Corporate Governance Law: Firm Heterogeneity and the Market for Corporate Domicile

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Abstract

This paper uses a discrete choice framework to analyze state design and firm choice of the implications of incorporation: corporate governance laws, corporate taxes and court features. Firms — differentiated by ownership, management, industry concentration, financial profile and unobservable dimensions — freely choose their preferred state of incorporation or reincorporation for each financial year. The revealed preference embedded in these many observable choices allows for the identification and quantification of the differential corporate governance preferences within and across firms. For example, we find that on average, firms like antitakeover statutes, but, consistent with an agency story, firms with an institutional shareholder block and venture capital backed firms dislike them. On average, firms dislike mandatory governance statutes restricting managerial power and facilitating the representation of minority shareholders; however, firms in concentrated industries are much less influenced by these laws. Additionally, all firms dislike well functioning courts, consistent with a litigation deterrence motive. We also find that firms are very responsive to incorporation and franchise taxes, which allows us to quantify their preferences for law and court features. Counterfactual policies aimed at creating uniform federal law and restricting firm choice are simulated using the firm specific preferences recovered from our model.

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1 Introduction and Motivation

Corporate governance law are the set of statutory and common law rules that "govern" the internal and external agency issues that exist within a corporation. In the U.S. these rules have an unusual structure. The majority of corporate governance issues are not regulated by the federal government. Each of the 51 U.S. jurisdictions designs its own corporate governance environment by developing governance regimes that are applied to all firms incorporated therein. Firms choose in which state to incorporate or reincorporate.[1] This is a legal choice that does not constrain the physical location of the firms' activities. In choosing a state of incorporation firms choose to submit themselves to the legal and tax regime they view most favorably. Under the internal affairs doctrine, the laws of the state of incorporation apply to internal conflicts within the firm (compare Stevelman 2009). State law also carves out the residual freedom offered to firms for the design of their corporate charters.[2] This combination of the laws and the firm charter completes firms' governance structure. The responsibility for the regulation of corporate governance has been repeatedly granted to the states and then taken back by the federal government in times of crisis (see Mallette and Spagnola, 1994).[3] The current legal structure as well has been the subject of recurring analysis and discussion in both the media and legal academic work. There is widespread disagreement regarding the implications and desirability of this disaggregated system of firm governance. This paper shows that this unusual legal structure granting firms unrestricted choice of an incorporation venue presents a rare opportunity to identify the revealed preferences for governance regimes amongst the firms' many constituencies. These preferences can then be taken back to the analysis of the current legal structure as well as to the simulation of the implications of alternative policy proposals aimed at removing state design and firm choice of governance law. They can also be used to test and quantify agency conflicts as they manifest in this key choice of governance.

In order to exploit the information revealed in the preferences displayed by the different firms, a novel dataset with firm and incorporation characteristics is assembled and a random coefficient discrete choice model is specified. In the model, incorporation is treated as a "product" that the states design and is differentiated along all of the dimensions of the implications of incorporation, including the direct "price" – the tax implications incorporation imposes on each firm. In every one year period, each heterogeneous firm chooses its preferred "product" by choosing to incorporate, to remain incorporated, or to reincorporate in one of the 51 U.S.

[1] American corporate law generally requires manager initiation and shareholder approval of a reincorporation decision.

[2] In this paper, for convenience, we often use the term charter to refer to the bylaws and all other internal governance tools used by the firm.

[3] Mallette and Spagnola, 1994, discuss how states surrendered their common law authority to the federal government in the Great Depression era, took much of it back in the merger wave of the 1960′s, were halted by the Supreme Court *Edgar* vs. *Mite* (1982) decision which struck down a protectionist statute as constricting interstate commerce, and then given new freedom in *CTS Corporation* v. *Dynamics Corporation of America* (1987) where the Supreme Court upheld Indiana's takeover statute. It is this decision that is seen as largely responsible for the huge wave of legislation, particularly concentrated in the late 80's and early 90's.

jurisdictions. Firms are decomposed into their ownership patterns, director characteristics, industry concentration, financial profiles, geographical location of their headquarters, and residual unobservable heterogeneity. The choice of incorporation state — a key governance decision — is made based on the firm specific preferences for the laws, court characteristics, and tax rules that comprise the incorporation implications. Our estimates reveal and quantify firm preferences for incorporation characteristics and how differences in firm ownership, management and industry — which reflect the agency conflicts amongst these competing firm constituencies — generate the different firm choices for incorporation. We then use our estimates to simulate the impact of a reform in governance laws restricting the flexibility of states to design their own laws.

We find that there is substantial heterogeneity in the laws, taxes, and performance of the relevant state courts. Over the course of the entire time period covered $(1990 - 2007)$, there is also legislative activity across many states, although at much lower levels than the late $1980's$ and early $1990's$. This, coupled with the heterogeneity in the cross section and time series of firm characteristics, is the reason a rich set of firm specific preferences can be identified. There is much heterogeneity in the choices of firms as well. There is a significant tendency to incorporate in the 51 jurisdictions in which the firms' headquarters is located, as well as a growing trend — both amongst IPO firms and existing public firms — to shop for a preferred incorporation venue. There is thus significant variance in the choice of the state of incorporation both in the time series and in the cross section. Many states make little effort and have little success in retaining firms located within their jurisdiction and especially in recruiting firms located elsewhere. However, there are several incorporation "hot spots", notably Delaware, Nevada and Maryland, and there are a number of states that expend significant efforts to convince firms to incorporate in their jurisdiction. Contrary to what is commonly believed, Delaware — the leader in the share of firms incorporation therein — is not a monopoly. The dispersion of incorporation shares and the revenues from incorporation, franchise and even corporate income taxes, in the cross section and the time series, reflects the variance and concentration in incorporation choices.[4] All incorporation implications — the laws, the court characteristics and the incorporation taxes — matter, albeit in differing magnitudes.

Regarding the corporate governance laws, we find mean preferences consistent with the expected preferences of management. Firms generally like antitakeover legislation, dislike mandatory laws restricting managerial privileges, and dislike laws restricting the flexibility in making shareholder payouts. This agency view of mean firm preferences is reinforced by looking at individual firm heterogeneity. Using a regression discontinuity approach to control for selection endogeneity, we find that firms with sophisticated shareholders — institutional shareholders or venture capital backed firms — that have sizeable holdings in the firm, dislike antitakeover laws. In other words, the mean preference for antitakeover laws is reversed in firms in which shareholders are more powerful, thus reinforcing the view that when shareholders have more authority they choose a more convenient regime for takeovers. Firms in more concentrated

[4] Figures on the dispersion of these measures will be available in an online appendix.

industries do not display statistically significant different preferences for antitakeover laws, but, contrary to the mean firm, are not influenced by the existence of mandatory laws restricting managerial freedoms. Unobserved heterogeneity plays an important role for these laws. In addition, there is a life cycle pattern in these preferences, whereby older firms have an even stronger preference for antitakeover laws, but are less constrained by the mandatory laws restricting managerial privileges. The personal characteristics of managers and directors that we collect are not statistically significant drivers of incorporation decisions.

Delaware is the only jurisdiction with a Court of Chancery that specializes in internal corporate disputes. This court is widely perceived to be a key benefit of incorporating in Delaware. Given its uniqueness, however, we cannot compare the Delaware court to other courts and therefore its benefits are captured by the Delaware fixed effect. We estimate firm preferences for the characteristics of the courts in all other jurisdictions and find the mean firm to prefer backloaded courts at both the trial and appellate level. Firms with significant levels of institutional ownership exhibit an even stronger preference for backloaded courts at the appellate level, but prefer well functioning courts at the trial level.

Our estimates of firm preferences for the taxes directly related to incorporation, reveal a high price elasticity. Firms dislike taxes to such a degree that they respond to tax changes by reincorporating even when the increases in taxes are very small. We show, both in the general model — which accounts for the changes over time in the tax rates and the changes in the individual liability of a given firm when its tax base changes — and by using a natural experiment of two tax changes in 2003, that firms are highly sensitive to the incorporation taxes despite their relatively small magnitudes. We use the preferences for this "price" of incorporation to quantify the value of the different laws and other features of the incorporation venues. State corporate income taxes, which are related to incorporation only in very limited settings, but suspected to be highly manipulated, are not found to be instrumental in the incorporation choice.

The recovered firm specific preferences are used to measure the impact of federal interventions in state governance laws. Consistent with some of the plausible federal reforms that have surfaced,[5] we simulate the choices that would be made under counterfactual policies that eliminate the differences in governance law. We find that the laws change firm incorporation choices and impact the desirability of some of the popular incorporation alternatives. Consistent with the findings above, many of the incorporation implications matter. This can help or hurt the various states. For example, the state of Delaware increases its share of firms, while Maryland and Nevada decrease their respective shares. Furthermore, under the counterfactual policy, states attract different types of firms. Thus, for example, states that attracted firms with their extreme takeover laws will lose some firms with powerful management and attract more firms with powerful shareholders.

[5] See for example claims made by (then) Senator Obama in the second presidential debate (Belmont University, 10/2/2008), and Carl Ichan, "Capitalism Should Return to Its Roots" (WSJ, 2/9/2009).

These findings contribute to the large corporate finance literature on whether corporate governance regimes matter to firms in general and to firms of a specific type in particular. This literature generally focuses on the internal corporate governance mechanisms and bylaws and asks whether firms that choose more shareholder protection and power are "better" using a variety of measures. Gompers et al. (2003, "GIM") show higher returns, value, profits, sales and growth, but lower capital expenditures and fewer corporate acquisitions. The "better" and "worse" firms are determined (in what is now termed the GIM index), using a cumulative score for the presence of the good and the absence of the bad governance mechanisms. Cremers and Nair (2005) find the premiums to result from buying and shorting firms with high ownership concentration. Giroud and Mueller (2010) find that the GIM index matters primarily for firms in noncompetitive industries. Masulis et al. (2007) connect these governance provisions to acquirer returns and find that acquirers with "better" GIM scores and those operating in more competitive industries, experience higher abnormal returns. Cu$\widetilde{n}$at et al. (2011) use a regression discontinuity approach and find that the passage of corporate governance provisions, especially those in the GIM index, generates significant abnormal returns and has positive real effects on firm behavior. The interpretation of these findings vary. Core et al. (2006) conclude that the mispricing is most likely a correlation with one of the "pricing" puzzles of the 90's. Bebchuk et al. (2009), criticize the GIM index and claim that only six of the measures drive the results. Brown and Caylor (2006) propose using alternative measures, including different internal governance provisions and measures of ownership composition.

This paper contributes to this literature therefore by examining how **all** features of firms relate to the choice of governance **law**. The advantage of this approach is that we can fully characterize a well defined firm choice and from it cull the significance of both the state governance provisions and all the measured varying firm characteristics. Rather than looking at a specific feature of firms (for example, ownership concentration), all features are examined jointly within the firm specific utility function specified, thus allowing for their comparison and interaction. This paper's findings showing and quantifying how much governance features matter to different firms are directly relevant to the work on internal governance. As we discuss below, these findings challenge and complement existing work on the impact of governance rules.

This paper also directly contributes to the legal literature by evaluating the merits of the freedoms offered to states and firms in designing and choosing incorporation venues. There are three main approaches in this literature: (1) some see there to be active competition between states (or at least some of them) to attract firms (for example Romano, 1985, 2006); (2) some see the state of Delaware to have won and there now not to be any competition (for example Kahan and Kamar (2002), and Bebchuk and Hamdani (2002)); and (3) some see the competition to be more with the interventions (actual or potential) of the federal government (Roe (2003)). Furthermore, within the first approach there is a debate as to whether competition is positive in the sense that it induces states to generate "good" laws that promote firm (and shareholder) value ("A race to the top", Winter (1977), Easterbrook(1983), Fischel (1982)), or negative in

that it may induce states to cater to management Some even claim these negative effects of competition warrant federal intervention ("A race to the bottom", beginning with Nader (1976) and Cary (1974)). Furthermore, Delaware's success has received specific attention. Daines (2001) finds that Delaware firms have a higher Tobin's Q. Subramanian (2004) finds the Delaware effect to be decreasing and after 1996 eliminated. In analyzing the incorporation decision of firms at IPO, Daines (2002) does not find the variation in state law to be a significant driving force. Kahan (2006) finds that state laws and court quality affect the proportion of firms located in the state that at IPO remain incorporated therein.

This paper specifies and collects novel data on all incorporation implications and estimates the firm specific preferences for them across a long panel of years. Our approach is to combine the insights from both the law and the corporate finance literatures. The model takes the attributes of firms found to be correlated with the differential performance of better governed firms (as well as other measures not yet examined in the literature), and the laws, and relates them to the fundamental *choice* of law and incorporation venue that firms make. We show qualitatively and quantitatively that state laws matter differentially to different firms and these differences can be related to the preferences firms have for their respective governance environments. The recovery of firm specific preferences then also allows for the (previously unexplored) simulation of counterfactual policies.

Furthermore, while this work addresses the divergence in preferences in the context of the incorporation choice, our findings are related to the broader issue of how the firm equilibrates the competing constituencies. For example, our findings regarding institutional shareholder preferences relate to the literature analyzing the impact of the growing institutional shareholder holdings (see for example Aghion et al. 2008). Similarly, our findings on venture backed firms relate to the literature on the firms' life cycle and the venture capital cycle in particular (see for example, Gompers and Lerner 2004). Our findings on the conflicts of interest between management and shareholders is a novel test for agency conflicts, whereby we zone in on an important fundamental decision for which incentives are different and show the divergence in preferences.

On the methodological side, this paper imports and adapts the canonical framework of the random coefficients discrete choice problem commonly used in industrial organization applications (see example Berry Levinsohn Pakes 1995, 2004, Nevo 2000, 2001) to a finance setting where individual firm choice and many degrees of firm heterogeneity are observable. This setting has advantages over the original industrial organization applications: First, the product (incorporation) is the sum of all the observable characteristics we collect; it is a composition of characteristics by construction.[6] Second, there is variation in all product characteristics over time, which facilitates the controls for unobservables, and there is wide variation in the tax base, schedule and rates across jurisdictions, which provides rich price variation. The treatment of

[6] This, compared to the canonical examples of cars and cereals which must be decompose into characteristics by the researcher.

endogeneity uses instruments based on a regression discontinuity design, thus exploiting the randomness inherent in the inclusion in the S&P 500 index, and the non-linear choice structure is accounted for using a control function approach. Counterfactual policy analysis relates to the changes in the aggregate incorporation shares as well as to the makeup of firm heterogeneity in the various jurisdictions under the alternative policy.

The paper is structured as follows. Section 2 presents and describes the data and characteristics that are inputs into the model. Section 3 discusses the model and estimation strategy. Section 4 presents the results. We first present and discuss the results from the full model and then grant incorporation taxes special treatment and provide a reduced form analysis of two tax changes in 2003. Section 5 discusses the simulation of counterfactual policies. Section 6 concludes and discusses possible extensions.

2 Data

This section describes the features and data relating to the incorporation package as well as the relevant firm attributes. Our goal was to collect and test a comprehensive set of all features of states that could directly or indirectly influence incorporation, as well as a rich set of firm characteristics over time.

The main objectives in choosing an incorporation state mentioned in the legal literature are the establishment of takeover defenses, the reduction in director liability, obtaining legal flexibility and predictability, achieving tax and franchise fee savings, reconciliation of operating and legal domicile, and the facilitation of acquisitions (see Heron and Lewellen (1998)). Formal and informal online discussions by law firms and organizations suggest corporations consider their home state, and other options such as Delaware, Nevada, and Wyoming. Firms compare the business laws, the level of advancement of the legal systems, the other firms incorporated therein, the prestige of the various incorporation choices, the tax mentality, and the costs of being incorporated away from home.[7] These considerations are an expression of preferences for governance mechanisms. Consequently, these are the features we collect and focus on in the model.

2.1 Firms and Firm Characteristics

This paper focuses on publicly traded firms. Compustat data treats incorporation and location as scalar variables which are updated to the most recent value and consequently cannot be used for the time series. Thus, the main data source for firm incorporations and reincorporations is the actual SEC filings, as contained in the monthly SEC disclosure CDs. This data comes from the 10Ks and 10Qs filed by all public firms. For consistency, we used the data from the CDs

[7] For examples see www.mynewcompany.com/whichstate.htm; http://www.bizfilings.com/products/articles/which_state_to_inc.asp; and www.incnow.com/faq.shtml (all current on 7/03/12).

beginning in 1990 and supplemented it with data from compustat back-tapes.[8] Firms are tracked over time using their cusips, tickers and gvkeys. This implies that only reincorporations leaving one of these identifiers intact are analyzed.[9] While this approach excludes some movements, it keeps those that are more likely to be directly related to a preference for the new state's product and not the result of other restructuring done with different motivations and for other objectives. The data on IPOs comes from Thompson SDC. There are roughly 2500 movements in the sample period. This is consistent with previous literature that uses other approaches, such as randomly sampling and manually checking a subset of the firms.[10]

2.2 Price - Incorporation and Franchise Taxes

2.2.1 Overview

Taxes are the most direct price imposed on and paid by firms. States choose the taxes imposed on all firms operating or domiciled therein. There is considerable variance in the tax implications of incorporation in the different states. The two main taxes that are generally directly related to the choice of incorporation are the incorporation or organization tax and the franchise tax. Both of these taxes generally have one of several unusual bases: the amount of the firm's actual or assumed par value capital, the number of authorized shares (the maximum number of shares management can issue without obtaining further shareholder approval), or the total paid in capital. There is also variation across states and over time in the maximum amount of tax levied and in the manner in which these taxes are calculated. The difference between the two taxes is that the incorporation tax is paid first upon incorporation and then upon any increase in the relevant base. Thus, for example, if authorized shares is the tax base and a firm decides to increase its number of authorized shares it will generally pay a tax which is a function of the number of *additional* authorized shares. There is, therefore, an implied penalty for moving to a different state that charges such a tax, since in doing so the firm will have to pay the incorporation tax rate on the full amount. Franchise taxes are computed from a similar base, and are paid annually.

