*), and firm age (*AGE*) to account for the effects of these factors on subsidiary location decisions. We include *DE_PARENT,* an indicator variable equal to one if the firm is incorporated in Delaware, to control for legal reasons for having business operations in Delaware (Bebchuk and Cohen 2003). We include tax loss carryforwards (*NOL*) because tax loss carryforwards may serve as a tax shield so the firm may demand fewer additional tax avoidance strategies. We also include the average strength of anti-takeover laws in states the firm operates in (*ANTITAKEOVER*) and an indicator variable equal to 1 con control for an acquisition in the prior year (*ACQ*). We also include industry (Fama

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[15] The first factor two factors are U.S. sales relative to total sales and U.S. subsidiaries relative to total subsidiaries, which measure the extent of domestic operations. The third factor is the log of the number of U.S. subsidiaries located in separate filing states, which are conducive to state tax haven strategies.

French 17) and year fixed effects while also clustering standard errors by firm.

4 Empirical Results

4.1 Descriptive Statistics

Table 3 reports descriptive statistics for the sample. Panel A presents descriptive statistics for the full sample. Approximately one-quarter of the observations have only domestic tax haven subsidiaries (mean $DOM\_ONLY = 0.244$). Almost two-thirds of the sample firms use both types of tax havens (mean $BOTH\_HAVENS = 0.59$), and a smaller proportion of the sample uses only foreign tax havens (mean $FOR\_ONLY = 0.167$).[16] Approximately 72 percent of firm years are classified as low intangible intensity ($LOW\ INTANG = 1$). Moreover, approximately 11 percent of firms are financially constrained ($CONSTRAINED = 1$), 24.9 percent of firm-years have significant state tax planning opportunities ($STATE\ TAX\ PLAN$), and 6.2 percent of firm-years have significant recent foreign losses ($FOR\ LOSSES$).

Panel B of Table 3 reports descriptive statistics for subsamples categorized by presence in different tax haven locations. From left to right, the three columns in panel B show observations that report subsidiaries in only domestic havens ($DOM\_ONLY = 1$, N = 8,622), both foreign and domestic havens ($BOTH\_HAVENS = 1$, N = 20,875), and foreign tax havens only ($FOR\_ONLY = 1$, N = 5,895). The variables of interest differ across the three subsamples generally as predicted. As expected, low intangible intensity ($LOW\ INTANG$) decreases monotonically as firms move from only domestic to both havens (column 2) and only foreign havens (column 3). Financial constraints ($CONSTRAINED$) and state tax planning opportunities ($STATE\ TAX\ PLAN)$ also decrease monotonically from columns 1 to 3. Foreign losses (FOR

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[16] The overall means of our tax haven variables (*DOM_ONLY, BOTH_HAVENS, and FOR_ONLY)* in Panel A of Table 3 vary slightly from the sums of the annual means in Panel A of Table 2 due to our rounding of the annual means to one decimal.

LOSSES) are higher among firms only in domestic tax havens (column 1) but are similar in columns 2 and 3.

4.2 Primary results

Table 4 reports results from Equation (1), which models the linear probability that the firm chooses to operate only in domestic tax havens (*DOM_ONLY*) rather than in both tax havens or only in foreign tax havens, conditional upon the existence of at least one type of tax haven. We find that the coefficient on *LOW INTANG* (Coeff. = 0.0631, p < 0.01) is positive and significant and suggests that low intangible intensity increases the probability of operating only in domestic havens by 6.31 percentage points. We find that the coefficient on *CONSTRAINED* (Coeff. = 0.0676, p < 0.01) is also positive and significant and suggests that this factor increases the probability of operating only in domestic havens by 6.76 percentage points. When comparing the economic magnitudes of the first two variables, we find that they are not significantly different. With regards to foreign and state tax planning opportunities, we find that the coefficient on *STATE TAX PLAN* (Coeff. = 0.189, p < 0.01) is positive and significant as predicted and the magnitude of the coefficient is roughly three times as large as that of the first two variables of interest. We find that the coefficient on *HIGH FOR SALES* is negative and significant as predicted (Coeff. = −0.0611, p < 0.01). Finally, the coefficient on our foreign losses variable (*FOR LOSSES,* Coeff. = 0.046, p < 0.10) is also positive and significant. The coefficient magnitude appears slightly smaller but is not significantly different from *CONSTRAINED* or *LOW INTANG*.

Since we use a linear probability model, the coefficients on our variables of interest are the marginal effects of belonging to the subsample, holding other variables in the model constant (Chyz and Gaertner 2018). Given that the unconditional likelihood of being a domestic-only tax haven firm is 24.4 percent, the marginal effects suggest that low intangible intensity and

financial constraints each increase the relative probability of choosing to operate in only domestic tax havens by about 25 to 28 percent. Holding all other variables constant, the marginal effects suggest that having high state tax planning opportunities (*STATE TAX PLAN*) increases the relative probability of choosing to operate in only domestic tax havens by about 77 percent.[17] Finally, the marginal effects suggest that having recent foreign losses increases the relative probability of choosing to operate in only domestic tax havens by about 17 percent. In sum, the analyses suggest that opportunities for domestic tax planning, rather than constraints of foreign tax planning, appear to be the most important driver of the choice to focus on domestic tax havens. The intangible nature and capital structure of the firm both appear to be of similar but smaller importance compared to state tax planning opportunities. These economic factors are also more difficult for the firm to change. However, if MNCs facing constraints on foreign tax planning want to maximize their domestic tax planning opportunities, they can think about broadening their U.S. operations and strategically locating subsidiaries in states that are more conducive to tax planning. The coefficients on our control variables are in line with expectations.

