

# EXPLORING THE ROLE DELAWARE PLAYS AS A TAX HAVEN

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# Exploring the Role Delaware Plays as a Domestic Tax Haven

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March 2012

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We thank the Journal of Financial Economics' managing editor William Schwert and an anonymous referee for detailed and thoughtful reviews of the paper. We appreciate technical advice and comments from tax practitioners at several large accounting and law firms. We thank LeAnn Luna and the Center for Business and Economic Research at the University of Tennessee for data on state tax policies. We also thank John Barrick, Brad Blaylock, Bob Bowen, Ed deHaan, Robert Daines, Harley Duncan (UNC discussant), Alex Edwards, Vic Fleischer, Cristi Gleason, John Graham, Justin Hopkins, Jeff Hoopes, Jim Irving, Allison Koester, Ed Maydew, Rachna Prakash, Sonja Rego, Terry Shevlin, Laura Simmons, Gordon Smith, Brian Spilker, Lorien Stice, Bridget Stomberg, Court Weddle, Brady Williams, Ryan Wilson and workshop participants at the 2010 BYU Accounting Research Symposium, the 2010 UBCOW Accounting Research Conference, the 2011 UNC Tax Symposium, the 2011 Oxford University Center for Business Taxation Summer Symposium, the College of William & Mary, Duke University, the University of Iowa, and North Carolina State University. This research was supported by the Fuqua School of Business at Duke University, the Poole College of Management at North Carolina State University, and the Michael G. Foster School of Business at the University of Washington. Please address correspondence to Brad Lindsey at [bplindse@ncsu.edu](mailto:bplindse@ncsu.edu).

## **Abstract**

We examine whether Delaware serves as a domestic tax haven. We find that taxes play an important role in determining whether U.S. firms locate subsidiaries in Delaware and that these tax factors are economically important when compared to the legal and governance factors considered in prior research. In addition, we find that U.S. firms most likely to implement a Delaware-based state tax avoidance strategy have state effective tax rates that range between 0.7 and 1.1 percentage points lower than other firms on average. The tax savings represent a 15 – 24% decrease in the state tax burden, and translate to an increase in net income of between 1.04% and 1.47%. We also find that the tax benefits of using Delaware tax strategies are diminishing over time and we provide evidence this decline is partially attributable to efforts by states to limit the multi-state tax avoidance of U.S. firms.

JEL Classification: G38, H25, H71, K22.

Keywords: Delaware, Tax Haven, Corporate Governance, Corporate Tax Avoidance.

## 1. Introduction

The role of tax havens in corporate tax avoidance has been studied extensively in recent academic work (e.g., Dyreng and Lindsey, 2009; Markle and Shackelford, 2011). These studies tend to focus on foreign tax havens that provide U.S. corporations opportunities to reduce income taxes. In aggregate, the tax savings U.S. firms achieve by using foreign tax havens translates to billions of dollars of lost tax revenue to governments around the world. However, opportunities for corporations to save taxes are not restricted to structures involving subsidiaries in *foreign* jurisdictions, such as the Cayman Islands or Bermuda. Substantial tax rate variation exists among U.S. states, suggesting that U.S. corporations operating in multiple states can exploit similar tax avoidance opportunities *domestically*. Foremost among U.S. states with a corporate tax code conducive to tax-motivated income shifting is Delaware.<sup>1</sup>

Recently, Delaware has become a target of scrutiny in the popular press. Articles in *The New York Times* and *The Economist* have gone so far as to suggest that Delaware could be a domestic tax haven.<sup>2</sup> In June 2010, *National Geographic* magazine published a figure listing the most financially secretive locations in the world. Topping this list was the United States because of lax corporate disclosure requirements in Delaware, outpacing more commonly mentioned foreign tax havens such as Luxembourg, Switzerland, and the Cayman Islands.<sup>3</sup> Separately, the government of Brazil recently considered legislation to officially blacklist Delaware as an

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<sup>1</sup> While arguably the four states of Nevada, South Dakota, Washington, and Wyoming without a corporate income tax provide similar tax benefits and the states of Nevada and Wyoming have attempted to mirror the legal benefits of Delaware, we focus our study on Delaware because of the sheer volume of business formation activity in Delaware (see Table 3, Panel A).

<sup>2</sup> See <http://www.nytimes.com/2009/05/30/business/30delaware.html>; <http://www.economist.com/node/13382279>.

<sup>3</sup> See [http://blogs.ngm.com/blog\\_central/2010/05/guarded-treasure.html](http://blogs.ngm.com/blog_central/2010/05/guarded-treasure.html).

abusive tax haven, right alongside other countries perceived to be tax havens, such as Bermuda and the Isle of Man, among others.<sup>4</sup>

In spite of the increased public allegations regarding Delaware's role as a tax haven, surprisingly little research has been conducted to evaluate these claims. Does Delaware's well-known dominance in parent company incorporation hold for subsidiary incorporations? Do firms organize subsidiaries in Delaware solely to take advantage of legal and governance benefits (as has been argued to be the case for parent corporations) or do tax avoidance strategies also play a role? If taxes play a role, how important is the role and how substantial are the tax benefits? Our objective is to provide empirical evidence related to these questions that will help researchers, practitioners, and policy makers better understand whether Delaware is indeed a domestic tax haven.

Prior research has shown that Delaware dominates other states in the "market for incorporation" of parent companies. For example, Bebchuk and Cohen (2003) show that nearly 60% of parent firms are incorporated in Delaware. That study argues that the primary reasons for Delaware's preeminence in the market for parent company incorporation are the significant legal and governance benefits available to firms. We find that approximately 58% of domestic *subsidiaries* in our sample are incorporated in Delaware, a pattern that is similar to that observed in parent companies. While at first glance this result may not seem surprising, a closer examination suggests that legal and governance factors play a less prominent role for subsidiary incorporation decisions compared to parent companies, implying other factors, including taxes, may also play a role.

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<sup>4</sup> See <http://www.mondaq.com/article.asp?articleid=102806>. Foreign governments likely see Delaware as having tax haven characteristics because of its lack of reporting requirements, lack of ownership records and failure to tax passive income paid to foreign entities (Gravelle, 2009).

We perform two tests to provide descriptive evidence related to subsidiary incorporation in Delaware. First, we examine the frequency of subsidiary incorporation in a given state relative to that state's GDP. We find that the frequency of subsidiaries located in Delaware far outpaces its economic output, as measured by GDP, suggesting Delaware subsidiaries are organized for purposes beyond satisfying local demand to produce goods and services. Second, we test the frequency of patent assignment to owners in a given state relative to that state's GDP and find that the frequency of patent assignment to Delaware-based owners per dollar of state GDP is the highest in the country. As we will discuss in detail later in the text, placing intangible assets, such as patents, in Delaware potentially creates opportunities for within-firm income shifting that ultimately saves the firm taxes.

To investigate whether taxes play a role in subsidiary location incremental to other nontax explanations, we turn to multivariate tests. We find that a firm's decision to locate a subsidiary in Delaware is significantly influenced by tax factors, incremental to the legal and governance factors that have been shown to influence parent incorporation. In particular, sample firms are more likely to locate subsidiaries in Delaware if they both own intangible assets and operate in U.S. states that have tax laws conducive to cross-state income shifting strategies. These strategies often involve a Delaware subsidiary in conjunction with operations in states that allow separate filing or lack an economic nexus doctrine.<sup>5</sup> In addition, the likelihood of operating a subsidiary in Delaware is increasing in the average statutory tax rate faced by all the firm's subsidiaries and increasing in the propensity to operate in foreign tax havens.

Next, we show that Delaware subsidiaries play a significant role in corporate state tax avoidance. In our main tests, we find that firms likely to be using Delaware-based state tax

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<sup>5</sup> We provide details on this popular state tax avoidance strategy in Section 2.2 and details on separate filing and economic nexus in Section 2.3.

avoidance strategies have state effective tax rates (*State ETR*) between 0.7 and 1.1 percentage points lower than other firms on average. The reduction in *State ETR* translates into a decrease in state tax payments of 15% to 24%. Aggregating across sample firms most likely to be using a Delaware-based state tax avoidance strategy, we estimate a range of total state tax savings of \$6.6 to \$9.5 billion over the sample period depending upon our model specification.<sup>6</sup>

Reductions in *State ETR* also have a direct impact on a firm's bottom line earnings. In our sample, the mean (median) firm likely to have a Delaware-based strategy in place could expect to see an increase in net income of between 1.05% and 1.49% (1.07% and 1.52%).<sup>7</sup> Reducing tax payments may also increase shareholder value. Using several different methods, we estimate that the effect on firm value of the explicit tax savings is between 1.1% and 1.9% for the typical firm likely to use a Delaware-based state tax avoidance strategy.<sup>8</sup>

The state tax landscape has changed significantly over the sample period. Many states have launched legislative or administrative initiatives to mitigate Delaware-type state tax planning strategies. Our findings suggest that in aggregate these strategies have been somewhat effective: firms continue to generate tax savings by locating subsidiaries in Delaware but the magnitude of the savings has diminished in the second half of the sample period compared to the

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<sup>6</sup> \$6.6 to \$9.5 billion is calculated as the coefficient estimates on the *PIC Separate* and *PIC NoNexus* variables presented in Table 5 multiplied by total pretax domestic income over the sample period of \$908.2 billion and \$889.8 billion respectively. The \$908.2 billion and \$889.8 billion represent the total pre-tax domestic income over the sample period for firms included in the *PIC Separate* and *PIC NoNexus* variable classifications which are intended to capture the firms most likely to engage in Delaware-based state tax avoidance strategies.

<sup>7</sup> The percentage is calculated as  $(t-t')/(1-t)$  where  $t$  is the tax rate before the effect of a Delaware-based tax strategy, and  $t'$  is the tax rate after the effect of a Delaware-based tax strategy. In our sample, the observable  $t'$  (i.e., the total effective tax rate) is 0.284 (0.297) for the mean (median) firm. Assuming assets and/or equity remain unchanged, the percentage effect on return on assets or return on equity would be the same as the percentage effect on earnings. Because state taxes are deductible for federal tax purposes, the impact on net income may be up to 35% lower, ranging between 0.68% and 0.98%.

<sup>8</sup> These values are estimated using market reaction tests described in Table 9. An alternative method to estimate the market valuation implications involves making assumptions about discount rates and the sustainability of the tax savings. Assuming the savings are permanent and using a 10% discount rate, the valuation consequences range from 0.8% to 2.6% of firm value.

first half of the sample period. In supplemental tests, we also show that corporate income tax revenues increase for states that implement these initiatives.

Our findings are relevant to policy makers who are facing shrinking corporate tax revenues. For example, corporate income tax revenues accounted for 10.2% of total state tax revenues in 1979, but accounted for only 5.4% of total state tax revenues in 2010 (Census, 2011). Politicians are currently exerting significant pressure on foreign tax havens to lift secrecy laws that enable U.S. citizens and enterprises to shift income and hide assets. One example is the numerous information sharing agreements that U.S. has recently signed with several known tax havens (Hanlon, Maydew and Thornock, 2011). Our results are relevant to state politicians who may be considering exerting similar pressure or enacting targeted legislation that will close the state tax loopholes that make incorporating subsidiaries of U.S. enterprises in Delaware financially worthwhile.

Our research is also informative to the ongoing debate in the European Union surrounding business taxation in member countries (e.g., Gresik, 2010; Hines, 2010; Runkel and Schjelderup, 2011). The European Commission (2001) has explicitly proposed that the EU adopt a formula apportionment system (similar to that used by states in the U.S.), and away from the standard separate accounting system. We find that significant opportunities for tax avoidance exist in formula apportionment systems when tax laws, tax rates, and/or apportionment formulas vary among taxing regimes. These opportunities are actively exploited by the firms in our sample.

Our study also augments the broad literature in law and finance that establishes the major role Delaware plays in the decision of where to incorporate (e.g., Daines, 2001; Subramanian, 2004). Prior research investigates only the decision of where to incorporate the *parent* company

of the firm. In contrast, we use a new dataset that allows us to examine the determinants of where to incorporate *subsidiaries* of the firm. Understanding the determinants of the location decisions for the entire corporate family and not just those for the parent corporation is important for at least two reasons. First, as U.S. companies expand the scale of their operations with multiple subsidiaries across various states and countries, the relative importance of the parent company state of incorporation and headquarters location diminishes (Desai, 2009), while understanding the more complete picture of the determinants of a firm's subsidiary location decisions becomes more crucial to understanding increasingly complex, multistate firms. Second, what matters to the parent company is not necessarily what matters to its subsidiaries—the legal and governance benefits that drive the decision of where to incorporate the parent may not extend to subsidiaries. In fact, our results suggest that for subsidiaries, the tax benefits of incorporating in Delaware are economically as large as the legal and governance benefits. This idea has been overlooked in prior research.

## **2. Background and empirical predictions**

In this section, we first provide background information on the market for incorporation, including prior research that focuses on parent companies, followed by a brief overview of state income taxation rules for U.S. firms. After providing the necessary background information to the study, we develop our predictions.

### *2.1 The State of Delaware and incorporation location*

Corporate law affects the organizational structure and investor protections of a firm. In the U.S., each of the 50 states has its own set of corporate laws and its own court system. The

state of incorporation is important because a firm is subject to the corporate law in the state in which it incorporates, not only the laws of the states in which it operates.

Delaware is, by far, the most common state of parent company incorporation among publicly traded U.S. enterprises—in our sample, 61% of parent firms are incorporated in Delaware. Exactly what drives this empirical fact has been the topic of a substantial body of research in the corporate law and finance literatures (see Bebchuk et al., 2002 for a review). The age-old debate in the literature is not whether Delaware provides unique benefits to firms, but whether the benefits of Delaware accrue to the shareholders or to the managers of the firm (Cary, 1974; Winter, 1977). Some have argued that the corporate governance requirements of Delaware incorporation are better than other states, leading to a demand by shareholders for firms to incorporate there. Evidence supporting this argument includes higher market values and higher abnormal returns after re-incorporations (e.g., Dodd and Leftwich, 1980; Romano 1985; Bhagat and Romano, 2002; Daines, 2001; Subramanian, 2004). On the other hand, some have argued that Delaware's governance laws are poor, resulting in a demand by management to incorporate there so that they can expropriate value from the firm (e.g., Bebchuk et al., 2002). Overall, these studies suggest that firms gain efficiencies by being subject to the legal and governance regime of the state of Delaware relative to other states, although findings are mixed.

The legal benefits of Delaware incorporation have partially evolved from regulatory competition among states (Roe, 2003). Early on, as Delaware competed with other states to attract corporate tax revenues and franchise fees, it developed a legal system that is both attractive and convenient. It is attractive because of well-established laws and precedents. It is convenient because of a separate court system, the Delaware Court of Chancery, which is devoted to resolving corporate legal disputes. The special court system operates without a jury

and with judges who specialize in corporate law. Indeed, few other states can effectively compete in the market for incorporation with Delaware's economies of scale and legal efficiencies.

The benefits that accrue to the state of Delaware for "importing" incorporations are substantial. The state of Delaware receives annual franchise tax and related fees it collects from firms that would generally not otherwise choose to do business in the state of Delaware. During the fiscal year 2007, franchise taxes and other fees generated more than \$700 million for Delaware, which represented 21.6% of the state's revenues for the year.<sup>9</sup> The costs to third parties of the tax and legal strategies underlying Delaware's business practices are also potentially substantial and are borne by competing states and their residents. For example, if companies shift profits to Delaware, other states lose the tax revenue on those profits that would have been collected absent a Delaware based tax strategy.

The legal benefits of parent incorporation in Delaware may not be as valuable or even exist for subsidiary incorporation. Parent companies are subject to independent stockholders, corporate elections, the risks of hostile takeovers, and disclosure laws that affect officers and board members. However, wholly-owned (or majority-owned) subsidiaries do not face the same legal risks that the Delaware system has evolved to mitigate. Thus, ascribing the high frequency of Delaware subsidiaries solely to the Delaware legal system likely can result in an incomplete picture of reality.<sup>10</sup>

In addition to legal and governance benefits, we argue that tax considerations play a role in choosing Delaware as a location to organize subsidiaries. As noted earlier, a number of foreign governments and popular press commentators have accused Delaware of being a tax

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<sup>9</sup> *Delaware Law Weekly*, August 22, 2007

<sup>10</sup> We thank Gordon Smith for helpful discussion regarding the Delaware legal system and its effects on corporate families.

haven. If their allegations are accurate, then one might expect to observe firms organizing subsidiaries in Delaware to lower their tax burdens. The next subsection explores this possibility in more detail.