The unusual base of authorized shares, which can be very different from the number of shares issued, is largely arbitrary. The number of authorized shares is in the financial statements, but is not collected by Compustat or any other electronic database we are aware of. It does, perhaps, reflect the power and flexibility management has in making large expenditures without issuing debt, and in combating takeovers. However, it is difficult to see the connection between this firm *choice* of base and the potential implications it has on the balance of shareholder-management power. It also seems rather easy to manipulate. There is significant price variation, stemming

[8] The only further potential step to track all reincorporations would be to look at the SDC merger data and isolate mergers in which the accounting survivor is the new firm created solely for the purpose of reincorporation. From our discussions with the team compiling Compustat data, this is not a common or significant occurrence.

[9] This will not be the case if there is a merger in which the accounting survivor is a new firm created for the reincorporation process.

[10] Compare Rauh (2006) suggesting that about 5% of firms reincorporated over a 13 year period.

not only from the cross section and time series variation, but also from different firms being subjected to different prices (across the different jurisdictions), depending on their tax base and their location in the previous period. See Kahan and Kamar (2001) for a discussion of this price variation.

The variance in taxes comes from other rules as well. Some states tax firms — both those incorporated in the state and those incorporated elsewhere — based on the capital they own which can be attributed to the state. Thus, for several states (and consequently for several choice alternatives) the choice of incorporation conditional on fixed business locations will not entail any tax implications at all. Finally, these taxes are very small. Even for the large public firms considered, the taxes generally do not exceed a few hundred thousand dollars a year, and are often much less. In fact, most jurisdictions do not impose a tax at all.

The legal literature has generally treated these taxes as *de minimus*, due to their relatively small size, and they therefore have not received much analysis. However, if these taxes do not matter, they are a distortion-free way for states to collect huge tax revenues. Taxes should matter to states, just as prices matter to firms regardless of the market power they have in their industry. And while we observe lethargy in the states' adaptation of their governance laws, states do, undoubtedly, care about their budgets. Incorporation and franchise tax revenues can be sizeable. For the state of Delaware, revenues from franchise and incorporation taxes alone account for between a third and a quarter of the state's revenue. These revenues are almost entirely profits. Roberta Romano (1998) estimates the costs of serving the incorporated firms in the state of Delaware to be under 3% of these revenues. Indeed, Delaware's 2003 franchise tax increase was explicitly motivated by the desire to shrink its expected budget deficit. Alternatively, if taxes do matter, and they (at least in some jurisdictions) have real effects on firm behavior – if firms have non-zero elasticities to these taxes, these elasticities can be used to price the preferences for the governance arrangements that firms care about.

Franchise taxes do not seem to be irrelevant even for public firms. The maximum annual franchise tax in Delaware is now, after a 10% increase in 2003, $\$165,000$. Firms that have a minimum of \$660M in assets and \$26.4M in authorized shares will pay the maximum tax. However, since the tax base depends on authorized (not issued) shares, firms with a high ratio of authorized to issued shares (a common phenomenon) could have significantly fewer assets and still pay the maximum rate. The Delaware State Bar Association commonly bemoans the adverse effects of tax increases on the number of incorporations. Firms also cite differential franchise tax rates as a reason for migrating out of Delaware. Finally, perhaps consequently, Delaware invests significant resources in justifying the taxes, claiming investments in improving the quality of its system, particularly in the time periods close to tax increases (compare Barzuza 2004). A source of revenue responsible for such a large share of the state budget should be carefully calibrated.

2.2.2 Incorporation and Franchise Tax Rates: Data

We manually constructed the time series of all incorporation and franchise taxes for the 51 U.S. jurisdictions by locating the state laws in which the taxes are imposed and then looking back at all their amendments since 1990. The CCH research network and their (older) paper volumes were useful in this regard, as well as the Lexis-Nexis and Westlaw databases. Appendix 3[11] details the incorporation and franchise tax rates for the jurisdictions for which incorporation has tax implications. When the state of incorporation has no effect on the tax, we omit the rates. When the cap on the tax is lower than $\$10,000$ we list the cap. Data for the firm tax base is taken from Compustat or disclosure CDs. The authorized shares are approximated by the total number of shares issued. Thus the tax amounts are biased downward. The necessary assumption made here is that there is no clear systematic bias (correlated with the price elasticities) in the gap between authorized and issued shares.

2.3 SCIT: A Product Characteristic

2.3.1 SCIT: Background

The third tax considered, the State Corporate Income Tax (SCIT), is different in that it is not closely linked to incorporation. The SCIT is apportioned between the states with which the firm has "nexus". While, generally, nexus is established by incorporation, it can also be established by having property or a place of business in the state (a commonplace reality when conducting business therein). SCIT are levied using a formula weighting sales, employment and property. The apportionment base largely overlaps with the nexus base. Non business income is taxed at what is determined to be the home state. This home state is also not necessarily the state of incorporation. Furthermore, some states have a "throwback rule",[12] which stipulates that if there is no tax in the states in which the income is generated (usually where the product or service is sold), then the income is "thrown back" to the state from which the product or service was shipped or provided. Here too, the determination of this state will likely be related to the place of income generation rather than incorporation. There is a physical presence criterion.[13]

There is, however, likely a connection between the location and domicile of a corporation. These decisions are often made together. In other words, firms may weigh the incorporation

[11] Will be made available in an online appendix.

[12] Arizona, Connecticut, Delaware, Florida, Georgia, Iowa, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Nevada, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Virginia, Washington, West Virginia, and Wyoming do NOT have this rule.

[13] There is also the issue of the difference in reporting criteria across states. For example, Delaware does not tax intangible property, which incentivizes firms to establish a subsidiary in Delaware with trademark rights and to funnel significant earnings into this untaxed subsidiary. These types of phenomenons have encouraged states (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Illinois, Kansas, Maine, Minnesota, Montana, Nebraska, New Hampshire, New York (recently adopted), North Dakota, Oregon, Texas, Utah, Vermont and West Virginia (recently adopted)) to pass combined reporting laws requiring that income from all subsidiaries is reported together and taxed together. This may facilitate more deductions of losses across firm parts, but also combats questionable transfers of income to subsidiaries located in favorable (tax) jurisdictions. However, once again, this is all related to the corporate income base, and therefore should not directly affect incorporation.

features jointly with the location features and thus indirectly be influenced by the SCIT. The SCIT also affects some of the "tax ratings" of the states, which do not explicitly and transparently separate taxes by their varying incidences (i.e., by whether they require physical activity in the state). They contribute to the overall "feel" of the tax burden therein – a factor which may have an effect as well.[14] Firms may also "punish" states that are taxing them at high rates by incorporating elsewhere. Furthermore, there are situations in which a firm may not have nexus to the state (other than through incorporation), but may still owe the state a significant amount of taxes should nexus be established. Such may be the case if sales made in the state are the only connection to it.[15] In these cases incorporation may indeed have an effect. Finally, it is commonly perceived that there is gaming of the system in a variety of ways, some of which may relate to this choice of incorporation.[16]

2.3.2 SCIT: Data

The SCIT rates were manually collected and coded from the hard copies of each year's Book of States. A look at the data in the Appendix, [17] reveals wide variance in the cross section of rates, and many changes over time.

2.4 State Laws

2.4.1 Background

The governance laws relate to shareholder power, managerial benefits and discretion, and takeovers (see the definitions of all laws in appendix A1). State laws can be categorized as pro shareholder or pro management. However, there is some ambiguity in this categorization (compare Kahan (2006)). Thus, for example, provisions like control share cash-out or fair price provisions protect shareholders, but in doing so also make takeovers more costly. There is a trade-off and such provisions are harmful only if their effect is primarily to deter shareholder-wealth enhancing takeovers. The prevalent opinion in the legal literature is that the takeover laws are shareholder-wealth decreasing (see Romano, 1983, Karpoff and Malatesta 1989). This opinion is largely based on event studies of the stock market reaction to the passing of takeover laws, and likely shapes perceptions in firms. In this paper, we estimate the varying preferences for these laws and then discuss their relation to the desirability of the laws.

Furthermore, there is variation in the status of laws; some are mandatory and others are enabling. Firms can choose to opt out of enabling laws, although enabling laws differ in the quorum required within a firm to opt out. Both mandatory and enabling laws likely influence firms, but in different ways. Opting out of these laws is rare (see for example, Subramanian

[14] See for example www.learnaboutlaw.com (current 7/02/12)

[15] The Commerce Clause in the Constitution is generally considered to prohibit states from taxing firms from other states based solely on sales to their residents.

[16] Compare a recent New York Times piece "How Delaware Thrives as a Corporate Tax Haven" (7/1/2012).

[17] Will be made available online.

2002), and defaults behaviorally do matter (compare, for example, Madrian and Shea, 2001). By and large, corporate law is enabling. However, laws serve as the background for negotiations between managers and shareholders when there are conflicts of interest. The differential status given to these laws in different jurisdictions reflects different policy and legislative environment, which are relevant to firm choice.

2.4.2 Data

The current versions of state laws can be found in Lexis and Westlaw. Westlaw is particularly helpful because it tracks many of the changes over time in the laws and so it facilitates the construction of a panel. Given the incompleteness of these sources, as well as the varying structure and language of the laws in the 51 U.S. jurisdictions, we used a variety of other sources as well. For some of the laws, the Model Business Corporations Act Annotated, has (incomplete) comments on the states adopting the provisions of, or similar provisions to, those included in this codex. Many of the laws related to takeovers are also tracked by the State Takeover volumes published by the IRRC (see for example, Pinnell 2000). There are also up-to-date takeover watch databases (including, for example, SharkReppellent.net), which track some of the laws relating to takeovers.

Following the previous legal literature, we found it useful to reduce the dimensionality and exposition of our results by categorizing several of the laws into indices. The first, the ATS index, is comprised of the five antitakeover statutes found to be important by Bebchuk and Cohen (2003). These include control share acquisitions, expanded constituencies, fair price, business combination, and poison pill endorsement laws. As explained in the Appendix, these laws, while often relating to shareholder rights more generally, offer protections to firms from takeovers. Control share acquisition laws require a disinterested shareholder vote to grant a new large shareholder voting rights. This shareholder vote is an impediment to takeovers, but also provides some protection to shareholders against coercive bids, and thus some see this law as positive despite its antitakeover nature. Expanded constituency laws grant management discretion to consider other firm constituencies, such as employees and suppliers when considering a takeover offer. This provides an easily manipulable legal base directors can use to resist value enhancing takeovers.[18] Fair price provisions limit the range of prices bidders can pay in two tiered offers, and thus reduce the bargaining power of bidders. Shareholders are more likely to resist takeovers since they do not risk facing a significantly lower price in the second round. This constrains potentially beneficial acquirers in situations in which the stock price is in decline. Business combination laws impose a moratorium on certain transactions between large shareholders and

[18] This interpretation is common in the legal literature. However, recent research has suggested that there are situations in which broadening the firms' objectives can be beneficial (see, for example, Allen and Gale 2002, Allen, Carletti and Marquez 2007). The assumption thus made here is that the laws as they are written and applied in the U.S. (or at least as they are construed by firms and shareholders), are prone to managerial manipulation. Future research is needed to better determine the precise effects of such laws and the scenarios in which they are desirable.

the firm, unless the transaction is approved by the board of directors. This grants management the power to limit the benefits and synergies of mergers, and thus reduces the overall desirability of the takeover. Finally, poison pill endorsements are a seal of approval given by the state for the use of poison pills, which are a host of mechanisms that grant the holders of target stock the ability to make takeovers more difficult. Poison pills are seen as a crucial component in modern takeover resistance strategies.

The second index, the MAND index, follows Kahan (2006), and includes four laws relating to the shareholder-manager balance of power, which are mandatory in some states and enabling in others. Following Kahan 2006, states are coded as having the law if they impose the provision as a mandatory rule. These include cumulative voting in director elections, limits on loans to officers to directors, the restriction of limits on the personal liability of directors, and merger vote majority requirements. Cumulative voting allows shareholders to concentrate their vote and thereby facilitates the ability of minority shareholders to elect directors. These provisions are thus seen to increase shareholder rights. Limits on loans to officers and directors often impose personal liability on the recipients of loans or procedural requirements for the approval of these loans. The restriction of limits on the personal liability of directors are laws which do not allow firms to eliminate the personal liability of directors for a breach of duty. Finally, merger vote majority requirements are a limitation on the procedure by which mergers are approved.[19]

We also track state distribution laws. These laws generally require firms to meet a solvency test, often a minimum assets to liability ratio, in order to make payouts to shareholders. Wald and Long (2007) found these distribution statutes to influence firm incorporation decisions. Finally, we look at the presence of laws recognizing actions of managers that are made outside the scope of their authority, ultra vires, as "firm actions" for which the firm is responsible. In the absence of these laws, claims could be made regarding the voidability of corporate actions beyond the scope of the charter. Thus the existence of these laws imposes more responsibility on corporations for the actions of their agents[20].

Indeed, while most of the changes in these laws were made in the late 1980's and early 1990's, there are changes over the entire time period studied. One of the most interesting changes concerns the special rules regarding loans made to officers and directors. The federal Sarbanes-Oxley Act introduced a general prohibition on such loans, thereby imposing this restriction across jurisdictions. This is an example of a limited federal intervention which reduces the variance in incorporation implications. We return to the implications of federal intervention in section 5 below in discussing counterfactual policy proposals.

[19] This law is somewhat different in that it could also be conceivably coded as an antitakeover statute. However, the difference here is that a state is coded as having the law if it imposes it as a mandatory provision.

[20] We also experimented with other laws including antigreenmail restrictions, compensation restrictions, control share cash out provisions, the adoption of the Model Business Corporation Act, severance pay, and labor contract provisions (see definitions in the appendix). However, we omit these from the analysis since they generally were not significant, or lacked sufficient cross section variability.

2.5 Court Quality

2.5.1 Background

Much of the hype for the corporate law hot spots, and for Delaware in particular, concerns the relative quality of their court systems. Delaware boasts a unique five member Chancery Court which has exclusive jurisdiction over, and hence specialization in, corporate law disputes. Furthermore, some claim that the Delaware court contributes to Delaware's supremacy by administering law that is predictable but not easily replicable. While these comments are directed at Delaware's unique court, they demonstrate more generally that the features of the courts matter to firms. And since, as mentioned, personal jurisdiction is determined by incorporation, we explore their impact in the incorporation decision.

2.5.2 Data

Ideally, to capture the benefits of the better systems, we would like measures for the overall quality of the decisions (i.e. for whether it was the "correct" decision), for any systemic biases in decisions, for the time it took to administer the decisions, and, relatedly, for the expenses that were required to get these "correct" decisions. These measures are not all available. There have been a number of studies assessing and comparing the quality of the state courts (see Choi et al. 2008 for a review). These studies employ different methodologies and do not reach similar conclusions.

As such, we approximate for the quality or nature of the legal system using two databases with proxies that seem most relevant for our questions: The first includes the Chamber of Commerce ranking and score, which are based on surveys of senior lawyers (in house counsel) at corporations with annual revenues of over $100M. These measures are commonly used (see, for example, Dammann and Schundeln 2007, and Kahan 2006) to rate the states, however, they suffer from several limitations. The first, which is more technical, is that they only go back to 2001, and there are some differences in the survey methodology and scoring even over this time period. The second is that they do not relate specifically to corporate law, but rather to more general categories of laws, such as torts and contracts, criminal law, and so on. The third, which invites much criticism in the literature, is that given that they originate exclusively from the in house legal counsel at large firms, they are likely biased towards the preferences of management in these firms. The second database comes from the State Court Statistics Project, which is conducted by the National Council for State Courts (NCSC) and disseminated by the Interuniversity Consortium for Political and Social Research (ICPSR) (we collected the most recent data from the NCSC website and thus use the years $1993 - 2005$). We look at both the appellate and trial level statistics and include the following measures (compare Dakolias, 1999): The first is the ratio of civil cases disposed (whether by throwing out the case or deciding it for or against the appellant) to civil cases filed (which we term a "clearance ratio" and an "appeals clearance ratio", respectively). For states with more than one appellate court, we

average the measures. The second measure is the clearance ratio for all cases (not just civil). We experimented with this measure since many courts have jurisdiction over many areas of law, and hence their workload and efficiency may be influenced by the caseload in all of these areas of law. The third is the ratio of the total number of judges in the courts to the total resident population. Finally, we include the ratio of appeals that were successful (where the decision was reversed or modified) to those that were not (where the appeal was dismissed or the trial level decision was affirmed). All measures at time t are used to analyze the behavior at time $t+1$.

