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Where Are Limited Liability Companies Formed? An Empirical Analysis

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ABSTRACT

We empirically study the incorporation choices or—more accurately: formation choices—of limited liability companies. Most of the firms in our large sample of more than 64,000 limited liability companies are formed in the state where their principal place of business is located (the PPB state). As their size increases, however, firms become more likely to be formed outside that state, with Delaware emerging as the primary destination for those that are not formed in the PPB state. In particular, of those firms that have 1,000 or more employees, roughly half are formed outside their home state, and of the latter, more than 80% are formed in Delaware.

We show that substantive law matters to the formation choices of closely held limited liability companies. More specifically, limited liability companies appear to be migrating away from those states that offer lower levels of protection for minority investors: We find statistically significant evidence that firms are less likely to be formed in their PPB state if the latter offers relatively lenient rules on managerial liability or if it allows companies to be dissolved via a less than unanimous resolution of the members.

I. INTRODUCTION

One of the most thoroughly discussed phenomena in U.S. corporate law is the so-called market for corporate charters: Corporations can select the applicable corporate law by incorporating in the state of their choice. States, in turn, have economic incentives to attract corporate charters. In particular, they can impose franchise taxes on domestic corporations. The result is a market for corporate law in which states function as suppliers and corporations as consumers.

Scholars have traditionally focused on the question of how this market affects publicly traded corporations: Cary (1974, p. 705) famously perceived a "race for the bottom" in which states compete for corporate charters by favoring managers at the expense of shareholders. Winter (1977, p. 254), on the other hand, argued that, as regards the relationship between the shareholder and the corporation, state competition "should tend towards optimality." In recent years, the positions have become slightly more moderate. However, the schism between the critics of state competition (e.g. Bebchuk and Ferrell, 1999; Bebchuk, Cohen, and Ferrell, 2002; Bebchuk 2006) and its supporters (e.g. Romano, 1985; Romano, 1992; Romano, 1993; Romano, 1998; Romano, 2002; Sitkoff, 2002) persists.

Given the prominence of this debate, it cannot surprise that numerous empirical studies analyze the incorporation choices of publicly traded firms (including IPO firms) (e.g. Bebchuk and Cohen, 2003; Daines, 2002; Ferris, Lawless, and Noronha, 2006; Kahan, 2006). By contrast, the incorporation choices of closely held firms have traditionally escaped empirical scrutiny. In a related paper, we contribute towards filling that gap by exploring the incorporation choices of closely held corporations (Dammann and Schündeln, 2007). In particular, we show that about half of all large (>1000 employees) closely held corporations in our sample incorporate in Delaware and that corporations are less likely to be incorporated in the state where their primary state of business is located if that state offers low-quality courts, a high level of minority shareholder protection, or a perceived high risk of veil-piercing (Dammann and Schündeln 2007).

However, the corporate form is not the only organizational form that is available to privately held firms. Indeed, as regards newly formed firms, it typically is not even the one that is most frequently used. Rather, that role increasingly falls to the limited liability company (LLC). In many states, the number of newly formed LLCs is vastly greater than that of newly formed corporations (Appendix I). For example, in Michigan the number of

corporations that were newly formed in the year 2006 was about 18,000, whereas the number of newly formed LLCs was about 47,000.

Is it prima facie reasonable to assume that the formation choices of limited liability companies should be similar to those of closely held corporations? At least two considerations suggest otherwise.

Perhaps most importantly, differences between the rules governing corporations and those applying to limited liability companies may prompt firms to self-select when they decide which organizational form to use. Consider, for example, the role of minority investors. Corporate law generally lets the board manage—or supervise the management of—the corporation's business (e.g. Del. Gen. Corp. L. § 141). Accordingly, minority investors who are not represented on the board may have little say in how the corporation is run.[1] By contrast, most LLC statutes contain a default rule providing for equal participation of all members in the management of the firm (e.g. 6 Del. C. § 18-402 (2008)). Consequently, those entrepreneurs who want to give minority investors only a limited role in the governance of the firm may gravitate towards the corporate form, whereas those who wish for a more active participation of minority investors may decide to form a limited liability company.

In addition, LLCs and closely held corporations may well differ with respect to the extent to which their choice of domicile is distorted by the law on publicly traded corporations: At least some closely held corporations may choose their state of incorporation with a view to going public later on. Accordingly, their decision in favor of a particular jurisdiction may be guided by that jurisdiction's law on publicly traded corporations. Such a scenario is less likely with respect to limited liability companies since, in practice, firms that plan to go public have traditionally tended to incorporate rather than form an LLC (Staley, 2000).

In light of the above, we cannot take for granted that the preferences of LLCs and the migration patterns that result from them will mirror those shown by closely held corporations, and a separate empirical analysis is called for. Indeed, our findings show that while there are important parallels between the incorporation choices of closely held corporations and the formation choices of LLCs, there are also significant differences.

Like their corporate peers, most closely held LLCs incorporate locally. Of all LLCs with five or more employees in our sample, slightly more than 96% are formed in the state where their business is located. However, the tendency to forms LLCs locally

[1] Of course, there are exceptions to this rule. For example, under Delaware law, the certificate of a so-called close corporation "may provide that the business of the corporation shall be managed by the stockholders of the corporation rather than by a board of directors." DEL. CODE ANN. tit. 8, § 351 (2001 & Supp. 2004).

grows weaker as the number of employees increases. Of those firms that have 1000 or more employees, roughly half are formed outside their home state, and of the latter, more than 80% are formed in Delaware.

Which factors guide the decision whether to form an LLC locally or not? As with closely held corporations, substantive law seems to matter. However, in a striking contrast to what we have found with respect to closely held corporations, limited liability companies appear to be migrating away from those states that offer lower levels of protection for minority investors: LLCs are more likely to be formed outside of their home state if the latter offers lax rules on managerial liability. Moreover, LLCs are more likely to be formed outside of their home state if the law of their home state allows the company to be dissolved via a less than unanimous resolution of the members.

We also examine the relevance of the rules on withdrawal and veil-piercing, but do not find any statistically significant evidence that these rules matter. Further, we study the role of courts. However, it is only for the largest firms in our sample, for which we find a positive correlation that is significant at the 10% level, that our analyses yield statistically significant evidence that courts quality is correlated with formation choices and thus may play a role in the decision whether to form an LLC locally or not.

II. DATA

Our dataset is composed of company level-data from Bureau van Dijk's ICARUS database.[2] That database purports to cover US and Canadian firms of all sizes. The ICARUS database distinguishes between a firm's "location" and its "state of incorporation." For the sake of clarity—namely to avoid any confusion with the corporation's place of incorporation—, we will refer to a company's location as the firm's primary place of business (PPB).

For the analyses undertaken in this paper, we choose as a starting point the ICARUS version that includes update number 52, from March 2008. We extract all private US companies. Further, ICARUS divides firms into three categories: "single location" firms, "parents/headquarters," and "branch locations." We exclude mere branch locations and retain the ICARUS database entries that are listed as "single location" or "parent/headquarter."

The information provided does not refer to the same year for all firms (i.e. for some business the information, e.g. on the size of the business, in this database may be for 2004, while for others it is from 2005 or 2006). For this study, we utilize only entries of businesses for which the last available data refers to 2006 and that had at least 5 employees in 2006.[3]

We keep only limited liability companies. ICARUS does not provide direct information regarding the entity type. Therefore, we make use of legal rules governing entity names in order to identify the entity type for the purpose of our study. For example, an entity whose name ends with the word "limited liability company" or an abbreviation thereof will be treated as a limited liability company. A more detailed description of the relevant coding rules is given in Annex III.

Moreover, we keep only firms whose primary place of business is located in one of the fifty states or in the District of Columbia and disregard firms whose primary place of business is located abroad or in the U.S. territories.