## *2.2 State income taxation and tax planning*

As summarized in Scholes et al., (2009), opportunities for tax planning generally arise when income is (1) shifted across jurisdictions, (2) converted to a different type of income, and/or (3) shifted from one time period to another. We focus on a tax planning strategy that combines multi-jurisdictional income shifting with converting taxable income into tax-exempt income (i.e., (1) and (2)). In general, a multi-jurisdictional tax strategy involves firms with operations in jurisdictions with heterogeneous tax rules and/or tax rates. The firm shifts income from subsidiaries located in high-tax jurisdictions to subsidiaries located in low-tax jurisdictions so that the firm's aggregate tax liability is minimized. Shifting income from one jurisdiction to another is a form of "regulatory arbitrage," in which a firm exploits differences across regimes to structure transactions in an effort to reduce taxes (Fleischer, 2010).

While multijurisdictional tax planning often takes place across countries, the same type of strategy can occur at the state level. As firms expand operations into multiple states, the complexity of state taxation increases because firms are subject to taxation in each of those states. Each state has its own set of complicated tax policies and applies its own set of tax rates to income earned within its borders. When a given firm earns profits in different states, each state lays claim to the profits earned within its legal jurisdiction. The claim is generally made by requiring firms to assign or "apportion" income across states based on whether the corporation has established a taxable link or "nexus" in the state. Apportionment is usually a function of sales, payroll, and property located in the state. The intricacy of apportionment rules combined

with large variation in state tax rates and tax laws give a firm both the incentive and the opportunity to engage in tax planning to reduce its state tax liability.

The second form of tax planning discussed in Scholes et al., (2009) involves converting income into a different type. Delaware boasts a relatively high statutory tax rate of 8.7%, which was the tenth highest in the country in 2009. Hence, at face value, the idea that a Delaware-based subsidiary could play an integral role in corporate tax avoidance seems unlikely. However, not all types of income are taxed at this rate—income generated by intangible assets held in a Delaware corporation escapes taxation in the state. Specifically, Delaware tax law includes a statute that exempts income from “corporations whose activities within the state are confined to the maintenance and management of their intangible investments ... and the collection and the distribution of the income from such investments or from tangible property physically located outside the State.”<sup>11</sup> The statute defines intangible investments as “investments in stocks, bonds, notes and other debt obligations (including debt obligations of affiliated corporations), patents, patent applications, trademarks, traded names and similar types of intangible assets.” Thus, to the extent that a firm can generate income on intangible assets placed in Delaware, it can reduce its tax burden.

In this study, we focus on a common state tax avoidance strategy, known as a Passive Investment Company (PIC) or Delaware Holding Company.<sup>12</sup> The PIC strategy involves (1) multi-jurisdictional income shifting into Delaware to (2) convert taxable income in other states into tax-exempt intangible asset income. To implement the strategy, a company establishes a

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<sup>11</sup> Chapter 19 of Title 30 governs the corporate income tax applicable to Delaware corporate law. Under Section 1902 subsection b, the statute spells out those corporations that are exempt from taxation.

<sup>12</sup> Bankman (2007) calls the intangible holding company strategy “probably the most well known aggressive taxplanning technique...” in state taxation (p.778).

Delaware subsidiary (i.e., the PIC) and transfers ownership of an intangible asset to the PIC.<sup>13</sup>

To reduce taxation in a state that has higher tax rates, the subsidiary in the high-tax rate state makes a payment to the Delaware subsidiary for use of the intangible asset. The payment is deductible in the high-tax state while being exempt from taxation in the state of Delaware because Delaware does not impose tax on income from intangible assets. Thus, by engaging in a PIC strategy, the firm does not pay taxes to *any* state on the income shifted to the Delaware entity and benefits from a deduction taken in a high-tax state for use of the intangible asset housed in Delaware.<sup>14</sup>

An important difference between using a PIC strategy to save domestic taxes and a similar income shifting strategy involving foreign tax havens to reduce foreign taxes is that cash savings from tax planning using the PIC strategy is permanent, whereas cash savings from tax planning using foreign tax havens is temporary if the foreign profits are eventually repatriated to the United States (e.g., Blouin and Krull, 2009 and Markle 2011). In this respect, a PIC strategy involving the state of Delaware is a more potent tax-saving resource than a similar multinational strategy using the Cayman Islands or other foreign tax havens.

The benefits of operating in Delaware and implementing the PIC strategy are not without limits. Firms without (a) operations in other states that have tax laws amenable to the PIC strategy and (b) intangible assets would benefit little from adopting a PIC tax strategy. Some states, known as separate filing states, enable the PIC strategy because they require only those legal entities that have established nexus in their state to file and pay taxes. Other states, known

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<sup>13</sup> While in theory only one Delaware subsidiary is required to generate the tax benefits of the PIC strategy, firms may use separate Delaware legal entities for different intangible assets to isolate risk. In addition, different operating segments within a company can have distinct legal structures. Thus, firms often have multiple Delaware subsidiaries when implementing the PIC strategy. For example, see the discussion of WorldCom and The Limited in Section 5 below, both of which had multiple Delaware holding companies in place.

<sup>14</sup> There are other state tax avoidance strategies, such as captive REITs and captive insurance companies, which also warrant acknowledgement (see Mazerov, 2007 for an excellent discussion of these tax shelters). However, we focus our paper on PICs because of the sheer prevalence of the PIC strategy (Bankman, 2007).

as combined reporting states, require the firm to consolidate income from all its domestic subsidiaries for purposes of calculating taxable income, effectively eliminating intra-company income shifting. In addition, some separate filing states attempt to invoke the economic nexus doctrine that requires only an economic presence (rather than a physical presence) to tax income earned within their borders. When states are successful, the economic nexus doctrine limits or eliminates any PIC state tax savings.

In addition to having operations in separate filing states that do not invoke the economic nexus doctrine, firms must have intangible assets to benefit from the Delaware-based state tax avoidance PIC strategy. Although the Delaware statute defines intangible assets broadly, the tax savings from the PIC strategy is derived from the value of the intangible assets held by the Delaware PIC. The more valuable the intangible assets, the higher the royalty payments made to the Delaware PIC and the greater the tax savings.<sup>15</sup>

In summary, a Delaware-based PIC tax strategy involves shifting income across state borders with payments for the use of intangible assets. However, the legal regime and tax reporting requirements across the states, combined with the nature and location of the firm's assets can result in little or no state tax savings for some firms. Moreover, states are continually adopting new methods to prevent multi-state tax avoidance strategies like the PIC strategy. We discuss some of these methods next.

### *2.3 Methods Used by States to Limit the Delaware PIC Benefit*

States are well aware of the lost tax revenue associated with the PIC strategy. As a result, some states have begun to counteract multi-state tax avoidance strategies using several different methods. The first method we discuss is combined reporting, which requires companies to

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<sup>15</sup> Other potential costs of the PIC strategy include litigation costs, shareholder uncertainty, auditor uncertainty, labor and maintenance costs, sustainability of the tax position, and agency costs of locating the intangible property in a sub-optimal location absent taxes.

include the net profits of all domestic entities in the consolidated or combined firm.<sup>16</sup> Instead of apportioning the net profits of a single entity, the net profits of the combined group are apportioned using the combined groups' sales, property, and payroll factors, effectively eliminating the intra-company transfers that make the Delaware PIC possible. Cline (2008) and Fox and Luna (2011) provide detailed discussions of the advantages and disadvantages of combined reporting.

The decision by each state whether to require combined reporting is a hotly debated topic among policy makers and academics (Buhl, 2010). On the one hand, combined reporting helps to close tax loopholes and the associated revenue lost from tax planning strategies such as the PIC strategy. On the other hand, politicians are concerned that switching from separate to combined reporting will cause businesses to exit the state and relocate to a more tax friendly state (Fox and Luna, 2011). As evidence of this debate, several states have recently switched to combined reporting (e.g., Vermont), while others have proposed bills to do so that failed to make it through the legislative process (e.g., New Mexico).<sup>17</sup>

In addition to combined reporting, states can invoke an economic nexus doctrine, in which the state claims the right to tax income earned by corporations with a sufficient economic footprint in that state, without regard to whether the firm has a physical presence in the state. In general, a firm with a physical presence has a clear obligation to file and pay taxes in a state; however, the tax obligation for a firm with an economic (but non-physical) presence is less clear. Regarding the PIC strategy specifically, an economic nexus doctrine allows states to claim the right to tax the same royalty income that escapes taxation in the state of Delaware. Thus,

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<sup>16</sup> Some states require or allow corporate taxpayers to elect to include foreign subsidiaries as well as domestic subsidiaries.

<sup>17</sup> For a discussion of Vermont's move to combined filing, see Ardinger, Arnold and Michaelis (2007) and (2008). For a discussion of New Mexico's failure to pass combined filing requirements, see Buhl (2011). See Table 2.

economic nexus, if enforceable, has the potential to severely limit or eliminate the tax advantages of the Delaware PIC strategy.

The state of South Carolina was the first state to assert economic nexus and successfully defend it at the state Supreme Court level. In 1993, South Carolina prevailed over Toys R Us, which had established a PIC in the state of Delaware for its well-known trademark giraffe, Geoffrey, in what became known over time as the highly influential *Geoffrey* case.<sup>18</sup> Other states were much slower to combat the PIC strategy and were less successful in the courts at first in defending economic nexus assertions. A vast and growing economic nexus litigation history has evolved since *Geoffrey* was decided in South Carolina. In several cases, taxpayers have petitioned the U.S. Supreme Court to hear economic nexus cases, but to this point the Court has refused to hear all of the cases (Swain and Snethen, 2007). We summarize the history of economic nexus litigation related to Delaware PICs in Appendix A.

Some states have implemented rules other than combined reporting or economic nexus to confront the loss of tax revenues associated with the Delaware PIC strategy. One of the strategies is to disallow the tax deductibility of certain intra-company expenses (usually related to royalty or interest payments) attributable to income not reported in the state. Expense disallowance rules effectively impose combined reporting on the tax accounting for the PIC strategy without burdening corporate taxpayers with the increased compliance costs of combined reporting. The major disadvantage of expense disallowance rules is that there are almost an unlimited number of expenses that must be identified and targeted by the state legislature, which can leave loopholes to be exploited by corporate tax planners. States have also used sham transactions laws, discretionary combination authority, and transfer pricing audits in an effort to target lost state tax revenues associated with the Delaware-based state tax avoidance strategy.

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<sup>18</sup> *Geoffrey, Inc. v. South Carolina Tax Commission*

Notwithstanding the variety of actions states have taken to mitigate the Delaware PIC strategy, we focus on what we consider the two most prominent actions: combined reporting requirements and the economic nexus doctrine. We focus on these two actions because many have argued that they are potentially the most effective at mitigating tax avoidance (Brunori and Cordes, 2005; Mazerov, 2009). Moreover, they have been applied by states relatively homogeneously, which makes them tractable for large scale empirical analysis. In contrast, other methods, such as expense disallowance rules, are implemented quite differently across states and makes empirical analysis substantially more complicated (Amitay and Holley, 2003). Furthermore, most of the states that passed expense disallowance rules subsequently adopted combined reporting or economic nexus doctrines, suggesting the expense disallowance rules were insufficient to combat the PIC strategy. For these reasons, we focus our empirical analysis on states requiring combined reporting and/or asserting the economic nexus doctrine.

## *2.4 Predictions*

If firms set up subsidiaries in Delaware and use these subsidiaries to hold intangible assets, then it is possible that Delaware will be distinct from other states along two dimensions: (1) the number of subsidiaries and (2) the number of patents assigned to owners based in the state. These two dimensions are related to the primary tax planning strategies discussed in Scholes et al. (2009) of multi-jurisdictional income shifting to convert taxable income in other states to tax-exempt income in Delaware. By examining the level of subsidiary placements in Delaware, our objective is to understand how Delaware fares in the competitive market for subsidiary incorporation. As noted above, prior research has shown that firms incorporate parent companies in Delaware to take advantage of the legal and governance institutions of the state. Based on the tax rules described above, we predict that firms also use Delaware subsidiaries to

implement state tax avoidance strategies. The same argument holds for intangible asset assignment: firms may assign these assets to Delaware owners to take advantage of tax avoidance strategies, but they could also do so for the legal and governance benefits offered by Delaware law. If demand for Delaware incorporation increases because of any of these reasons (legal, governance, or tax), then we predict a higher than expected rate of subsidiary incorporation and intangible asset assignment in Delaware relative to other states.

*Prediction 1a:* The proportion of domestic subsidiaries of U.S. firms that are operating in the state of Delaware exceeds Delaware's proportion of national gross domestic product.

*Prediction 1b:* The proportion of patent assignments to Delaware-based owners exceeds Delaware's proportion of national gross domestic product.

Although we predict above that Delaware accounts for an abnormal frequency of subsidiaries and patents, those predictions do little to distinguish whether taxes play an incremental role to legal and governance factors in Delaware's dominance in the market for subsidiary location. That is, while the first set of predictions is consistent with taxes playing a role in subsidiary location and asset placement in Delaware, it does not rule out legal and governance factors as an alternate explanation.

Our next objective is to isolate the influence of taxation on a firm's decision to locate subsidiaries in Delaware from other legal and governance factors that influence that decision. To achieve that objective, we offer four predictive variables that are related to incentives for tax planning, but are unlikely to be related to legal and governance factors that prior research has shown to be determinants of Delaware incorporation. The first two predictive variables relate to the ability of a firm to execute a multistate tax planning strategy in Delaware. To benefit from the Delaware PIC strategy, U.S. firms must operate in states other than Delaware that are amenable to the strategy, such as separate filing states or states that do not embrace an economic

nexus doctrine. As the amount of economic activity in these states increases, we expect the probability that firms operate a subsidiary in the state of Delaware to increase as well. The next two predictive variables capture the motivation and level of tax planning for a firm. We expect that firms that face a higher state statutory tax rate and those that operate in foreign tax havens will be more likely to have a presence in Delaware. This discussion leads to our second prediction:

*Prediction 2:* The probability of operating a subsidiary in the state of Delaware increases as the incentives for multistate tax planning increase.

Academic research has shown a decline in state corporate effective tax rates and state income tax revenues over time (Gupta et al., 2009; Gupta et al., 2011). We examine whether U.S. firms that implement a Delaware-based state tax avoidance strategy have lower effective tax rates on average than other U.S. firms that do not operate in the state of Delaware. We predict that U.S. firms with relatively higher levels of intangible assets that operate in the state of Delaware in addition to operating in separate filing states and no economic nexus states avail themselves of corporate tax loopholes that reduce their state effective tax rates. This discussion leads to the final prediction:

*Prediction 3:* U.S. firms with incentives for multistate tax planning in the state of Delaware have lower *State ETRs* than other U.S. firms all else equal.

### **3. Data and descriptive statistics**

As noted earlier, the objectives of the paper are, first, to examine how taxes influence U.S. firms' subsidiary location decisions and second, to investigate how incorporating subsidiaries in the state of Delaware influences the firms' state tax burden. To meet these objectives, we must know where the parent and subsidiary companies of U.S. firms are located. Such data do not exist in a publicly available database.

Using a text search program, we create a database of subsidiary locations from parent firms' public filings of Exhibit 21 within or attached to the annual 10-K available at the Securities and Exchange Commission (SEC) webpage ([www.sec.gov](http://www.sec.gov)). These filings detail the names and locations of firms' significant subsidiaries.<sup>19</sup> These data offer us two distinct advantages over prior research. First, we are able to map out a crude “family tree” of the firm across the locations that it discloses in Exhibit 21. Second, we are able to obtain a time series of headquarters and incorporation state for the parent firm as well as for subsidiaries. The headquarters and incorporation location variables in Compustat capture only the most recent value, but ignore changes over time.

The sample period begins in 1995 and ends in 2009. We choose 1995 as the first year of our analysis because that is the first year we are confident we can get complete Exhibit 21 data from [www.sec.gov](http://www.sec.gov) and because a major financial accounting standard for income taxes (SFAS 109) was implemented in 1993 with complete data becoming available in 1994. We exclude firms that are incorporated outside the U.S. and those that do not have a CIK number, which is necessary to link the firm to data from the SEC website. We exclude firms with missing values of state current tax expense and domestic pre-tax income, which is necessary for computing our dependent variable *State ETR*. In addition, we exclude financial firms and utilities (i.e., those with SIC 4900-4999 or 6000-6999), as well as those firms that are not taxed as corporations (e.g., partnerships). We also exclude very small firms with assets less than \$10 million. Finally, we truncate our state effective tax rate variable 0 and 0.5 and we require positive values of market to book value for our tests. The final sample consists of 2,633 firms with a total of 10,140 firm-years over the sample period.

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<sup>19</sup> The outputted data have a small level of noise because of differences in reporting by firms (e.g., using state abbreviations instead of state names) and some ambiguities (e.g., the state of Georgia and the country of Georgia).