These measures proxy for how efficient the systems are at getting rid of cases (i.e. how back-loaded they are). For many disputes, the time the case is in trial is a very significant cost determinant and, consequently, likely to significantly influence litigation behavior. These measures are by no means constant. Courts tend to have better and worse years in handling their workloads. This can obviously also be influenced by the number of judges that are in office, and therefore we include a measure tracking the number of judges per resident. Finally, the appeal success rate is an imperfect measure for a variety of litigation climate indicators, including how much the trial level courts are respected by the higher courts as well as how likely appeals are to be filed.[21]

2.6 Firm Characteristics - Decomposition of the Heterogeneity

Having described the main characteristics of the incorporation product, we now move to discuss the data sources used and the motivation for the construction of the observed firm heterogeneity. In addition to the data on firms and IPOs discussed above, these relate to the structure of firm ownership, the industry concentration, and the characteristics of firm management and directors.

2.6.1 Ownership

Dramatic changes in the percentage of institutional holdings alter the balance of power between shareholders and management. Institutional owners are generally seen as more sophisticated owners, especially when they hold significant shares, and thus are more likely to have a stronger say in the firm. Institutional investors are at least partially responsible for the increasing involvement of boards of directors and shareholders (Holmstrom and Kaplan 2003). As mentioned, the presence of institutional investors has also been found to be related to the abnormal returns earned by firms with better internal governance.[22] Accordingly, we model the heterogeneity across several ownership dimensions.

[21] However, this is a more complicated equilibrium result influenced by the success of settlements out of courts, beliefs, etc.

[22] The growing strength of sophisticated investors dampens the concern for agency problems between shareholders and management and increases concerns of agency problems between larger and smaller shareholders.

2.6.2 Institutional Holdings: Data

Thompson Reuters CDA/Spectrum Institutional (13f) Holdings has data for the stock holdings of all institutions managing $100M or more.[23] Using this data, Cremers and Nair (2006, CN) look at two measures of internal governance: (1) the percentage held by the firm's largest institutional blockholder (which are shareholders with more than 5%), and (2) the percentage held by the 18 largest public pension funds. CN see public pension funds to be more "free from conflicts of interest and corporate pressure" and as "aggressive shareholder activists" (compare Guercio and Hawkings (1999)). They also see institutions holding larger shares to have incentives "to monitor the management and pay for part of the gains that occur through takeovers" ...potentially being "crucial to facilitate" and thus working "in tandem with the market for corporate control". Following their work, we construct four measures of ownership, including their two measures,[24] the fractional ownership by all institutional investors, and the total fractional ownership of blockholders with more than 1%. The reporting periods differ by institution (it ranges from quarterly to yearly), and thus we average the ownership levels when there is more than one reporting quarter.

The inclusion of institutional ownership raises endogeneity concerns because these investors choose which firms to invest in. While it is interesting to see which stocks are picked by institutions, we would also like to randomly assign them to different firms and trace these firms' differential choices and performance. This endogeneity has recently been discussed and dealt with by using the inclusion in the Standard & Poor's (S&P) 500 as an instrument (see Aghion, Van Reenen and Zingales, 2008 and Sapra, Subramanian and Subramanian 2008), an approach we follow below.

2.6.3 Director Holdings and Characteristics

The IRRC Director database contains director level data yearly from $1996 - 2006$. We use the following variables: the average director age; the percent of reported Asians, African Americans, Whites, Hispanics, and Native Americans; the proportion of women; the average number of other major boards the directors are on; the average number of years served (controlling for the firm age); the average number of years left (if there is a fixed term); total shares held; total voting power held; the proportion of the directors that are linked to the firm; the proportion of independent directors; the proportion of directors up for election; the proportion that attended less than 75% of the meetings; the proportion that own less than 1%; and the proportion that are grandfathered upon retirement/tenure. This data is supplemented with data from the "Corporate Library" for the years $2001 - 2007$ on CEO compensation and characteristics, the total number of directors, and the compliance levels with SOX overall and with the loan requirements in SOX specifically.

[23] There may be some omissions for small holdings under $200,000.

[24] We were able to identify 15 of their funds in our data.

2.7 Firm Industry Concentration

Previous studies have not found industry controls to produce any clear or meaningful conclusions. However, the recent work by Giroud and Mueller (2010) suggests that governance may matter more in noncompetitive industries. Thus the final firm characteristic is the concentration of the industry in which it operates: the Herfindahl index of the SIC code, as provided by Compustat or the U.S. Bureau of Census (which accounts for private firms as well). We experimented with the two, three and four digit codes, but generally use the 3 digit code, following the existing literature.[25]

3 Modeling The Demand

3.1 Formulation and Specification

Firms have the following utility function from each potential state of incorporation:

$$u_{ijt}(x_{jt}, y_{jt}, p_{jt}, s_{it}, \xi_{jt}) = x_{jt}\beta_i + y_{jt}\gamma_i - \alpha_i p_{ijt} + \phi g_{ijt} + \eta m_{jt} + \xi_j + \Delta\xi_{jt} + \varepsilon_{ijt}. \quad (1)$$

x_j is a vector of state laws, which includes the two indices ATS and MAND as well as the payout and ultra vires laws and the state corporate income taxes; y_j is the vector of court quality measures; p_{ij} are the franchise and incorporation taxes (note that these taxes are firm specific); g_{ij} is the geographical distance from the state of incorporation to the headquarters-home state; m_j is a dummy variable indicating whether this state of incorporation-product is the "home state" for the firm. Naturally, all characteristics have a time subscript as well, reflecting their changes over time. ε_{ijt} is the commonly used logit error. Firms receive independent draws from a type-two extreme value distribution in each period.

As is common in these specifications, the individual specific coefficients capture the heterogeneity in firms and the plausible variation in tastes, for the laws and process. Note that the price and geography characteristics, by construction, differ for different firms. ξ_j is the unobserved benefit from being incorporated in the system (commonly assumed to be enjoyed by all firms).[26] In essence, ξ_j is a state of incorporation (product) fixed effect that captures the average (firm specific or aggregate) preference for the system. The $\Delta\xi_{jt}$ is then the time-specific deviation from the average ξ_j. In this respect this application nicely matches the characteristic based demand approach. Products in the model and as observed by firms are a bundle of characteristics, and these characteristics vary over time.

[25] We do however see a potential caveat in merely analyzing the concentration of the industry. If indeed the threat to management is the driving force, then a measure for how competitive the market for (comparable) managers would be better. Firms across different industries may compete for the same managers, especially when recruiting high-ranking talent.

[26] Note that the lack of a firm specific subscript i, on ξ_{ji}, or a model for the distribution of preferences for the unobservable is restrictive only as we depart from a completely flexible preference structure for the observed characteristics. Compare Nevo, 2000.

We began with a specification with 51 product choices (all U.S. jurisdictions) and an outside option of incorporating abroad. However, this model was very difficult to estimate, as there are very few states that attract a significant number of out of state public firms. Thus, in order to achieve convergence of our estimators we limit the choice set. We assume that firms choose to incorporate at home, in one of 10 out of state options, or in the outside option, which is anything else. Including the home state as one of the options allows us to keep most of the variation in the product characteristics of all jurisdictions (and the absence of these characteristics abroad). The difference in the choice sets adds to the variation that comes from firms switching their incorporation choices, as structurally similar firms face different choices given their exogenous home location. The 10 out of state options include any state that has more than 1% of the firms at any point in the sample period. These ten options include includes Delaware, Nevada, Maryland, Florida, Colorado, Massachusetts, California (the primary place of business for many firms and known for having very little takeover legislation, and New York (also the headquarters of many firms). We also include Pennsylvania, which historically was an incorporation hotspot, and Wyoming, which has made efforts recently to promote itself. As can be seen in figures 1, 5, and 6 most of these states have seen significant shifts in the shares of firms they attract over our sample years, both from the general public firm pool, and from IPO firms.

Upon incorporation, firms are assumed to have observed all product characteristics and have weighed them in their location choice. We assume the utility from the outside option is:

$$u_{i0t} = \xi_{0t} + \pi_0 D_{it} + \sigma_0 \nu_{i0t} + \omega_0 m_{0t} + \varepsilon_{i0t}. \tag{2}$$

Following the standard assumptions we normalize ξ_0 to zero, and thus the benefits from incorporation in one of the 11 choice options are relative to the normalized outside option of going elsewhere. Additionally, $u_{i0} = 0$ so the utilities represent the difference between the particular chosen good and the outside good. This assumption implies that when choosing to incorporate in one of the states not accustomed to hosting out of state firms or incorporation abroad, firms are doing something different than what the model captures, which we normalize to a utility of zero.[27]

Note, that much of the firm heterogeneity is observed. Thus, we can model the random coefficients as:

$$\begin{pmatrix} \alpha_i \\ \beta_i \\ \gamma_i \end{pmatrix} = \begin{pmatrix} \alpha \\ \beta \\ \gamma \end{pmatrix} + \pi D_i + \Sigma \nu_i \text{ with } \nu_i \sim N(0, I_{k+1}).$$

The D_i capture firm heterogeneity in financial profile, ownership, and industry, as discussed above. The v_i capture unobservable firm heterogeneity (where Σ captures the scale), i.e., other components not captured in the D_i vectors. This of course is much more flexible and general

[27] We experimented with several other measures of the outside good, including dropping firms that make choices outside these 11 options, and using either incorporation abroad, or incorporation in one of these states as an outside option, and found similar results. These outside option choices are very rare.

than a nested logit model – we capture the home vs. one of the other products "nest" with the inclusion of the "home" dummy variable for the home product.

To simplify the notation, we use the following definition: $x_j = (x_j, y_j)$, the variables for which there are random coefficients; $y_j = (g_j, m_j)$; $p_{ij} = (p_{ij}, g_{ij})$ the variables for which there are no random coefficients, and:

$$\begin{aligned} \theta^1 &= (\beta, \gamma) \\ \theta^2 &= (\eta) \\ \theta^p &= (\alpha, \phi) \\ \theta^o &= (\pi) \\ \theta^u &= (\Sigma) \end{aligned}$$

So,

$$u_{ij}(x_j, y_j, \xi_j) = \sum_k x_{jk}\theta^1_k + \sum_h y_{jh}\theta^2_h + \xi_j + \triangle\xi_{jt} + \theta^P p_{ijt} + \sum_{kr} x_{jk} D_{ir}\theta^o_{rk} + \sum_{kl} x_{jk}\nu_{il}\theta^u_{kl} + \varepsilon_{ijt}$$

Thus, each characteristic with a random coefficient has $(1 + R + L)$ coefficients: the average coefficient, R coefficients on the observable firm structure demographics, and L coefficients on the unobservables. For simplicity, $L = 1$ so we have one unobservable per product characteristic.

Given the variation in the product characteristics over time, we include 11 dummies for each of the choice options. These dummies subsume the ξ_j, thus restricting the endogeneity concerns to the time specific-product specific unobservable, $\triangle\xi_{jt}$, not captured by the other variables in the model. Thus, the specification becomes:

$$u_{ijt}(x_j, y_j, D_i, \xi_j, \triangle\xi_{jt}) = S_j + \sum_k x_{jk}\theta^1_k + \sum_h y_{jh}\theta^2_h + \triangle\xi_{jt} + \theta^P p_{ijt} + \sum_{kr} x_{jk} D_{ir}\theta^o_{rk} + \sum_{kl} x_{jk}\nu_{il}\theta^u_{kl} + \varepsilon_{ijt}$$

where the S_j are the state dummies.

Firms that choose state j are those for which state j provides them with the highest utility, i.e., those belonging to the set:

$$A_{jt}(x_{.t}, p_{.t}, \delta_{.t}; \theta) = \{(D_i, p_{ij}, \nu_i, \varepsilon_{it}) | u_{ijt} \geq u_{ilt} \quad \forall l \in J\}. \tag{3}$$

Thus, the individual choice probabilities are:

$$\Pr(j|D_i, \theta, \delta) = \int_v \frac{\exp[S_j + \sum_k x_{jk}\theta^1_k + \sum_h y_{jh}\theta^2_h + \triangle\xi_{jt} + \theta^P p_{ijt} + \sum_{kr} x_{jk} D_{ir}\theta^o_{rk} + \sum_{kl} x_{jk}\nu_{il}\theta^u_{kl}]}{1 + \sum_q \exp[S_q + \sum_k x_{qk}\theta^1_k + \sum_h y_{qh}\theta^2_h + \theta^P p_{iqt} + \triangle\xi_{qt} + \sum_{kr} x_{qk} D_{ir}\theta^o_{rk} + \sum_{kl} x_{qk}\nu_{il}\theta^u_{kl}]} f(\nu) d(\nu).$$

3.2 Identification, the Supply Side, and Endogeneity Concerns

Identification comes from many firms selecting from a wide menu of characteristic bundles. The product characteristics within each bundle change over time, and there is also much variation in

the product choice sets faced by the different firms. Firms come from all U.S. jurisdictions and from abroad. Identification of the standard deviation of the random coefficients comes both from firms switching in response to changes in the characteristics, as well as from structurally similar firms facing different choices sets. This is the result of the changes over time in the options afforded to structurally similar firms, as well as a result of the model design whereby the comparisons made are with a varying home option and a fixed set of 10 out of home alternatives. The proportion that switch (or behave differently) characterize the shape of the distribution of the unobserved heterogeneity in the preferences.

It would be natural to have a (static or dynamic) supply side whereby states design their incorporation features to maximize an objective function. However, while incorporation features change over the sample period, there is significant lethargy in state action, as they do not respond quickly to market conditions. An objective function is difficult to specify, especially because some states have zero taxes, and we were unable to predict state actions with any of the models we tested.[28]

As to the identification, the inclusion of state of incorporation dummies controls for the ξ_j, the chief source of endogeneity in these models, and this reduces most of the endogeneity concerns. However we discuss the potential endogeneity and its treatment regarding all product characteristics below.

The prices, the variation in tax rates,[29] likely reflect the advantages different states offer to the firms located therein. However, as mentioned, most of the price variation is in the differential choice sets and base of the different firms. The infrequency of tax changes reduces the need and ability to instrument for taxes. We considered the standard "default" IO instruments (see BLP, 1995, Hausman et al. 1994, and Hausman 1996). In the context of our application, these include the observed characteristics of the states that are assumed to be exogenous, and the sum of the values of the same characteristics of the products offered by other states.[30] These instruments present particular challenges here as they rely heavily on the structure of the game played by the states, and this structure is very difficult to specify, given the stagnation in state action. Accordingly, we were unable to use them to explain the broad variation in the taxes paid (given the state base and rate as well as the individual firm's tax liability). We experimented with using the variation in overall state tax revenue, since tax revenues influence the tendency to change the price, but are unlikely to be directly related to changes in the unobserved product characteristics captured in the $\triangle\xi_{jt}$, as they are chiefly motivated by the many other budgetary factors. However, here too, we were unable to fit a significant first stage. Taxes are thus treated

[28] For example we tried to estimate tax changes by looking at the overall balance sheets of states, but were unable to produce statistical significance.

[29] As mentioned only the incorporation tax and the franchise taxes are treated as prices. SCIT is a characteristic.

[30] Note that the third set of instruments in BLP — the sum of the characteristics of the products offered by other states — as well as the instruments offered in Hausman et al. (1994) and in Hausman (1996) — the price of the same product in other markets — are not relevant here since each state offers one unique product. The difference in price here is a form of third degree price discrimination in that firms cannot choose different products at different prices within a given state.

as exogenous, as are the state laws and court structure (compare the discussion in Nagar et al. 2011).

In the context of the model, the demographics are a decomposition of the heterogeneity of the firm. However, econometrically, they are no different from product characteristics in that their interaction with the characteristics need not be correlated with $\Delta\xi_j$. As mentioned above, ownership by institutional shareholders may be endogenous. While sophisticated shareholders help police management and shape firm preferences, they are not randomly assigned, but rather choose the firms they invest in. Our goal is to ensure that their recovered preferences are not preferences for unobserved $\Delta\xi_j$ systematically correlated with state of incorporation attributes. To this end, we simulate a situation in which they are randomly allocated to firms and then monitor how their presence influences firm incorporation choices. Here, as mentioned above, we use the instrument proposed by Aghion et al. (2008): inclusion in the S&P 500. Inclusion in this index has a large random component (being the 500th or 501st firm is likely random), which is unrelated to the fundamental performance of the firm; however, it is the inclusion in the S&P 500 itself that generates a kick in institutional ownership. Firms included in this index attract institutional funds for a variety of reasons.[31] Thus we use a regression discontinuity approach whereby we include a flexible function of market value [32] and a dummy for inclusion in this index. The assumption is that after flexibly controlling for market value, inclusion in the index is largely random and thus this variation can be used to look at the effects of randomly increasing the share of institutional shareholders. Given the structure of the model, the application, and the data limitations, we assume that this is the key endogeneity correction needed. However, the methodology outlined here can easily accommodate the treatment of endogeneity in any of the other product characteristics or firm attributes.[33]

3.3 Estimation

We outline and follow the control function approach proposed by Imbens and Newey (2009), and implemented by Blundell and Powell (2004), and Petrin (2006). According to this approach, we write the endogeneity treatment below.

Assume that for the endogenous institutional ownership D_{eit}

$$D_{eit} = E[D_{ei}|z_{ijt}] + \zeta_i \tag{FS}$$

where z_{ijt} are the all exogenous variables and instruments. Note that this includes all characteristics of all choices.

[31] Openly indexed funds are more likely track the S&P 500, managers (in open and closed funds) are benchmarked against this index, and fiduciary duty laws influence such portfolio selection. See Aghion et al. 2008.

[32] We chose levels to control for the linear relationship with market value that discretely breaks with the discontinuity at the index. Controls are added for a power series of market value.