4.3 Additional analyses

4.3.1 Additional analyses comparing different tax haven arrays

Our primary analysis examines how firm-specific factors influence the probability that a firm focuses its tax planning on domestic tax havens. Equation (1) focuses on the choice between operating only in domestic tax havens (group 1) relative to two different comparison groups: firms that operate in both types of tax havens (group 2) and firms that operate only in foreign tax havens (group 3). However, this analysis pools groups 2 and 3 as one comparison group. In

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[17] As a robustness test, rather than using a factor analysis, we measure high state tax planning using an indicator variable equal to 1 if the firm is in the highest quartile of both the ratio of separate filing subs to total subs and the percentage of domestic subs. We find consistent inferences using this alternative measure both economically and statistically.

additional analyses, we augment Equation (1) to compare the determinants between different tax haven arrays using the following linear probability model:

$$Tax\ Haven\ Array = \beta_0 + \beta_1\ LOW\ INTANG_{-1} + \beta_2 CONSTRAINED_{it-1}$$
$$+ \beta_3 HIGH\ FOR\ SALES_{it-1} + \beta_4\ STATE\ TAX\ PLAN_{it-1} + \beta_5 FOR\ LOSSES_{it-1}$$
$$+ \Sigma\beta_k Controls_{\ it-1} + \Sigma\beta_j Industry + \Sigma\beta_t Year + \varepsilon_{it} \qquad (2)$$

Tax Haven Array includes the following comparisons: (1) *DOM_ONLY* relative to

BOTH_HAVENS, which compares groups 1 and 2 (i.e., domestic only versus both havens), (2)

DOM_ONLY relative to *FOR_ONLY*, which compares groups 1 and 3 (i.e., domestic only versus

foreign only tax havens), and (3) *BOTH_HAVENS* relative to *FOR_ONLY*, which compares

groups 2 and 3 (i.e., both havens versus foreign tax havens only). In each of these three models,

the first variable is the dependent variable, and the second group is included in the sample as the

control group.

Table 5 reports the results of these analyses. We find that the coefficients on *LOW*

INTANG in columns 1 and 2, which compare only domestic tax havens relative to both havens

and only domestic relative to foreign tax havens, respectively, are of similar sign and magnitude

to our primary analysis (Column 1 Coeff = 0.751, $p < 0.01$; Column 2 Coeff = 0.0699, $p < 0.01$).

However, we do not find in column 3 that low intangible intensity is related to the choice to

operate in both tax havens relative to only foreign tax havens. The results for financial

constraints virtually mirror the *LOW INTANG* inferences. The coefficients on *CONSTRAINED* in

columns 1 and 2 (Coeff = 0.0653, $p < 0.01$ and Coeff = 0.0767, $p < 0.01$, respectively) are not

significantly different and the coefficient in column 3 is not significant and is economically close

to zero in magnitude. Thus, these factors seem to impact a firm's choice to focus *solely* on

domestic tax havens rather than adding a domestic tax haven to the foreign tax haven array.

We find quite a bit of variation in the relative weight of state tax planning opportunities

on the choices between the tax haven mixes or specifically, the coefficient on *STATE TAX PLAN*

between the three columns. We find that the coefficient in column 1 is smaller in magnitude (Coeff. = 0.1569, p < 0.01) compared to the results in Table 4. The coefficient on *STATE TAX PLAN* in column 2 is almost double in magnitude (Coeff. = 0.3485, p < 0.01) and smallest in column 3 (Coeff. = 0.1054, p < 0.01) compared to our main analysis in Table 4. Thus, state tax planning opportunities appear to be a larger driver of the choice to use only domestic tax havens compared to only foreign tax havens (column 2), yet still meaningful in the other two subsamples. Finally, we find some variation in the relative importance of foreign losses as a driver of the various tax haven array choices. The coefficient on *FOR LOSSES* is positive and significant in both columns 1 and 2 (Coeff. = 0.0388, p < 0.05 and Coeff. = 0.0615, p < 0.01, respectively) and these coefficients are not statistically different. We do not find that the coefficient on *FOR LOSSES* is significant in column 3.

In sum, these results suggest that firms that are inherently more intangible intensive, those that face financial constraints, and those that have foreign losses are more likely to choose to focus exclusively on tax planning through domestic havens. Thus, these factors are more important for the choice between operating only in domestic tax havens relative to either both havens or only in foreign havens, but these factors are not incrementally meaningful in the choice to operate in both tax havens relative to just focusing on foreign tax havens. Rather, state tax planning opportunities primarily drive the choice to operate in both tax havens relative to only foreign tax havens. Overall, Tables 4 and 5 provide useful inferences regarding the relative weight of firm-specific factors for firms' tax haven location decisions.[18]

4.3.2 Analysis of firms changing their tax haven arrays

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[18] One criticism of our tests could be that we are not adequately capturing multinational firms, which could skew the importance of a firm's reliance on domestic tax planning. As an untabulated test, we limit the sample to firms with at least 5 percent or 10 percent of either pretax foreign income to total pretax income or foreign tax to total tax, and we find inferences that mirror our primary tests.