In Table 1, we present descriptive statistics for our variables, which are defined in Appendix B. In Panel A, we present the univariate statistics for each of the variables used in the main analyses of the study. Of note, the average *State ETR* is about 4.6%, which suggests that firms pay slightly less than five dollars of state income tax for every \$100 of domestic pretax income.<sup>20</sup> About 58% of our sample firms have a subsidiary in Delaware. The average firm in the sample has almost eight subsidiaries in Delaware.

The two primary explanatory variables we use are *PIC Separate* and *PIC NoNexus*. These two variables are designed to capture firms that are likely to have Delaware-based PIC strategies in place. Specifically, *PIC Separate* is an indicator variable that takes the value of one if three conditions common in firms using Delaware PICs are satisfied: 1) the firm-year has a relatively large number of subsidiaries organized in separate filing states (upper third of the sample), 2) the firm-year has a relatively large number of subsidiaries organized in Delaware (upper third of the sample), and 3) the firm-year has relatively high intangible assets (above median market to book). *PIC NoNexus* is similarly defined, except the first requirement is that the firm-year has a relatively large number of subsidiaries in states that do not invoke the economic nexus doctrine (upper third of the sample). In Table 1, Panel A, note that about 11.2% of firm-years in our sample meet the criteria of *PIC Separate* while about 10.2% of firm-years meet the criteria of *PIC NoNexus*.<sup>21</sup>

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<sup>20</sup> We use financial statement data to estimate effective tax rates, which may not translate directly to cash taxes paid because there can be some difference between cash tax paid and tax expense recognized in the financial statements, particularly when the cash tax burden is uncertain because of regulatory ambiguity or audit uncertainty. FASB interpretation No. 48 (FIN 48) clarifies the accounting for uncertain tax positions, which likely affects the financial statement recognition of some tax savings derived from the Delaware PICs we study. As a result of FIN 48, the amount of state tax savings related to the Delaware PIC strategy is likely underestimated in the last few years of our sample.

<sup>21</sup> All empirical results are robust when including U.S. firms in the highest third of market to book in either *PIC Separate* or *PIC NoNexus*.

In Panel B of Table 1, we present the Pearson (above the diagonal) and Spearman (below the diagonal) correlations among the test variables. *State ETR* is positively related to size-based variables, such as the  $\text{Log}(\text{Total Assets})$  and *N Employees*. In addition, incorporating a subsidiary in Delaware (*Subsidiary in DE*) is positively related to size variables. We find a strong positive relation between our primary test variables, *PIC NoNexus* and *PIC Separate*, and having a subsidiary in Delaware (*Subsidiary in DE*), which supports our second prediction.

In Table 2, we list each state in the United States, the year the state adopted combined filing requirements, and the year the state began enforcing standards of economic nexus.<sup>22</sup> At the beginning of the sample period, there are 30 states that allow separate filing of tax returns, 16 states that require combined filing of tax returns, and four states that do not have a corporate income tax.<sup>23</sup> Likewise, at the beginning of the sample period, there are 24 states that claimed to invoke an economic nexus doctrine, while the remaining 22 states made no such claim, and four states have no corporate income tax.<sup>24</sup> Recall that we expect to find the most tax aggressive behavior in firms operating in separate filing states as well as in states that do not enforce economic nexus. Over the sample period, seven states changed from separate filing to combined

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<sup>22</sup> The year the state adopts combined reporting is generally unambiguous as legislative action is required. On the other hand, the year a state begins enforcing standards of economic nexus is more difficult to determine because states may not enact changes in the tax law. Instead, the regulator may simply begin claiming taxes are owed because of the firm's existing economic presence in the state, and then litigate the dispute in court. We gathered information on economic nexus from a variety of sources, including annual state tax surveys published by the Bureau of National Affairs and various articles published in trade journals (see Table 2 for exact sources). Our objective was to identify the year the state began enforcing economic nexus, not the year the state's court system agreed or disagreed with the state's position. We also note that there is variation in the depth and enforcement of economic nexus rules.

<sup>23</sup> We include the four states without a corporate income tax – Nevada, South Dakota, Washington, and Wyoming – in our list of separate filing states because relatively higher amounts of sales, property, and payroll in these states also helps U.S. firms reduce state income taxes.

<sup>24</sup> Because combined reporting eliminates the tax benefit of Delaware PICs and makes invoking an economic nexus doctrine practically irrelevant, we define combined reporting states that have not explicitly invoked the economic nexus doctrine as states with economic nexus in Table 2 and in our tests. We include the four states without a corporate income tax – Nevada, South Dakota, Washington, and Wyoming – in our list of states that have not adopted economic nexus for state income tax nexus.

filing status and eleven states adopted an economic nexus doctrine, suggesting that there is a movement towards limiting the opportunities for multistate tax planning.

## 4. Results

### 4.1 Location of subsidiaries and intangible patent assets

In our first test, we examine whether firms place *subsidiary* operations in Delaware with abnormally high frequency. We analyze the number of disclosed material operations located in each state, as reported in Exhibit 21 of a firm's annual 10-K filing. In Panel A of Table 3, we compare (1) the number of material operations in each state in raw terms and as a percentage of all states to (2) each state's GDP in 2005 as reported by the Bureau of Economic Analysis in raw terms and as a percentage of all states, which serves as a benchmark for the economic importance of the state.

The results show that Delaware dominates all other states in U.S. firm subsidiary incorporations: 52% of all subsidiaries are located in Delaware.<sup>25</sup> No other state even comes close. California has the second-largest percentage of subsidiaries with 6%. By contrast, Delaware produces less than one percent of nationwide GDP. The difference between the proportion of subsidiaries located in Delaware and its proportion of total GDP is significant at the one percent level ( $t$ -stat = 6.74).<sup>26</sup> Thus, the results in this panel are supportive of prediction 1a, namely that Delaware accounts for a much larger proportion of the total number of subsidiaries than its GDP would predict.

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<sup>25</sup> A higher percentage of U.S. firms incorporate the parent company in Delaware (over 61%) compared to the percentage of U.S. firms' subsidiaries incorporated in Delaware (over 51%). Note however that incorporating the parent company in Delaware does not establish income tax nexus in Delaware. If a U.S. firm does not have income tax nexus (property or payroll) in Delaware, there is no Delaware income tax filing obligation. The firm does pay a nominal franchise tax based on the number of shares authorized in the certificate of incorporation.

<sup>26</sup> We assess statistical significance by taking the difference between the percentage columns in Table 3, and dividing by the standard deviation of that difference across all fifty states.

In Panel B of Table 3, we examine the number of patents assigned to owners in each of the fifty states as a proxy for the location of intangible assets, which we compare to each state's share of gross domestic product (Griffith, Miller and O'Connell, 2011). Using patent data from the database maintained by the United States Patent and Trademark Office, we create a ratio of the percentage of total patents in the United States assigned to owners in each state (column (I)) to each state's percentage of the nation's gross domestic product (column (II)). We find that Delaware-based owners are assigned over four and one-half times the number of patents than we would expect based upon its relative share of the United States' gross domestic product. Delaware's ratio is the highest in the United States and is almost double that for the next closest state. Thus, we find evidence consistent with Prediction 1b, that Delaware accounts for a much higher proportion of intangible patent assets than its GDP would predict.

#### *4.2 The Effect of Taxation on Delaware Subsidiary Location*

We now turn to the question of whether tax advantages offered by Delaware play a significant role in its dominance of the subsidiary incorporation market. To examine the effect of taxes on whether to incorporate a subsidiary in Delaware, we employ a logistic regression that models the determinants of a Delaware subsidiary:

$$\begin{aligned}
 Pr(\text{Subsidiary in DE}=1) = & \alpha_{parent\ state} + \alpha_{year} + \beta_1 \text{Log}(N\ Subs\ in\ PIC\ States) \\
 & + \beta_2 \text{Avg State Statutory Tax Rate} + \beta_3 \text{Log}(N\ Subs\ in\ Foreign\ Tax\ Havens) \\
 & + \beta_4 \text{Parent Incorporated in DE} + \beta_5 \text{Net Operating Loss Carryforward} \\
 & + \beta_6 \text{Log(Total Assets)} + \beta_7 \text{Long-Term Debt} + \beta_8 \text{Advertising Expense} \\
 & + \beta_9 \text{R\&D Expense} + \beta_{10} \text{Tobin's Q} + \beta_{11} \text{Log(Firm Age)} + \beta_{12} \text{Log}(N\ Employees) \\
 & + \beta_{13} \text{Avg Anti-Takeover} + \beta_{14} \text{Log}(N\ US\ Subs) + e.
 \end{aligned} \tag{1}$$

In equation (1), all variables are measured at the firm-year level and are defined as follows:

|                                          |                                                                                                                                                            |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Subsidiary in DE</i>                  | = indicator variable set equal to one if a firm-year has subsidiary operations in Delaware in a given year and zero otherwise; <sup>27</sup>               |
| <i>N Subs in PIC States</i>              | = <i>N Subs in Separate States</i> or <i>N Subs in NoNexus States</i> , as defined below;                                                                  |
| <i>Log(N Subs in Separate States)</i>    | = the natural log of the number of subsidiaries located in states with separate filing requirements; <sup>28</sup>                                         |
| <i>Log(N Subs in NoNexus States)</i>     | = the natural log of the number of subsidiaries of the firm located in separate filing states with no economic nexus provision for state income tax nexus; |
| <i>Avg State Statutory Tax Rate</i>      | = the weighted average state statutory tax rate of states in which the firm discloses subsidiaries; <sup>29</sup>                                          |
| <i>Log(N Subs in Foreign Tax Havens)</i> | = the natural log of the number foreign subsidiaries that are located in foreign tax havens, tax havens being defined as in Dyreng and Lindsey (2009);     |
| <i>Parent Incorporated in DE</i>         | = indicator variable set equal to one if a firm-year is incorporated in Delaware in a given year and zero otherwise;                                       |
| <i>Net Operating Loss Carryforward</i>   | = an indicator for the presence of a net operating loss in a given year;                                                                                   |
| <i>Log(Total Assets)</i>                 | = the natural log of total assets;                                                                                                                         |
| <i>Long-Term Debt</i>                    | = long-term debt scaled by total assets;                                                                                                                   |
| <i>Advertising Expense</i>               | = advertising expense scaled by total assets;                                                                                                              |
| <i>R&amp;D Expense</i>                   | = research and development expense scaled by total assets;                                                                                                 |
| <i>Tobin's Q</i>                         | = Tobin's Q, defined as the market value of assets divided by the book value of assets;                                                                    |

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<sup>27</sup> Throughout the paper, subscripts are omitted for ease of exposition.

<sup>28</sup> Delaware is a separate filing state (see Table 2). Hence, we exclude Delaware subsidiaries from this number to avoid inducing a mechanical relation with the dependent variable. We also exclude zero-tax states - South Dakota, Nevada, Washington and Wyoming - from this number because subsidiaries in these states have no tax to evade.

<sup>29</sup> We exclude the tax rate for the state of Delaware to capture the incentive to use Delaware-based tax planning strategies and to avoid a spurious relation with the dependent variable.

|                                   |                                                                                                                 |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------|
| $\text{Log}(\text{Firm Age})$     | = the natural log of the age of the firm, calculated as the number of years a firm is available on Compustat;   |
| $\text{Log}(N \text{ Employees})$ | = the natural log of the number of employees in thousands ;                                                     |
| $\text{Avg Anti-Takeover}$        | = the weighted average anti-takeover laws of states in which the firm discloses subsidiaries; <sup>30</sup> and |
| $\text{Log}(N \text{ US Subs})$   | = the natural log of the total number of US subsidiaries in all states excluding Delaware.                      |

Details on the calculation and sources of all variables are included in Appendix B.

Our objective here is to examine how tax factors influence Delaware subsidiary location decisions, so we include four tax-related variables in equation (1). First, as discussed above, in the PIC-based tax strategy, a Delaware subsidiary must be coupled with another subsidiary located in a state that is amenable to the tax strategy, such as a subsidiary in a separate filing state or a state without economic nexus. Thus in equation (1), if taxes influence the decision to incorporate a subsidiary in Delaware, we expect the coefficient on  $\text{Log}(N \text{ Subs in Separate States})$  and (in a separate model) the coefficient on  $\text{Log}(N \text{ Subs in NoNexus States})$  to be positive. Next, firms that face higher statutory tax rates across the corporate family should be more likely to tax plan using a Delaware subsidiary. Thus, we predict that the coefficient on  $\text{Avg State Statutory Tax Rate}$  is positive. Finally, much of tax planning includes subsidiaries in foreign tax havens. If taxes influence the Delaware subsidiary decision, then we expect tax-planning firms to have a higher likelihood of locating a subsidiary in Delaware. Thus, we expect the coefficient on  $\text{Log}(N \text{ Subs in Foreign Tax Havens})$  to be positive. While the four tax-related variables are likely to be related to taxation, it is unlikely that they are related to other legal determinants of location decisions, such as corporate governance or investor protections.

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<sup>30</sup> In calculating this measure, we exclude the anti-takeover score for the state of Delaware to avoid a spurious relation with the dependent variable.

We include two measures as proxies for the legal determinants of the decision of where to locate corporations. First, we include *Avg Anti-Takeover* following Armstrong et al., (2011), which measures the strength of the anti-takeover provisions in the states where the firm has subsidiaries, weighted by the number of subsidiaries that the firm has in the state. Second, we include fixed effects for the state of parent incorporation, which removes the time-invariant legal factors that influence the incorporation location for the parent.

Some of the control variables have been shown in prior research to influence the firm's decision to incorporate the parent company in Delaware, such as  $\text{Log}(\text{Total Assets})$ , *Tobin's Q*,  $\text{Log}(\text{Firm Age})$ , and  $\text{Log}(N \text{ Employees})$  (e.g., Bebchuk and Cohen, 2003). We include additional variables that have been shown to affect U.S. firms' effective tax rates, such as *Net Operating Loss Carryforward*, *Long-Term Debt*, *Advertising Expense*, *R&D Expense*, and  $\text{Log}(N \text{ US Subs})$  (e.g., Gupta and Mills, 2002; Dyreng and Lindsey, 2009). We include *Parent Incorporated in DE* to examine whether the convenience and comfort level with Delaware law for parent companies increases the likelihood of subsidiary location in Delaware. To mitigate the effects of residual correlation, we cluster standard errors along two dimensions: firm and year.

Table 4 presents the results of estimating equation (1). The results are consistent with tax factors being important determinants of subsidiary location in Delaware. We see that all four tax variables are significantly positive. Specifically, the coefficient on the  $\text{Log}(N \text{ Subs in Separate States})$  equals 0.301 and 0.904 in Models 1 and 2 and is significant at the ten and one percent levels respectively, which suggests that the propensity to incorporate subsidiaries in Delaware is increasing in the percentage of subsidiaries located in separate filing states that are susceptible to PIC tax planning. In terms of economic significance, a one standard deviation

change in  $\text{Log}(N \text{ Subs in Separate States})$  increases the probability of a Delaware subsidiary by 14% in Model 1 and 43% in Model 2. In Models 3 and 4, the coefficient on  $\text{Log}(N \text{ Subs in NoNexus States})$  equals 0.235 and 0.881 and is significant at the ten and one percent levels, respectively. Again, this finding is consistent with an increased likelihood to incorporate a subsidiary in Delaware when the firm has other subsidiaries in states that are susceptible to a PIC tax strategy. In terms of economic significance, a one standard deviation change in  $\text{Log}(N \text{ Subs in NoNexus States})$  increases the probability of a Delaware subsidiary by 5% in Model 3 and 37% in Model 4. The coefficient on *Avg. Statutory Tax Rate* is positive and significant at the one percent level across the four model specifications, suggesting that as firms face higher state tax burdens, they are more likely to create a corporate structure that could enable them to reduce the effective tax burden. The coefficients suggest that a one standard deviation change in *Avg. Statutory Tax Rate* increases the probability of a Delaware subsidiary by between 8% (Model 1 and Model 3) and 15% (Model 2 and Model 4). The coefficient on  $\text{Log}(N \text{ Subs in Foreign Tax Havens})$  is also positive and significant at the one percent level across the four model specifications, consistent with the notion that firms that appear to engage in multi-country tax planning are more likely engage in multi-state tax planning via a Delaware holding company strategy.<sup>31</sup> A one standard deviation change in  $\text{Log}(N \text{ Subs in Foreign Tax Havens})$  increases the probability of a Delaware subsidiary by about 30% in all specifications.

These tax-based factors compare favorably with legal and governance explanations for Delaware incorporation. We find a one standard deviation increase in the weighted average anti-takeover provision score increases the likelihood of having a subsidiary in Delaware by 5%

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<sup>31</sup> We note that each of the tax-related variables is significantly positive if we estimate equation (1) with the count of subsidiaries in Delaware as the dependent variable and using an OLS model instead of a logit model. This suggests that the PIC variables help explain not only whether a U.S. firm locates in Delaware but also the number of Delaware operations of the U.S. firm.