After cleaning the data and dropping observations for which key variables of interest are missing, we arrive at a dataset with 64,211 company observations.

To our company-level dataset we add state-level data from a variety of sources. For GDP data at the state level, we use data from the Bureau of Economic Analysis

[2] Available at http://www.bvdep.com/en/icarus.html.

[3] In a few cases firms are listed twice in the database. In these cases, which we identify via a comparison of company names, locations, revenue and employment numbers, we keep only one observation.

(BEA).[4] These data refer to the year 2006 and were last updated in June 2007. We group states into regions based on the definition of regions used by the BEA.[5] As a proxy for industrial structure of the state, we use data on the number of manufacturing establishments, which we obtain from the U.S. Census Bureau.[6] As a proxy for the quality of judiciaries, we use the scores that the state judiciaries were awarded in the U.S. Chamber of Commerce State Liability Systems Rankings Study 2007. As regards the content of the various state laws—namely the provisions dealing with veil-piercing, exit rights, managerial liability, and dissolution—the coding of the relevant variables will be explained below. The full state-level data that is used in our econometric work is reported in the appendix.

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[4] Bureau of Economic Analysis, Regional Economic Accounts, Gross Domestic Product by State, available at http://www.bea.gov/bea/regional/gsp/action.cfm (last visited November 13, 2007).

[5] Available at: http://www.bea.gov/regional/docs/regions.cfm.

[6] Available at: http://www.census.gov/prod/2004pubs/02cbp/cbp02-1.pdf

III. WHERE ARE LIMITED LIABILITY COMPANIES FORMED?

Little is known about where limited liability companies are formed. As regards closely held corporations, it has often been surmised that most of them incorporate locally (e.g., Eisenberg, 2005; Kahan and Kamar, 2002; Bebchuk, 1992; Skeel, 1994; Stevenson, 2001). In a related paper, we have shown that this is true for small closely held corporations, but not for large closely held corporations (Dammann and Schündeln, 2007): Of those privately held corporations in our sample with more than 1000 employees, about half were incorporated outside their PPB state. Moreover, of the latter group, almost 80% were incorporated in Delaware.

Do the formation choices of limited liability companies show a similar pattern? That seems to be the case. Table 1 (column 2) reveals that 96.1% of all LLCs in our sample of LLCs with 5 or more employees are formed locally, meaning in the state where their principal place of business is located. However, as the number of employees increases, the tendency to form an LLC locally decreases. Of those LLCs that have between 500 and 999 employees, only about three quarters (73.3%) are formed locally, and when it comes to LLCs with more than 1,000 employees, the percentage of locally formed firms falls to about half (53.6%).

Table 1: The distribution of formation choices

	Number of observations (1)	Incorporated in PPB state (%) (2)	Incorporated in Delaware (%) (3)	Incorporated in Delaware if not in PPB state (%) (4)
all firms (≥5 employees)	64,211	96.14	1.72	42.04
≥ 20 employees	19,322	92.35	4.30	54.60
<20 employees	44,889	97.77	0.61	23.53
20-99 employees	15,668	95.09	2.18	42.00
100-499 employees	2,932	84.92	9.41	61.76
500-999 employees	345	73.33	19.71	71.74
>1,000 employees	377	53.58	38.46	82.86

Source: own calculations based on ICARUS database

Where do those LLCs go that are formed outside the state where their principal place of business is located? As with closely held corporations, Delaware emerges as the destination of choice. Of all LLCs in our sample that are formed outside their PPB state, no less than 42% have chosen Delaware as their state of formation. Moreover, we find

strong size effects (Table 1, Column 4). Of those LLCs that have between 5 and 20 employees and that are formed outside their PPB state, about 24% are formed in Delaware. That percentage increases as the number of employees increases. Indeed, as regards LLCs with more than 1000 employees, Delaware attracts roughly 83% of those firms that are formed outside their PPB state.

One may worry that the results reported in Table 1 are driven by firms from certain states or from certain industries. To shed light on this question, we investigate formation choices separately for 9 regions and 9 industries. As pointed out before, we group states into regions based on the definition of regions used by the BEA. We define industry groups based on the Standard Industrial Classification (SIC) system. Table 2 shows the results of this analysis.

The upper panel focuses on incorporation rates by region. The percentage of firms formed in their PPB state ranges from 90.5% to 98.9% across different regions, and no one region is driving the results. When we look at larger firms (those with 100 or more employees) only, we find some more variation across regions, with the share of locally incorporated firms ranging from 66.3% (in the Mid-East region) to 90.1% (Far West) and 93.8% (Alaska and Hawaii).

The lower part of the table presents results by industries. The firm sector information is collapsed to the one digit SIC-level. Despite some variation across industries, no one industry seems to be driving the results. Looking at the larger firms with ≥ 100 employees, for which there is the most variation, we find that the lowest share (72.1%) is incorporated in the PPB state in SIC industries 30-39, i.e. in heavy manufacturing industries that include “industrial machinery and equipment,” “plastics,” “leather,” “stone,” and “metal” products. The largest share of LLCs (95.5%) is incorporated in the PPB state in SIC industries 1-9, i.e. in agriculture, forestry, fishing.

Looking at the share of LLCs formed in Delaware across different regions, we note some tendency that LLCs are more likely to be formed in Delaware if they come from a region that is closer to Delaware. But spatial proximity does not explain all of the formation decisions in Delaware, as is evidenced by the still large numbers of LLCs from states in the western parts of the United States that are formed in Delaware.

The popularity of Delaware as a state of formation is not entirely surprising. In the legal literature, it had already been ventured that “Delaware’s legislature and courts [. . .] are [. . .] disproportionately important” in the law of unincorporated entities (Levmore, 2005). The purpose of the following analysis is then to study at the firm-level the push factors that are underlying these aggregate findings.

Table 2: Formation choices by region and industry

	full sample		≥ 20 employees		≥ 100 employees	
	percent of LLCs incorporated in PPB state	Percent of LLCs incorporated in Delaware if not in PPB state	percent of LLCs incorporated in PPB state	percent of LLCs incorporated in Delaware if not in PPB state	percent of LLCs incorporated in PPB state	percent of LLCs incorporated in Delaware if not in PPB state
	(1)	(2)	(3)	(4)	(5)	(6)
By state:						
New England	96.3	58.7	90.1	63.8	71.5	74.6
Mid-East	90.5	50.5	84.0	60.5	66.3	71.3
South East	96.9	32.9	93.9	44.8	84.2	62.1
Great Lakes	95.6	50.4	91.1	61.2	78.3	76.9
Plains	96.6	34.3	92.9	45.9	81.1	62.8
Rockies	96.1	31.1	91.8	44.3	79.2	68.0
South West	97.4	35.4	94.8	56.0	81.4	60.0
Far West	96.9	38.1	94.7	54.9	90.1	64.8
Alaska & Hawaii	98.9	50.0	97.3	80.0	93.8	100.0
By industry						
SIC 1-9	98.9	30.0	98.1	44.4	95.5	100.0
SIC 10-19	98.2	27.2	96.7	41.9	89.0	66.7
SIC 20-29	93.9	53.5	88.8	60.0	74.0	72.0
SIC 30-39	93.3	57.9	87.2	65.2	72.1	77.9
SIC 40-49	94.9	45.3	90.2	61.2	74.9	71.4
SIC 50-59	96.6	37.2	93.4	50.2	82.7	59.1
SIC 60-69	95.0	45.4	90.2	59.7	79.2	63.4
SIC 70-79	96.7	37.2	93.8	50.0	85.1	67.7
SIC 80-89	95.9	35.2	91.9	42.9	83.7	61.5

Source: own calculations based on ICARUS database

IV. SUBSTANTIVE LAW

The famous debate on whether the market for corporate law leads to a race to the top or a race to the bottom assumes that firms select their state of incorporation at least in part based on the content of the relevant jurisdiction's corporate law. Empirical research supports this assumption with respect to public corporations (e.g. Bebchuk and Cohen, 2003; Daines, 2002; Kahan, 2006) and privately held corporations (Dammann and Schündeln, 2007). Against this background, the question arises whether the same is true for limited liability companies. We focus on three main areas: (A) the protection of minority investors, (B) the protection of creditors, and (C) adoption of the Uniform Limited Liability Company Act (ULLCA).

