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THE EFFECTS OF ENTERPRISE LIABILITY
ON ASSET PARTITIONING, DECENTRALIZATION
AND CORPORATE GROUP GROWTH

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Working Paper 24720
<http://www.nber.org/papers/w24720>

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
June 2018

The authors appreciate the support and comments from Ashish Arora, Nick Bloom, Wesley Cohen, Alfonso Gambardella, and John Van Reenen. All errors are our own. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

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Towards a Legal Theory of the Firm: The Effects of Enterprise Liability on Asset Partitioning,
Decentralization and Corporate Group Growth

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NBER Working Paper No. 24720

June 2018

JEL No. K0,K12,O43,P1

ABSTRACT

Limited liability is a key attribute of the corporate form and one of the most important institutional innovations of the nineteenth century. However, when the owner of a corporation is another corporation as in many corporate groups, an important justification for limited liability—to protect small, passive investors from unlimited losses—is severely weakened. Accordingly, countries differ considerably in their propensity to protect parent and sister companies from the liabilities incurred by other group affiliates, with some countries (e.g. Germany) viewing a subsidiary as an integral part of the group that controls it while others (e.g. Great Britain) emphasizing the legal rather than the economic substance. In this paper, we construct a novel country-level measure of enterprise liability, the propensity of courts to hold an entire group liable for the obligations of one of its subsidiaries. Using data from sixteen countries in Europe, the Americas, and Asia, we examine how enterprise liability affects firm boundaries, internal organization, and corporate group growth. We find that in countries where enterprise liability is weaker, groups tend to partition their assets more finely into distinct legally independent subsidiaries and grant their subsidiaries more autonomy. Groups also tend to grow faster. This paper highlights one underappreciated channel—risk compartmentalization through incorporation—through which legal systems affect economic outcomes.

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1 Introduction

Entrepreneurs are unlikely to invest when the risks associated with private enterprise are too great. In an important book, Rosenberg and Birdzell (1986) argue that a key reason why the West grew rich was that, in Europe, several important institutions were created that reduced the risks associated with private enterprise. These institutions include reforms that recognized property rights and reduced the risk of expropriation by political elites (North and Thomas, 1973; Acemoglu, Johnson and Robinson, 2005), the development of a comprehensive and predictable commercial law (Weber, 1961; La Porta, Lopez-de-Silanes, Shleifer and Vishny, 1998), and the diffusion of economic associations without kinship (Dari-Mattiacci, Gelderblom, Jonker and Perotti, 2017; De la Croix, Doepke and Mokyr, 2018).

One way to reduce entrepreneurial risk is through incorporation and limited liability. Several scholars, including Rosenberg and Birdzell, have stressed the importance of the limited liability corporation. Columbia University president Nicholas Murray Butler wrote in 1911 that “in my judgment the limited liability corporation is the greatest single discovery of modern times. [...] Even steam and electricity are far less important than the limited liability corporation, and they would be reduced to comparative impotence without it”.¹ Harvard University president Charles W. Eliot noted that limited liability is “the corporation’s most precious characteristic and by far the most effective legal invention made in the nineteenth century”.²

Limited liability is important because it reassures investors that their losses will be limited to the amount they have invested in a company. Because downward risk is bounded, limited liability encourages entrepreneurship, the formation of large firms, the separation of ownership and control, and the development of liquid capital markets. However, limited liability may also encourage excessive risk taking, as the costs of failed economic enterprise are partly externalized to other stakeholders.

It is also possible to use incorporation and limited liability to compartmentalize liabilities, thus preventing risks from spreading across business units. For instance, Roe (1986) notes that Manville, a global leader in the manufacture of asbestos-containing products, separately incorporated its non-asbestos operations in the aftermath of an asbestos litigation. Philip Morris CEO Hamish Maxwell admitted to analysts that he formed a holding company “to better insulate each business from obligations and liabilities incurred in unrelated activities” (quoted from Roe, 1986: 5). Schlissel, Peterson and Biewald (2002) note the increasing use of multi-tiered group structures to own nuclear power plants in the US

¹The quote is from a speech titled “Politics and Economics” to the 143rd Annual Banquet of the Chamber of Commerce of the State of New York in 1911. Available at: <https://babel.hathitrust.org/cgi/pt?id=coo.31924093105660;view=1up;seq=59>.

²This quote is from Bainbridge and Henderson (2016).

and argue that such structures provide a financial shield to owners in case of accidents.³ Google recently restructured its operations as the Alphabet group. Bloomberg (2017) reports that a potential advantage of the new structure is that it “helps keep potential challenges in one business from spreading to another [...] By separating them, it allows the parent company to limit the exposure of the various obligations of the LLCs”.⁴ ⁵

In this paper we examine how *enterprise liability*—the propensity of legal systems to hold an entire group liable for the losses incurred by one of its affiliates—affects firm boundaries, internal organization and corporation growth.⁶ Using a simple model, we show that weaker enterprise liability encourages corporations (i) to more finely partition their assets into separate legally independent units and (ii) to grant these units more decision-making autonomy. Indeed, headquarters benefit more from asset partitioning and can feel more confident about delegating authority to subsidiary managers if the consequences of bad decisions are not likely to spread to other units.⁷ Moreover, because risks are better compartmentalized when assets are more finely partitioned, (iii) asset partitioning also tends to spur investment and growth.⁸

We test these hypotheses empirically by exploiting the fact that there is substantial variation across countries in the propensity to disregard the separate legal personality of an affiliated entity and hold the whole corporate group liable for its losses. Our analysis focuses on the fundamental exception to limited

³Schlissel et al. (2002: 2) write that “Over the last ten years, the ownership of an increasing number of nuclear power plants has been transferred to a relatively small number of very large corporations. These large corporations have adopted business structures that create separate limited liability subsidiaries for each nuclear plant, and in a number of instances, separate operating and ownership entities that provide additional liability buffers between the nuclear plant and its ultimate owners”. One goal of these structures is arguably to “provide a financial shield for the parent/owner if an accident, equipment failure, safety upgrade, or unusual maintenance need at one particular plant creates a large, unanticipated cost”.

⁴See <https://www.bloomberg.com/news/articles/2017-09-01/alphabet-wraps-up-reorganization-with-a-new-company-called-xxvi>.

⁵As these examples suggest, externalization of risks is likely to be salient especially when involuntary creditors (e.g., tort creditors) are involved. We elaborate on this important issue in Section 2.2 and in the conclusion.

⁶The term “enterprise liability” is not universally agreed upon. Some legal scholars (e.g., Bainbridge and Henderson, 2016) use this term to refer only to the case when sister companies are held liable (a “horizontal” form of liability, or veil piercing), thus distinguishing that notion from the traditional or “vertical” notion of liability involving a company and its owners. Here, however, we follow the majority of commentators and use the term enterprise liability to encompass both notions of liability (horizontal and vertical) in the context of corporate groups. Thus, “enterprise” refers in this paper to the unified economic group of corporations (where control is exerted by a single “ultimate owner”), and “entity” refers to the single, legal form of the corporation. See Bainbridge and Henderson (2016, pages 194-198) and Dearborn (2009) for a more comprehensive discussion of these issues.

⁷Decentralizing decision-making was arguably a major goal in Google’s restructuring. As founder Larry Page put it: “Fundamentally, we believe this [restructuring] allows us more management scale, as we can run things independently that aren’t very related [...] Alphabet is about businesses prospering through strong leaders and independence” (<https://abc.xyz/>). The New York Times summarized Google’s motives as follows: “Google Goal in Restructuring as Alphabet: Autonomy” (<https://www.nytimes.com/2015/08/12/technology/autonomy-seen-as-goal-of-restructured-google.html>).

⁸Asset partitioning refers to the fact that assets under the control of a dominant owner (an individual, a family, or a widely-held corporation) can be divided into distinct legally independent companies. For example, a firm could set up a new unit either as an (unincorporated) internal division or as a legally independent subsidiary. In the latter case, we say that assets are more finely partitioned, because more legally independent firms under common control are created. Hansmann and Kraakman (2000a, 2000b) coined the term “asset partitioning”.

liability: “piercing the corporate veil”(PCV, hereafter). The more inclined the courts are to pierce the corporate veil in cases involving corporate groups (thus holding a parent or sister company liable for another group member’s debts), the stronger enterprise liability is.

In collaboration with scholars at a top US law school, we constructed a novel measure of enterprise liability encompassing sixteen countries in Europe, the Americas, and Asia (the full report detailing how our measure is constructed is provided in Annex 1). Countries were ranked on a scale of 0 to 5 according to the tendency of their courts to pierce the corporate veil in lawsuits involving corporate group affiliates. The score was based on a weighted average of five distinct criteria. First, we assessed the extent to which each legal system applies the “enterprise approach”(also known as the “economic unity approach”), a concept that allows courts to pierce the corporate veil under the premise that a parent firm and its subsidiaries constitute a single entity. The application of the enterprise approach cuts against the concept of limited liability among companies belonging to a corporate group, and thus indicates an increased tendency of courts to impose subsidiary’s liabilities on the parent. Accordingly, we assign the highest weight to this criterion in calculating the final PCV score. Second, we examined the variety of legal provisions that courts might consider in holding owners (both individual owners and parent companies) liable for the losses of the firms they own. The more avenues available for a relief to the plaintiff, the more inclined the courts will be to hold the owners liable.⁹ Third and fourth, we assessed whether corporate veil piercing is limited only to bankruptcy cases or fraudulent behaviors. These are two procedural/evidential barriers to holding owners liable for losses of their corporations, which bear special importance in assessing the enforcement of veil piercing in different countries. For this reason, we singled them out from the second factor when evaluating veil piercing. Finally, we considered the fraction of historical enterprise liability cases in which the corporate veil was pierced. Because this evidence is available only for few countries and results are difficult to compare, we assigned a small weight to this criterion.

Germany has the highest PCV score of 3.93 reflecting its unique attitude of considering a subsidiary an integral part of the corporation that controls it. The German law on Konzernrecht (controlled companies) sets out an elaborate statutory scheme under which a parent company may become liable for the obligations of its controlled subsidiary through expressed agreement or when the parent’s tight control has been detrimental to the subsidiary (known as *de facto* Konzern). In essence, the German law seeks to determine the legal relationship between firms operating under a single Konzern based on their internal

⁹A high score on this criterion implies that regardless of whether the legal system applies the enterprise economic unity approach discussed above, creditors have better chances in legal proceedings to see the corporate veil pierced. Thus, even in countries that recognize the enterprise approach, a higher number of possible avenues to pierce the corporate veil implies a weaker enforcement of the limited liability principle.

agreements and economic facts rather than on artificial creation of legal entities.

By contrast, the lowest PCV rating of 1.3 for Great Britain reflects the country’s strong bias towards the view that firms are distinct legal entities, even when they operate under the directions of a parent firm. The British courts have persistently rejected the application of the enterprise approach, declaring that “substance means legal substance, not economic substance (if different), and [...] the separate legal existence of group companies is particularly important when creditors become involved” (In Re Polly, 2 All E.R. 433, 1996). Moreover, British law views veil piercing as the last resort and applies it minimally with respect to all types of shareholders.