(Model 2) to 10% (Model 3). Overall, the findings suggest that firms organize a subsidiary in Delaware for tax-motivated reasons incremental to legal factors and support our second prediction that state taxes play an incremental role in the decision of where to organize subsidiaries.

#### 4.3 The Effect of Delaware Tax Planning on State Effective Tax Rates

Our second objective is to determine the extent to which the Delaware tax strategies can reduce a firm's state tax burden. Specifically, we test by how much incorporating material subsidiaries in Delaware reduces a U.S. firm's state effective tax rate. We estimate the following model:

$$\text{State ETR} = \alpha_{\text{parent state}} + \alpha_{\text{year}} + \beta_1 \text{PIC Variable} + \beta_k \text{Controls}_k + e, \quad (2)$$

where

*State ETR* = state taxes paid divided by pre-tax domestic income;

*PIC Variable* = either *PIC Separate* or *PIC NoNexus*, as described below;

*Controls<sub>k</sub>* = Avg State Statutory Tax Rate, Log(N Subs in Foreign Tax Havens), Parent Incorporated in DE, Net Operating Loss Carryforward, Log(Total Assets), Long-Term Debt, Advertising Expense, R&D Expense, Tobin's Q, Log(Firm Age), Log(N Employees), , Avg Anti-Takeover, Log(N US Subs), Log(N Subs in DE), Log(N Subs Separate States), and Log(N Subs NoNexus States).

As discussed in Section 3, we create two composite variables, *PIC Separate* and *PIC NoNexus*, to capture those firms most likely to implement a Delaware-based state tax avoidance strategy.

The PIC strategy requires three components to be feasible: a presence in Delaware, a presence in a different state that is conducive to multistate tax planning (such as separate filing states or states without an economic nexus doctrine), and intangible assets. *PIC Separate* and *PIC NoNexus* empirically integrates these three components of the PIC strategy by capturing

observations in the highest tercile of Delaware subsidiaries, the highest tercile of other viable states, and above the median in intangible assets (where market to book is the proxy for intangible assets).<sup>32</sup> In estimating equation (2), we include year and state fixed effects and cluster standard errors by firm and year. Similar to equation (1), we use separate model specifications to test *PIC Separate* and *PIC NoNexus*.

Table 5 presents the results of estimating equation (2). Our results support our third prediction that U.S. firms with relatively high amounts of all three components of the Delaware PIC strategy in place exhibit lower state effective tax rates. Specifically, the coefficient on *PIC Separate* is -0.011 (Model 1) and -0.008 (Model 2) and is significant at the one percent level in both model specifications. Focusing on *PIC NoNexus*, the coefficient estimate is -0.009 (Model 3) and -0.007 (Model 4), and is significant at the one percent level in both specifications.<sup>33</sup> Given that the average state effective tax rate in the sample is 4.6%, these coefficient estimates suggest that a firm that is likely to have a Delaware-based tax strategy in place reduces the state tax burden between 15 - 24% compared to a firm that is less likely to have a Delaware-based tax strategy in place.<sup>34</sup>

The raw dollar savings depends on the earnings of firm. For the mean (median) firm, the savings in state income taxes ranges from \$6.4 million to \$8.4 million (\$2.0 million to \$2.8 million) per year. If investors valued these earnings as a permanent stream of cash flows using a 10% discount rate and considering the deductibility of state taxes for federal tax liability

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<sup>32</sup> We acknowledge that placing subsidiaries in Delaware and placing subsidiaries in separate filing states or no economic nexus states are choices made by the firm and are thus likely to be endogenous. However, state tax rules, such as requiring separate filing or imposing economic nexus, are exogenous to a firm to the extent the location of a firm's physical operations is limited by economic reasons other than taxes.

<sup>33</sup> With *State ETR* truncated at 0, our data are left-censored and the Tobit regression specification may be justified. In untabulated findings, we run all of our main tests in Tobit and find the coefficient estimates on *PIC Separate* and *PIC NoNexus* to be slightly more negative and slightly more significant. We report the OLS estimates because they are easier to interpret and are more conservative.

<sup>34</sup> The tax savings is calculated as the coefficient estimate divided by the sample average *State ETR* (0.046).

purposes, the result would suggest that Delaware-based tax strategies would increase market value by 0.8% to 1.1% (1.9% to 2.6%) at the mean (median).<sup>35</sup>

#### *4.4 Additional Tests: The PIC Strategy Over Time, Firm Fixed Effects and Industry Regressions*

As described in Section 2.3 and the appendix, several landmark state legal cases and state regulations have potentially limited the effectiveness of the PIC strategy over the last decade. Indeed, some have argued that the heyday of tax planning using a Delaware PIC has passed (Bankman, 2007; Barnwell, 2010). Thus, the effect of Delaware as a state tax haven could be diminishing over the sample period.

To test this idea, we re-estimate equation (2) on two roughly equal subsets of the sample period for firm-year observations before 2003 and after 2002. The findings of this test are presented in Panel A of Table 6. We find evidence that the effect of Delaware as a tax haven has diminished from the first half of the sample period to the second half of the sample period. In particular, the coefficient on *PIC NoNexus* declines from -0.012 in the first half of the sample to -0.007 in the second half of the sample, although the coefficients are still significantly different from zero. Thus, our results suggest that the various techniques employed by states to deter state tax planning have been somewhat successful. In Section 4.5, we provide preliminary analyses to assess which of these techniques appear to be the most successful.

In Panel B of Table 6, we re-estimate equation (2) including firm fixed effects to control for time-invariant omitted variables. Including firm fixed effects captures the reduction in state effective rate burdens by those firms entering or leaving Delaware, entering or leaving separating filing states and no economic nexus states, and firms acquiring more significant levels of

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<sup>35</sup> The calculation is:  $((\$6.4 \text{ million}/0.10) \times (1-0.35))/\$4,912.5 \text{ million} = 0.8\%$ , where 0.35 is the federal statutory tax rate, and \$4,912.5 million is the mean firm's market capitalization.

intangible assets. In addition, exogenous changes in state tax policies will also be captured, such as states changing from separate filing to combined filing as well as states adopting economic nexus policies during the sample period. Turning to the results, the coefficient on *PIC Separate* is -0.005 and is significant at the five percent level. Likewise, the *PIC NoNexus* variable equals -0.004 and is significant at the one percent level. The economic magnitude on these coefficients is roughly half those presented earlier, suggesting the mean firm saves between \$3.2 million and \$4.2 million per year in state taxes.

In Table 7, we augment our main analyses by evaluating the reduction in *State ETR* by industry. This analysis helps to extend the analysis beyond *whether* firms implement the PIC strategy to assess the *types* of firms that appear to engage in multi-state tax planning. Specifically, we re-estimate equation (2) across seventeen different industries groups, as developed in Barth, Beaver, and Landsman (1998).<sup>36</sup> We find that thirteen of the seventeen industry groups exhibit negative coefficients on the *PIC Separate* variable, though many of these coefficients are not statistically different from zero. None of the industries show positively significant coefficients on *PIC Separate*. The tax savings for firms likely to use a Delaware-based tax strategy are concentrated in several industries: Computers, Machinery, Metal and Pharmaceutical, for which the reduction in *State ETR* ranges from -0.025 to -0.011. The average reduction in *State ETR* across all industries is 0.6% of income, which translates to a 13% reduction from the sample average *State ETR* of 4.6%.

#### 4.5 The Effects of Measures to Mitigate Multi-state Tax Avoidance on State Tax Revenues

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<sup>36</sup> We use this industry classification schema instead of others commonly used in finance because of the relatively few number of firm-year observations that end up in the “other” category.

In another supplemental test, we analyze the effect of states' efforts to limit Delaware and other state tax planning strategies on state corporate tax revenue collections, following Brunori and Cordes (2005) and Fox and Luna (2011). We collect the annual corporate tax revenues (i.e., the total taxes collected from corporations) for each state from the U.S. Census.<sup>37</sup> In the empirical model, we regress the natural log of state's annual corporate tax revenues on five measures that states have recently implemented to prevent multistate tax planning: combined reporting, economic nexus, sales throwback rules in allocating income, expense disallowance, and higher sales factors in allocating income. We also include control variables for the corporate statutory income tax rate and the state's gross domestic product, as well as state and year fixed effects in one of our model specifications. We have data available over our sample period for 42 of the 44 states that have had a traditional corporate state income tax throughout the sample period.<sup>38</sup>

The results of this test are presented in Table 8. In the first column, which does not account for state and year fixed effects, we find that none of the five measures states implement to prevent multistate tax planning significantly influence the level of corporate tax revenues. However, when state and year fixed effects are included in the model (reported in the second column), we find that three measures are positively associated with corporate tax revenues: combined reporting, economic nexus, and sales throwback provisions. Specifically, an economic nexus doctrine is associated with a 13% increase in revenue collections and combined reporting and sales throwback provisions are associated with a 12% increase in revenue collections. As expected, there is a positive and significant relation between state revenue collections and the

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<sup>37</sup> <http://www.census.gov/govs/statetax/>

<sup>38</sup> Specifically, we are missing information for Hawaii and Alaska and the following states did not have a traditional state corporate income tax throughout the sample period: Michigan, Nevada, South Dakota, Texas, Washington, and Wyoming.

control variables: state statutory tax rate and state gross domestic product. These results provide initial evidence that the most effective methods for curtailing multistate tax avoidance are combined reporting and economic nexus doctrines. Although sales throwback is generally not passed to directly counteract the Delaware PIC strategy, states also benefited from increased state tax revenues when enacting a provision to increase the sales factor in their apportionment formulas.

#### *4.6 Capital Market Reactions to State Tax Avoidance Events*

In this section, we estimate the equity market reaction to six event dates related to the Delaware PIC strategy. The first event date we examine is the publication of an article on the front page of the Wall Street Journal (WSJ) that provided a list of companies with known Delaware PIC strategies and painted the strategy in a negative light (Simpson, 2002). Of the 49 firms listed in the article, 28 firms had valid equity returns data in the three day window surrounding the publication date. We create an indicator variable, *WSJ Article Date*, equal to one on the publication date (August 9, 2002) and equal to zero otherwise. For each firm, we compute abnormal returns as the cumulative three-day return for the firm less the benchmark return based on the firm's size and book to market. To ensure that the returns are not driven by some unobserved factor related to this specific event date, we compare the returns on this date to the returns for the same firms on sixty randomly chosen "pseudo" event dates.

In Panel A of Table 9, we report the results of an OLS regression with the three-day abnormal equity returns as the dependent variable, and an indicator variable for the actual event date on the right (*WSJ Article Date*). The intercept captures the abnormal return on the pseudo event dates and the coefficient on *WSJ Article Date* captures the incremental abnormal return on

the date of the article. As predicted, the intercept is not significantly different from zero. The coefficient on *WSJ Article Date* is -0.019 and significant at the one percent level. This finding suggests that investors penalized the firms mentioned in the article to the tune of almost two percent of market value on the date the article was published, possibly as a result of diminished expected future cash inflows or increased estimates of the firms' cost of capital.

In Panel B of Table 9, we examine the market reaction surrounding five influential state court decisions related to Delaware PICs (three decisions in favor of states, two decisions in favor of taxpayers).<sup>39</sup> For this analysis, we include of all sample firms with adequate data to compute abnormal equity market returns. Similar to the analysis reported in Panel A, we choose sixty random event dates to serve as control observations. The variable *PIC Separate* is the same variable used earlier, and captures firms that have the characteristics necessary for the Delaware PIC strategy. The variable *Case Date* takes on a value of 1, 0 or -1: it equals 1 on the date of the three cases decided in favor of the states; it equals -1 on the date of the two cases decided in favor of the taxpayer; and it equals 0 on the pseudo-event dates. The variable of interest is the interaction of *PIC Separate* and *Case Date*, which we expect to be negative. This interaction captures the incremental abnormal return of firms that are likely to have a Delaware PIC strategy on these important court dates.

As can be seen in Models 1 and 2 of Table 9, Panel B, we find no significant market reaction for the predicted firms on the case dates. There are at least two possible explanations for the lack of a market reaction on these dates. First, because these court cases were usually decided by a state supreme court, there are likely strong expectations held by the market in terms of

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<sup>39</sup> We use the following cases and dates: *SYL/ Crown Cork & Seal* on 9 June 2003 (against taxpayer); *LANCO* on 12 October 2006 (against taxpayer); *Sherwin-Williams v. Massachusetts* on 31 October 2002 (in favor of taxpayer); *Sherwin-Williams v. New York* on 28 October 2004 (against taxpayer); and *Gore/ACME Royalty* on 26 November 2002 (in favor of taxpayer).

likely outcomes given each of the cases has a prior litigation history in the lower courts. That is, the outcome of the case may have been anticipated by market, and hence, the case decision may not contain new information for market participants. Second, as we have noted earlier, it is possible that the *PIC Separate* variable introduces too much noise into the analysis.<sup>40</sup>

As a final test, we estimate the returns for PIC Separate firms on the WSJ article date used in Panel A (using the full sample in Table 9, Panel B). We present the results of that test in Model 3 of Panel B. Results suggest that on the date of the article, there were negative abnormal returns for firms that are likely to have a Delaware PIC strategy (the interaction of *PIC Separate* and *WSJ Article Date*), with a statistically significant coefficient of -0.011. However, firms likely to have a Delaware PIC strategy do not have abnormal returns on the sixty randomly chosen event dates, nor do firms that are unlikely to have a Delaware PIC strategy have abnormal returns on the date of the article. We view these findings as providing preliminary evidence consistent with notion that the capital markets assessed a penalty on firms that appear to have a PIC strategy in place once the negative WSJ news article about Delaware PIC strategies became public.

## 5. Case Studies

In this section, we examine several unique cases of tax planning that involve the state of Delaware. In Section 5.1, we provide a detailed example of an egregious Delaware PIC, to give context to the large sample tests above. In Section 5.2, we provide several smaller examples that illustrate the pervasiveness of the Delaware PIC strategy. In Section 5.3, we examine three

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<sup>40</sup> In untabulated analysis, we examine the market reaction of the 28 firms in Panel A to the five litigation dates because these firms were known to have Delaware PIC strategies. We continue to find insignificant results for these firms with known PICs in place.

alternative Delaware-based tax avoidance strategies that have been used by companies to avoid state taxes.

### *5.1 WorldCom – Delaware PIC Strategy*

The financial accounting fraud and subsequent bankruptcy of WorldCom are well-known, but perhaps less known is its aggressive state tax planning (Mazerov, 2007). With the assistance of the accounting firm, KPMG, WorldCom created a Delaware PIC called MCI WorldCom Brands LLC as part of a “tax minimization strategy.”<sup>41</sup> The PIC then collected nearly \$20 billion in royalties (untaxable under Delaware law) from 144 other WorldCom subsidiaries located in separate filing states around the country (Mollenkamp and Simpson, 2003). Moreover, the other 144 entities deducted \$20 billion as royalty expenses against income earned in the separate filing states where they were located.

Three points arise from the WorldCom case. WorldCom paid its PIC subsidiary substantially more in royalties than the company made during the period, which suggests that the transactions are not always made at arm’s length. Secondly, each of the 15 states involved in a lawsuit to recover lost tax revenue were separate filing states; combined filing states lost nothing in the PIC transaction. Finally, one of the intangible assets used by WorldCom was “management foresight,” which is atypical of the usual PIC strategy that uses legitimate intangible assets such as trademarks, but nonetheless it illustrates the flexibility allowed under Delaware law regarding the definition of intangible assets.

### *5.2 Other Examples and Facts – Delaware PIC Strategy*

The WorldCom example given above is admittedly extreme, but serves the purpose of illustrating the potential magnitude of the tax savings, and the flexibility allowed under Delaware

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<sup>41</sup> When reporters questioned KPMG regarding its role in the WorldCom tax strategy, KPMG stated: “The intangible holding company structure in Delaware was a common tax planning strategy that was fully supported under Delaware law” (White, 2003).

statute in implementing the PIC strategy. In this subsection, we note several other takeaways from the Delaware PIC state tax avoidance strategy.

First, one-off litigation cases are not completely effective at combating state tax avoidance. Toys R Us still owns and operates its Delaware PIC, Geoffrey, LLC. As of 2012, Geoffrey, LLC still owns over 300 trademarks according to [www.tmquest.com](http://www.tmquest.com). In addition, Geoffrey, LLC was involved in litigation with Massachusetts that was ultimately decided in 2009 and with Louisiana that was ultimately decided in 2008, illustrating the point that one state's actions (e.g., South Carolina in 1993) do not eliminate a company's state tax planning opportunities in other states. Indeed, among the fifty states, there appear to remain a number of states that are conducive to the Delaware PIC strategy.