A. Minority Investor Protection

In publicly traded corporations without a controlling shareholder, the central agency conflict arises between managers and shareholders. Not surprisingly, therefore, much of the literature on publicly traded firms focuses on the question of whether states benefit managers at the expense of their shareholders (e.g. Bebchuk and Ferrell, 1999; Romano, 1992). In closely held firms, by contrast, the central agency conflict is the one between controlling investors and minority investors. Accordingly, to the extent that a race to the bottom unfolds, one would expect it to lead to lower levels of protection for minority investors.

The question, then, is whether firms select their state of formation in part based on the level of protection that the law accords minority investors. In our study on closely held corporations, we have found this to be true: Large closely held corporations were less likely to be incorporated in their home state if the latter offered a relatively high level of minority shareholder protection (Dammann and Schündeln, 2007). This does not imply, of course, that charter competition is inefficient. However, neither can one exclude the possibility that state competition for close corporations leads states to benefit controlling shareholders at the expense of non-controlling ones.

Do limited liability companies show a similar migration pattern? To resolve the question we focus on three different features of state law, all of which are related to the protection of minority investors—the rules governing withdrawal rights, the duty of care, and the provisions governing the dissolution of limited liability companies.

1. Withdrawal Rights

A controlling investor may seek to enrich herself at the expense of minority investors. In particular, she may use her control to extract private benefits—e.g. in the form of an above-market salary—while at the same time blocking the firm from making distributions (e.g. Ragazzo, 1999).

Regarding closely held corporations, courts have developed two separate but related ways of protecting the minority against oppressive conduct of the form described above: Some states have imposed partnership-like fiduciary duties on controlling shareholders, whereas others allow courts to dissolve closely held corporations in cases where those in control oppress the minority (Moll, 2001; Thompson, 1993). Of course, neither partnership-like fiduciary duties nor oppression statutes are a cure-all. Rather, both can present problems for the minority investor when it comes to the burden of proof. Thus, in case of oppression statutes, it is the complaining shareholder who bears the burden of establishing the existence of illegal, oppressive or fraudulent conduct (e.g. Churchman v. Kehr, 836 S.W.2d 473, 482 (Mo. App. 1992). Similarly, as regards fiduciary duties, the minority investor has to bear at least some portion of the burden of proof. For example, in Wilkes v. Springside Nursing Home, Inc., 370 Mass. 842, 851–52 (Mass. 1976), the court imposed on the controlling group the burden of demonstrating a legitimate business purpose for its actions, but then asked the minority shareholder "to demonstrate that the same legitimate objective could have been achieved through an alternative course of action less harmful to the minority's interest."

The law on limited liability companies has traditionally provided minority investors with an even more robust form of protection in the form of exit rights. Originally, most LLC statutes gave members the right to withdraw from the limited liability company and be paid the fair value of their membership (e.g. Miller, 2001). Accordingly, minority investors could liquidize their membership and escape oppressive controllers. That way, LLC statutes offered protection against oppression even in the absence of oppression statutes (e.g. Kobayashi and Ribstein, 1995). Indeed, from the perspective of minority investors, withdrawal rights of the type at issue have one clear advantage vis-à-vis oppression statutes or fiduciary duties in that minority investors seeking to withdraw do not have to prove any wrongdoing on the part of the controlling shareholders.

Interestingly, the reason for the inclusion of withdrawal rights in most LLC statutes had its origin in tax law rather than in corporate law. Partnership-style taxation was originally reserved to those limited liability companies that had more partnership than corporate characteristics, and one of the relevant factors was the existence—or the lack—of corporate-style continuity of life (e.g. Miller, 2001; Ribstein, 1997; Weisbach, 1999).

By giving members withdrawal rights that might potentially lead to the dissolution of the limited liability company, state lawmakers hoped to make partnership-like tax treatment more likely (e.g. Miller, 2001). In 1996, the Internal Revenue Service changed its regulations, and adopted the so-called check-the-box regulations that generally treat unincorporated business entities as partnerships unless they choose to be taxed as corporations (e.g. Miller, 2001; Weisbach, 1999). Consequently, withdrawal rights had outlived their usefulness for tax purposes.

Despite the changes in tax law, some states still provide that unless the operating agreement provides differently, LLC members can withdraw and demand to be paid the fair value of their membership. For example, Hawaii falls into this category, HRS §§ 428-601, 603, 701 (2007). However, many other states have eliminated or restricted withdrawal rights of this type. Some states such as Delaware (6 Del. C. § 18-603 (2008)) have gone as far as to provide that, as a default, members cannot withdraw prior to the dissolution of the company. Other states such as Ohio (O.R.C. Ann. 1705.12 (2008)) allow members to withdraw, but treat the dissociated member as an assignee rather than giving her the right to be paid the fair value of her membership.

To be sure, states have come up with other ways of protecting minority shareholders. A few states have adopted corporate-style oppression statutes, e.g. Mont. Code Anno., § 35-8-902 (2007). Moreover, some courts have made it clear that they will apply partnership-style fiduciary duties to limited liability companies, e.g. Purcell v. S. Hills Invs., LLC, 847 N.E.2d 991, 997 (Ind. App. 2006). However, as pointed out above, these approaches are not as far-reaching as the right to be bought out because they require wrongful conduct on the part of the controller and impose on the complaining shareholder at least part of the burden of proof.

To capture existing differences on withdrawal rights, we create the variable *Withdrawal.* If an LLC statute gives the member a default right to withdraw and to be paid the fair value of her membership interest, then the variable *Withdrawal* takes on the value zero. Otherwise, it takes on the value one. The full state-by-state coding can be found in Appendix II.

At this point, two clarifications are in order. First, some statutes require a notice period before members can withdraw, e.g. six months. Given that such a notice period does not eliminate the member's ability to escape an oppressive controller, we ignore such notice requirements. Second, it is noteworthy that even those states that grant a withdrawal right in principle typically eliminate that right in those cases where the LLC was formed for a particular term or undertaking. For the purpose of our analyses, we ignore such limitations.

2. Duty of Care

A second set of rules that we focus on are the provisions governing the duty of care. What does the duty of care have to do with the protection of minority investors? While the default rule typically calls for the limited liability company to be managed by all of its members (e.g. Ribstein, 1996), firms are free to opt out of this default. In manager-managed LLCs, however, those members who control the company can either become managers or select the managers. Consequently, any norm that reduces the duty of care for managers has the potential to benefit controllers at the expense of minority investors.

For the purpose of our analysis, it is noteworthy that provisions on the duty of care vary both with respect to the default standard of care and with regard to the extent to which firms can opt out of the default.

Our variable *CareOne* seeks to capture differences in the default rules on the duty of care: Some LLC statutes explicitly provide that managers are not liable for duty of care violations unless they are at least grossly negligent, whereas other statutes contain no comparable provision. In the latter case, the variable *CareOne* takes on the value zero, in the former case the value 1.

By contrast, the variable *CareTwo* concerns differences in the rules that allow firms to opt out of the rules governing the duty of care. For the purpose of our analysis, we have divided state LLC statutes into two categories. The first category includes those statutes which provide that the duty of care or the liability for violations of that duty can be reduced at least to some extent. For example, some statutes—such as South Dakota's (S.D. Cod. L. § 47-34A-103 (2008))—allow reductions in the duty of care as long as they are not "unreasonable." The second category contains the remaining statutes.