[33] Endogeneity of the director and manager characteristics was not dealt with in detail given our finding below of their not being instrumental in the incorporation decision, and the challenge in finding reasonable instruments.

We form

$$\hat{\zeta}_i = D_{ei} - \hat{D}_{ei}$$

by taking functionals of the residuals from the estimation of the first stage.

We include and estimate the $S_j f(\hat{\zeta}_i)$ for each product. The significance of these product specific residuals is evidence of endogeneity, assuming the exclusion restrictions on the instruments are valid. In addition, assuming one scalar error per product, a well defined inverse for D_{ei}, the general single equilibria across markets assumptions, and that conditional on the $S_j f(\hat{\zeta}_i)$ we are left with a similar specification and logit error, the inclusion of this control variable essentially "controls" for the parts of the endogenous regressors that are correlated with the $\triangle\xi_{jt}$. This allows for consistent estimation of the coefficients, and the direct use of maximum simulated likelihood.

First, we construct the following likelihood:

$$L(D;\delta,\theta) = \sum_{i=1}^{N}\sum_{t=1}^{T} \log\int_v \sum_{j=1}^{J} \left(\frac{\exp[S_j+\sum_k x_{jk}\theta_k^1+\sum_h y_{jh}\theta_h^2+\triangle\xi_{jt}+\theta^P p_{ijt}+\sum_{kr} x_{jk}D_{ir}\theta_{rk}^o+\sum_{kl} x_{jk}\nu_{il}\theta_{kl}^u+S_j f(\hat{\zeta}_i)]}{1+\sum_q \exp[S_q+\sum_k x_{qk}\theta_k^1+\sum_h y_{qh}\theta_h^2+\theta^P p_{iqt}+\triangle\xi_{qt}+\sum_{kr} x_{qk}D_{ir}\theta_{rk}^o+\sum_{kl} x_{qk}\nu_{il}\theta_{kl}^u+S_q f(\hat{\zeta}_i)]}\right)^{1(jit)} f(\nu)d(\nu).$$

Then we directly maximize the sample analog:

$$SL = \sum_{i=1}^{N}\sum_{t=1}^{T} \log\frac{1}{R}\sum_{r=1}^{R}\sum_{j=1}^{J} \left(\frac{\exp[S_j+\sum_k x_{jk}\theta_k^1+\sum_h y_{jh}\theta_h^2+\theta^P p_{ijt}+S_j f(\hat{\zeta}_i)+\sum_{lr} x_{jtl}D_{ir}\theta_{rl}^o+\sum_{ko} x_{jtk}\nu_{ito}\theta_{ko}^u]}{1+\sum_q \exp[S_q+\sum_k x_{qk}\theta_k^1+\sum_h y_{qh}\theta_h^2+\theta^P p_{iqt}+S_q f(\hat{\zeta}_i)+\sum_{lr} x_{qtl}D_{ir}\theta_{rl}^o+\sum_{ko} x_{qtk}\nu_{ito}\theta_{ko}^u]}\right)^{1(jit)} f(\nu)d(\nu).$$

This is the probability of observing all of the choices in the data, given the structure above. The right-hand-side does not have an analytical solution (given the assumed normal distribution for v) and has to be simulated. Generally we average over R draws from the assumed (normal) distribution, using different methods to ensure proper coverage of the domain of integration. We obtain estimates of S_j and the θs, by using a host of starting points and cluster the standard errors. We then directly test and control for endogeneity.

4 Results and Discussion

In this section, we begin by estimating the full model and then look specifically at the natural experiment of two tax changes in 2003 to confirm the tax results and to zone in on the populations for which taxes are likely to most matter.

4.1 Demand Estimation

As mentioned above, the huge dimensionality of the data precludes the possibility of discussing all combinations of specification. Thus, in what follows, we give a representative sample of the results.[34] Note that the estimates are identified up to scale given the normalization above.

[34] Each specification can take several days to run, and several dozen have been run.

Thus, the focus should be on their relative magnitudes rather than on their absolute size. Table 1 details the summary statistics for the relevant variables in the specifications discussed below. Table 1*A* shows that the first stage works well.[35] The R-squared is also relatively high.[36] Tables 7 and 8 present the specifications. Note that with the inclusion of additional firm structure measures, the sample size declines and thus, while the qualitative results are similar, the coefficients are not identical.

4.1.1 Preferences for States of Incorporation and Incorporation Characteristics

While most of the product fixed effects are insignificant, the fixed effects for the home state and Delaware products are large, positive and significant. This reflects the strong preferences for being incorporated at home or in Delaware, as well as the residual unexplained characteristics that influence firm choice. These can include network effects, the prestige of the Delaware jurisdiction and its unique court,[37] or a general reluctance to explore outside options in the case of firms preferring to stay at home.

Regarding the laws, firms on average strongly prefer to have takeover statutes (the ATS index laws), and have a negative preference for the MAND index. This implies that, on average, firms prefer to not be constrained in the election of directors, or in the ability of managers to receive loans.[38] Similarly firms prefer to have the option to excuse directors from personal liability and to not be constrained in the merger vote majority requirements. Taken together, these findings suggest that, on average, managers have a strong say in the firm choice and also have the ability to insulate themselves. There is also a marginally significant distaste for restrictions on payouts to shareholders.

As to the preferences for the court process, the only variables that matter significantly are the clearance ratios at the appellate and trial levels.[39] As mentioned, these are proxies for the overall expected delay in the courts system when cases are backloaded from previous years. Firms seem to prefer busier, more backloaded courts. This could be explained by the insulation and deterrence an inefficient court system may offer. A busier court implies that cases will take longer, something large, deep pocketed, firms can afford, and thus justice, if and when served, will be costly. We do not find the Chamber of Commerce score or the other variables discussed above, to significantly influence the choice of jurisdiction.[40] Our findings regarding the clearance rates and the lack of significance of the other measures contrast with claims made

[35] There is of course a different first stage for each specification of the model.

[36] Over 15% for the 1% block and 24% for the total institutional share measure, 15% for the pension block and 17% for the 5% block measure.

[37] As discussed below, given the unique structure, we cannot separately identify the court effect and the Delaware fixed effect.

[38] As mentioned above, this ability to receive loans is now uniformly banned by the SOX legislation.

[39] The specifications presented below are for the trial court congestion measure. The appellate measure is of a similar sign, but when both variables and their interactions are included, we lose some power and the statistical significance levels are lower.

[40] When adding the score and rank variables and thus reducing the sample size significantly, we lose the statistical significance. This may simply be a sample size problem.

in the literature regarding the importance of the legal system to firm choice. However, we note that these results, which are the results of the variation across all jurisdictions, do not imply that the unique corporate tribunal in Delaware does not play a special role.[41]

The two incorporation taxes could not be separately identified, likely due to their multicollinearity, given their shared base, and thus we combine them. The incorporation tax variable represents the total tax implications for a jurisdiction given the firm's location in the previous period. We computed the taxes using the rules in play in year $t-1$ with the tax base in year t. Given that we draw the sample once a year, we cannot expect the data to reflect firms that have moved in the year in which taxes change. The timing assumption is that at the beginning of each period firms observe the tax rates in each jurisdiction and form an expectation of what their tax base will be.[42] We also experimented with a tax measure based on last year's base and rate and found the results to be similar

As expected, the demand is downward sloping. Note that given the large variance in tax schedules, the tax measure is not a rate, but rather a total firm specific price (in thousands of dollars). Any significant tax increase (or initial imposition of tax) could conceivably raise the tax liabilities and thus evoke a significantly large firm response. Indeed, it seems that this **choice** of jurisdiction greatly hampers the ability to collect high taxes, thus potentially explaining some of the state lethargy in this area.

These results are consistent with our findings below regarding the 2003 tax increases. However, the magnitude of the coefficients is much smaller. We suspect that the main response to taxes comes when there is a more salient change (as was the case regarding the two most popular jurisdictions for jurisdiction shoppers), and less when the firm's base increases due, for example, to the increase in its authorized shares. In addition, as mentioned, there is often a penalty for moving in that firms will be required to pay the incorporation tax on their entire tax base as opposed to only on an increase in base if they stay in the same jurisdiction. When taxes are used to price the laws we get a rough NPV (using a 5% yearly discount rate) for the ATS laws of $\$3.8M$ (for the average β) and negative $\$8.3M$ for the MAND laws. This suggests that while these laws matter, they do not matter very much. However, given that the taxes reflect the aggregate variation, it is possible that taxes matter a lot for a subset of firms. In any case, it is clear that the laws do not matter all that much for a large segment of the firm population.

The SCIT are not significant when controls are added. As mentioned above, this is not surprising, and suggests that the large amount of gaming of the differential rates does not manifest in firm incorporation choices.

[41] Furthermore, we may worry about this variable being endogenous in that a massive migration to an attractive jurisdiction may bring with it an added burden to the courts that they have trouble accommodating. However, given that, corporate law disputes represent only a fraction of the total burden on courts in the majority of states, and that we generally do not observe any massive firm migration in a short period of time, it is unlikely that the burden on the courts will be endogenously determined.

[42] Note that this tax base is generally based on measures controlled by the firm, such as the number of authorized shares.

Finally, as expected the geographic distance negatively influences the incorporation decision. Nevada is aptly termed "Delaware of the west" reflecting the general reluctance to have the incorporation state far away. A distant incorporation state would undoubtedly raise the firm's costs in that administrative requirements as well as any court proceedings would require a long and costly trip to the domicile state.

4.1.2 Firm Ownership

As mentioned, we experimented with four measures of institutional ownership. The results for the 5% block are generally of a larger magnitude than those of the 1% block, which in turn are generally larger than those of the overall share. The total institutional shares measure was generally not significant. The public pension fund measure was generally not significant either (and at times not even of the same sign), thus questioning the link between these incorporation decision results and the above mentioned results on abnormal returns. We present the results from the 1% block specification, which includes more firms and has a stronger first stage with the instrument and thus seems the most representative. As mentioned, this is the total share of the firms' stock held by institutions that have shares of at least 1%. We discuss the results here, assuming the endogeneity controls are valid, and that we accurately capture the preferences of these sophisticated shareholders. We then return to discuss the different endogeneity corrections in section 4.2 below.

Overall, institutional shareholders display a stronger reverse preference for the antitakeover laws. The sign is negative and the absolute magnitude of the interaction is larger than the mean, so the combined effect, which is the sum of the two, is negative. This suggests that these shareholders prefer managers to be policed by the potential takeover threat and to not be insulated by law. Past work has shown that takeovers often benefit target shareholders and punish bad managers. Thus, this result can be seen to reflect evidence of a key area in which there is a divergence of interests between shareholders and managers. It takes sophisticated shareholders, with a large enough stake in the firm, to enforce the shareholder interests against those of managers. However, this raises the question of why previous findings have found governance to especially matter in firms with a larger fraction of institutional shareholders (see, for example, Cremers and Nair 2005). If these investors can have an impact on the governance choices of the firms they hold, or on firm decisions more broadly, why would the existence of internal governance mechanisms be so important?[43]

Institutional investors express an additional, particularly large, negative preference for the mandatory index. This suggests that when shareholders have more power, they do not need, nor desire, a rigid structure constraining their choice of mechanisms. This would imply that institutional shareholders still require a takeover friendly legal environment, but do not desire restrictive laws in other areas.[44]

[43] We may also wonder why it is chiefly in firms held by public pension funds, a measure not found to be particularly important here.

[44] It is also possible that sophisticated shareholders may feel they have an advantage in jurisdictions with MAND

Taken as a whole, it seems that while institutional shareholders have a significant influence on the firm, they do not simply echo a collective "shareholder wealth increasing" interest, and are not a perfect substitute for governance mechanisms. The effect of institutional shareholders on firm value may be non-monotonic, where when institutional shareholders gain too much of the firm's share their objectives may change and they may have a different effect on firm decisions. We must thus also seriously consider the potential for agency problems between the more concentrated and powerful shareholders and the more dispersed, less informed shareholders (see, for example, Nagar et al. 2011). For example, the more powerful contingencies may not like the mandated cumulative voting mechanisms which can grant dispersed shareholders more of a say in the firm. More broadly, if the current trend continues and institutional shareholders become increasing powerful and dominant in the public exchanges, we must consider the complex effects their presence has on firms and firm objectives, both at the firm level — in the formulation of firm strategy — and in the design of regulatory policy.

Finally, these investors seem to prefer well functioning courts at the trial level. This suggests that institutional shareholders prefer to be in better policed environments, when measured at the trial level. In contrast, at the appellate level, these investors exhibit an even a stronger (than mean) negative preference for the key court characteristic. This result suggests a congruence in preferences. This finding implies that the choice of incorporation jurisdiction is sensitive to internalizing the differential effects of judicial jurisdictions facing different burdens. We leave to future work the question of whether this can be reconciled with an aim to deter value reducing external litigation and to facilitate the deterrence ensuing from the potential to take management to court.

4.1.3 Industry Concentration

Here too, we experimented with several measures. We found similar results using three and four digit SIC codes.[45] Following Giroud and Mueller (2010) we use the three digit measure for the results presented below.[46] We find that industry concentration particularly matters regarding the MAND index. We do not find evidence of firms surrendering their takeover protections when operating in concentrated industries. Firms with market power behave similarly to the average firm regarding antitakeover provisions. Firms in more concentrated industries have a strong positive preference for these rules. However, firms in concentrated industries are not influenced by the MAND laws when making their incorporation choices. Their preference for the MAND laws is positive and strong when compared to the average firm, and the overall effect washes out. This may reflect shareholder awareness (and an incentive to act on it) of the need to

laws in that they can better police management (compared to competing firms with a more dispersed ownership structure). However, this result may suggest a potential caveat in including the merger voting supermajority in the MAND grouping (based on Kahan 2006). This requirement may indeed be more relevant to the antitakeover group and this may explain some of the size of this coefficient.

[45] However, there were differences when using the broad two digit measure.

[46] We also drop observations for which the industry concentration is above 97.5%.

curb managerial behavior when the market disciplining forces are absent. However, when taken together with the mean preferences, we may interpret this as *managers* being less constrained in industries with less product market competition and thus having the freedom to choose their incorporation jurisdiction irrespective of these laws (compare Cu$\widetilde{n}$at and Guadalupe, 2005).

4.1.4 Financial Profile

The main variables explored here are the age of the firm (since its foundation), and the time since its original IPO. Table 8 shows that both the firms' age since its founding, as well as the time since its original IPO both have a similar small but statistically significant influence on firm preferences over laws. Older firms have an additional positive preference for the ATS index, although the results are much stronger when measuring age since IPO. These firms are also more comfortable with the MAND laws. The older and more established firms, may also not require the same degree of flexibility in their governance. This, of course, could reflect both a vintage effect — the newer firms are different and desire or require more flexibility — and also a life cycle explanation, as the firm matures, its needs will change and it will move to another jurisdiction. The firm's founding and original IPO dates come from both compustat and SDC data. When looking at the movements of firms in the data we find that indeed a significant share of movers underwent an IPO after 1980. This is thus some suggestive evidence that there is some life cycle behavior in incorporation choices.

When looking at the trends amongst IPO firms, it is clear that there is a strong tendency to incorporate in Delaware. Anecdotal evidence, from discussions with managers in the venture capital industry and with some of the data collection agencies mentioned, suggests that Delaware incorporation (a jurisdiction with a MAND value of 0) has become a default for many firms when initially incorporating.[47]

When looking specifically at the younger firms which underwent an original IPO after 1980, we find that whether or not the firm was venture capital financed significantly influences its preferences. Other variables explored, such as the IPO financing and the share of insiders before and after IPO, did not matter. The results regarding venture backed firms echo those of institutional shareholders (although are of a smaller magnitude). This is unsurprising in that venture capital investors often carry a significant stake in the firm, and similarly possess the experience and sophistication assumed to influence the preferences of institutional investors above. It can thus be seen as further evidence supporting the potential of a formal and real authority divide in the firm decision making process. However, it is clear that there is much diversity in the objectives of the various venture capital investment policies, and thus the effect captured is likely an average effect from amongst significantly varying venture capital effects on firms.[48]

[47] This is consistent with both vintage and life cycle explanations, since all it requires is for firms to initially prefer low MAND jurisdictions.

[48] The significance level of the venture capital measure is lower as well, likely due to the dispersion in venture capital funds' strategies.

4.1.5 Other Firm Heterogeneity

Neither of the two main director measures considered — the total number of directors and the percent of independent directors — are significant. The one exception is the interaction of the total number of directors with the MAND legal index, which is marginally significant. However, the paucity of the data for the sample with these measures changes the estimates significantly, and significance is lost even for the mean β on the MAND index itself. Thus, these results should be not be taken as conclusive evidence that director composition does not matter. We used these two measures following the previous literature (see, for example, Masulis et al. 2007). However, we did not find any of the other measures mentioned above to be significant in the incorporation decision.[49] In addition, we experimented with two measures of compliance with the Sarbanes Oxley legislation (compare Chhaochharia and Grinstein 2007). The first is a compliance score that tracks compliance with measure of the CEO and CFO certification of published financials, loans compliance, designation of a financial expert on the audit committee, compliance with the standards for overall director independence, and compliance with the standards of committee independence. The second refers specifically to the compliance with the requirement to eliminate loans to directors and executives. While this data is available for the year 2003 we followed the firms for which it was available in the years before and the years after, experimenting with different time windows. Once again, these were not significant in the incorporation choice, but significantly restrict the sample size.