Second, when the state of Maryland prevailed against Syms, Inc., and Crown Cork & Seal Company, Inc. in a landmark Delaware PIC case, the Comptroller of the state extended a settlement offer reducing interest and penalties on owed taxes to 70 Delaware holding companies that had economic ties to Maryland. Nixon Peabody LLP, a state and local tax advisor published a newsletter, which stated in part, "But is it a deal your Delaware holding company ("DHC") should accept? Not unless your facts are as bad as those of Syms, Inc. or its litigation companion, Crown Cork & Seal Company, Inc."<sup>42</sup> The newsletter illustrates the idea that states systematically litigate the cases with the weakest legal support, and many companies may be in a position to prevail in litigation because they have stronger facts and circumstances.

Finally, we note that in numerous conversations with current and former practicing accountants, attorneys and consultants, many agree that while the heyday of Delaware PIC tax planning is past; however, others assert that the strategy continues to thrive, but on a more limited scale. Our discussions with practitioners also suggest that tax savings from a Delaware

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<sup>42</sup> Available at [www.nixonpeabody.com/linked\\_media/publications/TA\\_12082003.pdf](http://www.nixonpeabody.com/linked_media/publications/TA_12082003.pdf)

PIC are likely *understated* in recent years because of the increased financial reporting requirements associated with FASB Interpretation No. 48 (FIN 48). The increased level of reporting mandated by FIN 48 may have caused firms to increase their reserve against risky tax projects, such as a Delaware PIC, which would increase a firm's state tax expense, and thus increase the state effective tax rate in the near term.<sup>43</sup>

### *5.3 Other Delaware-based Tax Avoidance Strategies*

In this study we have focused on a particular Delaware-based tax avoidance strategy, namely the Delaware PIC. However, several other state tax avoidance strategies exist, some of which commonly use subsidiaries in the state of Delaware.

The first other Delaware state tax avoidance strategy we highlight is the captive REIT strategy. The captive REIT strategy, made famous in a series of articles in the Wall Street Journal, was used extensively by Walmart to save millions of dollars in state income taxes (Drucker, 2007a; Drucker, 2007b). The strategy involves transferring real estate assets into a real estate investment trust (REIT). The REIT collects tax deductible rent payments from the operating company (in the case of Walmart, the company's stores). The REIT, in turn, pays all of its earnings in the form of a dividend to a Delaware-based company that owns 99% of the REIT. Because the REIT distributed more than 90 %of its profits, the REIT is not subject to corporate taxation. As noted earlier, Delaware statute does not impose a corporate tax on investment income so the REIT dividend income received by the Delaware PIC entity that owns the REIT is untaxed. In essence, the captive REIT strategy accomplishes the same thing as the PIC strategy, except the assets are real estate assets instead of intangible assets. An article in the Wall Street Journal estimated the tax savings could have been as high as \$240 million from 1998 to 2001,

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<sup>43</sup> We thank Bridget Stomberg for helpful insights on this subject.

though that estimate is crude and likely an upper bound because it attributes all of the variation in Walmart's state statutory tax rate to the captive REIT strategy.

Similar to the Delaware PIC strategy, the captive REIT strategy has its fair share of litigation history, with some courts finding in favor of the states and other courts finding in favor of the taxpayers. As an example, the Minnesota Supreme Court recently found in favor of HMN Financial, Inc., stating the tax commissioner does not have "sweeping statutory authority to disregard tax-avoidance business structures" when the taxpayer complies with the relevant statutes. In contrast, Walmart's captive REIT strategy has been disallowed by the courts in Louisiana, New Mexico, and North Carolina.

A second tax avoidance strategy more often associated with Vermont than Delaware is the captive insurance company state tax avoidance strategy. Firms make tax deductible payments from high tax locations to insurance subsidiaries that are tax exempt, creating yet another scenario where the firm can eliminate the tax liability on a fraction of its income in separate filing and no economic nexus states. With Vermont being the state of choice for 44 of the Fortune 100 companies to establish a captive insurance company, the state of Delaware passed legislation first in 2005 and again in 2007 because "members of the business community felt it was time to revisit Delaware's captive insurance statute and to update the statute to make it more attractive and competitive with other jurisdictions."<sup>44</sup> Delaware's revised and updated captive insurance legislation provides additional anecdotal evidence that the state of Delaware uses tax factors to compete in the market for subsidiary incorporation. Finally, Delaware is often used to isolate intangible assets that earn income from outside the corporation. For example, Merck has used Delaware subsidiaries to hold intellectual property developed in the state of Georgia, depriving Georgia of the ability to tax the income generated by the intellectual property.

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<sup>44</sup> <http://www.delawarecaptive.org/i4a/pages/index.cfm?pageid=3278>

The income was not taxable in Delaware because the state does not tax income generated by intangible assets (Mazero, 2007). Thus, the Delaware PIC strategy is used to both shift profits within the firm and to lower state liabilities in negotiated arm's length transaction outside the firm.

## **6. Conclusion**

In this study, we examine whether the market for incorporation extends beyond decisions related to the parent company down to decisions related to the subsidiaries of the firm. We extend the finance and legal literatures that examine why parent firms incorporate in the state of Delaware by showing that the decision to incorporate subsidiaries in Delaware is partially driven by corporate state income tax considerations. This finding stands in contrast to those in prior research which show that legal and governance reasons dominate the market for parent incorporation location.

After establishing that taxes are a factor in determining where firms locate their subsidiary operations, we quantify the effect on state effective tax rates of operating subsidiaries in Delaware. We show that firms most likely to have a Delaware-based tax strategy in place are able to reduce their state tax burden between 15% and 24% when compared to other firms.

The results in the study are subject to a limitation in the research design. The decision of where to incorporate a subsidiary is likely endogenous. It is possible that firms that are skilled at tax planning are the same firms that incorporate subsidiaries in the state of Delaware. We make several efforts to address this issue. First, we show that the effect of Delaware on state taxes is not attributable to constant firm characteristics by including firm fixed effects. Second, to the extent that the location of a firm's physical operations is limited by economic reasons other than

taxes, the state tax rules to which a firm is subject are exogenous. Third, we show that when states change their tax policies, state tax collections increase, consistent with an exogenous effect on the firm's tax burden.

Our results suggest that the state of Delaware is indeed a domestic tax haven in the sense that its corporate laws appear to enable firms to significantly reduce state tax burdens. This reduction comes at the expense of other states and benefits Delaware via franchise taxes and fees. Our analysis also suggests that states other than Delaware can potentially mitigate the effect of Delaware-based tax avoidance strategies by requiring combined reporting and/or adopting the economic nexus doctrine for state income tax nexus. Consistent with this idea, several states have indeed made changes to their corporate tax reporting rules to require combined reporting as well as asserting economic nexus in computing state income tax liabilities. Our analysis shows those states could potentially see fewer tax dollars disappear by adopting one of these measures we discuss. However, states may be hesitant to adopt these measures if concerned about maintaining or attracting new capital. We urge caution in assigning blame to Delaware for its tax policies—the Delaware tax strategies discussed in this paper are effective only because the tax policies in other states allow those strategies to be fruitful. Moreover, we find evidence that the ability of firms to reduce taxes through Delaware-based tax strategies is diminishing. This last finding is consistent with the notion that tax regulations recently implemented by state governments across the U.S. are effective to some degree.

## **APPENDIX A**

### **HISTORY OF ECONOMIC NEXUS LITIGATION INVOLVING DELAWARE PASSIVE INVESTMENT COMPANIES**

In this appendix, we provide a primer on the history of state economic nexus litigation over the past three decades. During that time period, the breadth of litigation covers hundreds of cases in many of the states in the United States, with many cases being tried (and re-tried) at different levels of the state court systems. As a result of the enormous breadth of the legal history, we limit our scope to several legal cases that we consider to be the most prominent. For more breadth of discussion, we refer the reader to academic and practitioner articles (Faber, 2003; Bauman and Schadeewald, 2004; Bankman, 2007; Cline, 2008; Fox and Luna, 2011), textbooks (Swenson, Gupta, Karayan, and Neff, 2004) and legal primers (CCH, 2010).

Central to the legal issues surrounding the multi-state taxation of businesses are the due process and commerce clauses of the U.S. Constitution. The due process clause of the 14th Amendment prohibits a state from taxing a corporation unless there is a definite link or minimum connection between the company and the state. With respect to the commerce clause in Article 1, Section 8 of the U.S. Constitution, states may not enact laws that unduly burden or inhibit the free flow of commerce between the states. The Supreme Court has interpreted this to mean the business must have a substantial nexus in a state. While similar, the due process clause focuses on the fundamental fairness to the taxpayer of being subject to tax by a state while the purpose and intent of the commerce clause addresses the effects of state regulation on a national economy. For a business to be subject to taxation by a state, the state must both have the authority to tax under the due process clause while not violating the commerce clause that is intended to maintain the free flow of commerce between states.

In 1992, the Supreme Court handed down a highly influential decision in *Quill Corp. v. North Dakota* that revisited the due process and commerce clause requirements for a multi-state business. Quill Corporation, a mail order business that sells office supplies and equipment, had failed to collect use tax from its North Dakota customers and remit the tax to the state. The company argued it had not established substantial nexus in North Dakota under the commerce clause because it had no physical presence in the state which is generally understood to mean no property or payroll. North Dakota disagreed and maintained that because Quill Corporation met the minimal connection due process standard with the state via the existence of North Dakota customers that the substantial nexus commerce clause standard had also been met. The Supreme Court sided with Quill Corporation and found that while the due process clause had been satisfied with the existence of North Dakota customers that substantial nexus under the commerce clause had not been met because Quill Corporation had no physical presence in the state.

The state of South Carolina was quick to use the Quill decision to its benefit. Toys R Us, Inc. established a wholly-owned Delaware subsidiary named Geoffrey that held trademarks and trade names while having no presence in South Carolina, a separate filing state. Toys R Us subsidiaries in South Carolina and certain other states paid a royalty to Geoffrey for use of the trademarks and trade names equal to one percent of sales. In fact, Toys R Us claimed a \$55 million royalty deduction on its 1992 South Carolina return corresponding to the untaxed royalty income earned by the Toys R Us Delaware PIC names Geoffrey. At first, South Carolina disallowed the deduction. In time, South Carolina changed its position and allowed the deduction but claimed economic nexus had been established with Delaware-based Geoffrey because of the licensing agreement between Geoffrey and Toys R Us entities in South Carolina.

Most notably, South Carolina argued that the applicability of the Quill decision did not extend beyond sales and use tax nexus to income tax nexus. Thus, the state of South Carolina argument hinged on the position that the substantial nexus requirement under the commerce clause did not mandate that the physical presence requirement be satisfied for income tax nexus. In July 1993, the South Carolina Supreme Court issued the Geoffrey decision and sided with the state of South Carolina. Among other things, the court agreed with the state's economic nexus argument that the commerce clause had not been violated and that the Supreme Court Quill decision only had precedent over sales and use tax nexus. Importantly, the Supreme Court chose not to hear the case and has not heard any state income tax nexus case related to the commerce clause since the Quill decision in 1992. Several other states have tried the Geoffrey case in the past few years including Oklahoma, Massachusetts, and Louisiana.

In contrast to how the state of South Carolina acted quickly and successfully after the Quill ruling to limit lost revenues related to royalty payments made by South Carolina companies to Delaware and other state passive investment companies, the legal process played out more slowly and less decisively in other states. In time, the state of Maryland Department of Revenue developed a different legal argument to combat the Delaware passive investment company strategy. Based on precedent in Maryland corporate law, the way to tax an out-of-state corporation was to argue that the out-of-state corporation is a phantom corporation with no economic substance. In the late 1990s, the Maryland Department of Revenue claimed economic nexus with two different Delaware passive investment companies; Crown, Cork, and Seal, a subsidiary of Crow, Cork, & Seal Company that produces of metal cans and lids, and SYL, a subsidiary of Syms, a retailer who both received royalty payments from corporations operating in Maryland. The Maryland Department of Revenue asserted that both Delaware passive

investment companies were phantom corporations lacking economic substance so they could be taxed by Maryland. In 1999, the Maryland Tax Court disagreed with the Maryland Department of Revenue finding that the Delaware passive investment companies had economic substance by holding intangible assets among other things and ruled Maryland could not tax them. Ten years after Geoffrey was issued in 2003, the Maryland Court of Appeals issued a joint ruling to both companies reversing the Maryland Tax Court decision finding that both Delaware passive investment companies lacked economic substance and were phantom corporations that could be taxed by the state of Maryland.

With states benefiting from two economic nexus doctrine approaches in combating lost revenues from royalty payments made to Delaware passive investment companies, states tended to opt for the established economic relationship from the royalty agreement under Geoffrey in South Carolina more often than the phantom corporation doctrine approach that passive investment companies lack economic substance so they can be taxed from Crown, Cork, and Seal/SYL in Maryland. With the trend beginning to shift towards states successfully taxing the income of passive investment companies, the Delaware passive investment company strategy scored a significant legal victory in New Jersey in 2003. Lanco Inc, a Delaware passive investment company established to hold the intangibles of a related corporation, Lane Bryant Inc, prevailed in 2003 against the New Jersey Division of Taxation when the New Jersey Tax Court found that New Jersey could not tax Delaware passive investment companies that had no physical presence in New Jersey. Thus, even though Lanco held trademarks and trade names used by Lane Bryant stores in New Jersey, the New Jersey Tax Court found that New Jersey could not use the Geoffrey economic nexus doctrine to tax Lanco. In 2005, the Superior Court of New Jersey reversed the tax court's decision in Lanco and the New Jersey Supreme Court

upheld the Superior Court decision in 2006. The New Jersey Supreme Court represented the second state supreme court to rule in favor of the states' position that income tax nexus could be established without a physical presence via the economic nexus doctrine, more than 13 years after the South Carolina Supreme Court issued the Geoffrey ruling.

The next landmark case came down in North Carolina in 2004 related to a Delaware passive investment company established by Abercrombie and Fitch named A&F Trademark, Inc. Note that both Lane Bryant and Abercrombie and Fitch are affiliated with the clothing retailer The Limited. The appellate court relied on the Geoffrey decision finding that North Carolina and A&F Trademark had substantial nexus. The court also followed the finding in Geoffrey that Quill required a physical presence for sales and use taxes only, not income taxes. In addition, the appellate court reasoned that companies must remit sales and use taxes to numerous taxing authorities multiple times during the year which imposes unique administrative burdens whereas income taxes are reported only annually to each state thereby justifying a lower standard for establishing income tax nexus in a state as compared to sales tax nexus.

While many other passive investment company cases move through the litigation process with various states, these cases are generally viewed as the most influential in establishing the legal arguments used by states. In addition, with the exception of South Carolina enjoying immediate success with the Geoffries decision, taxpayers scored initial victories in most states with the pendulum now shifting back more in the states' favor. However, as noted above, only two state supreme courts to date have ruled definitively against passive investment company arrangements, South Carolina with Geoffries and New Jersey with Lanco, allowing corporations operating in other separate filing states to still potentially benefit from the PIC strategy. Returning to the Supreme Court Quill decision in 1992, the Court made it clear that Congress

had the power granted to it under the Constitution to regulate commerce that may explain why the Supreme Court has not granted a writ of certiorari to hear an income tax nexus case since the Quill sales and use tax nexus decision. Congress appears to recognize this constitutional power. Both the Senate and the House have issued bills in virtually every Congress since 2000 including a 2011 bill sponsored by Virginia House members Bob Goodlatte, a Virginia Republican, and Bobby Scott, a Democrat, requiring a physical presence to establish state income tax nexus and even allowing for a property and employees to be in a state up to a 14 day safe harbor each year without establishing state income tax nexus. To this point, each bill has failed to make it out of committee.