Our sample includes firms that transition between different tax haven categories during the sample period. Specifically, we focus on two groups of firms that change their tax haven arrays during the sample period: 1) firms that transition into domestic tax havens and 2) firms that transition into foreign tax havens. We also examine various haven array changes within these two groups (e.g., changing to and from only domestic or only foreign tax havens). Table 6 presents the results of this analysis for "transition" firms.

Panel A provides sample statistics for the different tax haven arrays. We begin with sample statistics on firms transitioning into domestic tax havens. Interestingly, we find that 424 firms (roughly 9 percent of the full sample) transition from only foreign tax havens to both havens, increasing their domestic tax haven presence.[19] We then provide statistics on our second group of firms that transition into foreign tax havens. The largest percentage of these firms (603 firms) transition from only domestic havens into both havens, perhaps not surprisingly.

In a multivariate analysis, we examine the explanatory power of our firm-level factors for the tax haven array changes. We begin by examining the probability of using domestic tax havens or foreign tax havens for firms that experience a change during the sample period. More specifically, for the group of firms transitioning into domestic tax havens, we examine the probability of either 1) having a domestic tax haven or 2) using only domestic tax havens. For the group of firms transitioning into foreign tax havens, we examine the probability of either 1) having a foreign tax haven or 2) using only foreign tax havens. This analysis documents the explanatory power of our determinants for firms that change to a new tax haven structure, increasing our ability to draw causal inferences. We estimate Equation (1) in these subsamples

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[19] Some firms change their tax haven array more than once during the sample period. We include all changes in this analysis. Therefore, a firm could be included in more than one sample (for example if it changed from domestic only tax havens to both havens and then back to domestic only havens).

using several different haven outcome variables (*DOM_HAVEN, DOM_ONLY, FOR_HAVEN*, or *FOR_ONLY*). We replace the industry and year fixed effects with firm fixed effects, so our analysis captures the determinants of the tax haven array choice in a within-firm analysis.

Panel B presents the multivariate analysis using the different subsamples. Columns (1) and (2) include only the subsample of firms that transition into domestic tax havens during the sample period by either adding domestic tax havens or changing to only domestic tax havens. Columns (3) and (4) include only the subsample of firms that transition into foreign tax havens during the sample period by either adding foreign tax havens or changing to only foreign tax havens. We find that, like the main analysis, the coefficient on *LOW INTANG* is positive and significant in Columns (1) and (2) and is roughly double in column (2) where the outcome variable is *DOM_ONLY*. We do not find a significant coefficient on *LOW INTANG* in columns (3) and (4). Therefore, low intangible intensity appears to increase the probability of adding domestic tax havens rather than reducing a firm's propensity to operate in foreign tax havens. We find that the coefficient on *CONSTRAINED* is not significant in the sample adding domestic tax havens (columns 1 and 2) but is negative and significant in columns (3) and (4). In terms of economic significance, column (4) suggests that among firms moving into foreign tax havens, having financial constraints decreases the probability of changing to only foreign tax havens by about 17 percent (0.0281 divided by the unconditional probability of being *FOR_ONLY* of 0.167). Overall, these results suggest that financial constraints deter foreign tax haven additions rather than motivating domestic tax haven additions.

Regarding domestic tax planning opportunities, we find contrasting results on the effect of state tax planning opportunities on the probability of adding domestic tax havens or adding foreign tax havens. Specifically, in columns (1) and (2), we find that among firms transitioning

into domestic tax havens, state tax planning opportunities increase the probability of both adding a domestic tax haven (column 1, Coeff = 0.0207, p < 0.10) and changing to only domestic tax havens (column 2, Coeff = 0.1022, p < 0.01). Similarly, we also find that among firms transitioning into foreign tax havens, state tax planning opportunities decrease the probability of both adding a foreign tax haven (column 3, Coeff = −0.1041, p < 0.01) and changing to only foreign tax havens (column 4, Coeff = −0.0276, p < 0.01). Thus, having state tax planning opportunities both increases domestic tax planning through tax havens and decreases the probability of firms transitioning into foreign tax havens. Finally, we do not find in this analysis that foreign losses (*FOR LOSSES*) are related to foreign or domestic tax haven transitions. Thus, foreign losses may be more "sticky" and deter firms from changing their tax haven arrays.

4.3.3 Changes in firms' tax haven arrays following the Tax Cuts and Jobs Act (TCJA)

While our primary analysis pools all years in the sample, we recognize that a vast change in the tax regime occurred during our sample period with the TCJA, which affected firm years after 2017. The TCJA included a number of different changes such as changing from a worldwide tax system to a quasi-territorial tax system along with other regulations to try to curb income shifting abroad, including GILTI and BEAT. This tax regime change could alter firms' propensity to operate in domestic or foreign tax havens and it could change the determinants of these choices. We separate the sample into two time periods, including firm-years: 1) before the TCJA (1996–2017) and 2) post TCJA (2018−2020). We separately examine our primary analysis for the two time period subsamples and present this analysis in Table 7.

In Panel A of Table 7, we first present a univariate analysis of the percentage of firm-years that operate only in domestic tax havens (*DOM_ ONLY*= 1), in both tax havens (*BOTH_HAVENS* = 1), or only in foreign tax havens (*FOR_ ONLY*= 1) across these time

periods. We find that the proportion of only domestic and only foreign firm-years decreases by 2.3 percent and 1.9 percentage points, respectively, following the TCJA. The proportion of firms using both havens increases by 4.2 percentage points following the TCJA. These statistics suggest that firms are not abandoning foreign tax havens, but they may be increasing their use of domestic tax havens following the changes implemented by the TCJA. This may be because of the incentives for locating intangibles domestically created by Foreign-Derived Intangible Income (FDII) and/or the increased difficulty of shifting income abroad created by GILTI and BEAT that firms choose to instead recoup tax savings domestically.