In some cases, the distinction between these two categories is not completely unambiguous: California, Missouri, and New Mexico explicitly allow modifications of the duty of care without, but do not explicitly state that these modifications can lead to a reduction in the duty of care. Because the ability to modify the duty of care seems to imply the ability to reduce that duty, we have generally included the afore-mentioned states into the first category. However, for the purpose of robustness checks, we have created a special variable *CareTwoAlt* in which these states are put into the second category.

Of course, using our two variables *CareOne* and *CareTwo* may not be enough. The reason is that these variables may well interact. While firms may prefer relatively lax norms on managerial liability, they may not care whether these lax norms represent the legal default or whether they have to be included in the LLC's operating agreement. In that case, one would expect firms to migrate away from their home state only if that state neither offers lax default rules nor allows corporations to opt out of the default. To

account for such a relationship between variables *CareOne* and *CareTwo*, we create the composite variable *CareThree*. *CareThree*, takes on the value zero if both *CareOne* and *CareTwo* are zero. Otherwise, it takes on the value 1. Again, full coding is provided in Appendix II.

3. Dissolution

We also focus on the rules governing the dissolution of limited liability companies. These rules, too, are relevant to the protection of minority investors because controllers may use dissolution as a way of ridding themselves of minority investors (e.g. Dent Jr., 2005): The controlling investor may be happy enough to share ownership of the firm with the minority investors while the firm is getting started. Once it starts making profits, however, the controller may try to dissolve the company, acquire the company's assets, and pursue the company's line of business without the company's other members (see e.g. the partnership case Page v. Page, 359 P.2d 41 (Cal. 1961)). In many cases, the minority investors will be able to protect themselves against such conduct: They simply have to join the bidding for the firm's assets (e.g. Gevurtz, 1995). However, in some situations, that may not be an option (Dent Jr., 2005; Gevurtz, 1995). For example, the minority investor may not have access to sufficient funds (e.g. Dent Jr., 2005; Gevurtz, 1995), or the relevant know-how may be concentrated in the person of the controller.

Against that background, it is noteworthy that state laws differ on the question of whether the LLC can be dissolved via a less than unanimous vote (Gevurtz, 1995). To capture these differences, we use the variable *Dissolution*. That variable takes on the value one if the LLC statute includes a default norm that allows the company to be dissolved via a less-than-unanimous resolution of the members. Otherwise, the variable takes on the value zero.

B. Creditor Protection: Piercing the Corporate Veil

Both in the academic literature (Cole, 2005; Miller, 2007) and in guides written specifically for entrepreneurs (e.g. Spadaccini, 2007), the limited liability company is often praised, first and foremost, for combining the principle of limited liability with partnership-style flexibility and taxation. Given this accent on liability protection, it seems reasonable to speculate that one of the factors guiding the decision where to form an LLC is the extent to which state laws allow courts to deviate from the principle of limited liability.

Adequate coding of the law to facilitate empirical analysis proves difficult, however. The law on veil piercing has traditionally been notoriously vague and fact intensive (Bainbridge, 2001), and this continues to be true as courts apply the veil piercing doctrine to limited liability companies (Bainbridge, 2005). For closely held corporations one option is to rely on an empirical study by Thompson (2001). The relevant study provides, for each state and for the District of Columbia, the percentage of veil-piercing cases in which the veil was successfully pierced. In earlier research, we have used that percentage as a proxy for the perceptions regarding the risk of veil-piercing and found that closely held corporations were less likely to incorporate in their PPB state if a higher percentage of veil-piercing cases decided under that law were successful.

Unfortunately, we lack comparable data with respect to limited liability companies. However, the statutory law on LLCs allows us to take an alternative approach. Some LLC statutes reduce the risk of veil piercing by providing that a failure to observe certain formalities shall not be considered an argument in favor of piercing the corporate veil (e.g. Cal Corp Code § 17101). Other LLC statutes lack such a provision. To capture this difference, we create a variable that we call *Piercing*. That variable takes on the value 1, if the state's LLC statute contains a provision of the type at issue, otherwise it assumes the value 0. The precise coding using for each state for this and other variables is reported in Appendix II.

In order to check the robustness of our results, we generate a second variable *PiercingCorp* that relies on Thompson's data on corporate veil piercing cases, i.e. this variable represents the percentage of veil-piercing cases in which the veil was successfully pierced. The underlying idea is that state courts typically transfer the veil-piercing principles that they have developed in corporate law to the LLC context (e.g. Bainbridge, 2005). Indeed, in some states, LLC statutes explicitly call for the application of the corporate law on veil piercing to LLC cases (e.g. Cal Corp Code § 17101). Accordingly, the data on corporate veil piercing cases may also prove relevant to the formation choices of limited liability companies.

C. ULLCA

In the corporate law literature, it is often suggested that the attractiveness of a particular jurisdiction may in part depend on network effects (e.g. Klausner, 1995). Against that background, empirical studies on incorporation choices have analyzed the question of whether adoption of the (Revised) Model Business Corporation Act is one of the factors that guides incorporation choices (e.g. Bebchuk and Cohen, 2003).

An equivalent question can be asked with respect to the law on limited liability companies: The National Conference of Commissioners on Uniform State Laws has sought to promote the uniformity of LLC law by creating a Uniform Limited Liability Company Act (ULLCA) which was originally completed in 1995, amended 1996, and revised in 2006. Admittedly, only nine states have adopted the ULLCA (see Annex II), and with the exception of Illinois, these states are relatively small in terms of their population. Hence, potential network benefits are likely to be limited. Nonetheless, we create the variable ULLCA to account for this factor. If a state has adopted the ULLCA, the said variable takes on the value one, otherwise it takes on the value zero.

V. Courts

The quality of Delaware's judiciary is widely thought to be an important factor behind Delaware's success at attracting public corporations (Alva, 1990; Black, 1990; Kamar, 1998; McDonnel, 2004). The view that court quality matters to the incorporation choices of public corporations also finds support in the empirical literature (Kahan, 2006). Moreover, the same appears to be true for closely held corporations (Dammann and Schündeln, 2007).

Against the above described background, it would not be surprising if courts also mattered to the formation choices of limited liability companies. We hypothesize that limited liability companies are more likely to incorporate in their PPB state if that state offers higher quality courts. As a measure of the quality of a state's judiciary, we use the scores that state judiciaries obtained in the 2007 U.S. Chamber of Commerce State Liability Systems Rankings Study.[7]

VI. Results

In this section, we describe the results regarding the factors that determine the formation choices of limited liability companies. The dependent variable in our regression analysis is equal to one if an LLC is incorporated in the PPB state ("in the home state"), otherwise it is zero. Because the dependent variable is a binary variable, we estimate the parameters of our models with the probit estimator. In the tables with the results we show the marginal probit coefficients. In all regressions we cluster the standard errors at the state level. In addition to the variables summarizing the substantive law, we also include firm-level variables that we chose based on the specification in Bebchuk and Cohen (2003),

[7] For another study in which this ranking was used as a proxy for the quality of court systems see Kahan (2006).

which provides a benchmark specification in this literature. We also include region fixed effects for three regions (Great Lakes, Plains and Rockies regions are the excluded category) and industry fixed effects (at the 2-digit SIC level).[8]