4.1.6 Unobserved heterogeneity

As can be seen, the standard deviation is significant only for the MAND index.[50] As mentioned above, identification comes from firms switching and from the difference in the choice sets of structurally identical firms. The magnitude of the MAND σ is particularly large, thus suggesting that $100 * (1 - \Phi(\frac{-\beta_k}{\sigma_k})) = \tilde{} \ 30\%$ of the firms have a positive valuation for the index. The ATS unobserved heterogeneity suggests that a tiny fraction of firms have a negative preference for the ATS laws. This suggests that controlling for the unobserved heterogeneity is important, primarily for the MAND measure, given the large amount of observed firm structure heterogeneity.

Furthermore, note the importance of the unobserved heterogeneity concerning the MAND index. In Table 9, we see that when the σs are dropped, the mean β changes dramatically in magnitude and in fact is no longer significant. The interactions with the observed heterogeneity change significantly as well. These results strengthen the need to estimate a distribution around the random coefficients, even in the presence of much observed heterogeneity. This is necessary not only to get realistic substitution patterns (as pointed out by the original BLP, 1995, models), but to get the point estimates right as well.

[49] Given these findings, we did not proceed to treat concerns of endogeneity in these measures.

[50] In other work using random coefficients, the results on the standard deviations are often insignificant.

4.2 Endogeneity Correction

Table 8 gives the base specification with and without endogeneity corrections. Column 1 repeats the base specification from Table 7, column 2 has unobserved heterogeneity, while column 3 does not. Both columns 2 and 3 do not have endogeneity corrections. This table shows that despite the ability to capture much of the product specific unobservable with the product fixed effects, the controls are needed. Indeed, when added, the product specific residual functionals enter significantly for many products and their joint significance is easily established. In the context of the control function approach this can be seen as a test confirming the importance of an endogeneity correction. The magnitude of the legal coefficients is influenced as well. The mean ATS β is about 60% of its value without the corrections. The interaction with ownership (for which we instrumented) is also about half the absolute magnitude for the ATS index and about 66% of the magnitude for the MAND index, reflecting the standard bias towards zero. The interaction with the industry characteristics is influenced by these controls as well. Finally, there are some changes in the size of the product specific fixed effects, especially regarding those of Delaware and the HOME state, which are both decreased. These patterns do not apply to the other coefficients and thus this is not merely an issue of scale.

4.3 Robustness Tests for Incorporation and Franchise Taxes: The Effects of the 2003 Tax Increases on Firm Incorporation Choice

The variation in taxes-price is incorporated in our model above, where we find that firm demand is downward sloping. However, given the novelty of these results and the surprising sensitivity of firms to taxes, we zone in on recent tax increases in Delaware (where the tax was raised by 10%) and Nevada (where a franchise tax was introduced) and apply a standard difference in differences approach. This is useful for confirming the results regarding the high sensitivity to taxes, as well as for understanding the populations most affected by such changes.

Figures 2 and 3 display the flows of public firms out of Delaware and Nevada since 1991 (the data start in 1990), plotted on their own and against the flows out of all other jurisdictions. These are firms that remain in the data, so they remain active public firms. As can be seen, there is a spike in 2004, which, given the tax increases in mid 2003, is the expected time frame for the response. The movers in both jurisdictions are generally smaller firms with a lower market value and net income. In Delaware, these firms were likely paying close to the maximum tax rate,[51] while in Nevada there was no tax prior to 2003.

These results are echoed in the difference in difference estimation in Table 6, where we look at the average marginal effects on the logit probability of moving out of the Nevada and Delaware jurisdictions respectively. Controls include all state fixed effects and year fixed effects, and we cluster by state. The difference in difference coefficients are the interactions. Columns 1 and 2 include all firms, while columns 3 and 4 look specifically at firms incorporated outside of their

[51] Of course they may have been paying the maximum rate, since the tax base used (shares issued) is a lower bound on the true measure of authorized shares.

home state. Columns 1 and 3 difference the entire before and after periods, whereas columns 2 and 4 focus on the effect in 2004, the year immediately following the tax increase. All difference in difference coefficients are significant. However, most of the treatment effect (the effect of the taxes) is concentrated in 2004, the year immediately following the change. In most cases, these firms go back home. Of the 239 firms that moved out of Delaware in 2004, 236 moved their incorporation back to their home state (two moved to Maryland, and one to Nevada). Similarly, of the 37 firms that moved out of Nevada in 2004, 31 moved back to their home state as well, thus reinforcing the notion that home incorporation is a default for firms. Other changes in Delaware's corporate law in 2003[52] were not fraught with controversy. Finally, Figure 4, which shows the aggregate share of Delaware's corporate license revenues for fiscal years ending in June of $1993 - 2007$, shows declining revenues that increased temporarily in 2003 (or the fiscal year ending in June in 2004), only to decline with the massive exodus of firms.

5 Counterfactual Policies

The advantage of specifying and estimating firm preferences in the manner proposed is that these preferences can be used to make out of sample prediction regarding different counterfactual policies. The advantage of having individual level data is that we can easily examine not only the impact on the aggregate shares, but also on the composition of firms within each jurisdiction. This can be seen as a partial equilibrium simulation in that we assume that the distribution of firm structure remains constant and simulate the predicted choices firms will make under different policies. We can examine the differential behavior of firms with different firm structure heterogeneity. However, a general equilibrium variant would also require a model for how the specific policy change impacts firm structure. Thus, for example, if indeed sophisticated shareholders are selecting firms partially due to the firms' choice of laws, a simulation of the effect of centralizing some of the governance legislation will then change the distribution of ownership across firms. This will change the structure of the counterfactual market even if we assume that the preferences remain as we estimated them. Similarly, a radical change in the market may change the preferences captured (but not decomposed) by the fixed effects.

In what follows we simulate the effect of a simple counterfactual policy: the effect of eliminating the ATS statutes (setting ATS to zero for all firms) and imposing all of the MAND laws (setting MAND to 4) for all firms. We look at the year 2006 and compare the predicted probabilities produced, given the 2006 data, with those under the uniform legal policy described. We then measure the "average policy effect", defined as the difference in the expected probability of choosing a particular alternative before and after the policy change, thus explaining the change in the average choice after accounting for endogeneity.

As expected, there are significant changes in firm shares. Most notably, the share of firms

[52] These were the limited expansion of the Court of Chancery's matter of jurisdiction and jurisdiction over executive officers, and the resolution of the ambiguity regarding shareholder and director rights to inspect the corporate books and records. See http://corp.delaware.gov/2003amends.shtml, current 7/2/2012.

predicted to incorporate at home decreases by 8%, the share of firms in Nevada decreases by 58%, and the share of firms in Maryland decreases 57%. The share of firms incorporating in California increases by 120%, as the incentive to leave California in pursuit of different laws is eliminated. This thus suggests that California is losing many firms due to its lack of takeover legislation, and that firms stay at home partially due to convenient laws. Maryland and Nevada are capturing market share due to their "manager friendly" laws, and are less likely to capture the dispersed shareholder firms. Delaware, on the other hand, increases its share by 8%. To a degree, this dispels the notion discussed above that Delaware is attracting firms due to its "loose laws". In fact Delaware has few takeover laws and when the divergence in laws disappears it becomes more attractive to firms.

6 Summary, Discussion, and Future Work

This paper exploits the revealed incorporation choices of firms to recover a rich set of firm specific preferences for governance. Beginning with the incorporation taxes we find, using both reduced form evidence from specific tax changes and in our aggregate model, that at least a subset of firms are very responsive to taxes. Our calculation has firms valuing governance laws at several million dollars, on average, a miniscule amount given the size of the public firms analyzed. We interpret these results with caution. Our results may serve as an explanation for the fact that incorporation taxes are so low, and for the high elasticity of reincorporations in response to tax changes. However, there may be an important group of firms for which governance features are very valuable and that are very insensitive to the tax levels. Furthermore, the large response to tax changes in the data may reflect some gaming behavior between firms and states, where firms would like to deter future tax increases (or other policies), and thus they respond very strongly to any tax increases. If this is the case, our estimates of the value of laws may be downward biased.

We then move on to the core of the paper – governance law. We show that the preference structure for governance laws is very much related to the balance of power amongst the constituencies within the firm and to the external environment. The average preferences of the firm often reflect the narrow interests of management: On average, firms dislike antitakeover laws and mandatory laws restricting the flexibility to grant managers more power and to limit their liability. Similarly, there is a marginally significant distaste for restrictions on payouts to shareholders. Thus, there are clear patterns in the collective preferences of firms. However, these preferences are not uniform. When institutional shareholders as well as venture capital investors — both of which can be seen as sophisticated shareholders — have significant stakes in the firm, they express a clear distaste for antitakeover laws. This is consistent with common perceptions that takeovers benefit shareholders and punish inefficient management. It may also reflect the prevailing view that these laws are shareholder wealth reducing.[53] Firms with more

[53] This view is the result of many event studies, many of which were conducted in the 80's (see, for example,

market power are similar to the average firm in their preferences for antitakeover litigation, however, the intensity of their preferences for mandatory laws restricting managerial power differs. This suggests some specificity in the trade-off between product market competition and corporate governance regulation in law. We do not find any of the director characteristics to have statistical power in explaining the choice of the incorporation package. The age of the firm, both since its founding and since its IPO, affects the intensity of preferences as well. This can be seen as evidence of a "life cycle" development of firm preferences, or of a recent shift in the preferences of younger firms.

In addition to the analysis of the observed heterogeneity, this paper shows that accounting for unobserved heterogeneity is important as well. We find, particularly concerning the mandatory laws analyzed, that there is much residual variance in firm preferences, which must be accounted for in the model. This further confirms the importance of the methodological approach. Furthermore, this paper shows that the omission of endogeneity controls significantly biases the findings towards zero. The analysis of observed and unobserved firm heterogeneity makes a more general point regarding the need to view firms as a sum of their inner components, both as a technical manner in order to disentangle the conflicting effects and as a necessary step to obtain a more complete view of firm choice.

Moving to the other pieces of the incorporation package, we find that firms generally, and institutional shareholders increasingly, dislike efficient courts. Firms prefer to be under the jurisdiction of court systems which have accumulated a large number of cases from previous years, which, consequently, can be expected to perform more slowly. However, institutional shareholders seem to prefer well functioning courts, at least at the trial level, once again highlighting the differences in preferences.[54] To complete the analysis of the incorporation bundle, we find, as expected, a significant distaste for geographical distance. This suggests the potential for regional incorporation "hot spots", and may explain why Nevada is emerging as the "Delaware of the West".

Finally, our simulation of a counterfactual policy that removes the differences in law reveals that laws do have a significant impact on some firms and contribute to the emergence of out-of-state hot spots like Maryland and Nevada. However, the preferences for the largest incorporation state, Delaware, is based on more than the observable characteristics alone. There is likely an atmosphere and network in Delaware that is attractive to a wide class of firms, and it has become a default incorporation venue for many firms.

Taking a step back, the general point made is that policy towards firms does not and will not have a uniform impact. There is considerable variance in the incorporation implications across states and firms sort themselves to their different chosen incorporation venues. This sorting is

Bhagat and Romano, 2002). From a theoretical point of view, even if antitakeover laws make takeovers more difficult, they may increase the premiums to shareholders when takeovers are successful and have a positive effect overall. A full testing of this view is beyond the scope of this paper.

[54] As mentioned, the preferences of institutional shareholders for delay at the appellate level are reversed, albeit with marginal significance levels. The average preference is for slower courts at both levels.

likely to related to the effective authority within the firm. In other words, the optimistic view, which would hope for firms to spatially match their needs to different niches provided by the different states, presupposes a firm collective that maximizes a shared objective. This view is significantly challenged by the findings in this paper, which can be seen as a confirmation of agency conflicts. Our findings suggest that choice does not necessarily seep down to firms with weaker shareholders. Our counterfactual analysis shows that when removing choice of law, pro-management firms no longer choose to leave their home states. However, this does not imply that governance law should be federalized. Centralizing corporate governance law would eliminate choice from all firms, a result that may indeed be too dramatic and require too much foresight from the policy maker. The recent increase in sophisticated shareholder power and the rise of shareholder advisory services increase the potential for shareholders to benefit from a menu of incorporation venues. Furthermore, the counterfactual analysis is very much a partial equilibrium. The measures of laws may be, to some degree, capturing the sentiment in the various jurisdictions and not the laws per se. Sentiment and forward looking expectations undoubtedly play a large role and are difficult to account for when extrapolating the results to inform future proposed policies.

It seems obvious that the taxation of incorporation should be revisited. First, facilitating the recovery of more tax revenue may serve as an incentive for states to more actively consider the design of their systems and compete efficiently. Second, the use of taxes as a price may even be a potential means to screen firms based on their different needs. The antiquated tax bases could be restructured to be more salient, and potentially related it to the agency issues within the firm that impact incorporation choices.

Finally, we stress the conceptual link between what is seen to matter for the "upper level" of governance — the choice of litigation regime — and the overall preferences of firms as reflected in their charters. The findings in the incorporation analysis are complementary to the findings in the literature on internal governance. Thus, for example, we may question the finding that governance matters more to firms with a high level of institutional shareholders, if indeed these are firms where shareholders have more of a say and can directly monitor management. Similarly, we may question the intensity of any trade-off between market competition and governance, given the lack of a significant shift in preferences for the ATS laws, and a modest shift for the MAND laws. More broadly, any claim regarding the effects of the passing of governance laws on firms should account for the collective firm choice to remain under the jurisdiction of such laws and not to reincorporate.[55]

In future work, private firms should be analyzed. These firms vary to a considerable degree both during their "private" life and in their decision to go public. Private firms face different

[55] The effects of being in jurisdictions with different corporate governance laws could be taken directly to stock market trading strategies. In previous versions of this paper we examine trading strategies based on the legal indices and find profitable trading strategies from the year 2000 onward. Firms in jurisdictions with more takeover laws perform better, as do firms with more mandatory laws. These results are available by request, and could of course be refined further by zeroing in on particular firm cohorts.

governance and control issues and have different agency problems. Thus, we should expect to see different governance preferences exhibited between public and private firms and in private firms amongst themselves. Finally, while our focus has been primarily on the U.S., this market structure of competition over firms and firm choice is becoming increasingly relevant in Europe as well. The research outlined above can be nicely paralleled in a study of the evolving European markets and ultimately in the global market as well.

References

[1] Aghion, Philippe and Jean Tirole, (1997), "Formal and Real Authority in Organizations," 105(1), *The Journal of Political Economy*, 1 – 29.

[2] Aghion, Philippe, John Van Reenen and Luigi Zingales, (2008), "Innovation and Institutional Ownership", mimeo.

[3] Allen, Franklin and Douglas Gale, (2002), "A Comparative Theory of Corporate Governance", mimeo.

[4] Allen, Franklin, Elena Carletti and Robert Marquez, (2007), "Stakeholder Capitalism, Corporate Governance and Firm Value", *Working Paper 07-39, Wharton Financial Institutions Center*, University of Pennsylvania.

[5] Ali, Ashiq, Sandy Klasa, and Eric Yeung, (2009), "The Limitations of Industry Concentration Measures Constructed with Compustat Data: Implications for Finance Research", *Review of Financial Studies*, 22(10), 3838-3871.

[6] Barzuza, Michal, (2004), "Price Considerations in the Market for Corporate Law," *Cardozo Law Review*, 26, 129.

[7] Barzuza, Michal, (2008), "Delaware's Compensation," *Virginia Law Review*, 94(3), 521 – 573.

[8] Bebchuk, Lucian Arye, and Assaf Hamdani, (2002), "Vigorous Race or Leisurely Walk: Reconsidering the Competition over Corporate Charters," *The Yale Law Journal*, 112(3), 553 – 615.

[9] Bebchuk, Lucian Arye, and Alma Cohen, (2003), "Firms' Decisions where to Incorporate," *The Journal of Law and Economics*, XLVI, 383 – 425.

[10] Bebchuk, Lucian, Alma Cohen and Alan Ferrell, (2009), "What Matters in Corporate Governance?", *Review of Financial Studies,* 22(2), 783-827.

[11] Berry, Steven, James Levinsohn, and Ariel Pakes (BLP), (1995), "Automobile Prices in Market Equilibrium", *Econometrica*, 63(4), 841 – 890.

[12] Berry, Steven, James Levinsohn, and Ariel Pakes, (2004), "Differentiated Products Demand Systems from a Combination of Micro and Macro Data: The New Car Market," *Journal of Political Economy*, 112(1), 68 – 103.

[13] Bhagat, Sanjai, and Roberta Romano (2002) "Event Studies and the Law: Part II: Empirical Studies of Corporate Law", 4 *American Law and Economics Review*, 380.

[14] Blundell, Richard, and James Powell, (2004),"Endogeneity in Semiparametric Binary Response Models**,** *Review of Economic Studies* 71(3)**,**655 – 679**.**

[15] Brown, Lawrence D. and Marcus L. Caylor, (2006), "Corporate Governance and Firm Valuation," *Journal of Accounting and Public Policy*, 25, 409 – 434.

[16] Burda, Martin, Mattew Harding, and Jerry Hausman, (2008), "A Bayesian Mixed Logit-Probit Model for Multinomial Choice," *Journal of Econometrics*, 147(2), 232-246.

[17] Bureau of National Affairs, "Multistate Tax Report: 2003 Survey of State Tax Departments," 10(4), April 25, (2003).