Our estimation sample is constructed from Bureau Van Dijk’s Orbis database and consists of a panel of 931,018 corporate groups with 1,236,169 subsidiaries across sixteen countries over years 2002 through 2014. We also use firm-level information on autonomy from the World Management Survey (WMS) (Bloom and Van Reenen, 2007; Bloom, Sadun and Van Reenen, 2012). The WMS sample contains about 1,500 firms across eleven countries and covers years 2005 through 2014.

We present three main findings. First, we show that corporate groups in low-PCV countries (where enterprise liability is weak and groups are not likely to be held liable for the liabilities of their subsidiaries) tend to organize their economic activity across more subsidiaries than groups in high-PCV countries. For instance, moving from Great Britain (PCV score of 1.3) to Germany (PCV score of 3.93) reduces the average number of subsidiaries by about 16% conditional on group size and various country-level controls, including legal origin dummies. We also find evidence that the benefits of asset partitioning are greater in industries where downside risk is high and subsidiaries are loosely integrated with the rest of the group. For instance, we find that groups with a low share of family managers are more likely to incorporate their business units than those with a high share.

Second, using WMS data, we show that subsidiaries have more autonomy, especially in making capital investment decisions, when they operate in low-PCV countries than in high-PCV countries. This is consistent with the idea that weaker enterprise liability mitigates the detrimental effects of agency problems between headquarters and subsidiaries, thus encouraging decentralization. For instance, one point increase in PCV score is associated with about 49% decrease in the amount of capital that a subsidiary can invest without a prior authorization from corporate headquarters.

Finally, we present causal evidence consistent with the notion that asset partitioning, by compartmentalizing risks, spurs investment and encourages corporate group growth. We present a two-stage least squares estimation by instrumenting the number of subsidiaries with the interaction between PCV score and industry downside risk. The results show that a 10% increase in the number of subsidiaries is

associated with about 3 percentage point increase in yearly revenue growth.¹⁰

The paper contributes to several strands of the economics literature. An important research stream examines the effects of different legal systems on economic outcomes. Seminal papers in this tradition include La Porta, Lopez-de-Silanes, Shleifer and Vishny (1997) and La Porta et al. (1998). This literature shows that, compared to French civil law, common law is associated with better investor protection, lighter government ownership and regulation and less formalized and more independent judicial systems. These institutions, in turn, are associated with better outcomes such as higher financial development, better access to finance, less corruption, better functioning labor markets, and more secure property rights (see, e.g., La Porta, Lopez-de-Silanes and Shleifer, 2008). We show that the effects of enterprise liability generally persist even after controlling for legal origin.

Masten (1988) provides an early analysis of the firm from a legal standpoint. However, his analysis largely focuses on the distinction between the employment relationship within the firm and market contracting (see also Williamson, 1975). Dari-Mattiacci et al. (2017) emphasize the role of the law in providing enforcement for agreements among partners to keep the capital invested in the business (capital lock-in). Bethel and Liebeskind (1998) argue that, in choosing whether to incorporate a business unit, firms face a trade-off between the benefits of limited liability and the costs of stunted resource redeployment. We also emphasize limited liability as a driver of incorporation and asset partitioning, but also as a factor in granting more autonomy to subsidiary managers.¹¹

Our work also contributes to a better understanding of the nature of headquarter-subsidiary relationship. Existing work largely conceptualize corporate groups as either a device to magnify the control of dominant shareholders and potentially expropriate minority shareholders (e.g., Bebchuk, Kraakman and Triantis, 2000; Bertrand, Mehta and Mullainathan, 2002; Baek, Kang and Lee, 2006) or as a mechanism to redeploy internal resources when external markets work poorly (e.g., Leff, 1978; Stein, 1997; Khanna and Yafeh, 2007; Belenzon and Berkovitz, 2010; Belenzon, Berkovitz and Rios, 2013). These two perspectives, while useful, are however unlikely to fully explain the variety and diffusion of corporate groups around the world. Many groups, particularly in the developed world, are wholly- or almost wholly-owned (Belenzon, Hashai and Patacconi, 2018). For these groups, magnification of control through pyramidal ownership

¹⁰As a robustness test, we instrument the number of subsidiaries with the interaction between PCV score and regional manager experience at the corporate group-country-region (NUTS2)-year level. The results show that a 10% increase in the number of subsidiaries holding assets fixed is associated with about 2 percentage point increase in yearly revenue growth.

¹¹There is also a related literature in finance comparing joint versus separate financing. Joint financing generates positive financial synergies in the presence of default or bankruptcy costs because of coinsurance; however, failure in one project may drag down another successful project that is financed jointly, thus creating risk-contamination losses (Lewellen, 1971; Banal-Estanol, Ottaviani and Winton, 2013). In our setting, weaker enterprise liability tends to mitigate risk-contamination losses.

cannot plausibly be a reason for their existence. Redeployment of resources also cannot explain why some businesses are organized as independent legal entities instead of unincorporated divisions in a conglomerate. Waymo, for instance, could receive the same level of support from Google as an internal division or as a subsidiary. If anything, concerns about excessive transfers to “moonshots” such as Waymo appear to have been a reason for the creation of Alphabet. This paper argues that risk compartmentalization through incorporation is an important reason for the creation of corporate groups.

Lastly, there are extensive literatures on firm boundaries and internal organization, but very few papers examine these two issues jointly. Brahm and Tarziján (2016) and Alfaro, Bloom, Conconi, Fadinger, Legros, Newman, Sadun and Van Reenen (2017) are notable exceptions. Brahm and Tarziján (2016) use a database of the construction industry and find that vertical integration and centralization of decision-making are positively related, especially in more complex and uncertain environments where the need for coordination is arguably greater. Alfaro et al. (2017) combine data from the WMS with a firm-level integration index constructed from the WorldBase dataset and find instead that integration and centralization move in opposite directions. Neither of these papers examines the role of the law in influencing firm boundaries and centralization.

The rest of the paper is organized as follows. Section 2 provides some background on limited liability and piercing the corporate veil, with a special focus on corporate groups. Section 3 develops a simple model to show how enterprise liability affects asset partitioning, decentralization and investment. Sections 4 and 5 present the sample and empirical results from the study, and Section 6 discusses the implications of the findings on firm growth. Section 7 concludes.

2 Background

2.1 Origins of the limited liability company

The limited liability company emerged over an extended period of time (Bainbridge and Henderson, 2016). While its birth is sometimes traced to the Companies Acts of 1856 and 1862 in England (Micklethwait and Wooldridge, 2003), precursors existed much earlier. In ancient Rome, for instance, public or quasi-public bodies tasked by the Senate or the Emperor with advancing the public interest were vested with the absolute immunity of the sovereign. Also enjoying forms of limited liability were two types of private businesses in Rome: the *peculium* and the *nauticum fenus* (Zimmerman, 1996). The *peculium* was an interest (capital or property) owned by a Roman citizen but administered by a slave or a family member. Importantly, a debtor of the *peculium* could only institute an action against the owner of the *peculium* for an amount up to what he had invested in the business. This effectively granted the owner of the *peculium*

limited liability. The *nauticum fenus* was a loan contract for maritime trade designed to encourage investment for risky voyages. Because investors were liable only for the losses at sea, the position of these passive investors effectively resembled that of a passive partner in a modern limited partnership (Dari-Mattiacci et al., 2017).

Contractual solutions granting limited liability to investors did not evolve substantially for centuries until, in the Middle Ages, the growth of international shipping gave rise to a new form of contract, the *commenda*. The *commenda* was a partnership where a manager administered the business and faced unlimited liability, and the passive investors provided capital and enjoyed limited liability. The purpose of the *commenda* was to reduce the cost of capital for risky enterprises (typically long voyages) where large amounts of capital were needed. To achieve this objective, the contract linked liability with control. If passive investors were not in charge of making business decisions (because of geographical separation), then it made little sense to hold them personally liable for the consequences of these decisions, beyond the initial capital invested.

By the 17th and early 18th century, the notion of linking liability with control was reasonably well established in England. For instance, in *Edmunds v. Brown and Tillard* (1668), the court ruled that the shareholders of the Company of Woodmongers were not to be held personally liable for the debts of the company when it was dissolved. While the motivations behind this are not known, it is likely that, since early on, liability was linked to control—an early manifestation of the doctrine of equitable subordination (Bainbridge and Henderson, 2016).

Nevertheless, for the next two centuries the practice of limiting liability among state-chartered companies varied and uncertainty persisted. The Crown granted to some companies limited liability, to others unlimited liability, and to others still it did not refer to the matter at all (Blumberg, 1993). This ambivalence towards limited liability was reflected in debates about its desirability. Adam Smith (1776) argued against it, stating that “[t]his total exemption from trouble and from risk, beyond a limited sum, encourages many people to become adventurers in joint stock companies” and that “[t]he directors of such companies [...] cannot well be expected that they should watch over [other people’s money] with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own” (1776/1904: 233). John Stuart Mill was on the other side of the debate, noting the potential for limited liability to encourage entrepreneurship especially among the working classes, and to facilitate the establishment of professionally managed companies (Gamble and Kelly, 2000).

By the mid-19th century, proponents of limited liability had gained the upper hand, partly because of fear by the British ruling classes of losing business in favor of France. In quick succession, the Limited

Liability Act of 1855, the Joint Stock Companies Act of 1856, and the Companies Act of 1962 endowed the company with its modern features: legal personality, tradable shares and limited liability. Just as important, these laws made it possible to set up companies without seeking special sanction from parliament. All that was needed was for seven or more people to sign and register a memorandum of association. These laws were quickly copied in other countries and, because the industrial revolution greatly expanded the need to raise capital for large-scale projects, the number of companies around the world rapidly grew.

2.2 Economic implications of limited liability

Limited liability is nowadays the default rule for corporations in virtually every jurisdiction. Its widespread acceptance suggests that it serves important social goals. Legal scholarship has attributed several benefits to limited liability, most notably the potential to encourage investment, improve efficiency at the organizational level and increase liquidity in capital markets.

As Manne (1967) points out, limited liability encourages investment because it allows individuals to participate in risky ventures “without risking disastrous loss”. Because such investment generates benefits not only for shareholders but also for employees, customers and other firm stakeholders, limited liability, by spurring entrepreneurship, is likely to increase overall social welfare.

Limited liability also enhances economic efficiency by facilitating the formation of large, professionally managed enterprises. Investors are more likely to pool capital together and delegate responsibilities to professional managers when they only risk losing their initial investment, not their whole wealth. Monitoring costs are also reduced, especially in large, widely-held corporations where they could be very substantial.