In Panel B we examine whether inferences from our predictions change following the tax regime change. We estimate Equation (1) separately for the two time period subsamples. As discussed in the background and prediction section, we do not have any ex-ante predictions on how the determinants of the firm structures may change, so this analysis is largely exploratory. We find largely similar results in the two time periods for the coefficients on *LOW INTANG*, *CONSTRAINED,* and *STATE TAX PLAN*. As a result, we find no statistically significant differences in these factors between the two time periods. No difference in low intangible intensity between the two time periods seems intuitive, because Delaware's broad definition of intangibles that motivates firms with low income mobility to benefit from a domestic tax haven does not change with the tax regimes. However, it is perhaps surprising that we find no difference in financially constrained firms' propensity to focus on domestic tax havens between the two time periods. The TCJA changed the taxation of foreign dividends so that MNCs could repatriate earnings from foreign subsidiaries with no tax consequence. However, this change did not appear to dilute this factor as a motivator for firms to focus more on domestic tax planning. Rather, it appears instead that the costs of setting up a firm's multinational supply chain and

transfer pricing arrangements may still deter financially constrained firms from tax planning through foreign tax havens post TCJA. We also find similar inferences that the relative importance of state tax planning opportunities for the probability of operating only in domestic tax havens did not change meaningfully after the TCJA.

Finally, while we find that the coefficient on *FOR LOSSES* is only significant in the pre TCJA period, the coefficient magnitudes are similar between time periods and the difference between the two is not statistically significant. This result is intriguing because the TJCA changed the taxation of losses in the U.S. so that firms could no longer carry back domestic losses to obtain refunds, which might suggest that foreign losses are less important in moving firms more towards domestic tax haven use. However, firm structures are sticky, and the fact that decreased opportunities to use foreign tax havens along with these provisions may mean that many firms that were previously only in domestic tax havens continued to stay that way.

We also re-examine the tax haven array analysis from Table 5 using Equation (2) and examine how these inferences change in the post TCJA period. We augment Equation (2) by interacting all variables with a post-TCJA dummy variable (*Post TCJA*). We also drop the year fixed effects from this specification. We tabulate only our variables of interest, while control variables and their interactions with *Post TCJA* are included. We find very few changes in the determinants in the post TCJA period. We find that the main effect of the *Post TJCA* variable is significant only in column 3 (*BOTH_HAVENS* relative to *FOR_ONLY*). Therefore, after the TCJA, firms were more likely to operate in both tax havens relative to only foreign tax havens, but they were not more likely to abandon their foreign tax havens and shift towards domestic tax havens only. Turning to the firm-level factors, the only interaction coefficient with *Post TCJA* that is significant is *STATE TAX PLAN* in column 2 (i.e., *DOM_ONLY* relative to *FOR_ONLY*).

This coefficient suggests that state tax planning opportunities motivated firms to incrementally shift more towards only domestic havens relative to only foreign havens in the post TCJA period.

In sum, we do not find extensive changes in firms' tax haven arrays in the three years following the TCJA. One explanation could be that with the large corporate tax rate change from 35 percent to 21 percent and foreign income still being taxed at relatively low rates, firms were willing to accept the tax rates associated with the existing firm structures rather than making changes to their existing firm structures. This could be because it is very costly to rearrange a firm's multinational supply chain. Instead, firms may have engaged in tax planning to make the best of the new tax laws with their existing tax haven arrays, such as reclassifying intercompany costs (Kelley et al. 2024) or changing their income shifting (Atwood and Johnson 2021).

5. Conclusion

U.S. multinational firms face scrutiny by government regulators and the popular press for implementing tax savings strategies that use foreign and domestic tax havens. Officials express dismay at the magnitude of lost tax revenue attributable to profit-shifting between high-tax jurisdictions and foreign and domestic tax havens. In an effort to better understand the economic forces that influence a firm's decision to locate subsidiaries in foreign and domestic tax haven jurisdictions, this paper investigates the economic characteristics associated with the array of domestic and foreign tax haven location decisions. While prior research examines the costs and tax benefits of operating in foreign or domestic tax havens in isolation, we examine how the costs and benefits of these operations influence firms' array of tax havens, including operating in only domestic tax havens, only foreign tax havens, or both types of tax havens.

We predict and find that financial constraints, lower intangible intensity, greater state tax planning opportunities, and foreign losses increase the probability that firms operate in domestic tax havens rather than foreign tax havens. We corroborate these results using firms that transition

into foreign or domestic tax havens during the sample period. We also examine how these inferences change over the monumental tax regime change during the sample period (i.e., TCJA of 2017). We find a small shift towards domestic tax havens in firms' tax haven arrays in the three years following the tax law change.

This study is of interest to academic researchers and tax policymakers as it provides the first attempt to investigate the choice U.S. firms have to locate intangible assets between a mix of both foreign and domestic tax havens. The results of this study provide initial insight into the complexities involved in understanding the magnitude of the firm characteristics that influence the operational structures involved in multijurisdictional profit-shifting tax strategies.