[18] Carhart, Mark M. (1997), "On Persistence in Mutual Fund Performance", *The Journal of Finance*, 52(1), 57 – 82

[19] Cary, William L., (1974), "Federalism and Corporate Law: Reflections upon Delaware," *Yale Law Journal*, 83, 663.

[20] Chernozhukov, Victor, Guido Imbens, and Whitney Newey, (2007), "Instrumental Variable Estimation of Nonseparable Models", *Journal of Econometrics*, 139, 4 – 14.

[21] Chhaochharia, Vidhi, and Yaniv Grinstein, (2007), "Corporate Governance and Firm Value: The Impact of the 2002 Governance Rules", *The Journal of Finance*, LXII (4), 1789 – 1825.

[22] Choi, Stephen J., G. Mitu Gulati, and Eric A. Posner, (2008), "Which States Have the Best (and Worst) High Courts?", *University of Chicago, Law & Economics Working Paper* No. 405.

[23] Core, John, (1997), "On the Corporate Demand for Directors' and Officers' Insurance," *Journal of Risk and Insurance*, LXIV, 63 – 87.

[24] Core, John, (2000), "The Directors' and Officers' Insurance Premium: An Outside Assessment of the Quality of Corporate Governance," *Journal of Law, Economics, and Organization*, XVI, 449 – 477.

[25] Core, John E., Wayne R. Guay and Tjomme O. Rusticus, (2006) "Does Weak Governance Cause Weak Stock Returns? An Examination of Firm Operating Performance and Investors' Expectations," *The Journal of Finance*, LXI(2), 655 – 687.

[26] Cremers, K.J. Martijn and Vinay B. Nair, (2005), "Governance Mechanisms and Equity Prices", *The Journal of Finance*, LX(6), 2859 – 2894.

[27] Cuñat, Vicente, and Maria Guadalupe, (2005), "How Does Product Market Competition Shape Incentive Contracts?," *Journal of the European Economic Association* (2005)

[28] Cuñat, Vicente, Mireia Gine and Maria Guadalupe (2011), "The Vote is Cast: The Effect of Corporate Governance on Shareholder Value", forthcoming *Journal of Finance*.

[29] Daines, Robert, "Does Delaware Law Improve Firm Value?", (2001), *Journal of Financial Economics*, 62, 525 – 558.

[30] Daines, Robert, and Michael Klausner, (2001), "Do IPO Charters Maximize Firm Value? Antitakeover Protection in IPOs," *Journal of Law, Economics, and Organization*, XVII, 83 – 120.

[31] Daines, Robert, (2002), "The Incorporation Choices of IPO Firms," *New York University Law Review*, 77, 1559 – 1611.

[32] Dakolias, Maria, (1999), "Court Performance Around the World: A Comparative Perspective", 2 *Yale Human Rights and Developments Law Journal*, 88 – 142.

[33] Dammann, Jens, and Matthias Schundeln, (2007), "The Incorporation Choices of Privately Held Corporations," *Law and Economics Research Paper No. 119*, The University of Texas School of Law.

[34] Dear, Jake, and Edward Jessen, (2007), ""Followed" Cases and Leading State Cases", 1940 – 2005, 41 *U.C. Davis L. Rev.* 683.

[35] Dubé, Jean-Pierre, Jeremy T. Fox, and Che-Lin Su, (2008), "Improving the Numerical Performance of BLP Static and Dynamic Discrete Choice Random Coefficients Demand Estimation", mimeo.

[36] Easterbrook, Frank, (1983), "Antitrust and the Economics of Federalism,"*Journal of Law and Economics*, 26, 23.

[37] Eckbo, B. Espen, (1990), "Valuation Effects of Greenmail Prohibitions," XXV, *Journal of Financial and Quantitative Analysis*, 491 – 505.

[38] Edwards, Franklin (2004), "U.S. Corporate Governance: What Went Wrong and Can It Be Fixed?", in *Market Discipline Across Countries and Industries*.

[39] Fama, Eugene F., and Kenneth R. French (1993), "Common Risk Factors in the Returns on Bonds and Stocks", *Journal of Financial Economics*, 33, 3 – 53.

[40] Fischel, Daniel, (1982), "The 'Race to the Bottom' Revisited: Reflections on Recent Developments in Delaware's Corporation Law," *Northwestern University Law Review*, 76, 913.

[41] Fox, William F. and LeAnn Luna, (2002),"State Corporate Tax Revenue Trends: Causes and Possible Solutions," *National Tax Journal*, LV (3), 491 – 508.

[42] Gartman, Grant A., (2000), *State Antitakeover Law,* Investor Responsibility Research Center, Washington D.C

[43] Garvey, Gerald T., and Gordon Hanka, (1999), "Capital Structure and Corporate Control: The Effect of Antitakeover Statutes on Firm Leverage," *Journal of Finance*, 54, 519 – 546.

[44] Giroud, Xavier and Holger M. Mueller, (2010), "Does Corporate Governance Matter in Competitive Industries?" *Journal of Financial Economics* 95, 312-331.

[45] Gompers, Paul and Josh Lerner (2004), *The Venture Capital Cycle*, MIT Press (second edition).

[46] Gompers, Paul A. and Andrew Metrick, (2001), "Institutional Investors and Equity Prices," *Quarterly Journal of Economics*, 116(1), 229 – 259.

[47] Gompers, Paul, Joy Ishii and Andrew Metrick, (2003), "Corporate Governance and Equity Prices", *Quarterly Journal of Economics*, 107 – 155.

[48] Guercio, Diane D., and Jennifer Hawkins,(1999) "The Motivation and Impact of Pension Fund Activism",*Journal of Financial Economics,* 52, (1999), 293 – 340.

[49] Hansmann, Henry, (2006), "Corporation and Contract", *American Law and Economics Review*, 8, 1 – 19.

[50] Hahn, Jinyong, and Jerry Hausman, (2003), "Weak Instruments: Diagnosis and Cures in Empirical Econometrics,"*American Economic Review*, 93(2), 118.

[51] Hausman, Jerry, and William E. Taylor, (1981), "Panel Data and Unobservable Individual Effects", *Econometrica*, 49(6), 1377 – 1398.

[52] Hausman, Jerry, G. Leonard, and J.D. Zona, (1994), "Competitive Analysis with Differentiated Products", *Annales D'Economie et de Statistique*, 34, 159 – 180.

[53] Hausman, Jerry, (1996), "Valuation of New Goods Under Perfect and Imperfect Competition," *The Economics of New Goods, Studies in Income and Wealth* (ed. by T. Bresnahan and R. Gordon, Chicago: National Bureau of Economic Research), 58.

[54] Heron Randall A. and Wilbur G. Lewellen, (1998), "An Empirical Analysis of the Reincorporation Decision," *Journal of Financial and Quantitative Analysis*, 33(4), 549 – 568.

[55] Holmstrom, Bengt, and Steven N. Kaplan, (2001), "Corporate Governance and Merger Activity in the United States: Making Sense of the 1980s and 1990s," *Journal of Economic Perspectives*, 15(2), 121 – 144.

[56] Holmstrom, Bengt, and Steven N. Kaplan, (2003) "The State of U.S. Corporate Governance: What's Right and What's Wrong?" *Journal of Applied Corporate Finance*, 15(3).

[57] Imbens, Guido W., and Whitney K. Newey (2009), "Identification and Estimation of Triangular Simultaneous Equations Models Without Additivity", *Econometrica,* 77(5), 1481-1512.

[58] Jagadeesh, Narasimhan, and Sheridan Titman, (1993), "Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency", *Journal of Finance*, 48, 65 – 91.

[59] Kahan, Marcel, and Ehud Kamar, (2001), "Price Discrimination in the Market for Corporate Law," *Cornell Law Review*, 86, 1205 – 1256.

[60] Kahan, Marcel and Ehud Kamar, (2002), "The Myth of State Competition in Corporate Law," *Stanford Law Review*, 55(3), 679 – 749.

[61] Kahan, Marcel, (2006), "The Demand for Corporate Law: Statutory Flexibility, Judicial Quality, or Takeover Protection," *Journal of Law, Economics and Organization*, 22(2), 340 – 365.

[62] Karpoff, Jonathan M., and Paul H. Malatesta, (1989), "The Wealth Effects of Second-Generation State Takeover Legislation," *Journal of Financial Economics*, 25, 291 – 322.

[63] Klausner, Michael, (1995), "Corporations, Corporate Law and Networks of Contracts," *Virginia Law Review*, 81, 757 – 852.

[64] Knittel, Christopher R. and Konstantinos Metaxoglou (2008), "Estimation of Random Coefficient Demand Models: Challenges, Difficulties and Warnings", *NBER Working Paper* 14080.

[65] Lambert, Richard A., and David F. Larcker, "Golden Parachutes, Executive Decision-Making and Shareholder Wealth," *Journal of Accounting and Economics*, VII (1985), 179 – 203.

[66] MacKerron, John A., (1993), "A Taxonomy of the Revised Model Business Corporation Act," *UMKC Law Review*, 61, 663 – 691.

[67] Madrian, Brigitte and Dennis F. Shea, (2001) "The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior," *Quarterly Journal of Economics*, 116, 1149 – 1187.

[68] Mallette, Paul and Robert Spagnola, (1994), "State Takeover Legislation: The Political Defense", *SAM Advanced Management Journal*, 59(3), 15.

[69] Masulis, Ronald W., Cong Wang and Fei Xie, (2007), "Corporate Governance and Acquirer Returns", *The Journal of Finance*, LXII, 4, 1851 – 1889.

[70] Nader, Ralph, Mark Green, and Joel Seligman, (1976), *Taming the Giant Corporation*, New York, W.W.Norton.

[71] Nagar, Venky, Kathy Petroni and Daniel Wolfenzon, (2011), "Governance Problems in Close Corporations", *Journal of Financial and Quantitative Analysis*, 46(4), 943-966.

[72] Nevo, Aviv, (2000), "A Practitioner's Guide to Estimation of Random-Coefficients Logit Models of Demand", *Journal of Economics and Management Strategy*, 9(4), 513 – 548.

[73] Nevo, Aviv, (2001), "Measuring Market Power in the Ready-to-Eat Cereal Industry", *Econometrica*, 69(2), 307 – 342.

[74] Newey, Whitney, (1990), "Efficient Instrumental Variable Estimation of Nonlinear Models," *Econometrica*, 58, 809 – 837.

[75] Petrin, Amil, (2005), "The Use of Control Functions to Identify Demand when Errors are Non-Additive", *University of Chicago Working Paper*

[76] Petrin, Amil (2006), "Control Function Corrections for Unobserved Factors in Differentiated Product Models", mimeo.

[77] Petrin, Amil, and Kenneth Train, (2006), "Control Function Corrections for Omitted Attributes in Differentiated Product Markets," *Quantitative Marketing and Economics*,

[78] Pinnell, Maria Carmen S.,(2000), *State Takeover Laws* (Washington, DC: Investor Responsibility Research Center Inc.

[79] Rauh, Joshua, D. (2006), "Own Company Stock in Defined Contribution Pension Plans: A Takeover Defense?", *Journal of Financial Economics*, 81(2), 379-410.

[80] Roe, Mark, (2003), "Delaware's Competition", *Harvard Law Review*, 117, 588 – 644.

[81] Romano, Roberta, (1985), "Law as a Product: Some Pieces of the Incorporation Puzzle," *Journal of Law, Economics and Organization*, 1(2), 225 – 283.

[82] Romano, Roberta, (1993), *The Genius of American Corporate Law* (AEI Press).

[83] Romano, Roberta,(1993), "Public Pension Fund Activism in Corporate Governance Reconsidered," *Columbia Law Review*, 93, 795 – 853.

[84] Romano, Roberta, (1998), "Empowering Investors: A Market Approach to Securities Regulation," *The Yale Law Journal*, 107(8), 2359 – 2430.

[85] Romano, Roberta, (2006), "The State as a Laboratory: Legal Innovation and State Competition for Corporate Charters", *Yale Journal on Regulation*, 209–

[86] Sapra, Haresh, Ajay Subramanian and Krishnamurthy Subramanian, "Corporate Governance and Innovation: Theory and Evidence", (2008), mimeo.

[87] Shleifer, Andrei, and Robert Vishny, (1986), "Greenmail, White Knights, and Shareholders' Interest," *Rand Journal of Economics,* XVII, 293 – 309.

[88] Shleifer, Andrei, and Robert Vishny, (1989), "Management Entrenchment: The Case of Manager-Specific Investments," *Journal of Financial Economics,* XXV, 123 – 140.

[89] Shleifer, Andrei, and Robert Vishny, (1997), "A Survey of Corporate Governance," *Journal of Finance*, LII, 737 – 783.

[90] Law Suit Climate, *State Liabilities Ranking Studies* series (2003 – 2008), The U.S. Chamber of Commerce.

[91] Stevelman, Faith, "Regulatory Competition, Choice of Forum, and Delaware's Stake in Corporate Law", *Delaware Journal of Corporate Law*, 34(1), 2009.

[92] Subramanian, Guhan, (2002), "The influence of Antitakeover Statutes on Incorporation Choice: Evidence on the "Race" Debate and Antitakeover Overreaching", *University of Pennsylvania Law Review* 150(6), 1795-1873

[93] Subramanian, Guhan, (2004), "The Disappearing Delaware Effect", *Journal of Law, Economics and Organization*, 20, 32 – 59.

[94] Villas-Boas, J. Miguel and Russel S. Winer, (1999) "Endogeneity in Brand Choice Models," *Management Science*, 45(10), 1324 – 1338.

[95] Wald, John K. and Michael S. Long, (2007), "The Effect of State Laws on Capital Structure," *Journal of Financial Economics*, 83(2), 297 – 319.

[96] Winter, Ralph K., Jr., (1977), "State Law, Shareholder Protection, and the Theory of the Corporation," *The Journal of Legal Studies*, 6, 251.

Table 1: Summary Statistics

Variable	Mean	Std. Dev.	N
ATS	3.094	1.597	1921327
MAND	0.623	0.781	1921327
Payout Restrictions	0.925	0.316	1921327
Ultra Vires	0.560	0.496	1921327
Institutional Ownership	0.151	0.207	1938536
Industry Concentration	0.2	0.209	1938536
Age (Founding)	24.501	24.788	428787
Age (IPO)	6.233	5.571	798019
SCIT	0.065	0.035	1823545
Incorporation Taxes (Thousands)	34.065	229.691	1938536
Venture Backed	0.155	0.362	849924
Insiders After IPO	36.606	21.626	318099
Clearance Ratio (Appeals)	1.079	0.261	1249885
Clearance Ratio (Trial)	0.843	0.185	1361846
Distance (Thousands)	1.344	1.063	1752226

Table 1A

OLS first stage regressions clustered by state, controlling for all characteristics of all products

	1% Block	5% Block	Total Inst. Share	Pension Block
	(1)	(2)	(3)	(4)
SP500	.098***	.013**	.240***	.018***
	(.017)	(.005)	(.037)	(.001)
Market Value (billions)	-.003***	-.002***	-.0004	-.00008***
	(.0005)	(.0001)	(.002)	(.00003)
Controls	Yes	Yes	Yes	Yes
Obs.	128002	128002	128002	128002

Table 2: Summary statistics (Non-Movers - Delaware)

Variable	Mean	Std. Dev.	N
Market Value	2382.289	12099.217	2671
Employees	7.104	37.753	3191
Net Income	72.832	652.752	3247
Franchise Tax Last Period	130066.355	49936.876	3342

Table 3: Summary statistics (Movers - Delaware)

Variable	Mean	Std. Dev.	N
Market Value	528.866	1471.514	111
Employees	1.622	3.992	167
Net Income	-13.418	266.814	171
Franchise Tax Last Period	110629.984	56584.013	172

Table 4: Summary statistics (Non Movers - Nevada)

Variable	Mean	Std. Dev.	N
Market Value	638.002	1833.133	132
Employees	1.343	8.031	385
Net Income	2.766	89.335	478

Table 5: Summary statistics (Movers - Nevada)

Variable	Mean	Std. Dev.	N
Market Value	93.469	175.769	10
Employees	0.085	0.251	30
Net Income	-0.22	6.991	35

Table 6

	P(move)	P(move)	P(move)	P(move)
	(1)	(2)	(3)	(4)
Nevada-2004	-	.040***	-	.024***
		(.010)		(.007)
Delaware-2004	-	.056***	-	.039***
		(.012)		(.009)
NV-After	.010**	-	.007	-
	(.004)		(.004)	
DE-After	.019***	-	.018***	-
	(.006)		(.006)	
Firms	All	All	"Foreign"	"Foreign"
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Observations	201,790	201,790	120,240	120,240

Table 7

Variable	Means (β's)	Standard Deviations (σ's)	Interactions with Firm Structure: Ownership	Interactions with Firm Structure: Industry Concentration
Laws				
ATS	.314***	.001	-.478***	.049
	(.096)	(.002)	(.164)	(.042)
MAND	-.687***	1.31***	-1.19***	.493***
	(.208)	(.115)	(.406)	(.102)
Payout Restrictions	.037	-	-	-
	(.277)			
Ultra Vires	-.353	-	-	-
	(.292)			
Courts				
Clearance Ratio	-.75**	.066	1.43**	.711
	(.364)	(.045)	(.712)	(.422)
Taxes				
Incorp. Taxes	-.002***	-	-	-
	(.0004)			
SCIT	-3.28	-	-	-
	(4.35)			
Distance	-.272***	-	-	-
	(.083)			
Product Fixed Effects				
HOME	4.37***		FL	-1.21
	(.232)			(.201)
DE	5.49***		CO	-.16
	(.340)			(.313)
NV	.11		MA	-.625***
	(.458)			(.209)
MD	-.017		NY	-.035
	(.287)			(.435)
CA	-.413*		PA	.071
	(.358)			(.442)
WY	-1.75***		-	-
	(.595)			

ATS is an index of antitakeover laws, MAND is an index of mandatory laws. Payout Restriction indicates the minimum asset to liability ratio required to make a shareholder payout. Ultra Vires indicates whether ultra vires actions are recognized in the state. Clearance Ratio is the ratio of cases accumulated to cases disposed of in trial courts in the previous year. Incorp. Taxes are the total tax liability for the firm (incorporation and franchise taxes) that results from the choice of jurisdiction. SCIT is the state corporate income tax rate in the previous year. Distance is the geographical distance (in thousands of miles) from the home state to the incorporation state. Ownership is measured as the percent of shares held by institutions with at least a 1% block in the firm. Industry concentration is calculated based on the Herfindahl index using the three digit SIC code. This specification uses 780,824 observations. Endogeneity is controlled for using a control function approach described above. Standard errors are clustered by home state. ***,**,* indicate significance at the 1%,5% and 10% levels respectively.