Limited liability also facilitates the tradability of ownership shares and enhances the efficiency and liquidity of capital markets. Limited liability eliminates the investors’ own wealth as a factor in determining the price of a share, thus allowing potential investors to value firms solely based on their potential profitability. This makes stock markets more efficient because shares are homogeneous and fungible. Without limited liability, the price of shares would vary among investors based on their wealth and risk profiles, and so potential investors would be compelled to acquire information about other shareholders to determine the value of shares and the risk associated with the investment. These advantages undoubtedly facilitate the creation of large and liquid capital markets.

There are, however, also costs associated with limited liability. A simple but important observation is that, although limited liability shields investors from losing more than their initial investment, the risk

of failed economic enterprise is not eliminated, but rather shifted from investors to the firm's creditors. In this connection, it is important to distinguish between voluntary and involuntary creditors.

Voluntary creditors, also known as contractual creditors, are those who enter a contractual relationship with the firm. Banks and other institutional lenders are examples of voluntary creditors. So are employees and some consumers. In general, limited liability does not externalize the risk of business failure to voluntary creditors but rather facilitates a bargain between the firm and the creditor. Voluntary creditors agree to bear some of the risk in exchange for higher rate of returns. In principle at least, they are fully compensated by a higher interest rate, which reflects the additional risk of limited liability.

Involuntary creditors, on the other hand, are those who did not enter a contractual relationship with the firm. Hence, they are not compensated for the additional risks that they incur under limited liability. The paradigmatic example for involuntary creditors are tort creditors. Consider for instance a person who is run over by a bus that failed to obey a red-light signal. This person or his family may seek compensation from the bus carrier. Suppose, however, the bus carrier had incorporated the bus as an undercapitalized subsidiary. Then, the victim may not obtain compensation. Note that this creditor is not compensated for the risk of default that incorporation brings about. The loss is simply externalized. Other important involuntary creditors are environmental creditors and tax authorities, but in effect every creditor who is not in a practical position to negotiate credit terms can be regarded as an involuntary creditor. The term, then, could also include employees and consumers.

Voluntary creditors share with investors the benefits of limited liability, such as reducing monitoring costs and risk evaluation costs. Because these benefits may offset the disadvantages they incur under a limited liability regime, whether limited liability harms or benefits voluntary creditors is a priori unclear. By contrast, for involuntary creditors limited liability bears no immediate upside. So, societies who value fairness and deterrence against externalizations more than others may well choose to eliminate limited liability or reduce its reach under certain circumstances.

A second concern is the risk of opportunism and moral hazard that limited liability may engender. As Adam Smith noted in the quote above, limited liability may encourage entrepreneurs to take on socially excessive levels of risk or, as he puts it, "to become adventurers". This may be deemed unacceptable by society, especially if this risk-taking is accompanied by other actions, such as leaving the company undercapitalized, that suggest an intent to externalize losses on others.¹²

¹²One industry where issues of limited liability, undercapitalization and excessive risk-taking are particularly salient is banking. As Cecchetti (2012: 3) notes in discussing responses to the financial crisis of 2007–08: "the private interests of banks and bankers can diverge from those of society at large. [...] The source of this conflict is limited liability: the fact that owners and employees are not held financially accountable beyond their initial investment".

Because of these concerns, all the countries examined in this study, while granting limited liability to shareholders as the default rule, also allow for exceptions to the general rule. The most notable exception to the limited liability rule is the doctrine of piercing the corporate veil.

2.3 Piercing the Corporate Veil (PCV)

Piercing the corporate veil (PCV) is a provision that allows courts to disregard the default limited liability and separate legal personality of the firm and to impose the debts of the firm on its owners. In general, modern corporate law recognizes a ‘veil’ separating the firm’s assets and the owners’ personal assets. But, when a plaintiff prevails in a PCV claim, the court effectively “pierces” the corporate veil by imposing the firm’s debts on its owners.

In general, the PCV doctrine is vague and discretionary. Litigants, both plaintiffs/creditors and defendants/stock owners, cannot rely on uniform tests to predict how courts will treat their case, mainly because veil piercing is widely rationalized on amorphous concepts seeking to capture what type of owner-corporation relationship are illegitimate (and thus, warrant veil piercing). Typically, PCV laws are intended to eliminate the protection of limited liability in cases where owners are identified to abuse the rationales of incorporation. In translating this abstract purpose into concrete guidelines, both courts and legislatures have consistently struggled to formulate clear rules defining when the veil should be pierced. Rather, they created general frameworks where a long list of variables may be factored in under a two- or three-stage analysis.

For example, a test applied by some US courts consists of two stages of analysis. The plaintiff must demonstrate, first, a lack of separation between ownership and management, to the extent that owner completely dominates corporate policy and, second, commitment of fraud or wrong by the owner that proximately causes plaintiff’s injury. A problem is that, to apply this analysis, courts consider an unspecified number of factors. Among the main factors are: (1) undercapitalization of the firm; (2) commingling of corporate and personal assets; (3) asset stripping/transfer of assets; (4) disregard for corporate formalities, (5) owner’s control or domination over management issues; (6) fraud or misrepresentation of business operations. In some countries, courts require demonstration of wrongdoing, fundamentally unfair conduct, fraud, or use of the separate personality principle for unlawful goals as prerequisites in veil piercing suits.

In addition to these widely accepted factors, court decisions and statutory provisions weight other factors such as continuation of loss making activities, selective payment practices, unjustified refusal to pay creditors, unjust dividend policy, non-functioning of firm’s officers and directors and assumption of

risk by creditors (negative indicator). However, there are neither clear rules guiding the weight given to any of these factors nor clarity of their relationships. The underlying result of such incoherence is that veil piercing jurisprudence has turned into an ambiguous body of law that often leaves litigants with limited tools to predict how courts will decide their cases.

2.4 Limited liability and PCV in corporate groups: A comparative perspective

The benefits of limited liability extend to the case when the owner of a firm is not only an individual or a group of individuals, but also another corporation. Coalitions of firms linked together via ownership ties are known as corporate or business groups. Corporate groups are very common around the world. Indeed, most large corporations own one or more subsidiaries and are therefore part of a corporate group.

Limited liability emerged well before corporate groups existed.¹³ Thus, as a matter of fact, the original aim of limited liability was not to shield one segment of the enterprise from the debts of another segment, but to protect individual shareholders. The extension of limited liability to the parent-subsidary relationship is a historical accident, which to this day is still one of the most controversial issues in corporate law.

The extension is controversial because some of the main arguments in favour of limited liability are irrelevant or at least significantly weakened when the owner of a corporation is another corporation.

Limited liability is supposed to spur investment and entrepreneurship and benefit society at large because, without it, individual investors would be excessively concerned about catastrophic losses. However, when a parent company owns a subsidiary, the shareholders of the parent company are already protected by limited liability (at the parent company level). It is not obvious what social purpose protecting also the parent company from the subsidiary's losses would serve. Double insulation of individual investors from potential loss would seem redundant.¹⁴

Another factor, as we have seen, is that liability should be linked with control. In publicly held corporations, individual shareholders have minimal control over corporate policies; therefore, it makes little sense that they should be held personally liable for the firm's losses (beyond the money they have invested). The firm's creditors are likely to have more at stake than any individual shareholder and as such should be better informed. Thus, they might also be better risk bearers.

By contrast, parent firms, unlike the average diversified passive investors, most likely possess significant

¹³For instance, corporate ownership of stocks became possible in the United States only around 1890.

¹⁴One possible counterargument is that the parent company and its management may be excessively risk averse. Typically, corporations are assumed to be approximately risk neutral, since investors should be able to diversify all but market-wide risks; however, in practice that may not be true (Pérez-González and Yun, 2013). Granting parent companies limited liability as well may be a way for society to spur socially efficient levels of investment.

monitoring capabilities. Often the parent is integrated economically with the subsidiary. Furthermore, the parent and the subsidiary are likely to share at least some directors and officers, who are generally better positioned to monitor and control the subsidiary than any other stakeholders are. As Strasser (2004: 638) puts it: “The parent is not an independent investor. Whatever the corporate formalities chosen, the parent typically has very real control over the operations and decisions of the subsidiary and the extent to which the parent exercises that control is based on business strategy for the enterprise rather than meaningful separation of the legally independent corporate entities”. Because parent and subsidiary are often tightly integrated, limited liability between the parent and the subsidiary may seem fictional and undesired (Blumberg, 1986).

Nevertheless, all jurisdictions surveyed in this article apply the protections of limited liability to affiliated corporations as the default. Where they differ is in their tendency to pierce the corporate veil. This heterogeneity can be ascribed to two broad sets of factors.

One set of factors is the “baseline” propensity of different countries to pierce the corporate veil, regardless of whether the owner is an individual or a corporation. Distributing risk between different stakeholders (e.g., owners versus involuntary creditors) is ultimately a matter of economic and social priorities, and countries can reach different results in making the trade-offs involved with the allocation of risk. Also, different countries have different cultures, different regulatory styles (e.g., more legalistic in Anglo-Saxon countries, more consensual in other parts of the world, see, e.g., Kagan, 2000) and may attempt to advance different social goals (e.g., efficiency versus fairness). All these differences can be reflected in limited liability laws.

In the UK, for example, PCV is in essence a very limited tool aimed to achieve fairness and discipline the market; as such, it is invoked only as a sanction against fraudulent behavior. In the Netherlands, on the other hand, PCV is used primarily to protect tort creditors from externalization, thus it is applied particularly in tort cases.

The second set of factors affecting different countries’ propensity to pierce the corporate veil is specific to corporate groups and refers to the extent to which groups are perceived as a single economic entity, as discussed above.

Comparative examination of PCV across countries reveals two polar views in addressing veil piercing in the parent-subsidiary context. On one end of the spectrum lies the conservative British approach, by which the parent and the subsidiary are two distinct entities that deserve no special treatment compared to any other owner and his corporation. British courts have been reluctant to ignore the corporate separation even when plaintiffs demonstrate that a parent and its wholly owned subsidiary acted as a

single economic enterprise and the parent sets the broad business policy of the subsidiary.

The opposite approach is employed under the German law. The German law on Konzernrecht (controlled companies) prescribes the most developed statutory scheme applying what the literature refers to as an “enterprise approach” or a “single economic unit approach”. In various cases when a subsidiary is proven to be completely dominated by the parent or subordinated to its interests, the law on Konzernrecht provides tools aimed at limiting intra-group dealings and holding the parent liable for losses incurred by the subsidiary.¹⁵

In-between these two extremes, there are various intermediate cases. Italy, France, Holland, and Argentina follow variants of the enterprise approach (albeit, with narrower legal framework than in Germany) and as a result provide somewhat easier paths to shareholders liability in corporate groups than in other cases. In Australia, courts have recognized a general principle under which “in certain circumstances a corporate group is operating in such a manner as to make each individual entity indistinguishable, and therefore it is proper to pierce the corporate veil to treat the parent company as liable for the acts of the subsidiary”.

Japan, China, Sweden, and Belgium contain limited to no special rules governing corporate groups. The American case-law is less conclusive. Courts consider parent-subsidiary veil piercing under the general framework used for other cases, with no reference to an overarching enterprise theory imposing special legal regime. Nonetheless, the case law seems to draw on some additional policy considerations uniquely applicable in the parent-subsidiary context. Put differently, unique features of corporate groups are considered as piercing factors under the general framework.