## APPENDIX B

### Definition and Source of Variables

| Variable                                 | Description                                                                                                     | Calculation*                                                                   | Source                                                                                                     |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <i>State ETR</i>                         | State effective tax rate, calculated as state tax expense divided by pre-tax income                             | TXS/PIDOM                                                                      | •TXS, PIDOM: Compustat                                                                                     |
| <i>Subsidiary in DE</i>                  | The firm has at least one subsidiary in Delaware                                                                | = 1 if <i>N. Subs in DE</i> > 0; 0 otherwise                                   | • <i>N.Subs in DE</i> : Exhibit 21 from Form 10-K                                                          |
| <i>N. Subs in Separate Filing States</i> | The number of subsidiaries located in separate filing states (excluding Delaware and zero-tax states)           | Count(subs in separate filing states).                                         | • <i>N.Subs</i> : Exhibit 21 from Form 10-K<br>•State Classifications: See Table 2.                        |
| <i>Avg Statutory Tax Rate</i>            | The weighted average statutory tax rate of states (excluding Delaware) in which the firm discloses subsidiaries | (Statutory tax rate for a given state * Count(subs in that state))/ Total Subs | •Sub States and Counts: Exhibit 21 from Form 10-K<br>•Statutory Tax Rates: CCH Manuals and other sources   |
| <i>N. Subs in Foreign Havens</i>         | The number of subsidiaries located in foreign tax havens                                                        | N. Subs in Foreign Havens                                                      | •Sub Countries and Counts: Exhibit 21 from Form 10-K<br>•Country Classifications: Dyreng and Lindsey, 2009 |
| <i>Incorporated in DE</i>                | The parent company is incorporated in Delaware                                                                  | = 1 if the parent is incorporated in DE                                        | •Form 10-K                                                                                                 |
| <i>Net Operating Loss</i>                | The presence of a net operating loss                                                                            | = 1 if lagged TLCF > 0; 0 otherwise                                            | •TLCF: Compustat                                                                                           |
| <i>Log of Total Assets</i>               | The natural log of the firm's total assets                                                                      | log(AT)                                                                        | •AT: Compustat                                                                                             |
| <i>Long-Term Debt</i>                    | The ratio of long-term debt to total assets                                                                     | DLTT/AT                                                                        | •DLTT, AT: Compustat                                                                                       |
| <i>Advertising Expense</i>               | The amount spent on advertising, scaled by total assets                                                         | XAD/AT                                                                         | •XAD, AT: Compustat                                                                                        |
| <i>R&amp;D Expense</i>                   | The amount spent on research and development, scaled by total assets                                            | XRD/AT                                                                         | •XRD, AT: Compustat                                                                                        |
| <i>Tobin's Q</i>                         | The market value of a firm divided by the replacement cost of its assets                                        | (PRCC_F*CSHO+DLTT+max(0,DLC))/AT                                               | •PRCC_F, CSHO, DLTT, DLC, AT: Compustat                                                                    |
| <i>Firm Age</i>                          | The age of the firm                                                                                             | Number of years in Compustat                                                   | •Compustat                                                                                                 |
| <i>N. Employees</i>                      | The number of persons employed by the firm, in thousands                                                        | EMP                                                                            | •EMP: Compustat                                                                                            |
| <i>Avg Anti-Takeover</i>                 | The weighted average anti-takeover laws of states (excluding Delaware) in which the firm discloses subsidiaries | Count(subs in states with strong anti-takeover provisions) / Total Subs        | •Sub States and Counts: Exhibit 21 from Form 10-K<br>•Anti-takeover: Armstrong et al. (2011)               |

\*Compustat data item pneumonics are in all caps.

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**Table 1**  
Descriptive statistics and correlations

This table presents descriptive statistics for the variables used in our analyses. Panel A presents univariate statistics and Panel B presents Pearson and Spearman correlations. The sample consists of 10,140 firm-years for 2,633 unique firms over the period 1995 to 2009. Variable definitions are provided in Appendix B. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles except *State ETR*, which is winsorized at 0 and 0.5. In Panel B, pairwise correlations that are statistically significant at the 5% level are indicated by \*.

*Panel A: Univariate Statistics*

| VARIABLE                               | N      | MEAN   | STD    | P25   | P50    | P75    |
|----------------------------------------|--------|--------|--------|-------|--------|--------|
| <i>State ETR</i>                       | 10,140 | 0.046  | 0.055  | 0.011 | 0.035  | 0.061  |
| <i>PIC Separate</i>                    | 10,140 | 0.112  | 0.315  | 0.000 | 0.000  | 0.000  |
| <i>PIC NoNexus</i>                     | 10,140 | 0.102  | 0.303  | 0.000 | 0.000  | 0.000  |
| <i>Subsidiary in DE</i>                | 10,140 | 0.582  | 0.493  | 0.000 | 1.000  | 1.000  |
| <i>N Subs in DE</i>                    | 10,140 | 7.921  | 25.897 | 0.000 | 1.000  | 7.000  |
| <i>Parent Incorporated in DE</i>       | 10,140 | 0.611  | 0.488  | 0.000 | 1.000  | 1.000  |
| <i>N Subs in Separate States</i>       | 10,140 | 4.491  | 19.922 | 0.000 | 1.000  | 4.000  |
| <i>N Subs in Combined States</i>       | 10,140 | 2.239  | 7.867  | 0.000 | 0.000  | 2.000  |
| <i>N Subs in NoNexus States</i>        | 10,140 | 2.878  | 12.234 | 0.000 | 0.000  | 2.000  |
| <i>N Total US Subs</i>                 | 10,140 | 6.729  | 26.224 | 0.000 | 2.000  | 6.000  |
| <i>N Subs in Foreign Tax Havens</i>    | 10,140 | 1.770  | 2.652  | 0.000 | 1.000  | 3.000  |
| <i>Avg State Statutory Tax Rate</i>    | 10,140 | 0.037  | 0.036  | 0.000 | 0.039  | 0.070  |
| <i>Avg Anti-Takeover</i>               | 10,140 | 0.196  | 0.304  | 0.000 | 0.000  | 0.333  |
| <i>Net Operating Loss Carryforward</i> | 10,140 | 0.372  | 0.483  | 0.000 | 0.000  | 1.000  |
| <i>Log(Total Assets)</i>               | 10,140 | 6.417  | 1.924  | 5.008 | 6.328  | 7.690  |
| <i>Long-Term Debt</i>                  | 10,140 | 0.150  | 0.150  | 0.003 | 0.120  | 0.247  |
| <i>AdvertisingExpense</i>              | 10,140 | 0.010  | 0.028  | 0.000 | 0.000  | 0.005  |
| <i>R&amp;D Expense</i>                 | 10,140 | 0.039  | 0.054  | 0.000 | 0.014  | 0.059  |
| <i>Tobin's Q</i>                       | 10,140 | 1.790  | 1.353  | 0.945 | 1.365  | 2.117  |
| <i>Market to Book</i>                  | 10,140 | 3.239  | 2.909  | 1.541 | 2.362  | 3.831  |
| <i>N Employees</i>                     | 10,140 | 12.080 | 27.775 | 0.662 | 2.592  | 8.996  |
| <i>Firm Age</i>                        | 10,140 | 21.619 | 15.607 | 9.000 | 16.000 | 34.000 |

**Table 1 (continued)**

Descriptive statistics and correlations

*Panel B: Pearson (above) and Spearman (below) Correlations*

|                                           | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      | 10     | 11    | 12     | 13     | 14     | 15     | 16     | 17     | 18     | 19     | 20     | 21     | 22     |
|-------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 <i>State ETR</i>                        |        | -0.01  | -0.00  | 0.06*  | 0.03*  | 0.02*  | 0.01   | 0.04*  | 0.01   | 0.02   | 0.06* | 0.09*  | 0.04*  | -0.12* | 0.05*  | -0.04* | 0.04*  | -0.01  | -0.01  | 0.01   | 0.02   | 0.01   |
| 2 <i>PIC Separate</i>                     | 0.03*  |        | 0.87*  | 0.30*  | 0.29*  | -0.02  | 0.19*  | 0.18*  | 0.20*  | 0.20*  | 0.40* | 0.22*  | 0.17*  | -0.01  | 0.34*  | 0.07*  | 0.03*  | -0.08* | 0.08*  | 0.17*  | 0.29*  | 0.23*  |
| 3 <i>PIC NoNexus</i>                      | 0.03*  | 0.87*  |        | 0.29*  | 0.28*  | -0.01  | 0.19*  | 0.18*  | 0.22*  | 0.20*  | 0.39* | 0.20*  | 0.14*  | -0.02  | 0.34*  | 0.07*  | 0.04*  | -0.09* | 0.07*  | 0.17*  | 0.31*  | 0.24*  |
| 4 <i>Subsidiary in DE</i>                 | 0.09*  | 0.30*  | 0.29*  |        | 0.26*  | 0.13*  | 0.15*  | 0.18*  | 0.16*  | 0.17*  | 0.39* | 0.47*  | 0.30*  | 0.02*  | 0.45*  | 0.15*  | 0.03*  | -0.17* | -0.07* | 0.01   | 0.22*  | 0.24*  |
| 5 <i>N Subs in DE</i>                     | 0.08*  | 0.47*  | 0.45*  | 0.89*  |        | 0.06*  | 0.29*  | 0.48*  | 0.33*  | 0.36*  | 0.44* | 0.16*  | 0.07*  | 0.03*  | 0.36*  | 0.09*  | 0.00   | -0.12* | -0.07* | -0.01  | 0.26*  | 0.18*  |
| 6 <i>Parent Incorporated in DE</i>        | -0.00  | -0.02  | -0.01  | 0.13*  | 0.13*  |        | -0.05* | 0.00   | -0.04* | -0.04* | 0.01  | -0.06* | -0.12* | 0.03*  | 0.11*  | 0.06*  | 0.03*  | 0.02*  | 0.03*  | 0.05*  | -0.00  | -0.13* |
| 7 <i>N Subs in Separate States</i>        | 0.09*  | 0.46*  | 0.43*  | 0.52*  | 0.62*  | -0.10* |        | 0.73*  | 0.97*  | 0.98*  | 0.19* | 0.13*  | 0.08*  | 0.00   | 0.17*  | 0.08*  | -0.00  | -0.10* | -0.06* | -0.03* | 0.13*  | 0.10*  |
| 8 <i>N Subs in Combined States</i>        | 0.13*  | 0.31*  | 0.29*  | 0.44*  | 0.52*  | 0.01   | 0.51*  |        | 0.70*  | 0.85*  | 0.26* | 0.19*  | 0.05*  | 0.04*  | 0.23*  | 0.07*  | -0.00  | -0.10* | -0.06* | -0.02* | 0.16*  | 0.14*  |
| 9 <i>N Subs in NoNexus States</i>         | 0.08*  | 0.43*  | 0.47*  | 0.46*  | 0.57*  | -0.06* | 0.88*  | 0.47*  |        | 0.95*  | 0.21* | 0.12*  | 0.06*  | -0.01  | 0.18*  | 0.09*  | -0.00  | -0.11* | -0.06* | -0.02* | 0.14*  | 0.11*  |
| 10 <i>N Total US Subs</i>                 | 0.13*  | 0.43*  | 0.40*  | 0.57*  | 0.66*  | -0.08* | 0.90*  | 0.77*  | 0.80*  |        | 0.23* | 0.16*  | 0.08*  | 0.01   | 0.20*  | 0.08*  | -0.00  | -0.11* | -0.06* | -0.03* | 0.15*  | 0.12*  |
| 11 <i>N Subs in Foreign Tax Havens</i>    | 0.13*  | 0.34*  | 0.32*  | 0.47*  | 0.56*  | 0.03*  | 0.42*  | 0.42*  | 0.37*  | 0.48*  |       | 0.30*  | 0.17*  | 0.03*  | 0.53*  | 0.05*  | 0.05*  | -0.03* | 0.04*  | 0.12*  | 0.36*  | 0.30*  |
| 12 <i>Avg State Statutory Tax Rate</i>    | 0.15*  | 0.21*  | 0.19*  | 0.46*  | 0.44*  | -0.06* | 0.55*  | 0.55*  | 0.42*  | 0.69*  | 0.37* |        | 0.46*  | 0.01   | 0.28*  | 0.07*  | 0.03*  | -0.13* | -0.05* | -0.01  | 0.14*  | 0.21*  |
| 13 <i>Avg Anti-Takeover</i>               | 0.12*  | 0.29*  | 0.26*  | 0.41*  | 0.45*  | -0.11* | 0.63*  | 0.40*  | 0.49*  | 0.60*  | 0.32* | 0.53*  |        | -0.03* | 0.18*  | 0.08*  | 0.02*  | -0.12* | -0.03* | 0.01   | 0.11*  | 0.18*  |
| 14 <i>Net Operating Loss Carryforward</i> | -0.23* | -0.01  | -0.02  | 0.02*  | 0.02*  | 0.03*  | -0.03* | 0.01   | -0.05* | -0.02* | 0.01  | 0.01   | -0.02* |        | -0.05* | 0.04*  | -0.04* | 0.05*  | -0.02* | -0.00  | -0.06* | -0.06* |
| 15 <i>Log(Total Assets)</i>               | 0.13*  | 0.34*  | 0.33*  | 0.46*  | 0.58*  | 0.11*  | 0.42*  | 0.39*  | 0.39*  | 0.46*  | 0.53* | 0.28*  | 0.30*  | -0.04* |        | 0.26*  | 0.08*  | -0.24* | -0.06* | 0.09*  | 0.61*  | 0.49*  |
| 16 <i>Long-Term Debt</i>                  | -0.05* | 0.10*  | 0.10*  | 0.19*  | 0.25*  | 0.05*  | 0.25*  | 0.13*  | 0.25*  | 0.22*  | 0.09* | 0.09*  | 0.15*  | 0.03*  | 0.35*  |        | -0.04* | -0.34* | -0.28* | -0.01  | 0.09*  | 0.11*  |
| 17 <i>Advertising Expense</i>             | 0.09*  | 0.01   | 0.02*  | 0.04*  | 0.03*  | -0.01  | -0.02* | 0.05*  | -0.03* | 0.01   | 0.07* | 0.06*  | 0.03*  | 0.00   | 0.05*  | -0.10* |        | -0.04* | 0.13*  | 0.17*  | 0.07*  | 0.06*  |
| 18 <i>R&amp;D Expense</i>                 | -0.01  | -0.04* | -0.06* | -0.12* | -0.15* | 0.01   | -0.25* | -0.12* | -0.25* | -0.23* | 0.07* | -0.08* | -0.13* | 0.03*  | -0.14* | -0.34* | 0.07*  |        | 0.35*  | 0.22*  | -0.11* | -0.22* |
| 19 <i>Tobin's Q</i>                       | 0.03*  | 0.17*  | 0.16*  | -0.03* | -0.05* | 0.03*  | -0.11* | -0.03* | -0.12* | -0.09* | 0.10* | -0.01  | -0.03* | -0.04* | 0.00   | -0.30* | 0.15*  | 0.34*  |        | 0.76*  | -0.04* | -0.18* |
| 20 <i>Market to Book</i>                  | 0.04*  | 0.29*  | 0.28*  | 0.05*  | 0.07*  | 0.04*  | -0.01  | 0.03*  | -0.02  | -0.01  | 0.17* | 0.02*  | 0.03*  | -0.03* | 0.17*  | -0.10* | 0.12*  | 0.26*  | 0.87*  |        | 0.07*  | -0.03* |
| 21 <i>N Employees</i>                     | 0.22*  | 0.35*  | 0.34*  | 0.42*  | 0.52*  | 0.03*  | 0.45*  | 0.38*  | 0.42*  | 0.47*  | 0.49* | 0.27*  | 0.34*  | -0.10* | 0.87*  | 0.32*  | 0.04*  | -0.19* | -0.05* | 0.15*  |        | 0.43*  |
| 22 <i>Firm Age</i>                        | 0.09*  | 0.21*  | 0.21*  | 0.23*  | 0.28*  | -0.15* | 0.28*  | 0.24*  | 0.27*  | 0.30*  | 0.23* | 0.20*  | 0.24*  | -0.06* | 0.43*  | 0.18*  | 0.00   | -0.09* | -0.15* | -0.02* | 0.48*  |        |

**Table 2**  
State Tax Characteristics

This table presents the year in which states in the United States adopted two measures to prevent multistate tax avoidance: combined reporting or the economic nexus doctrine. Combined reporting requires that corporations that are part of the same business group combine their income as a unitary group and file a combined return. An economic nexus doctrine requires that firms report income earned in states in which it has an economic (rather than physical) presence. The following numeric superscripts denote sources for determining the approximate year the state began asserting economic nexus doctrines:

<sup>1</sup>The state requires combined filing, so economic nexus is irrelevant;

<sup>2</sup>Cronin and Gall (1998);

<sup>3</sup>Bureau of National Affairs, Inc. (BNA) annual surveys from 2003 to 2010;

<sup>4</sup>Florida Department of Revenue Technical Assistance Advisement, 1996;

<sup>5</sup>The Tax Executive (1995);

<sup>6</sup>Swain and Snethen (2006);

<sup>7</sup>Geoffrey vs. South Carolina (1993).