Table 8

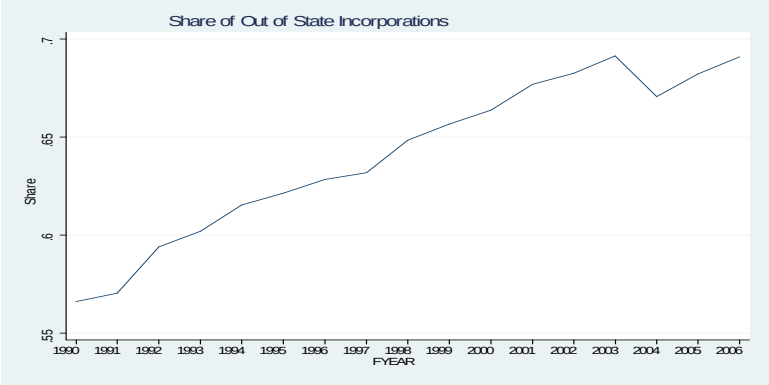
Variable	(1)	(2)
ATS		
Mean	.446***	.368**
	(.157)	(.159)
Ownership	-.752***	-.679***
	(.218)	(.225)
Industry Concent.	.098	.039*
	(.041)	(.063)
Venture Backed	-.035	-.052**
	(.026)	(.026)
Age (since IPO)	.011***	-
	(.004)	
Age (since founded)	-	.004***
		(.001)
σ	.009	.003
	(.007)	(.003)
MAND		
Mean	-.861**	-.718*
	(.419)	(.410)
Ownership	-1.58***	-1.58***
	(.450)	(.492)
Industry Concent.	.710***	.637***
	(.140)	(.242)
Venture Backed	-.157***	-.123***
	(.050)	(.047)
Age (since IPO)	.041***	-
	(.001)	
Age (since founded)	-	.011***
		(.003)
σ	1.49***	1.37***
	(.216)	(.173)
Clearance Ratio		
Mean	-1.35**	-1.29**
	(.53)	(.525)
σ	0.012	0.048
	(.07)	(.059)
Taxes		
Incorporation	-.002*	-.002**
	(.0008)	(.0009)
SCIT	-6.32	-3.87
	(6.73)	(6.15)
Observations	298,473	220,930

Variable descriptions are the same as under table 7. In addition, Venture Backed is a dummy variable indicating whether the firm had an initial IPO backed by venture capital, and two alternative age variables are added. These additional variables are cumulative to all variables in the model. Endogeneity is corrected for by using the control function approach detailed in the text.

Table 9

Variable	(Endogeneity Correction)	(2)	(3)
HOME	4.37***	3.68***	3.49***
	(.233)	(.248)	(.25)
DE	5.49***	4.54***	4.32***
	(.34)	(.305)	(.293)
NV	.11	.48	.496
	(.458)	(.438)	(.467)
MD	-.016	.920**	.699*
	(.287)	(.379)	(.409)
ATS			
Mean	.314***	.194**	.181**
	(.97)	(.078)	(.075)
Ownership	-.478***	-.242***	-.21***
	(.712)	(.078)	(.074)
Industry Concentration	.05	.210***	.202***
	(.042)	(.068)	(.061)
σ	.002	0.0007	-
	(.002)	(.001)	
MAND			
Mean	-.688***	-.639***	-.19
	(.208)	(.214)	(.127)
Ownership	-1.19***	-.8***	-.67***
	(.406)	(.266)	(.174)
Industry. Concentration	.493***	.305***	.210***
	(.103)	(.111)	(.071)
σ	1.31***	1.14***	-
	(.115)	(0.174)	
Taxes			
Incorp. Tax	-.002***	-.002***	-.002***
	(.0004)	(.0003)	(.0003)
SCIT	-3.28	-2.07	-1.80
	(4.350)	(4.36)	(4.38)
Distance	-.272***	-.250***	-.224***
	(.084)	(.070)	(.074)
Payout Restrictions	.037	.015	-.058
	(.277)	(.223)	(.200)
Ultra Vires	-.353	-.268	-.173
	(.292)	(.257)	(.275)

Variable descriptions are the same as under Table 7, and the same variables are used. Not all variables are reported for ease of exposition. Here, the first column has the control function endogeneity correction, while the second and third do not. In addition, column three does not account for unobserved heterogeneity in the random coefficient design.



(a) Full Stock

(b) IPO

Figure 1: Trends in Out of State Incorporations.

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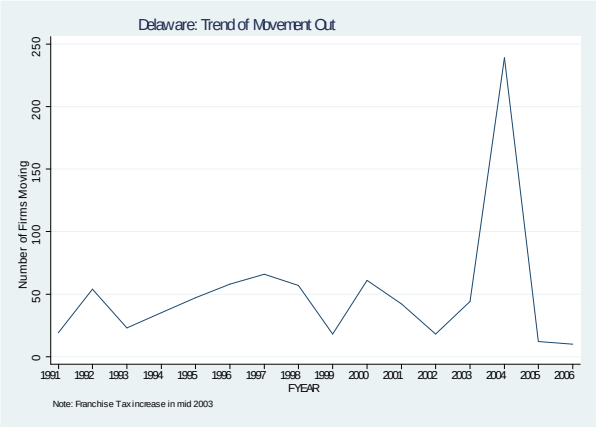
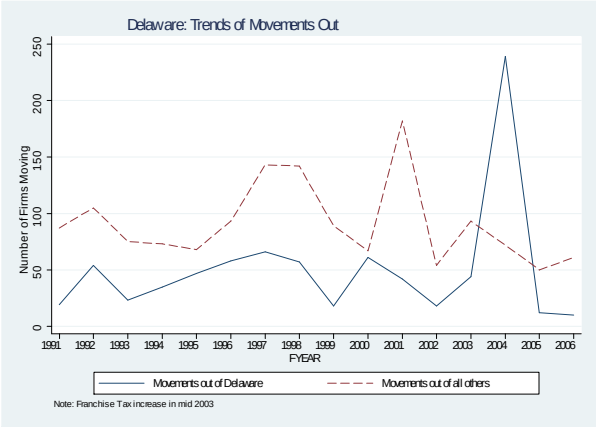
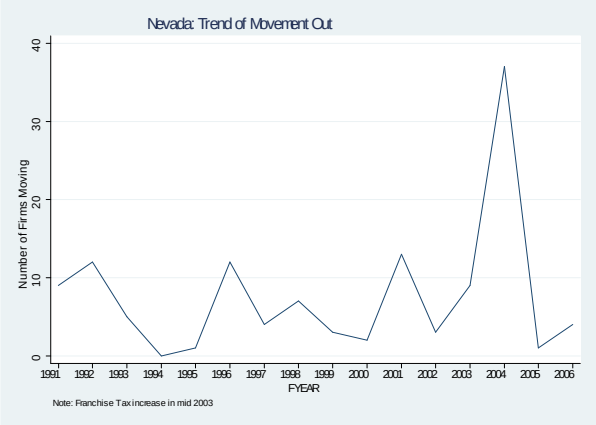


(a) Delaware Movements

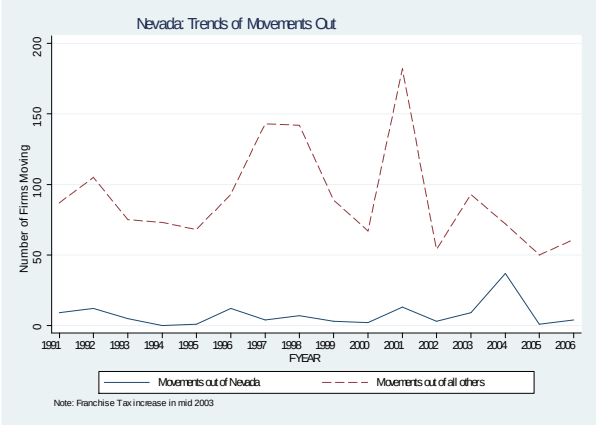


(b) Delaware Movements and Reference

Figure 2: Flows Out of States.



(a) Nevada Movements



(b) Nevada Movements and Reference

Figure 3: Flows Out of States.

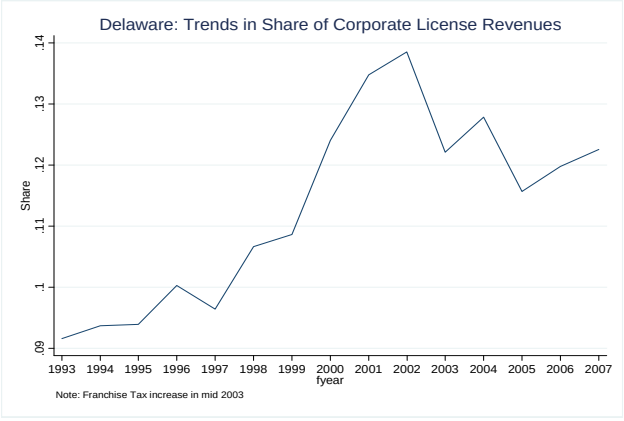
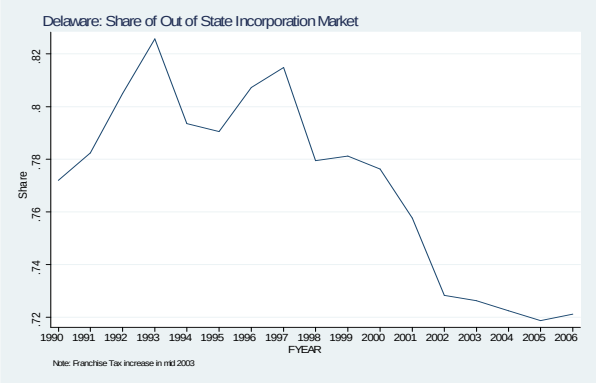
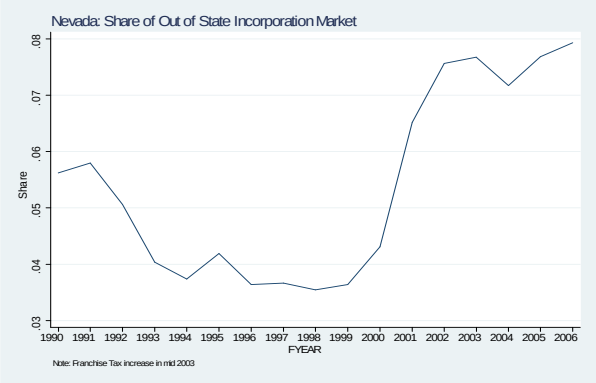


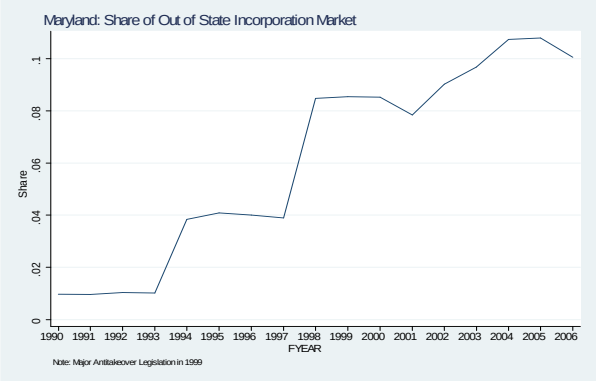
Figure 4: Trends in Share of Delaware's Corporate License Revenues.



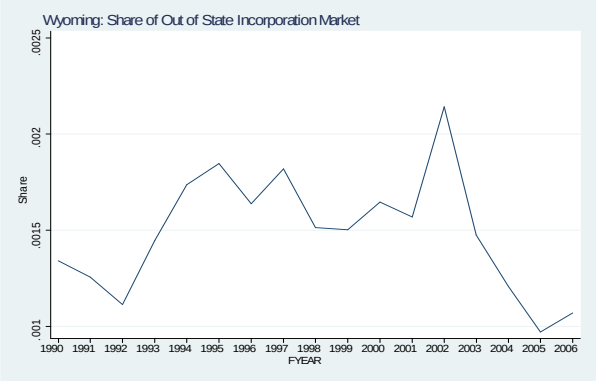
(a) Delaware Share: Out of State Incorporations



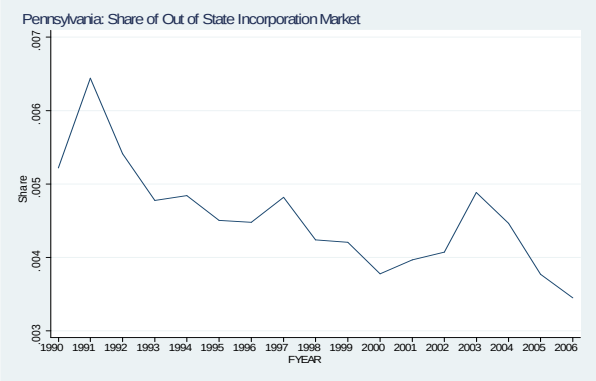
(b) Nevada Share: Out of State Incorporations



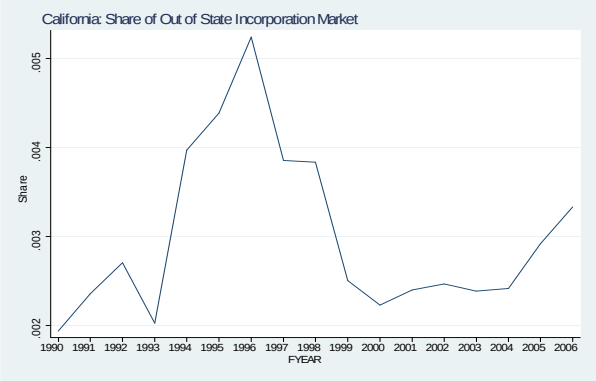
(c) Maryland Share: Out of State Incorporations



(d) Wyoming Share: Out of State Incorporations

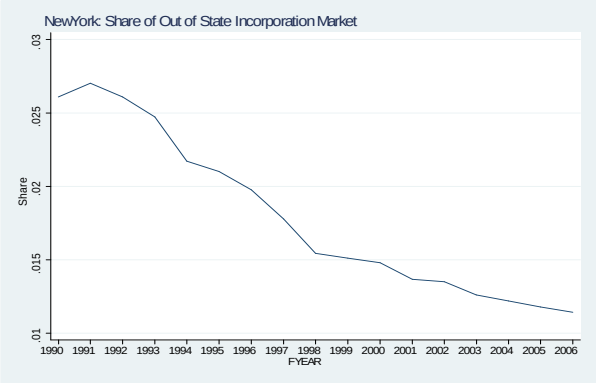


(e) Pennsylvania Share: Out of State Incorporations

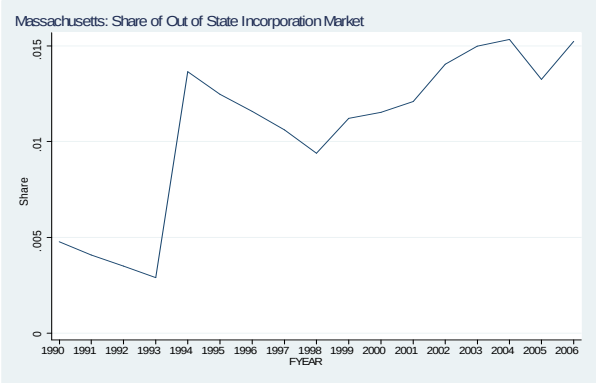


(f) California Share: Out of State Incorporations

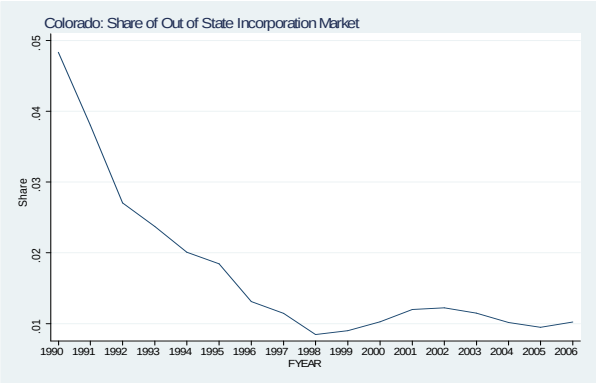
Figure 5: Trends in Shares of Out of State Incorporations