The first American case to grapple with the liability problem between affiliated corporations was the 1926 New York Court of Appeals decision in *Berkey v. Third Ave. Railway Corporation*. The case involved a passenger on a Manhattan street-car named Minnie Best Berkey who was injured while stepping down from the car because of the motorman’s negligence in the operation of the vehicle. Berkey brought a legal action against the railway company (“Third Avenue”) to recover her damages. The issue turned out to be that Third Avenue was not the owner of the streetcar in which the accident occurred. Rather, Third Avenue held that streetcar, as well as others, through several subsidiaries under its control. Berkey claimed that the subsidiary was a dummy through which Third Avenue ran its business, and therefore

¹⁵In essence, the German law creates a trade-off between two key features of corporate groups. On the one hand, the controlling owner is entitled to give binding instructions to the subsidiary even when the instructions are not in the subsidiary’s best interest. On the other hand, to compensate for the additional risk that the subsidiary and its stakeholders bear, the law provides instruments that hold the parent company liable for losses incurred by the subsidiary. Specifically, the law imposes additional regulations to protect creditors. Among the duties imposed on the parent are the duty to make the execution and termination of controlling agreement available to creditors and the responsibility to maintain money reserves to compensate for potential losses incurred by the subsidiary.

the court should hold Third Avenue liable as the real owner and operator of the car. In its Judgment, the Court of Appeals refused to hold Third Avenue liable. Judge Cardozo famously said, “The whole problem of the relation between parent and subsidiary corporations is one that is still enveloped in the mists of metaphor. Metaphors in law are to be narrowly watched, for starting as devices to liberate thought they end often by enslaving it”. In deciding to reject the plaintiff’s claim, the court did note that in some cases “dominion may be so complete [and] interference so obtrusive” that identifying the two entities as an agent in its liable principal would be desired. In cases where control is less than complete, the court held, parent liability may still be imposed when the separation between parent and subsidiary works as a fraud upon the law.

Subsequently, US courts developed some guidelines uniquely designed to deal with affiliated corporations. Courts in all states commonly agree that the mere full ownership of stocks by the parent is not a dispositive fact, nor is common identity of the parent’s and the subsidiary’s officers and directors. Furthermore, demonstration of control over the subsidiary’s affairs that is consistent with norms of corporate behavior, such as delineating general policies and performance monitoring, will not satisfy the control requirement for veil piercing. However, when the parent seems to control day-to-day operations and managerial decision-making, and when the subsidiary abandons common corporate practices while being fully operated by the parent, courts will be more inclined to pierce the veil.

Another relevant factor in corporate groups’ veil-piercing cases is misrepresentation of the corporate structure. Misrepresentation arises when the creditor had believed that it was dealing with the wealthy parent rather than the thinly capitalized subsidiary. This becomes an issue especially when the parent takes an active role in the creditor misunderstanding. In the case of *FMC Finance Corp. v. Murphree*, the Court of Appeals held: “when the shareholder or affiliate, however, engages in conduct likely to create in the creditor the reasonable expectation that he is extending credit to an economic entity larger than the corporation he actually contracted with, and the creditor reasonably relies to his detriment on his reasonable belief concerning who or what he was dealing with, then the corporate veil can be pierced”. Other factors considered by courts in corporate groups cases are unfair intra-enterprise transactions, excessive dividends, wrongful conduct in the performance of contracts (e.g., when the parent depletes the subsidiary’s assets to the point that it cannot satisfactorily perform its contract obligations) and commingling or shuffling of assets. Overall, US courts have tried to accommodate the problems associated with the prevalence of corporate groups under the general framework of piercing the corporate veil. Their effort proves to be a middle ground between the German Konzernrecht theory and the British conservative approach to the problem.

3 Model

In this section, we develop a simple model to inform our empirical analysis. In the model, headquarters located in a ‘core’ unit must decide whether to invest in a safe or risky project. The core unit produces large, certain profits $\Pi_{Core} > 0$. The safe project consists of further investment in the core unit and yields profits R with certainty. The risky project involves the creation of a new experimental unit which can produce positive profits but can also yield losses. In the Alphabet group, the core unit would be Google (the search engine) and the experimental unit could be Verily (biotechnology and medical instruments) or Waymo (self-driving cars). Our goal is to understand how enterprise liability—the extent to which headquarters is insulated from losses in the experimental unit—affects project choice as well as the legal form and autonomy of the experimental unit.

The model has three stages.

1. **Project choice.** In stage 1, headquarters chooses between the safe and the risky project. If headquarters chooses the safe project, then it gets $\Pi_{Core} + R$ and the game ends. If headquarters chooses the risky project, then the experimental unit is created.
2. **Legal form.** In stage 2, headquarters chooses a legal form for the experimental unit. Headquarters can set up the new unit as an unincorporated division of the core unit, or can incorporate the unit. If the unit is incorporated, then it becomes a wholly-owned subsidiary of the core unit. Incorporation involves a fixed cost $K > 0$. This may include costs of complying with the law (e.g., legal costs, external auditing), additional taxes, the cost of hiring new directors, and so on.¹⁶ The advantage of incorporation is that a legally independent subsidiary may benefit from limited liability. Because the experimental unit is owned by the core unit, these benefits are more likely to accrue when enterprise liability is weak.
3. **Implementation.** In stage 3, the experimental unit must select a course of action. This stage follows closely Aghion and Tirole’s (1997) model of formal and real authority in organizations.¹⁷ First, both headquarters and the experimental unit’s manager gather information about the payoff consequences of different actions. Then the manager makes a recommendation to headquarters,

¹⁶Less direct incorporation costs may include the fact that a manager with a CEO title may demand higher pay, or the fact that resource redeployment from one unit to another may be hindered when units are legally independent.

¹⁷There are many models of authority and delegation in organization, including Alonso, Dessein and Matouschek (2008), Alonso and Matouschek (2008), Baker, Gibbons and Murphy (1999), Dessein (2002) and Melumad, Mookherjee and Reichelstein (1995). We use Aghion and Tirole (1997) to capture the simple idea that headquarters is likely to monitor more, and grant a manager less discretion, when the consequences of bad managerial decisions are more serious.

which headquarters can either accept or reject. If the recommendation is rejected, then headquarters selects a course of action, which the experimental unit must implement. We interpret the probability that headquarters rejects the manager's recommendation as an inverse measure of the experimental unit's autonomy.

Below we describe the model in greater detail and solve the game backwards starting from stage 3.

Implementation. In stage 3, the experimental unit must implement one of $n + 1$ actions, indexed by $i = 0, 1, \dots, n$, $n \geq 3$. Each action i is associated with a pair (V_i, v_i) , where V_i is the payoff that accrues to headquarters and v_i is the payoff or private benefit that accrues to the manager if action i is selected. Action 0 yields a known payoff $(0, 0)$ to headquarters and the manager and can therefore be interpreted as 'doing nothing'. The consequences of actions $i = 1, \dots, n$ appear identical ex ante to headquarters and the manager and can only be discovered by exerting information gathering effort. Ex ante, the players only know that, with probability α , two of these actions yield (B, b) and $(-L, 0)$ and the $n - 2$ other actions yield $(-M, -m)$. With probability $1 - \alpha$, however, two actions yield $(B, 0)$ and $(-L, b)$ and the $n - 2$ other actions yield $(-M, -m)$. B, b, L, M, m are all strictly positive. We assume that n, M and m are 'large enough' that, with no additional information about the consequences of these actions, both headquarters and the manager prefer action 0 to randomly picking one of the other actions.

The parameter α can be interpreted as a measure of congruence between the preferences of headquarters and those of the manager. Suppose in fact that the manager perfectly knew the consequences of selecting each of the possible actions $i = 0, 1, \dots, n$. Then, with probability α , the manager would select the action yielding (B, b) , which is also the headquarters' preferred action. However, with probability $1 - \alpha$, he would select the action yielding $(-L, b)$, which would give headquarters a negative payoff.

By gathering information, the headquarters and the manager can learn the consequences associated with actions. Let e be the information gathering effort exerted by the manager, and E the information gathering effort exerted by headquarters. The cost of effort is $\frac{1}{2}ce^2$ for the manager and $\frac{1}{2}CE^2$ for headquarters. By exerting effort e , we assume that the manager learns the payoffs associated with all the actions with probability e , and with probability $1 - e$ he learns nothing. Similarly, by exerting effort E , headquarters learns the payoffs associated with all the actions with probability E and, with probability $1 - E$, it learns nothing. These probabilities are independent.

We adopt an incomplete contracting approach (Grossman and Hart, 1986) and assume that actions cannot be described and contracted on ex ante. Players interact as follows. First, the manager and headquarters simultaneously and non-cooperatively choose effort levels e and E . Then the manager proposes a

course of action. Headquarters can reject the manager's proposal and pick a different action, which is then implemented. Aghion and Tirole (1997) refer to this case as 'integration' or 'P-formal authority'. Headquarters always retains the formal authority to select an action, but the manager can enjoy real authority because headquarters is uninformed. Because of the timing, we can interpret the manager's proposal as an 'initiative' originating from the experimental unit, and the headquarter's information gathering and evaluation as 'monitoring'.

Let $\alpha B - (1 - \alpha) L \geq 0$ and suppose that, when indifferent between two actions, players always pick the one that maximizes the utility of the other player. Given these assumptions, headquarters' expected payoff from the experimental unit is

$$\Pi_{Exp} = EB + (1 - E) e[\alpha B - (1 - \alpha) L] - \frac{1}{2}CE^2 \quad (1)$$

and the manager' expected payoff is

$$U_{Exp} = E\alpha b + (1 - E) eb - \frac{1}{2}ce^2. \quad (2)$$

To obtain (1) and (2), note that, if headquarters is informed (which occurs with probability E), then it will always select the action yielding B (and αb in expectation to the manager). However, if headquarters is uninformed and the manager is informed (which occurs with probability $(1 - E) e$), the manager will recommend the project that yields b to himself and $\alpha B - (1 - \alpha) L$ in expectation to headquarters. Of course, headquarters can reject this recommendation and obtain 0 by selecting project 0. However, because we assumed that $\alpha B - (1 - \alpha) L \geq 0$, headquarters will always optimally rubber-stamp the manager's recommendation if uninformed. Finally, if both headquarters and the manager are uninformed, project 0 yielding 0 to both will be selected.

In equilibrium, headquarters maximizes (1) with respect to E , and the manager maximizes (2) with respect to e . Assuming interior solutions, this yields

$$e^* = \frac{b}{c}(1 - E^*) = \frac{b}{c} \left(1 - \frac{B - \frac{b}{c}[\alpha B - (1 - \alpha) L]}{C - \frac{b}{c}[\alpha B - (1 - \alpha) L]} \right) \quad (3)$$

and

$$E^* = \frac{B - \frac{b}{c}[\alpha B - (1 - \alpha) L]}{C - \frac{b}{c}[\alpha B - (1 - \alpha) L]}. \quad (4)$$

Intuitively, an increase in headquarters' monitoring E^* reduces managerial initiative because headquarters is better informed and less likely to simply rubber-stamp the manager's proposal (that is, the manager has less real authority). From the point of view of headquarters, reducing monitoring has the advantage of encouraging managerial initiative, but comes at the cost of loss of control.