| State         | Combined Reporting | Economic Nexus      | State          | Combined Reporting | Economic Nexus      |
|---------------|--------------------|---------------------|----------------|--------------------|---------------------|
| Alabama       |                    | 2008 <sup>2</sup>   | Montana        | < 1995             | < 1995 <sup>1</sup> |
| Alaska        | < 1995             | < 1995 <sup>1</sup> | Nebraska       | < 1995             | < 1995 <sup>1</sup> |
| Arizona       | < 1995             |                     | Nevada         |                    |                     |
| Arkansas      |                    | < 1995 <sup>2</sup> | New Hampshire  | < 1995             | < 1995 <sup>1</sup> |
| California    | < 1995             | < 1995 <sup>1</sup> | New Jersey     |                    | 1996 <sup>5</sup>   |
| Colorado      | < 1995             | < 1995 <sup>1</sup> | New Mexico     |                    | < 1995 <sup>2</sup> |
| Connecticut   |                    | 2010 <sup>2</sup>   | New York       | 2007               | 2007 <sup>1</sup>   |
| Delaware      |                    |                     | North Carolina |                    | < 1995 <sup>2</sup> |
| Florida       |                    | < 1995 <sup>4</sup> | North Dakota   | < 1995             | < 1995 <sup>1</sup> |
| Georgia       |                    |                     | Ohio           |                    | 2004 <sup>3</sup>   |
| Hawaii        | < 1995             | < 1995 <sup>1</sup> | Oklahoma       |                    | 2005 <sup>6</sup>   |
| Idaho         | < 1995             | < 1995 <sup>1</sup> | Oregon         | < 1995             | < 1995 <sup>1</sup> |
| Illinois      | < 1995             | < 1995 <sup>1</sup> | Pennsylvania   |                    |                     |
| Indiana       |                    | < 1995 <sup>3</sup> | Rhode Island   |                    | < 1995 <sup>2</sup> |
| Iowa          |                    | < 1995 <sup>2</sup> | South Carolina |                    | < 1995 <sup>7</sup> |
| Kansas        | < 1995             | < 1995 <sup>1</sup> | South Dakota   |                    |                     |
| Kentucky      |                    | 2007 <sup>3</sup>   | Tennessee      |                    |                     |
| Louisiana     |                    | 2004 <sup>3</sup>   | Texas          | 2008               | 2008 <sup>1</sup>   |
| Maine         | < 1995             | < 1995 <sup>2</sup> | Utah           | < 1995             | < 1995 <sup>1</sup> |
| Maryland      |                    | < 1995 <sup>2</sup> | Vermont        | 2006               | 2006 <sup>1</sup>   |
| Massachusetts | 2008               | < 1995 <sup>2</sup> | Virginia       |                    |                     |
| Michigan      | 2008               | 2008 <sup>1</sup>   | Washington     |                    |                     |
| Minnesota     | < 1995             | < 1995 <sup>1</sup> | West Virginia  | 2009               | 2008 <sup>3</sup>   |
| Mississippi   |                    |                     | Wisconsin      | 2009               | < 1995 <sup>2</sup> |
| Missouri      |                    |                     | Wyoming        |                    |                     |

**Table 3**  
Frequency of Subsidiary Operations and Patents by State

In this table, we examine the frequency of subsidiaries (Panel A) and patents (Panel B) located in each of the 50 states of the United States. In Panel A, we obtain the location of each firm's subsidiaries using a text search program of Exhibit 21 of the firm's SEC 10-K filings. Gross Domestic Product (*GDP*) by state (measured in 2005 dollars) is from the Bureau of Economic Analysis. We compare the proportion of total subsidiaries in each state to the proportion of the total *GDP* in each state. The difference between the two is presented in the rightmost column. We assess statistical significance by dividing the difference for each state by the standard deviation of the differences for all the states. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively. In Panel B, we report the frequency of patents issued in each state, as reported by the United States Patent and Trademark Office. In column (I), we estimate each state's percentage of the total count of patents issued. In column (II), we estimate each state's percentage of total *GDP* in 2005. The final column estimates the ratio of columns (I) and (II).

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Panel A: Frequency of Subsidiary Operations by State

| STATE          | Subsidiaries |       | State GDP (2005) |       | Diff       |
|----------------|--------------|-------|------------------|-------|------------|
|                | Freq         | %     | GDP (\$Mill)     | %     |            |
| Alabama        | 627          | 0.4%  | 132              | 1.2%  | 0.8%       |
| Alaska         | 330          | 0.2%  | 29               | 0.3%  | 0.1%       |
| Arizona        | 989          | 0.6%  | 196              | 1.8%  | 1.2%       |
| Arkansas       | 423          | 0.3%  | 76               | 0.7%  | 0.4%       |
| California     | 9928         | 6.2%  | 1,468            | 13.6% | 7.4%       |
| Colorado       | 1289         | 0.8%  | 188              | 1.7%  | 0.9%       |
| Connecticut    | 943          | 0.6%  | 169              | 1.6%  | 1.0%       |
| Delaware       | 83212        | 51.8% | 50               | 0.5%  | -51.3% *** |
| Florida        | 3329         | 2.1%  | 589              | 5.4%  | 3.4%       |
| Georgia        | 2480         | 1.5%  | 323              | 3.0%  | 1.4%       |
| Hawaii         | 278          | 0.2%  | 47               | 0.4%  | 0.3%       |
| Idaho          | 244          | 0.2%  | 43               | 0.4%  | 0.2%       |
| Illinois       | 2746         | 1.7%  | 490              | 4.5%  | 2.8%       |
| Indiana        | 1782         | 1.1%  | 208              | 1.9%  | 0.8%       |
| Iowa           | 814          | 0.5%  | 103              | 0.9%  | 0.4%       |
| Kansas         | 1274         | 0.8%  | 90               | 0.8%  | 0.0%       |
| Kentucky       | 710          | 0.4%  | 123              | 1.1%  | 0.7%       |
| Louisiana      | 1273         | 0.8%  | 140              | 1.3%  | 0.5%       |
| Maine          | 419          | 0.3%  | 39               | 0.4%  | 0.1%       |
| Maryland       | 969          | 0.6%  | 211              | 2.0%  | 1.4%       |
| Massachusetts  | 2368         | 1.5%  | 290              | 2.7%  | 1.2%       |
| Michigan       | 3136         | 2.0%  | 340              | 3.1%  | 1.2%       |
| Minnesota      | 1691         | 1.1%  | 208              | 1.9%  | 0.9%       |
| Mississippi    | 442          | 0.3%  | 68               | 0.6%  | 0.4%       |
| Missouri       | 1413         | 0.9%  | 189              | 1.7%  | 0.9%       |
| Montana        | 130          | 0.1%  | 25               | 0.2%  | 0.2%       |
| Nebraska       | 327          | 0.2%  | 62               | 0.6%  | 0.4%       |
| Nevada         | 3445         | 2.1%  | 97               | 0.9%  | -1.2%      |
| New Hampshire  | 304          | 0.2%  | 49               | 0.4%  | 0.3%       |
| New Jersey     | 1990         | 1.2%  | 379              | 3.5%  | 2.3%       |
| New Mexico     | 323          | 0.2%  | 58               | 0.5%  | 0.3%       |
| New York       | 4944         | 3.1%  | 866              | 8.0%  | 4.9%       |
| North Carolina | 1393         | 0.9%  | 310              | 2.9%  | 2.0%       |
| North Dakota   | 72           | 0.0%  | 21               | 0.2%  | 0.1%       |
| Ohio           | 4271         | 2.7%  | 391              | 3.6%  | 1.0%       |
| Oklahoma       | 987          | 0.6%  | 99               | 0.9%  | 0.3%       |
| Oregon         | 771          | 0.5%  | 129              | 1.2%  | 0.7%       |
| Pennsylvania   | 2289         | 1.4%  | 423              | 3.9%  | 2.5%       |
| Rhode Island   | 277          | 0.2%  | 38               | 0.3%  | 0.2%       |
| South Carolina | 581          | 0.4%  | 123              | 1.1%  | 0.8%       |
| South Dakota   | 148          | 0.1%  | 27               | 0.3%  | 0.2%       |
| Tennessee      | 1273         | 0.8%  | 201              | 1.9%  | 1.1%       |
| Texas          | 6156         | 3.8%  | 828              | 7.7%  | 3.8%       |
| Utah           | 566          | 0.4%  | 78               | 0.7%  | 0.4%       |
| Vermont        | 581          | 0.4%  | 21               | 0.2%  | -0.2%      |
| Virginia       | 2964         | 1.8%  | 309              | 2.9%  | 1.0%       |
| Washington     | 1580         | 1.0%  | 242              | 2.2%  | 1.3%       |
| West Virginia  | 540          | 0.3%  | 45               | 0.4%  | 0.1%       |
| Wisconsin      | 1608         | 1.0%  | 192              | 1.8%  | 0.8%       |
| Wyoming        | 285          | 0.2%  | 19               | 0.2%  | 0.0%       |

*Panel B: Frequency of Patent Asset Location by State*

| STATE          | N Patents | % Total (I) | GDP (\$Mill) | % Total (II) | Ratio of<br>% Total: (I)/(II) |
|----------------|-----------|-------------|--------------|--------------|-------------------------------|
| Delaware       | 42,272    | 2.11%       | 50           | 0.46%        | 4.58                          |
| Idaho          | 22,282    | 1.11%       | 43           | 0.40%        | 2.81                          |
| Connecticut    | 77,158    | 3.85%       | 169          | 1.56%        | 2.47                          |
| New Jersey     | 120,004   | 5.99%       | 379          | 3.50%        | 1.71                          |
| Michigan       | 103,165   | 5.15%       | 340          | 3.13%        | 1.64                          |
| New York       | 256,056   | 12.78%      | 866          | 7.98%        | 1.60                          |
| Minnesota      | 60,497    | 3.02%       | 208          | 1.92%        | 1.57                          |
| Massachusetts  | 83,287    | 4.16%       | 290          | 2.67%        | 1.56                          |
| Illinois       | 131,991   | 6.59%       | 490          | 4.52%        | 1.46                          |
| California     | 373,648   | 18.65%      | 1,468        | 13.54%       | 1.38                          |
| Ohio           | 95,845    | 4.78%       | 391          | 3.60%        | 1.33                          |
| Wisconsin      | 38,615    | 1.93%       | 192          | 1.77%        | 1.09                          |
| Pennsylvania   | 83,222    | 4.15%       | 423          | 3.90%        | 1.07                          |
| Washington     | 46,200    | 2.31%       | 242          | 2.23%        | 1.03                          |
| New Hampshire  | 7,617     | 0.38%       | 49           | 0.45%        | 0.85                          |
| Oklahoma       | 14,981    | 0.75%       | 99           | 0.92%        | 0.82                          |
| Rhode Island   | 5,643     | 0.28%       | 38           | 0.35%        | 0.81                          |
| Texas          | 117,649   | 5.87%       | 828          | 7.64%        | 0.77                          |
| Indiana        | 28,183    | 1.41%       | 208          | 1.92%        | 0.73                          |
| Oregon         | 17,501    | 0.87%       | 129          | 1.19%        | 0.73                          |
| Utah           | 10,148    | 0.51%       | 78           | 0.72%        | 0.71                          |
| Missouri       | 23,288    | 1.16%       | 189          | 1.74%        | 0.67                          |
| Iowa           | 11,880    | 0.59%       | 103          | 0.95%        | 0.63                          |
| Colorado       | 21,614    | 1.08%       | 188          | 1.74%        | 0.62                          |
| Nevada         | 9,858     | 0.49%       | 97           | 0.90%        | 0.55                          |
| North Carolina | 26,199    | 1.31%       | 310          | 2.86%        | 0.46                          |
| Maryland       | 17,564    | 0.88%       | 211          | 1.95%        | 0.45                          |
| Kansas         | 7,400     | 0.37%       | 90           | 0.83%        | 0.45                          |
| Vermont        | 1,659     | 0.08%       | 21           | 0.19%        | 0.43                          |
| Virginia       | 22,137    | 1.11%       | 309          | 2.85%        | 0.39                          |
| Kentucky       | 8,622     | 0.43%       | 123          | 1.13%        | 0.38                          |
| South Carolina | 8,153     | 0.41%       | 123          | 1.13%        | 0.36                          |
| New Mexico     | 3,743     | 0.19%       | 58           | 0.53%        | 0.35                          |
| Arizona        | 12,313    | 0.61%       | 196          | 1.81%        | 0.34                          |
| Georgia        | 20,149    | 1.01%       | 323          | 2.98%        | 0.34                          |
| Tennessee      | 12,356    | 0.62%       | 201          | 1.85%        | 0.33                          |
| Florida        | 34,851    | 1.74%       | 589          | 5.44%        | 0.32                          |
| Nebraska       | 3,667     | 0.18%       | 62           | 0.57%        | 0.32                          |
| Montana        | 1,341     | 0.07%       | 25           | 0.23%        | 0.29                          |
| Maine          | 2,028     | 0.10%       | 39           | 0.36%        | 0.28                          |
| Wyoming        | 777       | 0.04%       | 19           | 0.18%        | 0.22                          |
| Alabama        | 5,104     | 0.25%       | 132          | 1.22%        | 0.21                          |
| Louisiana      | 4,986     | 0.25%       | 140          | 1.29%        | 0.19                          |
| North Dakota   | 682       | 0.03%       | 21           | 0.19%        | 0.18                          |
| South Dakota   | 885       | 0.04%       | 27           | 0.25%        | 0.17                          |
| Arkansas       | 2,232     | 0.11%       | 76           | 0.71%        | 0.16                          |
| West Virginia  | 1,232     | 0.06%       | 45           | 0.41%        | 0.15                          |
| Mississippi    | 1,629     | 0.08%       | 68           | 0.63%        | 0.13                          |
| Hawaii         | 710       | 0.04%       | 47           | 0.43%        | 0.08                          |
| Alaska         | 306       | 0.02%       | 29           | 0.27%        | 0.06                          |

**Table 4**  
Determinants of Subsidiary Operations in Delaware

The table presents the results of estimating a logistic regression of an indicator for having a subsidiary in Delaware in a given firm-year (*Subsidiary in DE*) on variables that are predicted to influence the decision of where to incorporate a subsidiary. Variables are defined in Appendix B. All models include fixed effects for year and for the state of parent incorporation (unreported). Chi-square statistics, based on standard errors that are clustered by firm and year, are below the coefficients. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

|                                           | Prediction | Model 1               | Model 2               | Model 3               | Model 4               |
|-------------------------------------------|------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <i>Intercept</i>                          |            | -4.701***<br>(171.39) | -4.622***<br>(169.80) | -4.675***<br>(169.70) | -4.468***<br>(165.25) |
| <i>Log(N Subs in Separate States )</i>    | ( + )      | 0.301*<br>(3.63)      | 0.904***<br>(82.28)   |                       |                       |
| <i>Log(N Subs in NoNexus States )</i>     | ( + )      |                       |                       | 0.235*<br>(3.09)      | 0.881***<br>(65.94)   |
| <i>Avg State Statutory Tax Rate</i>       | ( + )      | 10.357***<br>(17.74)  | 16.720***<br>(73.64)  | 10.246***<br>(17.93)  | 19.330***<br>(100.42) |
| <i>Log(N Subs in Foreign Tax Havens )</i> | ( + )      | 0.857***<br>(61.25)   | 0.900***<br>(69.39)   | 0.851***<br>(60.12)   | 0.903***<br>(67.91)   |
| <i>Parent Incorporated in DE</i>          | ( + )      | 1.594***<br>(93.18)   | 1.476***<br>(90.02)   | 1.588***<br>(92.49)   | 1.381***<br>(77.83)   |
| <i>Net Operating Loss Carryforward</i>    |            | 0.186**<br>(4.48)     | 0.169*<br>(3.68)      | 0.188**<br>(4.56)     | 0.170*<br>(3.68)      |
| <i>Log(Total Assets )</i>                 |            | 0.364***<br>(41.68)   | 0.369***<br>(44.94)   | 0.362***<br>(41.03)   | 0.364***<br>(43.36)   |
| <i>Long-Term Debt</i>                     |            | 0.123<br>(0.15)       | 0.139<br>(0.19)       | 0.125<br>(0.15)       | 0.171<br>(0.29)       |
| <i>AdvertisingExpense</i>                 |            | 0.577<br>(0.12)       | 0.588<br>(0.12)       | 0.484<br>(0.08)       | 0.138<br>(0.01)       |
| <i>R&amp;D Expense</i>                    |            | -1.296<br>(1.51)      | -1.632<br>(2.44)      | -1.286<br>(1.49)      | -1.813*<br>(3.09)     |
| <i>Tobin's Q</i>                          |            | -0.041<br>(1.47)      | -0.037<br>(1.17)      | -0.041<br>(1.49)      | -0.037<br>(1.17)      |
| <i>Log(Firm Age )</i>                     |            | 0.034<br>(0.20)       | 0.058<br>(0.56)       | 0.027<br>(0.12)       | 0.040<br>(0.27)       |
| <i>Log(N Employees )</i>                  |            | -0.180**<br>(3.98)    | -0.180**<br>(4.11)    | -0.176*<br>(3.81)     | -0.159*<br>(3.27)     |
| <i>Avg Anti-Takeover</i>                  |            | 0.662**<br>(4.03)     | 0.474<br>(1.89)       | 0.776**<br>(5.86)     | 0.884**<br>(6.63)     |
| <i>Log(N US Subs )</i>                    |            | 0.715***<br>(17.93)   |                       | 0.799***<br>(35.59)   |                       |
| <i>Year Fixed Effects</i>                 |            | YES                   | YES                   | YES                   | YES                   |
| <i>State of Parent Inc Fixed Effects</i>  |            | YES                   | YES                   | YES                   | YES                   |