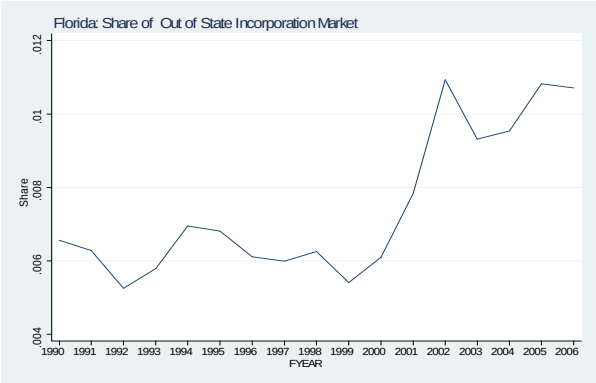
(g) New York Share: Out of State Incorporations



(h) Massachusetts Share: Out of State Incorporations

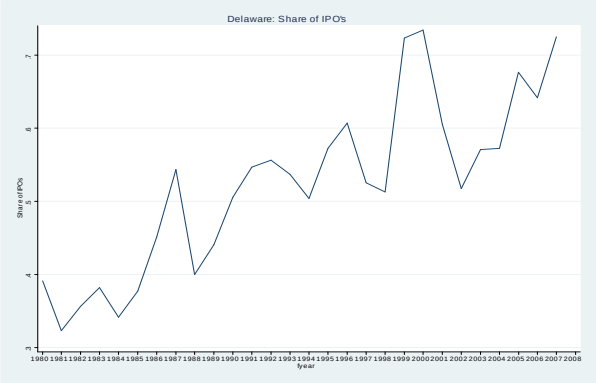


(i) Colorado Share: Out of State Incorporations

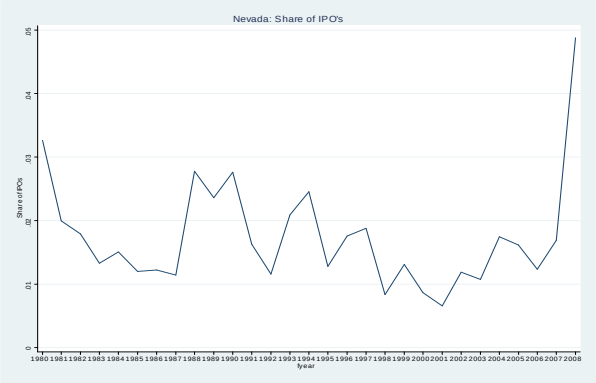


(j) Florida Share: Out of State Incorporations

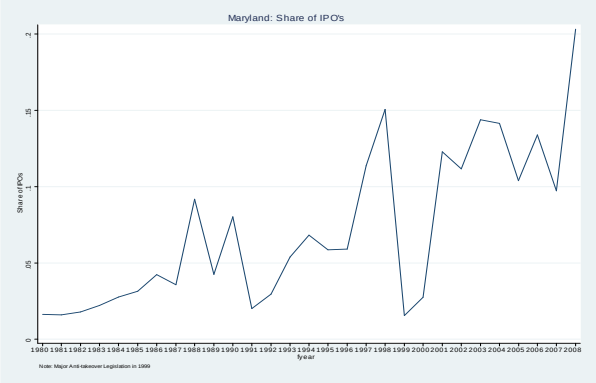
Figure 5: Trends in Shares of Out of State Incorporations



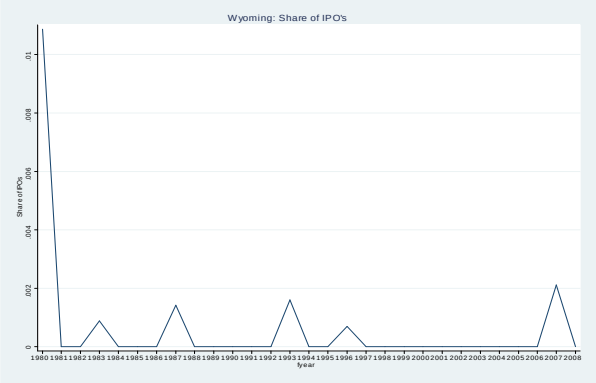
(a) Delaware Share: IPOs



(b) Nevada Share: IPOs

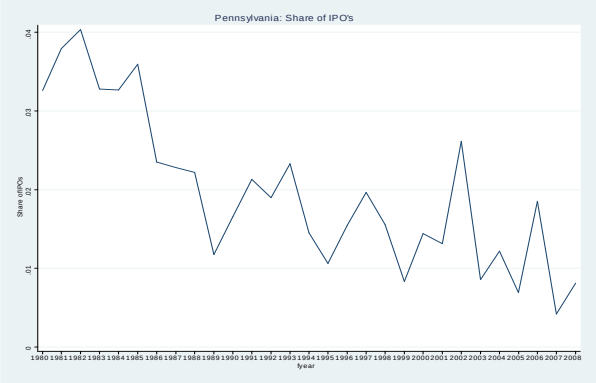


(c) Maryland Share: IPOs

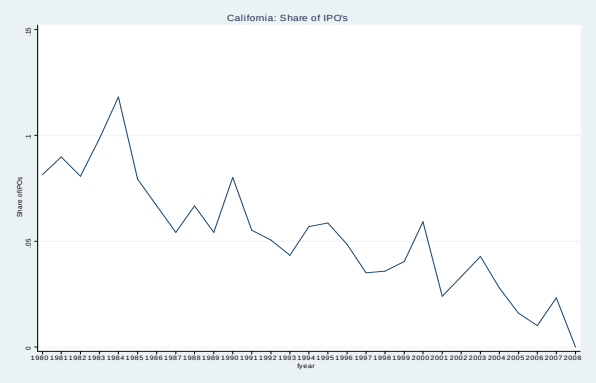


(d) Wyoming Share: IPOs

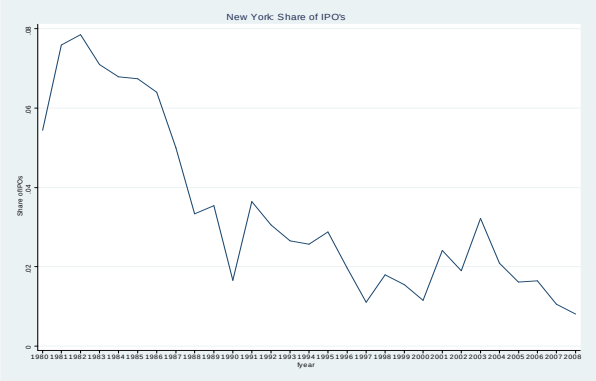
Figure 6: Trends in Shares of IPOs



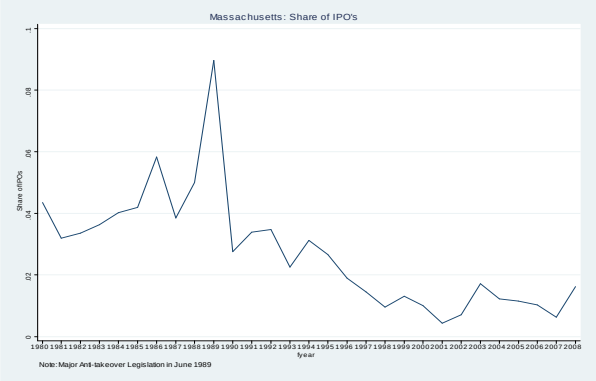
(e) Pennsylvania Share: IPOs



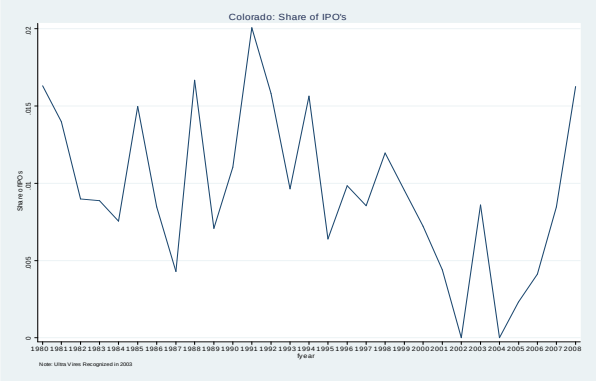
(f) California Share: IPOs



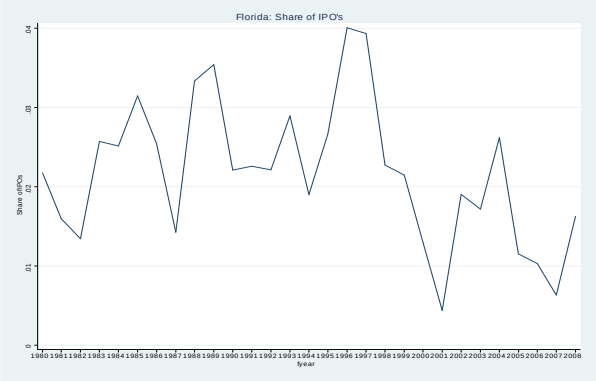
(g) New York Share: IPOs



(h) Massachusetts Share: IPOs



(i) Colorado Share: IPOs



(j) Florida Share: IPOs

Figure 6: Trends in Shares of IPOs

7 Appendix A1 - Description of State Laws

When possible we quote the definition in GIM. In these cases, the definition will be followed by "(GIM)". Otherwise, these definitions will be culled from a variety of sources including sharkrepellent.com (which is current and thus from which we also can track any changes in state laws since GIM), the ISS Proxy Voting Manual, and the State Takeover Law Handbook. We separate the laws into two categories: (1) those used in the specifications above and (2) other laws explored, but not found to be significant or that are found to lack sufficient cross sectional variation.

7.1 ATS LAWS

7.1.1 Control Share Acquisition Provisions

These are provisions that "require a majority of disinterested shareholders to vote on whether a newly qualifying large shareholder has voting rights."(GIM) They were in place in 25 states by September 1990, four more states added these provision in 1990, and one more added them in 1991. In Arizona, Florida, Idaho, North Carolina, South Carolina, Tennessee and Washington they apply to out of state corporations as well. They essentially require that a bidder obtain shareholder votes or risk not being able to use the acquired stock to obtain control. These provisions are one of the five provision types Bebchuk and Cohen (2003) see to be central to incorporation choice. They are seen to be beneficial even by some opposed to ATS since they protects shareholders against coercive offers without granting managers the ability to resist bids.

7.1.2 Director Duties

These provisions, also termed **Expanded Constituency Provisions**, "allow directors to consider constituencies other than shareholders when considering a merger. These constituencies may include, for example, employees, host communities, or suppliers. These provisions provide boards of directors with a legal basis for rejecting a takeover that would have been beneficial to shareholders. Thirty-one states have Directors' Duties laws allowing similar expansions of constituencies, but in only two of these states (Indiana and Pennsylvania) are the laws explicit that the claims of shareholders should not be held above those of other stakeholders." [Pinnell 2000]

7.1.3 Fair Price Provisions

"Fair-Price provisions limit the range of prices a bidder can pay in two-tier offers. They typically require a bidder to pay all shareholders the highest price paid to any shareholder during a specified period of time before the commencement of a tender offer, and do not apply if the deal is approved by the board of directors or a supermajority of the target's shareholders. The goal of these provisions is to prevent pressure on the target's shareholders to tender their shares in

the front end of a two-tiered tender offer, and they have the result of making such an acquisition more expensive." (GIM) 25 states had Fair-Price laws in place in 1990. Three states passed their laws in 1990 and two more states passed such laws in 1991. These provisions limit the bargaining power of bidders in that they mitigate the risk for shareholders of not tendering in the first round, and then obtaining a low price in the second round.

7.1.4 Freeze Out Provisions

Also termed **Business Combination Statutes**. These provisions impose "a moratorium on certain kinds of transactions (e.g., asset sales, mergers) between a large shareholder and the firm, unless the transaction is approved by the Board of Directors. Depending on the state, this moratorium ranges between two and five years after the shareholder's stake passes a pre-specified (minority) threshold." (GIM) In effect, these laws limit the benefits of takeovers in that the synergies in the case of mergers or other restructuring cannot take place immediately.

7.1.5 Poison Pill Endorsements

This is a seal of approval given by the state for the use of poison pills. In effect, it provides a layer of protection should the pills be challenged. The endorsement does vary by state in its degree. For example New York and North Carolina are clear that such plans are still subject to judicial review to ensure shareholder interests are considered and that the freedom to use these pills is not unlimited.

7.2 MAND LAWS

7.2.1 Cumulative Voting

Six states have mandatory provisions requiring election by cumulative voting. Other states allow the firms to choose. Cumulative voting provisions allow "a shareholder to allocate his total votes in any manner desired, where the total number of votes is the product of the number of shares owned and the number of directors to be elected. By allowing them to concentrate their votes, this practice helps minority shareholders to elect directors." (GIM) These are seen to increase shareholder rights. They grant the minority more power to be represented, in that they can focus on electing at least some of the directors. These provisions can also be made contingent on there being a substantial shareholder.

7.2.2 Limits on Loans to Directors and Officers

Most states permit loans to directors and officers, subject to self dealing constraints. Four states have special rules holding directors personally liable for the loans or have procedural requirements, such as shareholder approval. As mentioned, this is a particularly interesting provision, given that now, post Sarbanes-Oxley, there is a general prohibition on such loans.

7.2.3 Restrictions on Limits to the Personal Liability of Directors

Some systems permit firms to eliminate the personal liability of directors for a breach of duty. Six states do not permit this, or do so on grounds narrower than Delaware. "Limitations on director Liability are charter amendments that limit directors' personal liability to the extent allowed by state law. They often eliminate personal liability for breaches of the duty of care, but not for breaches of the duty of loyalty or for acts of intentional misconduct or knowing violation of the law."(GIM)

7.2.4 Merger Vote Majority Requirements

Seven states require that mergers be approved by two-thirds of the shareholders, and do not permit the company to adopt a lower threshold. Other states require a regular or two-third majority but allow firms to vary the percentage in their certificate of incorporation.

7.3 Payout Restrictions

We use Wald and Long's (2007) coding of the minimum asset to liability ratio required to make payouts to shareholders (which clearly affects leverage decisions). These laws are very stable over our time period, but they document them having significant effects on manufacturing firms' incorporation and reincorporation choices.

7.4 Ultra Vires Recognition

These laws recognize actions taken by the firm (through its agents) as firm actions, even when the actor overstepped the boundaries of his position in the firm charter. This imposes more responsibility on the firm over its actors. Most states have generally chosen to recognize such acts. Jurisdictions that do not offer firms a limitation on the breadth of their liability.

7.5 Other Laws Tested but Not Reported

7.5.1 Anti-Greenmail Restrictions/Profit Recapture

These restrictions refer to "a transaction between a large shareholder and a company in which the shareholder agrees to sell his stock back to the company, usually at a premium, in exchange for the promise not to seek control of the company for a specified period of time. Antigreenmail provisions prevent such arrangements unless the same repurchase offer is made to all shareholders or approved by a shareholder vote. Such provisions are thought to discourage accumulation of large blocks of stock because one source of exit for the stake is closed, but the net effect on shareholder wealth is unclear [Shleifer and Vishny 1986; Eckbo 1990]. Five states have specific Antigreenmail laws, and two other states have "recapture of profits" laws, which enable firms to recapture raiders' profits earned in the secondary market. We consider recapture of profits laws to be a version of Antigreenmail laws (albeit a stronger one)... states with Antigreenmail laws

tend to pass them in conjunction with laws more clearly designed to prevent takeovers [Pinnell 2000]." (GIM) GIM code Antigreenmail as a decrease in shareholder rights "since it seems likely that most firms and states perceive Antigreenmail as a takeover "defense"".

7.5.2 Compensation Restrictions

These laws prohibit the establishment of irregular compensation increases during takeover contests, such as new golden parachutes provisions. However they are of limited efficacy since they generally do not apply to the period before the takeover contest (see Mallette and Spagnola, 1994).

7.5.3 Control Share Cash Out Provisions

These provisions enable "shareholders to sell their stakes to a "controlling" shareholder at a price based on the highest price of recently acquired shares. This works something like fair-price provisions extended to non-takeover situations. These laws were in place in three states by 1990 with no additions during the decade" (GIM), (and none were added since). They discourage takeovers by making them more expensive given that this option is extended to shareholders.

7.5.4 Model Business Corporation Act (MBCA)

This is a complete codex written by the American Bar Association. A number of states have adopted the MBCA and so there clearly are network benefits from sharing its laws. However, four of the five largest states and Delaware have not adopted it. There is also considerable variation in the time the MBCA was adopted (although largely before the 90's). It is therefore more a proxy for a form of legal network effects and less an indicator for having particular laws. Naturally, there are many alternatives to adopting the MBCA. Non-adopting states deviate from its provisions in a variety of ways. It is thus a difficult "law" to analyze.

7.5.5 Severance Pay and Labor Contract Provisions

These provisions are used by states to protect employees in the event of a takeover. Severance pay ensures severance to the employees, while the labor contract provisions require that, post-takeover, no collective bargaining or employment contract be terminated without the explicit consent of all parties to the contract. Massachusetts and Rhode Island had both provisions, although the former has been invalidated by federal courts because it is preempted by the Employee Retirement Income Security Act (ERISA). Pennsylvania still has both, while Delaware and Illinois only have the latter. (See *Simas v. Quaker Fabric Corp. of Fall River*, 6 F.3d 849 (1st Cir. 1993) and *United Paperworks International Union Local* 1468*, et al., v. Imperial Home Decor Group*, 1999 WL 1115761 (D.R.I. 1999). We thus counted all states with at least one of the two as having this type of protection.