The probability that a manager's proposal is rejected, conditional on being made, is $E(1 - \alpha)$. Thus, it is natural to interpret $E(1 - \alpha)$ as an inverse measure of managerial autonomy. The smaller $E(1 - \alpha)$ is, the greater the autonomy of the experimental unit from headquarters. Because e^* and E^* are inversely related, in equilibrium greater autonomy will be positively related to greater managerial initiative.

Legal form. In stage 2, headquarters chooses a legal form for the experimental unit. If the experimental unit is incorporated, then it becomes a subsidiary of the core unit. Because the organization's assets are divided into two distinct firms, we refer to this case as asset partitioning. Alternatively, the experimental unit remains an unincorporated internal division of the core firm. We explore the potential of asset partitioning to compartmentalize and mitigate downward risk.

The cost of incorporating the unit is $K > 0$. The advantage is that headquarters may enjoy limited liability protection if the subsidiary makes losses. The magnitude of this advantage depends on the strength of enterprise liability; that is, the propensity of courts to hold the whole group liable for the obligations of one of its subsidiaries.

Let L denote the expected losses incurred by headquarters if the 'bad' action is selected, and \bar{L} the maximum losses. Let $\Pi_{Exp}^*(L)$ be headquarters' expected payoff from the experimental unit when e and E are chosen optimally and expected losses are L . That is, $\Pi_{Exp}^*(L)$ is equal to (1) with (E^*, e^*) replacing (E, e) .

If the experimental unit is not incorporated and the bad action is selected, then headquarters incurs the full losses \bar{L} . This is because the profits of the core business are large enough to cover these losses: $\Pi_{Core} \geq \bar{L}$. Thus, headquarters' expected payoff from the unit is $\Pi_{Exp}^*(\bar{L})$, since $L = \bar{L}$.

If however the experimental unit is incorporated, losses may be externalized. The extent to which headquarters is shielded from losses depends on the propensity of courts to pierce the corporate veil. Let $\theta \in [0, 1]$ be the probability that courts pierce the corporate veil. Thus, a higher θ means stronger enterprise liability or, equivalently, weaker limited liability protection for headquarters. If the experimental unit is incorporated, then with probability θ the losses L are paid in full by headquarters; however, with probability $1 - \theta$, headquarters pays 0. Thus, the expected payoff that accrues to headquarters when running an incorporated experimental unit is $\Pi_{Exp}^*(\theta\bar{L}) - K$, since $L = \theta\bar{L}$.

Headquarters incorporate the experimental unit if the cost of incorporation K is lower than or equal to the expected gains from greater limited liability protection:

$$K \leq \Pi_{Exp}^*(\theta\bar{L}) - \Pi_{Exp}^*(\bar{L}). \quad (5)$$

Note that headquarters' profits when the experimental unit is incorporated decrease with the strength

of enterprise liability: $d\Pi_{Exp}^*(\theta\bar{L})/d\theta < 0$.¹⁸ We assume that K is low enough this condition holds for some θ . Thus, there exists a threshold $\theta^T \in (0, 1)$ such that, for all $\theta \leq \theta^T$, headquarters incorporates the experimental unit, and for all $\theta > \theta^T$, headquarters does not incorporate the experimental unit.

Project choice. In stage 1, headquarters invests either in a safe project yielding profit R or in a risky project (the experimental unit). We have that, if $\theta \leq \theta^T$, headquarters chooses the experimental unit if

$$\Pi_{Exp}^*(\theta\bar{L}) - K \geq R. \quad (6)$$

If $\theta > \theta^T$, headquarters chooses the experimental unit if

$$\Pi_{Exp}^*(\bar{L}) \geq R. \quad (7)$$

Unsurprisingly, weaker enterprise liability (lower θ) increases headquarters' incentives to invest in the risky project. Note that, as θ declines, a new subsidiary is more likely to be created (equation (6) is more likely to hold), because incorporation allows headquarters to reap the benefits of limited liability. Group profits also tend to increase, since $\Pi_{Exp}^*(\theta\bar{L}) - K \geq R$. Thus, weaker enterprise liability shifts corporate group behavior towards more risky projects, more subsidiaries (greater asset partitioning), and greater expected profits (because losses are to some extent externalized).

3.1 Empirical predictions

We are now ready to state the main empirical predictions of the model.

Hypothesis 1 (Firm boundaries). Weaker enterprise liability promotes asset partitioning. Units are more likely to be incorporated when θ is low.

This follows immediately from equation (5).

Hypothesis 2 (Internal organization). Weaker enterprise liability promotes decentralization. Subsidiary managers enjoy greater autonomy from headquarters when θ is low.

¹⁸To see this, totally differentiate $\Pi_{Exp}^*(\theta\bar{L})$ with respect to θ . Note that

$$\frac{d\Pi_{Exp}^*(\theta\bar{L})}{d\theta} = \underbrace{\frac{\partial\Pi_{Exp}^*(\theta\bar{L})}{\partial E^*} \frac{\partial E^*}{\partial\theta}}_{=0} + \underbrace{\frac{\partial\Pi_{Exp}^*(\theta\bar{L})}{\partial e^*} \frac{\partial e^*}{\partial\theta}}_{>0} + \underbrace{\frac{\partial\Pi_{Exp}^*(\theta\bar{L})}{\partial\theta}}_{<0} < 0.$$

$\frac{\partial\Pi_{Exp}^*(\theta\bar{L})}{\partial E^*} = 0$ follows from the first order conditions. $\frac{\partial\Pi_{Exp}^*(\theta\bar{L})}{\partial e^*} > 0$ and $\frac{\partial\Pi_{Exp}^*(\theta\bar{L})}{\partial\theta} < 0$ follow from inspection of (1). $\frac{\partial e^*}{\partial\theta} < 0$ follows from inspection of (3).

From (3) and (4), it is clear that headquarters monitors more, and the manager displays less initiative, when potential losses L are larger: $\frac{\partial E^*}{\partial L} > 0$ and $\frac{\partial e^*}{\partial L} < 0$. This also implies that managers enjoy greater autonomy from headquarters when the experimental unit is incorporated ($L = \theta\bar{L}$) and enterprise liability is weak (lower θ), since $\frac{\partial(-E^*(1-\alpha))}{\partial(-\theta)} > 0$. Intuitively, when enterprise liability is weak, headquarters are not likely to be held liable for their subsidiaries' losses, and monitoring is reduced. Subsidiary managers enjoy greater real authority.

Hypothesis 3 (Corporate group growth). Weaker enterprise liability encourages riskier investment, the creation of new subsidiaries, and spurs corporate group growth.

This follows from equation (6). As θ decreases, new subsidiaries are more likely to be created, the riskiness of the investment increases, but corporate group profits also increase (from R to $\Pi_{Exp}^*(\theta\bar{L}) - K$).

4 Data

Our sample consists of 931,018 corporate groups having ownership stake in 1,236,169 subsidiaries across sixteen countries over years 2002 through 2014. Ownership and accounting data are constructed from historical publications of Bureau Van Dijk's Orbis database. Our main sample is limited to parent-subsidiary relationship where the parent has over 50% stake in the subsidiary and to firms with information on operating revenues (see, e.g., Belenzon and Berkovitz, 2010). Our unit of observation in the primary analysis is the corporate group-year-country-industry quadruplet, since many firms operate in multiple countries and industries. Accordingly, our sample reflects changes in corporate group ownership as well as changes in financials (i.e. operating revenues and total assets) over time. The number of observations in our main sample is 3,122,026.¹⁹

We explore the relationship between enterprise liability (i.e., lower limited liability protection for parent companies) and three main organizational outcomes: asset partitioning, subsidiary autonomy and corporate group growth. Our main dependent variable is the number of subsidiaries controlled by corporate parents at the country-industry-year level. Corporate group growth is measured by annual revenue growth for each corporate group within each country-industry pair.

¹⁹At the corporate group-year level, a corporate group has on average about 2 subsidiaries with the standard deviation of around 9. Furthermore, an average corporate group operates in about 1.3 industries (3-digit SIC) with standard deviation of 1.4 and in about 1.1 countries with a standard deviation of 0.50.

4.1 Constructing the PCV score

Our measure of enterprise liability is based on our evaluation of relevant legal provisions across sixteen countries in America, Asia, and Europe (see Annex 1 for details). To construct the measure, we exploit an exception to the default limited liability rule—piercing the corporate veil (PCV)—which allows courts to hold owners liable for the debts of their firms. Countries are scored on a scale of zero to five according to how inclined their courts are to pierce the corporate veil in cases involving corporate groups, with a higher score indicating stronger inclination to pierce the veil. Hence, a higher PCV score implies stronger enterprise liability, or weaker limited liability protection for parent companies.

To construct PCV scores, we collaborated with scholars at a top US law school. Together, we began reviewing notable legal references, particularly corporate law textbooks, the Westlaw database, and highly cited law review articles. These references provided the necessary theoretical background and led us to the relevant laws and US court decisions on limited liability and piercing the corporate veil cases. We then used Westlaw’s Keycite and LexisNexis’s Shepard, an Internet-based citation tool, to verify that the identified legal precedents were not overturned and were still considered to be “good law”. Lastly, we focused on legal writings dealing specifically with enterprise liability (e.g. the conceptual analysis by Philip L. Blumberg, Stephen B. Presser, and Kurt A. Strasser and the empirical analysis by Robert B. Thompson and Peter B. Oh). For comparative analysis, we began again with prominent secondary references such as Karen and Navarro Lezcano and Maria José’s “Piercing the corporate veil in Latin American jurisprudence: a comparison with the Anglo-American method” (2016). These resources were supplemented with several comparative law review articles. In jurisdictions that follow the civil law traditions (e.g. Germany, Italy and China), the analysis primarily examined the governing statutory law, which has the final authority on intra-group veil piercing cases, whereas in jurisdictions that follow the common law tradition (e.g. The Great Britain, Canada), the analysis focused on the recent case law.

The main challenge in constructing the PCV score is that the law on PCV is often ambiguous, vague, and subject to judicial discretion. Moreover, in some jurisdictions (e.g. China) the legal concept of PCV is fairly new and still developing and so the availability of data is limited. Lastly, data on actual enterprise liability rulings are available only for select countries. Given these limitations, we evaluated five distinct criteria that either implicitly or expressly affect the probability of intra-group veil piercing and weight the criteria according to their importance.