Table 3: Baseline results

Dependent Variable = 1 if incorporated in home state

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
log(revenue)	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007
	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***
log(employees)	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***
log(total state population)	-0.008	-0.011	-0.009	-0.009	-0.013	-0.013	-0.013
	(0.004)**	(0.004)***	(0.004)**	(0.004)**	(0.004)***	(0.004)***	(0.004)***
total state establishments (in 100,000)	0.008	0.047	0.032	0.026	0.074	0.074	0.074
	(0.028)	(0.031)	(0.029)	(0.029)	(0.030)**	(0.030)**	(0.030)**
state GDP pc (in 1000)	-0.694	-0.741	-0.646	-0.641	-0.527	-0.518	-0.518
	(0.089)***	(0.089)***	(0.464)	(0.461)	(0.440)	(0.429)	(0.429)
North-East	-0.008	-0.004	-0.006	-0.005	-0.008	-0.008	-0.008
	(0.009)	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)
South	0.008	0.008	0.010	0.010	0.011	0.011	0.011
	(0.005)	(0.005)	(0.005)**	(0.005)*	(0.005)**	(0.006)**	(0.006)**
West	0.015	0.013	0.017	0.016	0.012	0.012	0.012
	(0.003)***	(0.003)***	(0.005)***	(0.005)***	(0.004)***	(0.005)**	(0.005)**
CareOne	-0.008		-0.010	-0.010			
	(0.004)*		(0.006)*	(0.006)*			
CareTwo	-0.010		-0.010	-0.011			
	(0.003)***		(0.003)***	(0.003)***			
CareThree		-0.008			-0.008	-0.008	-0.008
		(0.003)**			(0.004)*	(0.004)*	(0.004)*
withdrawal	0.004	0.006	0.002	0.003	0.001	0.001	0.001
	(0.006)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)
consent	-0.008	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009
	(0.005)*	(0.005)*	(0.005)**	(0.005)**	(0.005)**	(0.005)**	(0.005)**
ULLCA			0.008	0.007	0.000	0.001	0.001
			(0.006)	(0.006)	(0.006)	(0.007)	(0.007)
courts quality (score)			0.051	0.044	0.061	0.061	0.061
			(0.041)	(0.040)	(0.043)	(0.045)	(0.045)
piercing			-0.001	-0.001		-0.001	-0.001
			(0.005)	(0.006)		(0.006)	(0.006)
years since LLC law Enacted			0.001	0.001		-0.000	-0.000
			(0.001)	(0.001)		(0.000)	(0.000)
industry fixed effects included at 2-digit level	yes	yes	yes	yes	yes	yes	yes
Observations	64194	64194	63948	63948	63948	63948	63948

Notes: The omitted region comprises the BEA's Great Lakes, Plains, and Rockies regions; marginal coefficients from a probit model are shown; robust standard errors in parentheses, corrected for clustering at the state-level; * significant at 10%; ** significant at 5%; *** significant at 1%

[8] Note that the number of observations goes down once the courts quality variable is included, because data on courts quality for the District of Columbia does not exist. Thus, whenever the courts variable is included, observations on LLCs in the District of Columbia are dropped from the analysis.

A. Minority Investor Protection

Of particular interest are our findings on the variables that we use to account for differing levels of minority investor protection.

1. Duty of Care

Our findings regarding the duty of care suggest that the limited liability companies in our sample are migrating away from states with low levels of minority investor protection.

Consider, first, the variable CareOne which captures differences in the default rules on managerial liability. We find a negative correlation between this variable and the probability that a limited liability company is formed in its PPB state. In other words, PPB states with lax default rules on the duty of care are less likely to retain limited liability companies. Admittedly, our findings are relevant only at the 10% level. Nonetheless, they provide a first hint of a "flight from laxity."

Our results on the variable CareTwo also fit into this picture. Once more, we find a negative correlation with the probability that a limited liability company is formed in its PPB state. This time, however, the correlation is statistically significant at the 1% level. In other words, LLCs seem to be migrating away from states that allow firms to reduce the duty of care vis-à-vis the legal default.

CareThree is also negatively correlated with an LLC's decision to be formed in its PPB state, though the statistical significance of this relationship varies.

Our findings regarding the duty of care are central to our analysis. Because of this and since we have argued earlier that the coding of the variable CareTwo in particular is not unambiguous, we also check the robustness of our results to an alternative specification of the CareTwo variable, namely using the CareTwoAlt variable as explained above (see table 4). Using that variable, we confirm the results that we obtained with the variable CareTwo: LLCs migrate away from states with relatively lax default rules on the duty of care.

In their entirety, these findings suggest that states who offer lax rules on managerial liability tend to perform less well in retaining local limited liability companies.

2. Dissolution

Our findings on the rules governing the dissolution of limited liability companies point in a similar direction: We find a negative correlation between the variable

Dissolution and the decision of an LLC to be formed in the PPB state. Depending on the precise specification, that correlation is significant at the 5% or at the 10% level. In other words, with respect to the rules on dissolution, too, limited liability companies tend to avoid their PPB state if that state's rules are relatively lax on the protection of minority investors.

3. Withdrawal Rights

Our findings on withdrawal rights do not fit neatly into the picture painted above in that we find a positive correlation between our variable *Withdrawal* and local formation decisions of LLCs. In other words, limited liability companies are more likely to form outside of their PPB state if that state grants LLC members the right to withdraw and obtain the fair value of their membership interest.

However, that relationship is not close to being statistically significant. In any case, it is not difficult to see why limited liability companies may wish to avoid withdrawal rights of the type at issue. While offering a high degree of protection to minority shareholders, such rights impose a considerable burden on the other members of the limited liability companies. After all, the limited liability company may not have the necessary liquidity to pay out the withdrawing member, and, accordingly, the company may be forced into liquidation. It follows that withdrawal rights of the type at issue provide minority investors with a powerful tool that can easily be abused (cf. Ribstein, 2001).

Moreover, it is noteworthy that any tendency to move away from states that allow members to withdraw and be paid the fair value of their shares may at least in part be due to tax reasons. For the purpose of the gift and estate tax, minority investors in family firms can be entitled to a so-called marketability discount in valuing their membership interest (Miller, 2001). That discount, however, is unavailable if members have the right to withdraw and obtain the fair value of the membership interest (e.g. Moll, 2005). Moreover, if the default rules provide for such a withdrawal right, opting out of that default is not enough to secure the discount. This is because under certain conditions, section 2704(b) of the Internal Revenue Code allows restrictions on the right to liquidate the investment to be ignored if these restrictions are not imposed by federal or state law. Consequently, tax law provides an incentive to choose states whose default rules fail to provide for a right to be bought out.

4. ULLCA

We find no statistically significant evidence that adoption of the ULLCA increases or decreases the likelihood that limited liability companies are formed locally. As explained above, this result is not completely unexpected, but regressions including the ULLCA variable are nevertheless included to show the robustness of our main results.

B. Veil Piercing

We also find no statistically significant evidence that limited liability companies base their formation choices on the rules governing veil-piercing.

One possible explanation for this finding lies in the fact that our variable *Piercing* captures only one aspect of the law on veil piercing—and that particular aspect may not be particularly important. As pointed out above, the variable *Piercing* can take on the value zero or one depending on whether state law explicitly declares the failure to follow certain formalities to be irrelevant to veil-piercing cases. In the case law on corporate veil-piercing, the failure to follow formalities has traditionally played a central role. However, the same may not be true for limited liability companies. This is because LLC statutes impose fewer formalities than corporation statutes (e.g. Hansmann et al., 2006). Accordingly, LLCs members are presumably less likely than shareholders to run afoul of such formalities. Hence, even though the failure to observe required formalities plays an important role in corporate veil piercing cases, it may not matter much in the LLC context.

To check the robustness of our results, we also use an alternative variable, namely the variable *PiercingCorp* which is based on the percentage of corporate veil piercing cases that were successful. In our earlier paper on closely held corporations, we found that corporations were less likely to incorporate in their PPB state as the value of *PiercingCorp* increased. However, as regards limited liability companies, we find no evidence of a statistically significant relationship (results not are not shown, but available from the authors). Of course, one possible explanation is that entrepreneurs believe the percentage of successful corporate veil-piercing cases to permit conclusions regarding the veil-piercing risk for corporations, but not regarding the veil-piercing risk for limited liability companies.