**Table 5**

**Regressions of State ETR on Proxies of Delaware PIC Activity**

This table presents the results of regressing a firm's annual state effective tax rate (*State ETR*) on proxies for Delaware PIC activity. *PIC Separate* is a proxy for firm-years likely to have a Delaware PIC strategy. The variable is an indicator set equal to one for firm-years in the upper tercile of number of subsidiaries located in separate filing states, the upper tercile of number of subsidiaries located in Delaware, and upper half of market to book. *PIC NoNexus* is second proxy for firm-years likely to have a Delaware PIC strategy. The variable is an indicator set equal to one for firm-years in the upper tercile of number of subsidiaries located in states that do not invoke economic nexus, the upper tercile of number of subsidiaries located in Delaware, and upper half of market to book. All other variables are defined in Appendix B. All models include fixed effects for year and for the state of parent incorporation (unreported). T- statistics, based on standard errors that are clustered by firm and year, are below the coefficients. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

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| Parameter                                 | Prediction | Model 1               | Model 2               | Model 3               | Model 4              |
|-------------------------------------------|------------|-----------------------|-----------------------|-----------------------|----------------------|
| <i>Intercept</i>                          |            | 0.095***<br>(20.87)   | 0.096***<br>(19.30)   | 0.095***<br>(20.93)   | 0.094***<br>(17.32)  |
| <i>PIC Separate</i>                       | ( - )      | -0.011***<br>(-4.73)  | -0.008***<br>(-3.42)  |                       |                      |
| <i>PIC NoNexus</i>                        | ( - )      |                       |                       | -0.009***<br>(-3.81)  | -0.007***<br>(-2.80) |
| <i>Avg State Statutory Tax Rate</i>       |            | 0.119***<br>(3.90)    | 0.098***<br>(2.95)    | 0.121***<br>(3.96)    | 0.117***<br>(3.77)   |
| <i>Log(N Subs in Foreign Tax Havens )</i> |            | 0.005***<br>(4.20)    | 0.005***<br>(4.39)    | 0.005***<br>(4.13)    | 0.005***<br>(4.40)   |
| <i>Parent Incorporated in DE</i>          |            | -0.033***<br>(-11.28) | -0.033***<br>(-10.81) | -0.033***<br>(-11.48) | -0.031***<br>(-8.15) |
| <i>Net Operating Loss Carryforward</i>    |            | -0.012***<br>(-5.24)  | -0.012***<br>(-5.25)  | -0.012***<br>(-5.20)  | -0.012***<br>(-5.24) |
| <i>Log(Total Assets )</i>                 |            | -0.001<br>(-1.39)     | -0.001<br>(-1.02)     | -0.001<br>(-1.43)     | -0.001<br>(-0.98)    |
| <i>Long-Term Debt</i>                     |            | -0.017***<br>(-3.17)  | -0.018***<br>(-3.40)  | -0.017***<br>(-3.20)  | -0.018***<br>(-3.48) |
| <i>Advertising Expense</i>                |            | 0.058**<br>(2.21)     | 0.061**<br>(2.31)     | 0.059**<br>(2.23)     | 0.064**<br>(2.41)    |
| <i>R&amp;D Expense</i>                    |            | -0.023<br>(-1.06)     | -0.019<br>(-0.86)     | -0.024<br>(-1.10)     | -0.019<br>(-0.86)    |
| <i>Tobin's Q</i>                          |            |                       | -0.001*<br>(-2.13)    |                       | -0.001**<br>(-2.14)  |
| <i>Log(Firm Age )</i>                     |            | -0.003**<br>(-2.37)   | -0.003**<br>(-2.69)   | -0.003**<br>(-2.37)   | -0.003**<br>(-2.62)  |
| <i>Log(N Employees )</i>                  |            | 0.003**<br>(2.47)     | 0.003**<br>(2.43)     | 0.003**<br>(2.49)     | 0.003**<br>(2.36)    |
| <i>Avg Anti-Takeover</i>                  |            | -0.000<br>(-0.16)     | 0.001<br>(0.49)       | -0.001<br>(-0.27)     | -0.000<br>(-0.06)    |
| <i>Log(N US Subs )</i>                    |            |                       | 0.005**<br>(2.22)     |                       | 0.002<br>(1.09)      |
| <i>Log(N Subs in DE )</i>                 |            |                       | -0.001<br>(-1.48)     |                       | -0.002<br>(-1.72)    |
| <i>Log(N Subs Separate States )</i>       |            |                       | -0.004*<br>(-1.96)    |                       |                      |
| <i>Log(N Subs NoNexus States )</i>        |            |                       |                       |                       | -0.001<br>(-0.42)    |
| Year Fixed Effects                        |            | YES                   | YES                   | YES                   | YES                  |
| State of Parent Inc Fixed Effects         |            | YES                   | YES                   | YES                   | YES                  |
| Number of Observations                    |            | 10,140                | 10,140                | 10,140                | 10,140               |
| Adjusted RSQ                              |            | 0.045                 | 0.046                 | 0.044                 | 0.045                |

**Table 6****Regressions of State ETR on Proxies of Delaware PIC Activity**

This table presents the results of regressing a firm's annual state effective tax rate (*State ETR*) on proxies for Delaware PIC activity, splitting the sample period (Panel A) and including firm fixed effects (Panel B). All variables are defined in Appendix B and Table 5. T-statistics, based on standard errors that are clustered by firm and year, are below the coefficients. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

*Panel A: Replication of Table 5 - Split the Sample Pre/Post 2002*

|                                   |                   | <b>Model 1</b>         | <b>Model 2</b>        | <b>Model 3</b>         | <b>Model 4</b>        |
|-----------------------------------|-------------------|------------------------|-----------------------|------------------------|-----------------------|
|                                   | <b>Prediction</b> | <b>Year &lt;= 2002</b> | <b>Year &gt; 2003</b> | <b>Year &lt;= 2002</b> | <b>Year &gt; 2003</b> |
| <i>Intercept</i>                  |                   | 0.078***<br>(8.72)     | 0.108                 | 0.079***<br>(8.83)     | 0.109                 |
| <i>PIC Separate</i>               | ( - )             | -0.012***<br>(-2.91)   | -0.009***<br>(-3.99)  |                        |                       |
| <i>PIC NoNexus</i>                | ( - )             |                        |                       | -0.012**<br>(-2.78)    | -0.007**<br>(-2.83)   |
| Control Variables                 |                   | YES                    | YES                   | YES                    | YES                   |
| Year Fixed Effects                |                   | YES                    | YES                   | YES                    | YES                   |
| State of Parent Inc Fixed Effects |                   | YES                    | YES                   | YES                    | YES                   |
| Number of Observations            |                   | 5,397                  | 4,743                 | 5,397                  | 4,743                 |
| Adjusted RSQ                      |                   | 0.052                  | 0.035                 | 0.052                  | 0.034                 |

*Panel B: Replication of Table 5 – Include Firm Fixed Effects*

| <b>Parameter</b>       | <b>Prediction</b> | <b>Model 1</b>      | <b>Model 2</b>      |
|------------------------|-------------------|---------------------|---------------------|
| <i>Intercept</i>       |                   | 0.003***<br>(6.40)  | 0.004***<br>(9.49)  |
| <i>PIC Separate</i>    | ( - )             | -0.005**<br>(-2.34) |                     |
| <i>PIC NoNexus</i>     | ( - )             |                     | -0.004**<br>(-1.92) |
| Year Fixed Effects     |                   | YES                 | YES                 |
| Firm Fixed Effects     |                   | YES                 | YES                 |
| Number of Observations |                   | 10,140              | 10,140              |
| Adjusted RSQ           |                   | 0.475               | 0.475               |

**Table 7**  
Industry Regressions of State ETR on Proxies of Delaware PIC Activity

This table presents the results of regressing a firm's annual state effective tax rate (*State ETR*) on proxies for Delaware PIC activity for each industry identified by Barth et al (1998). *PIC Separate* is defined in Table 5 and all other variables are defined in Appendix B. T-statistics, based on standard errors that are clustered by firm and year, are below the coefficients. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

|                                   |            | Bldg            |                   |                      | Electric          |                   |                 |                   |                    |                     |
|-----------------------------------|------------|-----------------|-------------------|----------------------|-------------------|-------------------|-----------------|-------------------|--------------------|---------------------|
| Parameter                         | Prediction | Materials       | Chemicals         | Computers            | Equip             | Extractive        | Food            | Instruments       | Machinery          | Metal               |
| PIC Separate                      | ( - )      | 0.007<br>(0.43) | -0.002<br>(-0.16) | -0.017***<br>(-3.24) | -0.011<br>(-1.09) | -0.006<br>(-0.78) | 0.003<br>(0.31) | -0.005<br>(-0.78) | -0.018*<br>(-1.67) | -0.011**<br>(-2.00) |
| Control Variables                 |            | YES             | YES               | YES                  | YES               | YES               | YES             | YES               | YES                | YES                 |
| Year Fixed Effects                |            | YES             | YES               | YES                  | YES               | YES               | YES             | YES               | YES                | YES                 |
| State of Parent Inc Fixed Effects |            | YES             | YES               | YES                  | YES               | YES               | YES             | YES               | YES                | YES                 |
| Number of Observations            |            | 324             | 546               | 1,999                | 507               | 492               | 255             | 959               | 705                | 497                 |
| Adjusted RSQ                      |            | 0.143           | 0.108             | 0.066                | 0.069             | 0.144             | 0.176           | 0.069             | 0.061              | 0.063               |

|                                   |            | Transport       |                   |                     |                   |                 |                   |                   |                   |                              |
|-----------------------------------|------------|-----------------|-------------------|---------------------|-------------------|-----------------|-------------------|-------------------|-------------------|------------------------------|
| Parameter                         | Prediction | Retail          | Other             | Pharma              | Restaurant        | Services        | Textiles          | Equip             | Wholesale         | Average                      |
| PIC Separate                      | ( - )      | 0.004<br>(0.52) | -0.017<br>(-1.14) | -0.025**<br>(-1.94) | -0.005<br>(-0.02) | 0.006<br>(1.05) | -0.002<br>(-0.21) | -0.004<br>(-0.44) | -0.000<br>(-0.01) | <b>-0.006***<br/>(-2.70)</b> |
| Control Variables                 |            | YES             | YES               | YES                 | YES               | YES             | YES               | YES               | YES               | YES                          |
| Year Fixed Effects                |            | YES             | YES               | YES                 | YES               | YES             | YES               | YES               | YES               | YES                          |
| State of Parent Inc Fixed Effects |            | YES             | YES               | YES                 | YES               | YES             | YES               | YES               | YES               | YES                          |
| Number of Observations            |            | 204             | 729               | 455                 | 49                | 816             | 625               | 371               | 412               | <b>585</b>                   |
| Adjusted RSQ                      |            | 0.208           | 0.143             | 0.136               | 0.615             | 0.155           | 0.056             | 0.050             | 0.058             | <b>0.137</b>                 |

**Table 8****Regressions of State Tax Collections on State Tax Characteristics**

The dependent variable is the log of each state's corporate tax collections for the year. *Combined Filing Required* indicates the state required combined filing during the year. *Economic Nexus Invoked* indicates that the state had an economic nexus doctrine in place during the year. *Throwback Provision* indicates the state had a sales throwback provision during the year. *Addback Provision* indicates the state had an expense disallowance addback provision during the year. *High Sales Weight* indicates the state weighted sales greater than 33% in its apportionment factors for the year. *Statutory Tax Rate* is the top state corporate statutory tax rate for the year. *State GDP* is the state's gross domestic product for the year. Alaska and Hawaii are excluded because of missing data on state tax characteristics. Nevada, Wyoming, Michigan, South Dakota, Washington, and Texas are excluded because they did not have traditional corporate tax statutes throughout the sample period. T-statistics based on standard errors clustered by state are in parentheses below the coefficient estimates. \*\*\*, \*\*, and \* represent statistical significance at the 1%, 5%, and 10% levels, respectively.

|                                     | Prediction | Model 1             | Model 2            |
|-------------------------------------|------------|---------------------|--------------------|
| <i>Intercept</i>                    |            | 2.289***<br>(2.94)  | 0.519<br>(0.13)    |
| <i>Combined Filing Required</i>     | (+)        | 0.107<br>(1.05)     | 0.123**<br>(2.51)  |
| <i>Economic Nexus Invoked</i>       | (+)        | -0.023<br>(-0.20)   | 0.133***<br>(4.25) |
| <i>Throwback Provision</i>          | (+)        | 0.167<br>(1.58)     | 0.124***<br>(3.16) |
| <i>Addback Provision</i>            | (+)        | -0.010<br>(-0.13)   | 0.009<br>(0.16)    |
| <i>Sales Factor Weight &gt; 33%</i> | (+)        | 0.181<br>(1.49)     | -0.016<br>(-0.19)  |
| <i>Statutory Tax Rate</i>           | (+)        | 0.455***<br>(3.33)  | 0.276***<br>(3.20) |
| <i>State GDP</i>                    | (+)        | 0.985***<br>(16.70) | 1.157***<br>(3.36) |
| State Fixed Effects                 |            | NO                  | YES                |
| Year Fixed Effects                  |            | NO                  | YES                |
| Number of Observations              |            | 630                 | 630                |
| Adjusted RSQ                        |            | 0.851               | 0.967              |

**Table 9**  
**Market Reactions to Passive Investment Company (PIC) Press Coverage and Court Cases**

This table examines the abnormal market reaction to press coverage and court cases related to Passive Investment Company tax shelters in Delaware. Abnormal returns are measured as the cumulative three-day return for the firm less the benchmark return based on the firm's size and book-to-market. In Panel A, we examine the market returns of 28 firms listed in a Wall Street Journal Article on the date of the article compared to 60 randomly chosen control dates. In Panel B Model 1 and Model 2 we estimate the market reaction of all firms in our sample with available returns data to five case dates relative to sixty randomly selected control dates. In Model 3, we estimate the market reaction of all firms in our sample on the Wall Street Journal Article date relative to sixty randomly selected control dates.

*Panel A: Regression Analysis of Mean Abnormal Return in Three Day Window Surrounding Publication Date of Negative PIC Article in the Wall Street Journal*

| Variable                | Prediction | Model 1 | Model 2   |
|-------------------------|------------|---------|-----------|
| <i>Intercept</i>        | ( 0 )      | -0.000  | 0.000     |
|                         |            | (-0.02) | (0.26)    |
| <i>WSJ Article Date</i> | ( - )      |         | -0.019*** |
|                         |            |         | (-8.54)   |
| Number of Observations  |            | 1,666   | 1,666     |
| Adjusted RSQ            |            | 0.000   | 0.003     |

**Table 9 (continued)**

Market Reactions to Passive Investment Company (PIC) Press Coverage and Court Cases

*Panel B: Regression Analysis of Sample Firms' Abnormal Returns in Three Day Windows Surrounding Five Court Decisions related to Delaware PICs (Models 1 and 2) or a Three Day Window Surrounding Publication Date of Negative PIC Article in the Wall Street Journal (Model 3).*

| <b>Variable</b>                        | <b>Prediction</b> | <b>Model 1</b> | <b>Model 2</b> | <b>Model 3</b> |
|----------------------------------------|-------------------|----------------|----------------|----------------|
| <i>Intercept</i>                       | ( 0 )             | 0.001*         | -0.005         | -0.004         |
|                                        |                   | (1.69)         | (-1.20)        | (-1.14)        |
| <i>PIC Separate</i>                    |                   | 0.001          | 0.001          | 0.001          |
|                                        |                   | (1.60)         | (1.32)         | (1.16)         |
| <i>Case Date</i>                       |                   | 0.001          | 0.002          |                |
|                                        |                   | (0.65)         | (1.05)         |                |
| <i>PIC Separate * Case Date</i>        | ( - )             | -0.001         | -0.001         |                |
|                                        |                   | (-0.46)        | (-0.46)        |                |
| <i>WSJ Article Date</i>                |                   |                |                | 0.001          |
|                                        |                   |                |                | (0.42)         |
| <i>PIC Separate * WSJ Article Date</i> | ( - )             |                |                | -0.011***      |
|                                        |                   |                |                | (-12.21)       |
| Year Fixed Effects                     |                   | NO             | YES            | YES            |
| State Fixed Effects                    |                   | NO             | YES            | YES            |
| Control Variables                      |                   | NO             | YES            | YES            |
| Number of Observations                 |                   | 32,550         | 32,550         | 30,220         |
| Adjusted RSQ                           |                   | 0.000          | 0.002          | 0.000          |

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