Table 1 presents the breakdown of the scores that we assign to each country based on the five criteria. First, we examine to what extent each country applies the “enterprise” (or “economic unity”) approach in cases involving corporate groups. Application of this legal concept is the most important criterion in

determining the probability of corporate veil piercing because it shows how willing courts are to treat subsidiaries and parent firms as a single legal entity and thus hold parents liable for the losses of their subsidiaries. As shown in Column 1, Germany has the highest score on this dimension, followed by France and Italy. At the other end of the spectrum are China, Great Britain, Japan, and Sweden. In other words, Germany, France, and Italy are more inclined to treat subsidiaries as an integral part of their parent firms than are China, Great Britain, Japan, and Sweden.

The second most important criterion that we examine is the number and diversity of factors that courts are willing to consider in deciding whether to pierce the corporate veil. The more factors that courts are willing to consider, the more likely that the courts will hold parent firms liable for the liabilities of their subsidiaries. Column 2 shows that Great Britain, Sweden, and Denmark have the lowest score, and China and the United States have the highest scores on that dimension. Factors that courts might consider in relation to this criterion include undercapitalization, commingling of corporate and personal affairs, disregard for corporate formalities, fraud or misrepresentation, unfair or unjust conduct, extent of owner's control over subsidiaries, dysfunctional management, and assumption of risk by creditors.

Third and fourth, some countries limit corporate veil piercing only to bankruptcy and/or fraud cases while other countries are open to piercing the corporate veil in other cases as well. Thus, we examine whether countries are willing to hold parent firms liable in situations other than bankruptcy and fraud and assign separate scores for these two criteria. Columns 3 and 4 show that courts in Australia, Canada, China, Great Britain, Japan, South Korea, and Switzerland are all willing to pierce the corporate veil in cases outside of bankruptcy while German courts are most willing in cases outside of fraud. At the other end, courts in Belgium, Denmark, and France are least willing to pierce the corporate veil in cases outside of bankruptcy, and courts in Denmark are least willing in cases outside of fraud.

Lastly, we look at the available empirical data on the inclination of courts to pierce the corporate veil. Empirical data reveal that Australia has the lowest corporate veil piercing rate of 33% when the controlling shareholder is a parent firm. China has the highest corporate veil piercing rate of 61%. Column 5 shows scores based on the available empirical data. The scores range from -5 to 5, and 0 indicates that empirical data were not available.

Column 6 presents the overall PCV scores for each of the sixteen countries in our sample, weighted by the importance of each criterion. Germany has the highest overall score of 3.93, reflecting its high willingness to hold parent firms liable for the debts of their subsidiaries, and Great Britain has the lowest overall PCV score of 1.3, reflecting its very legalistic regulatory style. Annex 1 provides detailed information on the legal basis behind these scores.

Insert Table 1 here

4.2 Industry downside risk

We expect that enterprise liability to be more salient in influencing outcomes when industry downside risk is high. This would be consistent with the model presented in Section 3, where θ and \bar{L} enter multiplicatively. To test this hypothesis, we construct industry downside risk, a variable that measures the level of downside risk faced by firms in a particular industry and country in a given year. We define industry downside risk as the share of firms in a country-industry pair that experience a drop of more than 30% in total revenues in a given year. Specifically, we compare the revenue of each firm in a country-industry pair at times $t-1$ and t and calculate the fraction of firms whose revenues drop more than 30%. A high fraction of firms that experience more than 30% drop in revenues indicates high industry downside risk. (In Appendix Table A1, we employ alternative measures for industry downside risk using net income, cash, and current assets and drop threshold of 50%. Results are robust.)

4.3 Country controls

PCV scores might be correlated with country-level economic conditions, which might influence the tendency of firms to incorporate their business units. To mitigate this concern, we control for the following country characteristics: GDP, level of stock market development, unemployment rate, and maturity of employment protection legislation. We also control for legal origins of countries to account for differences in legal traditions of the countries (La Porta et al., 1998).

For each year and country in our sample, we obtain GDP and unemployment rate from the World Bank database to control for underlying macroeconomic conditions. Furthermore, we add controls for the level of stock market development and the maturity of employment protection legislation as previous studies have found that these factors influence the formation of corporate groups and in turn subsidiaries (Belenzon et al., 2013). The level of stock market development is defined as the ratio of total stock market capitalization to GDP for the countries in our sample. The maturity of employment protection legislation broadly reflects the level of protection available for individual or a group of employees against dismissal as well as procedural inconveniences involving fixed-term or temporary employment.²⁰ We obtain country legal origins from La Porta et al. (1998). These variables are at the subsidiary’s country level as the decision to incorporate a business unit is likely to be influenced by the legal institutions of the country that the business unit will operate in.

²⁰OECD, "OECD Indicators of Employment Protection" (<http://www.oecd.org/els/emp/oecdindicatorsofemploymentprotection.htm>)

4.4 Group characteristics

To examine how corporate group characteristics moderate the effects of enterprise liability, we construct the following variables: fraction of wholly-owned subsidiaries, fraction of board member overlap between subsidiaries and their parent firms, and fraction of family managers. We argue that higher values of all these variables reflect a higher level of control of the parent over the subsidiary. The idea we explore is that, when a parent’s control is strong, the benefits to the parent of weaker enterprise liability are low. This is because the parent’s control reduces the chance that problems such as agency conflicts arise at the subsidiary level.

Wholly-owned subsidiaries. When a parent firm wholly owns its subsidiary, the parent’s control over the subsidiary is likely to be strong and the subsidiary is less likely to be independent. Consequently, limited liability protection is likely to be less valuable to the parent. To explore this hypothesis, we compute for each parent firm the fraction of its subsidiaries that are wholly owned. More specifically, we identify parent-subsidiary pairs where the parent has 100% ownership stake in the subsidiary and calculate the fraction of subsidiaries that are wholly owned by each parent firm.

Board member interlock. Sharing board members between the parent firm and its subsidiaries is often indicative of a high level of control that the parent has over its subsidiaries. Thus, when board member overlap is high between subsidiaries and the parent firm, limited liability protection is likely to be less valuable. To test this prediction, we construct a variable that captures the extent of board member overlap between subsidiaries and their parent firms. For each subsidiary, we find the fraction of the board members who are also on the board of the parent firm and average the fractions for each parent firm.

Family managers. When a top manager of a subsidiary is family-related to the group’s shareholders, interactions between the subsidiary and its parent company are unlikely to be arms-length and close integration is more likely. Such integration could make limited liability protection less salient. To test this hypothesis, we extract shareholder names of the corporate group and manager names of the subsidiaries from the Orbis database. Then, we construct the fraction of subsidiaries whose top managers include a family member of the corporate group’s shareholders by matching the last names of the managers to the last names of the shareholders. In our analysis, top managers include C-suite executives and senior managers such as president, vice president, and general managers.

4.5 Descriptive statistics

Table 2 presents the descriptive statistics. At the country-industry-year level, a corporate group has on average 1.45 subsidiaries with the standard deviation of 3.84. The average revenues are about 78 million

US dollars, and the average total assets are 301 million US dollars. The large mean for both total assets and operating revenues are driven by large groups, as shown by small median values compared to the mean values.

The table also presents corporate group characteristics. About 66% of the subsidiaries are family-owned, and 45% are wholly-owned by their parent firms. Additionally, 40% of the subsidiaries' board members are also on the board of the parent firm (board member interlock), and 31% of the subsidiaries include a top manager who are family members of a shareholder. Given the significant shares of family- and wholly-owned subsidiaries, we present results from separate analyses to confirm that corporate group limited liability is beneficial to corporate groups with various characteristics.

Lastly, the table shows industry downside risk, which we define as the share of firms at the industry-year level that experience a yearly revenue drop of more than 30%. On average, 6% of the firms experience such a large drop in revenues, but the figure varies substantially, with some industries (in the bottom decile of downside risk distribution) consisting of 0% of firms and others (in the bottom decile) consisting of 18% of firms experiencing a revenue drop of greater than 30% for a given year.

Insert Table 2 here

Figure 1 plots the relationship between country PCV score and the average number of subsidiaries per one million USD. The general trend is downward sloping with a correlation of -0.53. For instance, in Great Britain, where enterprise liability is the weakest, the average number of subsidiaries per one million USD is about 22 per whereas in Germany, where the enterprise liability is the strongest, the average number of subsidiaries per one million USD is about 1.6. This provides suggestive evidence that subsidiaries are more prevalent in countries where courts are less willing to pierce the corporate veil (i.e., where enterprise liability is weaker).

Insert Figure 1 here

5 Econometric analysis

5.1 PCV and number of subsidiaries

We begin our econometric analysis by examining the extent to which enterprise liability influences the partitioning of corporate assets across subsidiaries. Hypothesis 1 suggests that corporate groups are more likely to incorporate their business units in countries where enterprise liability is weaker. The main

empirical specification that we use for our analysis is as follows:

$$\ln(\text{Subsidiaries}_{ijct}) = \beta_0 + \beta_1 \text{PCV}_c + \mathbf{Z}'_{ijct} \gamma + \eta_i + \mu_j + \tau_t + \epsilon_{ijct}$$

Subsidiaries is the number of subsidiaries by corporation i in three-digit SIC j in country c at year t . PCV_c is the PCV score of the country of the subsidiaries.²¹ \mathbf{Z} is a vector of controls, including corporate group size proxied by aggregate revenues at the corporation-country-industry-year level. η_i , μ_j and τ_t are complete sets of dummies for corporate group, three-digit SIC code, and year. ϵ_{ijct} is an iid error term. The coefficient of interest is β_1 . Consistent with the idea that weaker enterprise liability is associated with incorporation of more business units, we expect $\beta_1 < 0$ (higher PCV scores indicate higher enterprise liability).

Table 3 presents results from our main analysis. The general pattern of results confirms that groups are more likely to incorporate their business units in countries where PCV scores are low. Columns 1 and 2 show between- and within-group estimates without country-level controls, while including a complete set of dummies for legal origins to account for any differences in legal traditions that might influence the strength of limited liability protections (La Porta et al., 1998) as well as dummies for year and three-digit SIC code to control for aggregate time trends and any time-invariant industry characteristics. Both sets of results show that enterprise liability and number of subsidiaries are negatively related and provide support for our Hypothesis 1.

In column 3, we add country-level controls to account for differences in GDP, stock market development, unemployment rate, and unemployment protection legislation index that might influence the number of group affiliates (Belenzon et al., 2013; Belenzon and Tsoimon, 2016). The results continue to hold, with the coefficient estimate on PCV score growing in absolute value, from -0.011 in the baseline estimation to -0.060 in the estimation with country-level controls. The results indicate that moving from Great Britain where PCV score is the lowest at 1.3 (weakest enterprise liability) to Germany where PCV score is the highest at 3.93 (strongest enterprise liability) leads to about a 16% decrease in the number of subsidiaries.