C. Courts

As table 3 shows, there is some evidence that the probability that an LLC is formed in the PPB state increases with the state's courts quality score (taken from the 2007 US

Chamber of Commerce State Liability Systems Ranking Study): The parameter estimates on the courts quality variable is positive. However, the result is not statistically significant, so we need to interpret the positive coefficient cautiously.

D. Years since Adoption of LLC Statute

Some states introduced LLC statutes earlier than others: The first state to enact an LLC statute was Wyoming in 1977 (Hamill, 1998), the two last ones Vermont and Hawaii in 1996 (Vandervoort, 2004). The question of when an LLC Statute was enacted may be of relevance for at least two reasons.

First, firms from states that were slow to enact an LLC statute may have chosen to form elsewhere and, because of transaction costs, may have failed to return when their PPB state finally offered an equivalent statute. Second, states that were quick to enact LLC statutes may offer various advantages such as a well-developed case law and judges who are experienced in LLC cases.

Accordingly, we test whether the number of years passed since the state first enacted an LLC statute is correlated to the percentage of limited liability companies that choose to incorporate locally, but find no statistically significant evidence that that is the case.

Table 4: Robustness of baseline results to alternative specification of *CareTwo*

Dependent Variable = 1 if incorporated in home state

	(1)	(3)	(4)	(5)
log(revenue)	-0.007	-0.007	-0.007	-0.007
	(0.001)***	(0.001)***	(0.001)***	(0.001)***
log(employees)	-0.010	-0.010	-0.010	-0.010
	(0.001)***	(0.001)***	(0.001)***	(0.001)***
log(total state population)		-0.010	-0.011	-0.012
	(0.004)***	(0.004)***	(0.004)***	(0.004)***
total state establishments (in 100,000)	0.041	0.041	0.059	0.067
	(0.029)	(0.029)	(0.028)**	(0.029)**
state GDP pc (in 1000)	-0.713	-0.716	-0.586	-0.667
	(0.082)***	(0.088)***	(0.450)	(0.461)
North-East	-0.009	-0.009	-0.009	-0.009
	(0.009)	(0.009)	(0.009)	(0.008)
South	0.008	0.008	0.011	0.010
	(0.005)	(0.005)	(0.005)*	(0.005)*
West	0.016	0.017	0.016	0.018
	(0.003)***	(0.003)***	(0.004)***	(0.005)***
CareOne	-0.009	-0.009	-0.009	-0.011
	(0.005)**	(0.005)*	(0.006)	(0.006)*
CareTwoAlt (alternative	-0.010	-0.010	-0.010	-0.009
specification of CareTwo)	(0.003)***	(0.004)***	(0.003)***	(0.003)***
withdrawal	0.002	0.002	0.000	-0.001
	(0.006)	(0.007)	(0.006)	(0.006)
dissolution	-0.008	-0.008	-0.009	-0.008
	(0.005)	(0.005)	(0.004)*	(0.005)*
ULLCA		0.001	0.004	0.006
		(0.006)	(0.006)	(0.007)
courts quality (score)			0.039	0.050
			(0.040)	(0.041)
piercing				-0.001
				(0.005)
years since LLC law enacted				0.001
				(0.001)
industry fixed effects included at 2-digit level	64194	64194	63948	63948
Observations	19310	19241	19241	19241

Notes: The omitted region comprises the BEA's Great Lakes, Plains, and Rockies regions; marginal coefficients from a probit model are shown; robust standard errors in parentheses, corrected for clustering at the state-level; * significant at 10%; ** significant at 5%; *** significant at 1%

VII. Small versus Large LLCs

In our baseline regression analysis above, we have controlled for size of the LLC via inclusion of variables for employment and revenue size. We find that larger LLCs are less likely to be incorporated in their home state. However, it may be that the effect of some of the variables differs with size. To investigate this possibility, we now analyze the very smallest businesses in our sample separately from the medium to large businesses. To this end, we split the sample at 20 employees. Tables 5 (for small businesses, with less than 20 employees) and 6 (for businesses with 20 or more employees) show the results.

Regarding the variables of main interest, the state-level substantive law variables, we find the biggest difference in the duty of care variables, i.e. CareOne, CareTwo, and the composite variable CareThree. These variables are both larger in absolute value and more highly significant for larger LLCs. Another notable difference exists with respect to the courts variable: While for smaller businesses, the coefficient is estimated insignificantly and small in absolute size, the coefficient is larger and statistically significant (at the 10% significance level) for the larger firms. Thus, there seem to be important differences in the tendency to incorporate locally versus in another state outside the PPB state depending on the size of a firm. The size effect is not just linear, but interacts with state law, in particular the duty of care variables. There are a few other differences with respect to the other variables that summarize substantive law, but none of them involving statistically significant results.

Table 5: Results for small businesses (less than 20 employees)

Dependent Variable = 1 if incorporated in home state

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
log(revenue)	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004
	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***
log(employees)	-0.005	-0.005	-0.004	-0.004	-0.004	-0.004	-0.004
	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***	(0.001)***
log(total state population)	-0.009	-0.011	-0.011	-0.012	-0.014	-0.014	-0.014
	(0.004)**	(0.004)***	(0.004)***	(0.004)***	(0.004)***	(0.004)***	(0.004)***
total state establishments (in 100,000)	0.030	0.048	0.052	0.058	0.079	0.077	0.077
	(0.026)	(0.028)*	(0.026)**	(0.028)**	(0.027)***	(0.028)***	(0.028)***
state GDP pc (in 1000)	-0.609	-0.634	-0.219	-0.262	-0.159	-0.144	-0.144
	(0.077)***	(0.082)***	(0.409)	(0.416)	(0.384)	(0.372)	(0.372)
North-East	-0.003	0.000	-0.003	-0.004	-0.004	-0.005	-0.005
	(0.007)	(0.006)	(0.007)	(0.007)	(0.008)	(0.007)	(0.007)
South	0.006	0.007	0.009	0.009	0.010	0.010	0.010
	(0.005)	(0.005)	(0.004)**	(0.004)**	(0.004)**	(0.005)**	(0.005)**
West	0.009	0.008	0.008	0.010	0.006	0.007	0.007
	(0.003)***	(0.003)**	(0.004)*	(0.005)**	(0.004)	(0.005)	(0.005)
CareOne	-0.006		-0.005	-0.007			
	(0.003)**		(0.004)	(0.005)			
CareTwo	-0.005		-0.006	-0.006			
	(0.002)**		(0.003)**	(0.003)**			
CareThree		-0.004			-0.003	-0.003	-0.003
		(0.003)			(0.003)	(0.004)	(0.004)
withdrawal	0.003	0.004	0.002	0.001	-0.000	-0.000	-0.000
	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)	(0.007)
dissolution	-0.008	-0.009	-0.010	-0.010	-0.010	-0.010	-0.010
	(0.005)*	(0.005)*	(0.004)***	(0.004)**	(0.004)***	(0.005)**	(0.005)**
ULLCA			0.006	0.007	0.001	0.002	0.002
			(0.005)	(0.005)	(0.005)	(0.006)	(0.006)
courts quality (score)			0.030	0.038	0.040	0.042	0.042
			(0.033)	(0.035)	(0.034)	(0.037)	(0.037)
piercing				-0.002		-0.002	-0.002
				(0.005)		(0.005)	(0.005)
years since LLC law enacted				0.000		-0.000	-0.000
				(0.000)		(0.000)	(0.000)
industry fixed effects included at 2-digit level	yes	yes	yes	yes	yes	yes	yes
Observations	44587	44587	44410	44410	44410	44410	44410