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Appendix: Variable Definitions

Variable	Definition
Outcome variables	
BOTH_HAVENS	An indicator variable equal to 1 if Exhibit 21 reports at least one subsidiary located in a foreign tax haven and at least one subsidiary located in a domestic tax haven, and coded 0 otherwise
DOM_HAVEN	An indicator variable equal to 1 if the firm has at least one subsidiary located in a domestic tax haven, and coded 0 otherwise
DOM_ONLY	An indicator variable equal to 1 if the firm has at least one subsidiary located in a domestic tax haven and zero subsidiaries located in foreign tax havens, and coded 0 otherwise
FOR_HAVEN	An indicator variable equal to 1 if the firm has at least one subsidiary located in a foreign tax haven, and coded 0 otherwise
FOR_ONLY	An indicator variable equal to 1 if the firm has at least one subsidiary located in a foreign tax haven and zero subsidiaries located in a domestic tax haven, and coded 0 otherwise
Variables of interest	
CONSTRAINED	An indicator variable equal if the firm is financially constrained as evidenced by high debt and low cash, which is to 1 if the firm is in the highest quartile of long-term debt to total assets and is also in the lowest quartile of cash holdings scaled by total assets in year t (0 otherwise).
FOR LOSSES	An indicator variable equal to 1 if the firm has at least two foreign losses in the past three years, zero otherwise. Set equal to zero if data for foreign or domestic losses is missing.
HIGH FOR SALES	An indicator variable equal to 1 if the ratio of foreign sales to total sales is greater than the sample median by year. This variable is set equal to zero if we have no foreign sales data for the firm in year t.
LOW INTANG	Low intangible intensity, defined as an indicator variable equal to 1 if the firm is below the median in either advertising expense scaled by total assets or R&D expense scaled by total assets in year t or if the firm operates in non-mobile industries (0 otherwise).
STATE TAX PLAN	An indicator variable estimating a firm's ability to engage in state tax planning. We begin by calculating a factor score of three underlying variables: 1) the ratio of U.S. domestic sales to total sales, 2) the ratio of the number of U.S. domestic subsidiaries to the number of foreign subsidiaries, and 3) the natural log of the number of subsidiaries located in separate filing states, as disclosed in Exhibit 21. We set the indicator variable equal to 1 if the factor score is in the top quartile, zero otherwise.
Post TCJA	An indicator variable equal to 1 for all firm years after the Tax Cuts and Jobs Act of 2017 (i.e., years 2018 or later).

Appendix: Variable Definitions (continued)

Control variables	
ACQ	An indicator variable equal to 1 if the effect of either a purchase or pooling of interest acquisition on a company's sales for the prior year is greater than zero, and coded 0 otherwise
AGE	Natural log of the age of the firm, in years.
ANTITAKEOVER	Weighted-average anti-takeover laws of states (excluding Delaware) in which the firm discloses subsidiaries, calculated as in Dyreng et. al (2013)
AVGSTRATE	Weighted average statutory tax rate of states in which Exhibit 21 discloses subsidiaries, calculated as in Dyreng et. al (2013)
COMPLEX	An indicator variable equal to 1 if the firm-year is in the highest quartile of the number of worldwide subsidiaries by industry and year, zero otherwise.
DE_PARENT	An indicator variable equal to 1 if the firm is incorporated in Delaware, and coded 0 otherwise
LOGEMP	Natural log of the number of persons employed by the firm, in thousands.
NOL	An indicator variable equal to 1 if the prior year's tax loss carryforward is greater than zero, and coded zero otherwise.
SIZE	Natural log of total assets.
TOBINSQ	Ratio of market value to the replacement cost of a firm's assets.

Table 1
Sample Selection

Criteria	Firm-years
U.S. firms covered by *Compustat* between 1996 and 2020 with positive values of total assets	174,222
Less:	
Firms missing CIK	(6,583)
Non-corporate firms	(7,270)
Banks and utilities	(34,154)
Firms with total assets <$10M	(21,256)
Domestic-only firms	(50,954)
Firms missing variables for models	(6,117)
Firms without tax haven operations (foreign or domestic)	(12,496)
Total firm-years	35,392
Total firms	4,541

Table 2
Sample Composition

Panel A: Subsamples based on firm/year tax haven jurisdictions by year

Year	Total N	Foreign only (FOR_ONLY)	Domestic only (DOM_ONLY)	Both havens (BOTH_HAVENS)
		% of firm-years		
1996	1,122	18.4%	29.0%	52.6%
1997	1,263	19.1%	27.0%	53.9%
1998	1,302	19.5%	26.1%	54.4%
1999	1,311	17.7%	26.2%	56.1%
2000	1,341	17.4%	27.4%	55.2%
2001	1,370	17.0%	27.2%	55.8%
2002	1,369	16.4%	25.9%	57.8%
2003	1,373	16.5%	25.8%	57.7%
2004	1,433	16.1%	27.1%	56.8%
2005	1,446	16.0%	26.4%	57.5%
2006	1,483	15.9%	26.4%	57.7%
2007	1,488	16.9%	24.3%	58.9%
2008	1,500	16.4%	23.5%	60.1%
2009	1,478	17.7%	23.1%	59.1%
2010	1,478	17.9%	22.5%	59.6%
2011	1,475	16.9%	22.9%	60.2%
2012	1,460	17.2%	22.8%	60.0%
2013	1,479	17.2%	22.0%	60.9%
2014	1,492	16.5%	22.2%	61.3%
2015	1,492	16.0%	23.1%	61.0%
2016	1,453	14.6%	22.6%	62.8%
2017	1,447	15.2%	21.3%	63.5%
2018	1,467	15.2%	22.7%	62.1%
2019	1,451	15.1%	22.3%	62.6%
2020	1,419	14.7%	22.0%	63.3%
	35,392	16.7%	24.5%	58.8%