Columns 4-8 present results from various sub-sample analyses. Columns 4 and 5 show results for corporate groups operating in single and multiple industries categorized by three-digit SIC code. The coefficient estimate on country PCV score for multiple-industry groups is larger in magnitude than that

²¹In multinational groups, jurisdictional problems arise from the separation between parent firms and subsidiaries. Claimants may argue that a case is better heard in the home country of the parent rather than in the host country of the subsidiary. We chose to focus on the PCV score of the country of the subsidiary because, in a number of cases in the US and the UK, courts rejected claimants' attempts to bring proceedings in the home country of the parent, to prevent 'forum shopping' (Muchlinski, 2010).

for single-industry groups. Column 6 shows results for groups with total assets greater than 100 million USD. The coefficient estimate is negative and statistically significant, indicating that the main results are not driven by small groups only. Column 7 includes only family-owned groups, and column 8 includes only widely-held groups. The negative and statistically significant coefficient estimates (-0.60 and 0.061) on country PCV score provide evidence that weaker enterprise liability encourages asset partitioning in both family-owned groups and widely-held groups.

Insert Table 3 here

5.1.1 PCV and subsidiary autonomy

Because limited liability protects parent firms against the losses incurred by their subsidiaries, we expect stronger enterprise liability (higher PCV score) to be associated with lower levels of subsidiary autonomy (Hypothesis 2). We use data from World Management Survey to test this hypothesis. Figures 2a-f present the relationship between PCV score and different measures of subsidiary autonomy. The general pattern of results confirms our prediction. For instance, Figure 2b shows that, as PCV score increases, capital investment autonomy decreases. In Great Britain, where the PCV score is the lowest at 1.3, the maximum capital investment that the plant can make without prior authorization from corporate headquarters, normalized as $\log(\text{max capital investment} / \text{number of employees})$, is 2.7. In Germany, where the PCV score is the highest at 3.93, $\log(\text{max capital investment} / \text{number of employees})$ is around 1.9. The same pattern holds for marketing and sales autonomy, product introduction autonomy, and hiring autonomy. Additionally, figure 2f shows that a manager from headquarters is more likely to be present at the subsidiary site in countries where the enterprise liability is strong. This suggests that headquarters have more incentives to closely monitor their subsidiaries when they are liable for their losses, precisely as our model predicts.

Table 4 presents results from our analysis examining the relationship between PCV score and subsidiary autonomy. The sample consists of about 1,500 firms from the World Management Survey (WMS) and covers eleven countries across the Americas, Europe, and Asia. Column 1 shows a consistent pattern, that subsidiaries operating in countries with stronger enterprise liability (higher PCV score) have less autonomy in making capital investments. More specifically, one point increase in PCV score is associated with about 49% decrease in the amount of capital that a subsidiary can invest without a prior authorization from the corporate headquarter. Column 2 shows that higher PCV score is also associated with fewer the hierarchical levels between shop floor employees and the CEO. Column 3 uses aggregate autonomy score, which combines autonomy scores for hiring, sales and marketing, and product introduction. The

results continue to show that subsidiaries operating in countries with stronger enterprise liability have less autonomy.

Insert Figures 2a-f and Table 4 here

5.2 Industry downside risk

We perform analyses examining how the relationship between number of subsidiaries and PCV is moderated by industry risk by interacting PCV score with industry downside risk. We use the following empirical specification:

$$\ln(\text{Subsidiaries}_{ijct}) = \beta_0 + \beta_1 \text{PCV}_c + \beta_2 \text{PCV}_c \times \text{Risk}_j + \beta_3 \text{Risk}_j + \mathbf{Z}'_{ijct} \gamma + \eta_i + \mu_j + \tau_t + \epsilon_{ijct}$$

The coefficient estimate of interest is β_2 . We expect $\beta_2 < 0$, as this would indicate that the benefits of weaker enterprise liability are more salient when industry downside risk is high. This would provide further support for our model and Hypothesis 1, since there θ and \bar{L} enter multiplicatively.

Table 5 presents the results. The general pattern confirms the hypothesis that weaker enterprise liability is more valuable when industry downside risk is high. For instance, column 3, which include country-level controls and a complete set of dummies for operating years and corporate groups, shows a statistically significant and negative coefficient (-0.016) on the interaction between PCV score and industry downside risk. Results continue to hold whether we include industry fixed effects (column 6) or both industry and country fixed effects (column 7).

Insert Table 5 here

5.3 Group characteristics

Next, we examine how the interaction of PCV score and industry downside risk varies with corporate group characteristics. The group characteristics we consider are: (i) the fraction of managers whose last name matches the last name of a shareholder (family managers), (ii) the fraction of the subsidiary's board members who are also on the board of the parent firm (board member interlock), and (iii) the fraction of subsidiaries that are wholly owned by a parent firm. Higher values of these group characteristics are likely to be associated with stronger parental control of subsidiaries. Because stronger parental control reduces the likelihood that problems arise at the subsidiary level, the benefits of insulating headquarters from subsidiary's losses would become less salient as parental control increases. Thus, we expect the effect of the interaction between PCV score and industry downside risk to be weaker for groups with higher values of these characteristics.

We estimate the following empirical specification:

$$\begin{aligned} \ln(\text{Subsidiaries}_{ijct}) = & \beta_0 + \beta_1 PCV_c + \beta_2 PCV_c \times Risk_j + \beta_3 PCV_c \times Risk_j \times G_i + \beta_4 PCV \times G_i \\ & + \beta_5 Risk_j \times G_i + \beta_6 Risk_j + \beta_7 G_i + \mathbf{Z}'_{ijct} \gamma + \eta_i + \mu_j + \tau_t + \epsilon_{ijct} \end{aligned}$$

where G_i denotes corporate group characteristics. The coefficient of interest is β_3 . $\beta_3 > 0$ would suggest that stronger parental control of subsidiaries dampens the effect of PCV score-industry downside risk interaction.

Table 6 presents the results. We start with family managers. Because a higher fraction of managers who are family members of a shareholder would indicate that the relationship between a parent firm and its subsidiary is less likely to be arms-length, we expect a higher share of family managers within subsidiaries to reduce the effect of the PCV score-industry downside risk interaction. Column 1 supports this prediction, as it shows a statistically significant and positive coefficient estimate of 0.044 on the three-way interaction involving PCV score, industry downside risk, and fraction of subsidiaries with a family manager.

Similarly, board member interlock between subsidiaries and parents indicate that groups are more tightly integrated and parental control is stronger. Thus, we expect a strong board member interlock to reduce the effect of the PCV score-industry downside risk interaction. Column 2 shows a statistically significant and positive coefficient estimate of 0.043 on the three-way interaction involving PCV score, industry downside risk, and board member interlock.

Lastly, we expect the PCV score-industry downside risk interaction to be weaker for corporate groups with a high share of wholly-owned subsidiaries. Column 3 shows a statistically significant and positive coefficient estimate of 0.032 for the three-way interaction involving PCV score, industry downside risk, and share of wholly-owned subsidiaries.

Insert Table 6 here

5.4 Asset partitioning and corporate group growth

Hypothesis 3 suggests that weaker enterprise liability encourages groups to select more risky projects. These riskier projects are organized as incorporated units (leading to greater asset partitioning, relative to internal investment) and generate higher expected profits and growth. We examine this hypothesis using a two-stage least squares estimation approach. We argue that weaker enterprise liability influences a firm's decision to partition its assets into legally independent entities especially when industry downside risk is high. At the same time, it should not directly influence corporate group growth or be correlated

with the error term. Under this logic, we instrument the number of subsidiaries with the interaction between PCV score and industry downside risk and estimate the effect of asset partitioning on group growth.

The first-stage specification for the two-stage least squares approach that we employ is as follows:

$$\ln(\text{Subsidiaries}_{ijct}) = \beta_0 + \beta_1 \text{PCV}_c + \beta_2 \text{PCV}_c \times \text{Risk}_{it} + \beta_3 \text{Risk}_{it} + \mathbf{Z}'_{ijct} \gamma + \eta_i + \mu_j + \tau_t + \epsilon_{ijct}.$$

Consistent with the argument that weaker enterprise liability is more beneficial when industry downside risk is higher, we expect that $\beta_2 < 0$.

The second-stage, instrumental variable specification is:

$$\text{Growth}_{ijct} = \beta_0 + \beta_1 \ln(\widehat{\text{Subsidiaries}}_{ijct}) + \mathbf{Z}'_{ijct} \gamma + \eta_i + \mu_j + \tau_t + \epsilon_{ijct}$$

where *Growth* is yearly revenue growth of corporate group *i* in industry *j* and country *c* in year *t*. $\widehat{\text{Subsidiaries}}$ is the instrumented variable from the first-stage regression. If asset partitioning spurs corporate group growth, we expect $\beta_1 > 0$.

Column 1 of Table 7 presents the OLS results from regressing yearly revenue growth on the number of subsidiaries while controlling for country characteristics and with a complete set of dummies for corporate group, three-digit SIC code, and operating year. The results show a positive relationship between the number of subsidiaries (asset partitioning) and corporate group growth.

Columns 2 and 3 present results from two-stage least squares estimation of the effect of the number of subsidiaries on firm growth. Column 2 shows a negative and statistically significant relationship between PCV score-industry downside risk interaction and the number of subsidiaries, indicating that weaker enterprise liability is more valuable when industry downside risk is high. The instrument is strong, with a Cragg-Donald Wald F statistic of about 229. Column 3 shows the estimates from the second stage, with the number of subsidiaries instrumented with the PCV score-industry downside risk interaction. The positive coefficient estimate of 0.290 confirms the hypothesis that asset partitioning leads to firm growth. More specifically, a 10% increase in the number of subsidiaries holding assets fixed is associated with about 3 percentage point increase in yearly revenue growth. The larger IV estimate (0.290) compared to the OLS estimate (0.080) indicates that the IV strategy corrects downward bias in the OLS estimation.

In Table 8, we divide our sample into firms operating in dynamic industries and firms operating in stable industries.²² OLS estimates in columns 1 and 4 show that there is a positive relationship between the number of subsidiaries and corporate group growth. The first-stage results in columns 2 and 5 show

²²We identify dynamic industries by the following 2-digit SIC codes: 35-38, 48, 87. We identify stable industries by the following 2-digit SIC codes: 24-34, 49-70.

as expected that the coefficient estimate of PCV score-industry downside risk interaction is negative and statistically significant, with the F statistic of 105 and 112. Columns 3 and 6 show results from the second-stage, instrumental variable regression. The coefficient estimate on the number of subsidiaries for dynamic industries (0.731) is significantly greater than the estimate for stable industries (0.218). This supports the idea that asset partitioning is more beneficial in rapidly changing than in slowly changing environments.

Figure 3 summarizes the relationship between enterprise liability, asset partitioning, and corporate group growth.²³ The bars indicate the estimated percent changes in the average number of subsidiaries for corporate groups in each of the sixteen countries when PCV score moves from highest value of 5 (indicating the strongest enterprise liability) to the country-specific values indicated on the horizontal axis. Additionally, the line traces the percent growth in the average revenues of corporate groups in each country when PCV score drop from 5 to the country-specific values. In essence, the line shows the average growth in revenues that a corporate group in a specific country would experience when enterprise liability is relaxed from the most strict level to the level indicated for the country. For example, corporate groups operating in Germany would experience an estimated 7.59% growth in the number of subsidiaries and 2.29% growth in revenues when PCV score moves from 5 to its assigned value of 3.93. For Great Britain, the growth rates for the number of subsidiaries and revenues would be 26.12% and 8.66% respectively when PCV score drops from 5 to the country's current level of 1.3. The trends in the figure clearly show that as enterprise liability weakens (PCV score declines), corporate groups tend to have more subsidiaries and in turn achieve higher growth.