Notes: The omitted region comprises the BEA's Great Lakes, Plains, and Rockies regions; marginal coefficients from a probit model are shown; robust standard errors in parentheses, corrected for clustering at the state-level; * significant at 10%; ** significant at 5%; *** significant at 1%

Table 6: Results for larger businesses (at least 20 employees)

Dependent Variable = 1 if incorporated in home state

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
log(revenue)	-0.015	-0.016	-0.015	-0.015	-0.016	-0.016	-0.016
	(0.002)***	(0.002)***	(0.002)***	(0.002)***	(0.002)***	(0.002)***	(0.002)***
log(employees)	-0.021	-0.021	-0.021	-0.021	-0.021	-0.021	-0.021
	(0.002)***	(0.002)***	(0.002)***	(0.002)***	(0.002)***	(0.002)***	(0.002)***
log(total state population)	-0.007	-0.015	-0.004	-0.006	-0.014	-0.014	-0.014
	(0.006)	(0.006)**	(0.006)	(0.006)	(0.006)**	(0.006)**	(0.006)**
total state establishments (in 100,000)	-0.042	0.059	-0.027	-0.014	0.090	0.091	0.091
	(0.051)	(0.053)	(0.049)	(0.050)	(0.055)	(0.054)*	(0.054)*
state GDP pc (in 1000)	-1.120	-1.232	-1.704	-1.894	-1.719	-1.737	-1.737
	(0.228)***	(0.210)***	(0.689)**	(0.720)***	(0.703)***	(0.695)***	(0.695)***
North-East	-0.022	-0.017	-0.017	-0.015	-0.020	-0.019	-0.019
	(0.014)*	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)
South	0.014	0.013	0.018	0.017	0.019	0.019	0.019
	(0.009)	(0.009)	(0.009)*	(0.009)*	(0.009)**	(0.009)**	(0.009)**
West	0.033	0.028	0.037	0.038	0.031	0.030	0.030
	(0.005)***	(0.006)***	(0.006)***	(0.008)***	(0.006)***	(0.008)***	(0.008)***
CareOne	-0.014		-0.016	-0.019			
	(0.009)		(0.010)	(0.010)*			
CareTwo	-0.024		-0.025	-0.025			
	(0.005)***		(0.006)***	(0.006)***			
CareThree		-0.022			-0.022	-0.022	-0.022
		(0.006)***			(0.007)***	(0.007)***	(0.007)***
withdrawal	0.007	0.012	0.006	0.005	0.003	0.003	0.003
	(0.009)	(0.011)	(0.011)	(0.011)	(0.012)	(0.013)	(0.013)
dissolution	-0.011	-0.015	-0.011	-0.009	-0.011	-0.011	-0.011
	(0.007)	(0.008)*	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)
ULLCA			0.012	0.013	-0.000	-0.001	-0.001
			(0.011)	(0.012)	(0.013)	(0.014)	(0.014)
courts quality (score)			0.099	0.114	0.144	0.144	0.144
			(0.071)	(0.074)	(0.081)*	(0.084)*	(0.084)*
piercing				0.002		0.002	0.002
				(0.009)		(0.010)	(0.010)
years since LLC law enacted				0.001		0.000	0.000
				(0.001)		(0.001)	(0.001)
industry fixed effects included at 2-digit level	yes	yes	yes	yes	yes	yes	yes
Observations	19310	19310	19241	19241	19241	19241	19241

Notes: The omitted region comprises the BEA's Great Lakes, Plains, and Rockies regions; marginal coefficients from a probit model are shown; robust standard errors in parentheses, corrected for clustering at the state-level; * significant at 10%; ** significant at 5%; *** significant at 1%

VIII. CONCLUSION

One of the most prominent debates in corporate law concerns the desirability of allowing corporations to choose the applicable corporate law. Moreover, a growing number of empirical studies cast light on the factors that guide the choice of public corporations where to incorporate. By contrast, little is known about the incorporation choices of closely held firms. In an earlier study, we have sought to contribute to filling this gap by analyzing the incorporation choices of closely held corporations (Dammann and Schündeln, 2007). In this paper, by contrast, we focus on the formation choices of limited liability companies and find both parallels and striking differences vis-à-vis corporations.

As in the case of closely held corporations, we observe that the tendency to incorporate outside of the PPB state increases with size, as measured by the number of employees: Most of the limited liability companies in our sample (96.1%) are formed in their PPB state. However, while almost 98% of firms with fewer than 20 employees are formed locally, the same is true for only 53.6% of the limited liability companies that have more than 1000 employees.

Another similarity to the market for corporate charters concerns the destination of those firms that decide against incorporating locally: Delaware, the uncontested champion of the market for corporate law, also emerges as the destination of choice for LLCs that are formed outside of their PPB state. That is particularly true for larger limited liability companies. Among firms with more than 1000 employees that are not formed locally, more than 82% are formed in Delaware.

What are the factors that guide the decisions of LLCs where to form? Substantive law seems to be important. But our results vary greatly from our findings on corporations. One of the core results of our earlier study on corporation was that the closely held corporations in our sample were more likely to incorporate in another state if the state where their principal place of business (PPB) was located offered a high level of minority shareholder protection. This suggested a race to laxity. By contrast, when it comes to the protection of minority investors in limited liability companies, the findings of the present study tend to point in the opposite direction: On two counts, firms appear to be migrating away from states that offer a low level of protection for minority members: The firms in our sample are less likely to incorporate locally if their PPB state offers lax rules on managerial liability—rules that will typically benefit those members who are in control of the company. Similarly, the LLCs in our sample are less likely to incorporate locally if

their PPB state allows for the LLC to be dissolved via a less than unanimous resolution. Finally, we also analyze the role played by the rules on withdrawal rights as well as the role played by state courts. We find no significant results for our withdrawal rights variable. However, albeit at the 10% level, we find a positive correlation between a state's ranking in the US Chamber of Commerce Ranking and the percentage of large LLCs (>1000 employees) incorporating locally.

APPENDIX I: DATA ON NEWLY FORMED ENTITIES

The following table reflects the number of domestic entities that were formed in the calendar year 2006. The letter X is used in those cases where state law did not allow the formation of certain types of domestic entities

Table 7: Types of entities formed in 2006

	Business and Professional Corporations.	Limited Liability Companies	Limited Partnerships	Limited Liability Partnerships	Limited Liability Limited Partnerships
Alabama	N.A.	N.A.	N.A.	N.A.	N.A.
Alaska	1,091	3,123	90	8	X
Arizona	12,366	48,345	699	188	253
Arkansas	5,519	7,859	155	32	54
California	96,278	61,911	4,033	419	X
Colorado	16,989	47,512	591	904	673
Connecticut	1,979	22,548	51	78	N.A.
Delaware	33,449	97,508	9,901	114	139
Florida	157,310	123,055	1,543	492	Included in LP
Georgia	N.A.	N.A.	N.A.	N.A.	NA
Hawaii	2,811	7,781	116	87	21
Idaho	3,586	11,560	138	147	21
Illinois	42,315	23,804	603	188	Included in LLP
Indiana	10,027	18,300	287	162	NA
Iowa	N.A.	N.A.	N.A.	N.A.	N.A.
Kansas	3,961	7,837	94	78	N.A.
Kentucky	4,631	13,105	177	74	18
Louisiana	4,613	29,420	294	122	NA
Maine	2,271	4,001	28	14	X
Maryland	15,893	29,613	226	271	48
Massachusetts	9,831	12,639	320	124	X
Michigan	18,436	46,946	284	0	N.A.
Minnesota	11,216	18,866	352	610	Included in LP
Mississippi	4,185	10,437	265	13	0
Missouri	5,596	30,351	372	176	N.A.
Montana	2,753	9,070	N.A.	N.A.	N.A.
Nebraska	2,825	4,399	80	28	X
Nevada	35,578	39,796	2,429	255	Included in LP
New Hampshire	1,524	8,135	28	45	0
New Jersey	18,819	52,344	301	483	NA
New Mexico	NA	NA	114	17	NA
New York	76,474	48,451	560	319	NA
North Carolina	20,107	29,736	268	146	8
North Dakota	980	1,099	141	389	55
Ohio	10,692	44,991	740	165	X
Oklahoma	5,571	15,328	295	63	NA
Oregon	8,243	22,629	214	85	NA
Pennsylvania	16,420	27,698	3,275	382	93