Table 2 (continued)

Panel B: Subsamples based on firm/year tax haven jurisdictions by industry

Industry	Foreign only (*FOR_ONLY*)	Domestic only (*DOM_ONLY*)	Both havens (*BOTH_HAVENS*)	Totals
Food	141	317	639	1,097
Mining and Minerals	67	161	234	462
Oil and Petroleum Products	97	270	824	1,191
Textiles, Apparel & Footware	211	134	629	974
Consumer Durables	207	204	715	1,126
Chemicals	130	240	754	1,124
Drugs, Soap, Prfums, Tobacco	278	285	833	1,396
Construction/ Construction Materials	148	398	702	1,248
Steel Works Etc	90	212	256	558
Fabricated Products	30	135	288	453
Machinery and Business Equipment	1,816	917	4,632	7,365
Automobiles	58	252	441	751
Transportation	94	448	852	1,394
Retail Stores	136	618	897	1,651
Other	2,392	4,031	8,179	14,602
Total	5,895	8,622	20,875	35,392

Table 3
Descriptive statistics

Panel A: All firm-years

| Variable | N | Mean | St Dev | Percentiles | | |
				25th	50th	75th
DOM_ONLY	35,392	0.244	0.429	0.000	0.000	0.000
BOTH_HAVENS	35,392	0.590	0.492	0.000	1.000	1.000
FOR_ONLY	35,392	0.167	0.373	0.000	0.000	0.000
LOW INTANG	35,392	0.718	0.450	0.000	1.000	1.000
CONSTRAINED	35,392	0.111	0.314	0.000	0.000	0.000
HIGH FOR SALES	35,392	0.553	0.497	0.000	1.000	1.000
STATE TAX PLAN	35,392	0.249	0.433	0.000	0.000	0.000
FOR LOSSES	35,392	0.062	0.242	0.000	0.000	0.000
COMPLEX	35,392	0.319	0.466	0.000	0.000	1.000
NOL	35,392	0.561	0.496	0.000	1.000	1.000
SIZE	35,392	6.755	1.874	5.458	6.710	8.009
AVGSTRATE	35,392	0.066	0.026	0.055	0.071	0.087
DE_PARENT	35,392	0.721	0.449	0.000	1.000	1.000
TOBINSQ	35,392	1.843	1.830	0.887	1.311	2.105
AGE	35,392	2.936	0.764	2.398	2.944	3.555
ANTITAKEOVER	35,392	0.217	0.249	0.059	0.133	0.273
EMP	35,392	1.123	1.874	-0.186	1.185	2.407
	35,392	0.143	0.350	0.000	0.000	0.000

Table 3 (continued)

Panel B: Subsamples based on firm/year tax haven locations:

	Domestic only (*DOM_ONLY*=1)	Both havens (*BOTH_HAVENS*=1)	Foreign only (*FOR_ONLY*=1)
N	8,622	20,875	5,895
N % of sample	24%	59%	17%
Variable			
LOW INTANG	0.778	0.719	0.627
CONSTRAINED	0.149	0.108	0.068
HIGH FOR SALES	0.388	0.598	0.633
STATE TAX PLAN	0.371	0.247	0.082
FOR LOSSES	0.084	0.055	0.057
COMPLEX	0.111	0.463	0.113
NOL	0.530	0.580	0.539
SIZE	6.166	7.218	5.981
AVGSTRATE	0.067	0.066	0.065
DE_PARENT	0.765	0.731	0.620
TOBINSQ	1.724	1.799	2.176
AGE	2.811	3.039	2.753
ANTITAKEOVER	0.295	0.218	0.098
EMP	0.629	1.538	0.375
ACQ	0.156	0.145	0.114

Table 4
Factors associated with the probability of operating in only domestic tax havens

Variables	DOM ONLY
Intercept	0.2856***
	[6.69]
LOW INTANG	0.0631***
	[4.96]
CONSTRAINED	0.0676***
	[4.99]
HIGH FOR SALES	-0.0611***
	[-5.98]
STATE TAX PLAN	0.1890***
	[14.16]
FOR LOSSES	0.0406**
	[2.48]
COMPLEX	-0.1887***
	[-16.65]
NOL	-0.0075
	[-0.79]
SIZE	-0.0214***
	[-3.69]
AVGSTRATE	0.1900
	[1.05]
DE_PARENT	0.0610***
	[4.88]
TOBINSQ	-0.0111***
	[-5.50]
AGE	0.0025
	[0.31]
ANTITAKEOVER	0.2652***
	[12.44]
EMP	-0.0045
	[-0.78]
ACQ	0.0194**
	[2.46]
Observations	35,392
Adj. R-squared	0.1804
Fixed Effects	Industry, Year

Notes: This table presents results from Equation (1). The coefficient estimates are reported with two-sided p-values for t-statistics (in brackets) based on standard errors that are clustered by firm. ***, **, and * indicate statistical significance at the 0.01, 0.05, and 0.10 levels, respectively. Industry (Fama French 17) and year fixed effects are included. All variables are defined in the Appendix.

Table 5
Factors associated with the tax haven array choices:
Domestic only, Foreign only or Both types of tax havens

Dependent variable	(1) *DOM_ONLY* relative to *BOTH_HAVENS*	(2) *DOM_ONLY* relative to *FOR_ONLY*	(3) *BOTH_HAVENS* relative to *FOR_ONLY*
Intercept	0.5191***	0.1773***	0.2334***
	[10.01]	[2.92]	[4.69]
LOW INTANG	0.0751***	0.0699***	-0.0055
	[5.09]	[3.36]	[-0.34]
CONSTRAINED	0.0653***	0.0767***	0.0079
	[4.60]	[3.90]	[0.57]
HIGH FOR SALES	-0.0596***	-0.0984***	-0.0301***
	[-5.24]	[-6.37]	[-2.72]
STATE TAX PLAN	0.1569***	0.3485***	0.1054***
	[11.52]	[18.85]	[8.34]
FOR LOSSES	0.0388**	0.0615***	0.0188
	[2.09]	[3.14]	[1.20]
COMPLEX	-0.2441***	-0.0608**	0.2156***
	[-18.78]	[-2.36]	[16.44]
NOL	-0.0150	0.0062	0.0179
	[-1.39]	[0.44]	[1.62]
SIZE	-0.0321***	-0.0034	0.0235***
	[-4.80]	[-0.42]	[3.57]
AVGSTRATE	0.0629	0.6401**	0.3030
	[0.29]	[2.26]	[1.28]
DE_PARENT	0.0299**	0.1705***	0.1014***
	[2.07]	[8.27]	[6.60]
TOBINSQ	-0.0094***	-0.0207***	-0.0107***
	[-3.75]	[-6.99]	[-4.19]
AGE	-0.0036	0.0225*	0.0231**
	[-0.40]	[1.84]	[2.53]
ANTITAKEOVER	0.1122***	0.6609***	0.6027***
	[4.06]	[18.23]	[17.05]
EMP	-0.0099	-0.0051	0.0176***
	[-1.50]	[-0.64]	[2.73]
ACQ	0.0001	0.0823***	0.0678***
	[0.01]	[6.71]	[8.13]
Observations	29,497	14,517	26,770
Adj. R-squared	0.2026	0.3644	0.2526
Fixed Effects	Industry, Year	Industry, Year	Industry, Year

Notes: This table presents results from Equation (2) and compares choices between different tax haven locations among subsamples. Column 1 includes firms operating only in domestic tax havens or both types of tax havens, column 2 includes firms operating in only domestic or only foreign tax havens, and column 3 includes firms operating either in both havens or only in foreign tax havens. The coefficient estimates are reported with two-sided p-values for t-statistics (in brackets) based on standard errors that are clustered by firm. ***, **, and * indicate statistical significance at the 0.01, 0.05, and 0.10 levels, respectively. Year fixed effects are included. All variables are defined in the Appendix.

Table 6
Analysis of firms changing their tax haven arrays

Panel A: Subsample statistics for firms changing tax haven arrays

	Firms transitioning into Domestic Havens			
	FOR_ONLY to DOM_ONLY	*FOR_ONLY to BOTH*	*BOTH to DOM_ONLY*	Total changing to *DOM_ONLY*
N Firms	36	424	359	395
N Firm-years	333	5,210	4,588	4,921
% firm-years in the Post period	41%	59%	41%	

	Firms transitioning into Foreign Havens			
	DOM_ONLY to FOR_ONLY	*DOM_ONLY to BOTH*	*BOTH to FOR_ONLY*	Total changing to *FOR_ONLY*
N Firms	37	603	287	324
N Firm-years	406	7,708	3,965	4,371
% firm-years in the Post period	42%	60%	42%	

Table 6 (continued)

Panel B: Multivariate analysis of factors associated with the tax haven array choice for firms changing their tax have array

	Firms transitioning into Domestic Tax Havens		Firms transitioning into Foreign Tax Havens	
	(1)	(2)	(3)	(4)
Dependent variable	*DOM_HAVEN*	*DOM_ONLY*	*FOR_HAVEN*	*FOR_ONLY*
Intercept	-0.3116***	-0.1496*	-0.4105***	0.3500***
	[-4.43]	[-1.90]	[-5.27]	[6.08]
LOW INTANG	0.0662**	0.1421***	-0.0477	0.0403
	[2.35]	[4.51]	[-1.41]	[1.62]
CONSTRAINED	0.0183	0.0135	-0.0281**	-0.0281***
	[1.43]	[0.95]	[-2.13]	[-2.87]
HIGH FOR SALES	0.0096	-0.0264**	0.0483***	0.0013
	[0.98]	[-2.41]	[4.57]	[0.16]
STATE TAX PLAN	0.0207*	0.1022***	-0.1041***	-0.0276***
	[1.84]	[8.13]	[-9.07]	[-3.26]
FOR LOSSES	-0.0232	0.0249	-0.0139	-0.0119
	[-1.60]	[1.54]	[-0.92]	[-1.06]
COMPLEX	0.1730***	-0.0843***	0.1354***	-0.1163***
	[17.82]	[-7.77]	[12.90]	[-15.00]
NOL	0.0000	-0.0022	0.0099	0.0143**
	[0.00]	[-0.23]	[1.06]	[2.05]
SIZE	0.0352***	-0.0247***	0.0377***	-0.0156***
	[5.19]	[-3.25]	[5.06]	[-2.83]
AVGSTRATE	-0.3820**	0.2472	-0.2104	0.2745*
	[-2.04]	[1.18]	[-1.01]	[1.79]
DE_PARENT	0.1287*	-0.0396	0.1335*	-0.1314**
	[1.83]	[-0.50]	[1.80]	[-2.40]
TOBINSQ	-0.0031	0.0034	0.0048*	0.0016
	[-1.47]	[1.43]	[1.87]	[0.82]
AGE	0.1736***	0.1531***	0.2717***	0.0478***
	[14.98]	[11.82]	[20.95]	[4.98]
ANTITAKEOVER	0.7338***	0.1905***	-0.2652***	-0.5780***
	[45.55]	[10.58]	[-14.08]	[-41.51]
EMP	-0.0035	-0.0423***	0.0204**	-0.0020
	[-0.46]	[-4.91]	[2.41]	[-0.33]
ACQ	0.0610***	-0.0020	0.0095	-0.0379***
	[6.81]	[-0.20]	[0.99]	[-5.37]
Observations	9,539	9,539	11,313	11,313
N firms	776	776	878	878
R-squared	0.2604	0.0519	0.1608	0.1639
Fixed effects	Firm	Firm	Firm	Firm