Table 7 (continued)

	Business and Professional Corporations.	Limited Liability Companies	Limited Partnerships	Limited Liability Partnerships	Limited Liability Limited Partnerships
Rhode Island	1,829	3,578	44	44	0
South Carolina	N.A.	N.A.	N.A.	N.A.	N.A.
South Dakota	1,344	2,164	82	87	15
Tennessee	6,817	12,285	333	72	NA
Texas	36,473	58,288	16,355	5,310	NA
Utah	8,445	22,860	506	212	0
Vermont	958	3263	NA	NA	NA
Virginia	19,612	33,727	329	174	Included in LLP
Washington	12,524	30,457	300	121	X
West Virginia	2,115	5,488	52	17	NA
Wisconsin	N.A.	N.A.	N.A.	N.A.	N.A.
Wyoming	3,246	5,680	108	NA	NA

Source: International Association of Commercial Administrators, Annual Report of the Jurisdictions, available at http://www.iaca.org/downloads/AnnualReports/2007_IACA_AR.pdf.

APPENDIX II: STATE LEVEL VARIABLES

Table 8: state level variables used in our regression analyses

State	Total State Population (in 1,000)	GDP per Capita (2006)	Court Quality Score	Piercing LLC	Piercing Corp	With-drawal	Care1	Care2	Care2 Alt	Disso-lution	ULLCA	Years since LLC Statute
Alabama	4447.1	36106	50.7	0	0.300	1	1	1	1	0	1	14
Alaska	626.9	65565	56	0	0.647	1	0	0	0	0	0	13
Arizona	5130.6	45309	66.3	0	0.412	1	0	0	0	1	0	15
Arkansas	2673.4	34352	56.5	0	0.391	1	1	1	1	0	0	14
California	33871.7	50997	53.5	1	0.449	1	1	0	1	1	0	13
Colorado	4301.3	53584	65.1	1	0.539	1	1	1	1	0	0	17
Connecticut	3405.6	59941	66.3	0	0.636	1	0	1	1	1	0	14
Delaware	783.6	77030	75.6	0	0.000	1	0	1	1	1	0	15
District of Columbia	572.1	153243	N.A.	0	0.600	1	0	1	1	0	0	13
Florida	15982.4	44643	58.2	0	0.413	1	1	1	1	0	0	25
Georgia	8186.5	46363	61.2	1	0.383	1	0	1	1	0	0	14
Hawaii	1211.5	48127	56.3	1	0.250	0	1	1	1	0	1	11
Idaho	1294.0	38569	61.3	0	0.667	1	1	1	1	0	1	14
Illinois	12419.3	47474	50.8	1	0.583	0	1	1	1	0	1	15
Indiana	6080.5	40937	68.2	0	0.423	1	1	1	1	1	0	14
Iowa	2926.3	42364	68.9	1	0.688	1	0	1	1	0	0	15
Kansas	2688.4	41548	66.7	0	0.790	1	0	1	1	1	0	17
Kentucky	4041.8	36113	60.8	0	0.267	1	1	1	1	0	0	13
Louisiana	4469.0	43218	47.3	0	0.358	0	1	1	1	1	0	15
Maine	1274.9	36844	68.9	1	0.250	1	0	0	0	0	0	13
Maryland	5296.5	48677	61.7	0	0.400	0	0	0	0	0	0	15
Massachusetts	6349.1	53168	65.7	0	0.400	0	0	1	1	0	0	12
Michigan	9938.4	38336	64.2	0	0.273	1	0	1	1	0	0	14
Minnesota	4919.5	49710	70.6	0	0.385	1	0	1	1	1	0	15
Mississippi	2844.7	29608	46.1	0	0.357	1	0	1	1	0	0	13
Missouri	5595.2	40370	60	0	0.400	0	0	0	1	0	0	14
Montana	902.2	35826	57.2	1	0.500	0	1	1	1	0	1	14
Nebraska	1711.3	44236	70	0	0.583	1	0	0	0	0	0	14
Nevada	1998.3	59251	62	0	0.417	1	0	0	0	0	0	16
New Hampshire	1235.8	45539	68.2	0	0.000	1	1	0	0	1	0	14
New Jersey	8414.4	53858	63.4	0	0.450	0	1	1	1	0	0	14
New Mexico	1819.0	41731	57.5	0	0.154	0	1	0	1	1	0	14
New York	18976.5	53853	65.6	0	0.349	1	0	1	1	1	0	13
North Carolina	8049.3	46529	65.9	0	0.429	1	0	1	1	0	0	14
North Dakota	642.2	41085	65.4	0	0.750	1	0	1	1	1	0	14
Ohio	11353.1	40632	63.9	0	0.571	1	1	0	0	0	0	13
Oklahoma	3450.7	39022	57.7	0	0.400	1	0	1	1	0	0	15
Oregon	3421.4	44222	65.7	1	0.563	1	1	1	1	0	0	14
Pennsylvania	12281.1	41551	60.8	0	0.308	0	0	1	1	0	0	13
Rhode Island	1048.3	43555	58.5	0	0.333	1	0	1	1	1	0	15
South Carolina	4012.0	37192	58.1	1	0.375	0	1	1	1	0	1	13
South Dakota	754.8	42830	67	1	0.625	0	1	1	1	0	1	14
Tennessee	5689.3	41838	68.2	1	0.389	1	0	1	1	1	0	13

Table 8 (continued)

State	Total State Population (in 1,000)	GDP per Capita (2006)	Court Quality Score	Piercing LLC	Piercing Corp	With-drawal	Care1	Care2	Care2 Alt	Disso-lution	ULLCA	Years since LLC Statute
Texas	20851.8	51117	54.3	0	0.349	1	0	1	1	1	0	16
Utah	2233.2	43771	67.7	1	0.429	1	1	0	0	0	0	16
Vermont	608.8	39770	62.5	0	0.000	0	0	1	1	0	1	11
Virginia	7078.5	52166	66.9	0	0.250	1	0	1	1	0	0	16
Washington	5894.1	49801	63.7	1	0.444	1	1	1	1	0	0	13
West Virginia	1808.3	30778	38	1	0.429	0	1	1	1	0	1	15
Wisconsin	5363.7	42365	67.5	0	0.500	0	1	0	0	0	0	14
Wyoming	493.8	59867	64.7	0	0.625	1	0	0	0	0	0	30

Source: see main text

APPENDIX III: CODING RULES TO IDENTIFY LIMITED LIABILITY COMPANIES

Because ICARUS does not specify the entity type, we infer the entity type from the entity name by relying on the legal rules that govern entity names. In doing so, we rely on the following coding rules.

1) First, we limit our dataset as specified in Section II of the main text.

2) Second, we limit our dataset to those firms whose names contain the words "limited liability company," "limited company" or abbreviations thereof. For the words "limited," we accept the following abbreviations: "L.", "L", "Ltd." For the word liability, we accept the following abbreviations "L.", "L". Finally, as regards the word "company," we accept the following abbreviations: "C", "C.", "Co" and "Co.".

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