Notes: This table presents results from Equation (1) using a sample of firms that change their tax haven arrays during the sample period. The coefficient estimates are reported with two-sided p-values for t-statistics (in brackets) based on standard errors that are clustered by firm. ***, **, and * indicate statistical significance at the 0.01, 0.05, and 0.10 levels, respectively. Year fixed effects are included. All variables are defined in the Appendix.

Table 7
Analysis of changes in tax haven arrays after the Tax Cuts and Jobs Act of 2017 (TCJA)

Panel A: Univariate changes in tax haven arrays after the tax regime change

	Total N	Domestic only (DOM_ONLY=1)	Both havens (BOTHHAVENS=1)	Foreign only (FOR_ONLY=1)
Pre TCJA (through 2017)	31,055	0.2464	0.5847	0.1689
Post TCJA (2018 - 2020)	4,337	0.2234	0.6265	0.1501
Change Post-TCJA		-0.023***	0.042***	-0.019***
T-stat		3.31	5.24	3.106

Panel B: Factors associated with the probability of operating in only domestic tax havens pre and post TCJA

	(1) Pre-TCJA 1996 − 2017	(2) Post TCJA 2018 − 2020
Dependent variable	DOM_ONLY	DOM_ONLY
Intercept	0.2715***	0.3671***
	[6.12]	[4.62]
LOW INTANG	0.0657***	0.0375*
	[5.00]	[1.66]
CONSTRAINED	0.0657***	0.0921***
	[4.70]	[3.13]
HIGH FOR SALES	-0.0651***	-0.0361*
	[-6.14]	[-1.83]
STATE TAX PLAN	0.1844***	0.2179***
	[13.29]	[9.32]
FOR LOSSES	0.0392**	0.0365
	[2.30]	[0.93]
Controls	Included	Included
Observations	31,055	4,337
Adj. R-squared	0.1791	0.1900
Fixed effects	Industry, Year	Industry, Year

Table 7 (continued)

Panel C: Multivariate analysis of tax haven arrays pre and post TCJA

Dependent variable	(1) DOM_ONLY relative to BOTH HAVENS	(2) DOM_ONLY relative to FOR_ONLY	(3) BOTH HAVENS relative to FOR_ONLY
Intercept	0.5503***	0.1889***	0.1972***
	[11.01]	[3.26]	[4.20]
Post TCJA	0.0001	0.1523	0.2035***
	[0.00]	[1.25]	[2.70]
LOW INTANG	0.0786***	0.0680***	-0.0061
	[5.19]	[3.20]	[-0.37]
*LOW INTANG*Post TCJA*	-0.0203	0.0104	-0.0043
	[-0.87]	[0.31]	[-0.20]
CONSTRAINED	0.0634***	0.0806***	0.0130
	[4.37]	[3.97]	[0.92]
*CONSTRAINED*Post TCJA*	0.0257	-0.0161	-0.0460
	[0.81]	[-0.37]	[-1.49]
HIGH FOR SALES	-0.0638***	-0.1021***	-0.0300***
	[-5.41]	[-6.53]	[-2.62]
*HIGH FOR SALES*Post TCJA*	0.0330	0.0197	-0.0026
	[1.54]	[0.69]	[-0.14]
STATE TAX PLAN	0.1538***	0.3395***	0.1050***
	[10.93]	[17.82]	[8.13]
*STATE TAX PLAN*Post TCJA*	0.0342	0.0824***	0.0041
	[1.45]	[2.83]	[0.22]
FOR LOSSES	0.0380**	0.0568***	0.0125
	[1.97]	[2.81]	[0.76]
*FOR LOSSES*Post TCJA*	0.0010	-0.0108	0.0402
	[0.02]	[-0.21]	[1.02]
Controls	Included	Included	Included
Observations	29,497	14,517	26,770
Adj. R-squared	0.2035	0.3666	0.2549
Fixed Effects	Industry	Industry	Industry

Notes: This table presents the analysis of firms' tax haven arrays before and after the Tax Cuts and Jobs Act of 2017 (TCJA). Panel A presents sample statistics and univariate comparisons over the two tax regimes. Panel B presents results from Equation (1) across different sample periods. Panel C presents the analysis of the determinants of different tax haven arrays pre and post TCJA. The coefficient estimates are reported with two-sided p-values for t-statistics (in brackets) based on standard errors that are clustered by firm. ***, **, and * indicate statistical significance at the 0.01, 0.05, and 0.10 levels, respectively. All variables are defined in the Appendix.