5.4.1 Regional manager experience

In Table 9, we examine the effect of asset partitioning on corporate group growth using another instrumental variable. To do so, we exploit a variation in regional manager experience levels, defined as the fraction of managers in a region (NUTS2) whose age is in the top quartile of the age distribution within each year. We instrument the number of subsidiaries with the interaction between PCV score and regional manager experience level. Similarly to before, we argue that enterprise liability influences corporate group growth only by encouraging asset partitioning, especially when the level of manager experience in a region is low. However, enterprise liability does not directly influence corporate group growth or is correlated with the error term.

The OLS results in column 1 show that there is a positive relationship between the number of sub-

²³The sample mean of 0.06 is used in the calculation for industry downside risk.

sidiaries and yearly revenue growth at the corporate group-country-region level. Columns 2 shows as expected that limited liability is more valuable when regional manager experience is low than when it is high. The null hypothesis that the instrument is weak can be rejected based on Cragg-Donald Wald F statistic of 1282. Finally, the IV estimation results in column 3 provide further evidence that asset partitioning leads to corporate group growth. A 10% increase in the number of subsidiaries holding assets fixed is associated with about 2 percentage point increase in yearly revenue growth.

Insert Tables 7, 8, 9 and Figure 3 here

6 Concluding remarks

This paper contributes to the literature examining the effects of legal institutions on economic outcomes. It shows that in countries with weaker enterprise liability, (i) corporate groups partition their assets more finely into legally independent subsidiaries, (ii) grant more autonomy to their subsidiary managers, and (iii) grow faster. Our empirical findings are consistent with a model where stronger limited liability protections for headquarters increase the benefits of asset partitioning and decreases the agency costs of delegation by externalizing risk. Since losses are more likely to be externalized, the risks associated with investment are also lower and groups invest more and grow faster in those countries. These effects are stronger in industries where downward risk is larger.

An important issue is to what extent potential losses can be externalized. Sophisticated contractual creditors such as banks and other financial institutions can charge higher interest rates to compensate for the risks associated with weaker enterprise liability, so externalization of risk should not be a very significant issue there. Involuntary creditors such as tort creditors, on the other hand, are not compensated for the risks associated with weaker enterprise liability. This suggests that, when involuntary creditors and tort liability are more important, the benefits of asset partitioning are more significant. Thus, for instance, in the oil industry or the nuclear sector, where accidents can lead to extremely expensive lawsuits, one could expect to see a lot of asset partitioning. Similarly, if societies are becoming increasingly litigious, as many argue, the practice of partitioning assets should increase. Contrary to the conventional wisdom that corporate groups are relic of the past, therefore, increasing litigiousness in society may spur a revival of this organizational form.

One must be careful in drawing welfare implications from our analysis. On the one hand, shielding headquarters from liabilities arising from risky projects can encourage experimentation and foster economic growth. Our empirical analysis tends to emphasize such benefits. On the other hand, the costs of

failed experimentation may disproportionately fall on consumers or ‘weak’ corporate stakeholders such as future generations. Striking a balance between these conflicting concerns is difficult, and countries may reasonably differ in their choices.

References

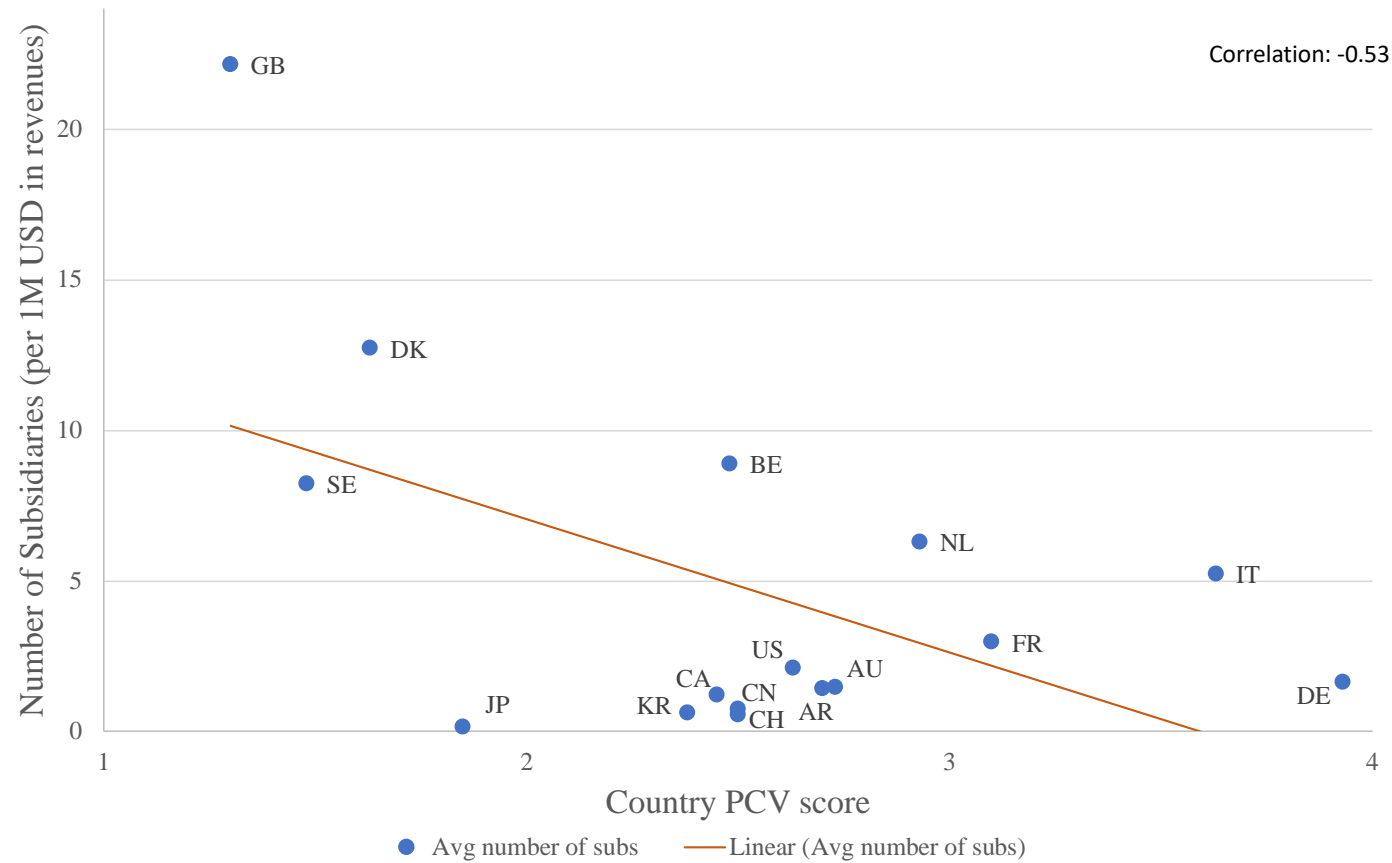
- [1] Acemoglu D, Johnson S, Robinson JA. 2005. Institutions as a fundamental cause of long-run growth. In P. Aghion, SN. Durlauf (Eds.), *Handbook of Economic Growth* (Volume 1, Part A), 385–472, North-Holland.
- [2] Aghion P, Tirole J. 1997. Formal and real authority in organizations. *Journal of Political Economy*, **105**(1):1–29.
- [3] Alfaro L, Bloom N, Conconi P, Fadinger H, Legros P, Newman AF, Sadun R. Van Reenen J. 2017. Come Together: Firm Boundaries and Delegation. Working paper, Harvard Business School.
- [4] Alonso R, Dessein W, Matouschek N. 2008. When does coordination require centralization? *American Economic Review* **98**(1): 145-179.
- [5] Alonso R, Matouschek N. 2008. Optimal delegation. *Review of Economic Studies* **75**(1): 259-293.
- [6] Baek JS, Kang JK, Lee I. 2006. Business groups and tunneling: Evidence from private securities offerings by Korean chaebols. *Journal of Finance* **61**(5): 2415-2449.
- [7] Bainbridge SM, Henderson MT. 2016. *Limited Liability. A Legal and Economic Analysis*. Edward Elgar Publishing, Cheltenham, UK.
- [8] Baker G, Gibbons R, Murphy KJ. (1999). Informal authority in organizations. *Journal of Law, Economics, and Organization* **15**(1): 56-73.
- [9] Banal-Estanol A, Ottaviani M, Winton A. 2013. The flip side of financial synergies: Coinsurance versus risk contamination. *Review of Financial Studies* **26**(12): 3142–3181.
- [10] Bebchuk LA, Kraakman R, Triantis G. 2000. Stock pyramids, cross-ownership and dual class equity: The mechanisms and agency costs of separating control from cash-flow rights. In R. Morek (Ed.), *Concentrated Corporate Ownership*, 445-460, University of Chicago Press, Chicago.
- [11] Belenzon S, Berkovitz T. 2010. Innovation in business groups. *Management Science* **56**(3): 519-535.
- [12] Belenzon S, Berkovitz T, Rios L. 2013. Capital markets and firm organization: How financial development shapes European corporate groups. *Management Science* **59**(6): 1326-1343.
- [13] Belenzon S, Hashai N, Pataconi A. 2018. The architecture of attention: Group structure and subsidiary autonomy. Working Paper
- [14] Bertrand M, Mehta P, Mullainathan S. 2002. Ferreting out tunneling: An application to Indian business groups. *Quarterly Journal of Economics* **117**(1): 121-148.
- [15] Bethel JE, Liebeskind J. 1998. Diversification and the legal organization of the firm. *Organization Science* **9**(1): 49-67.

- [16] Bergen M. 2017. Alphabet finishes reorganization with new XXVI company diversification and the legal organization of the firm. *Bloomberg*. <https://www.bloomberg.com/news/articles/2017-09-01/alphabet-wraps-up-reorganization-with-a-new-company-called-xxvi>.
- [17] Bloom N, Van Reenen, J. 2007. Measuring and explaining management practices across firms and countries. *Quarterly Journal of Economics* **122**(4): 1351-1408.
- [18] Blumberg PI. 1986. Limited liability and corporage groups. *Journal of Corporate Law* **11**: 573–631.
- [19] Blumberg PI. 1993. *The multinational challenge to corporation law: The search for a new corporate personality*. Oxford, U.K.: Oxford University Press.
- [20] Bloom N, Sadun R, Van Reenen J. 2012. The organization of firms across countries. *Quarterly Journal of Economics* **127**(4): 1663-1705.
- [21] Brahm F, Tarziján J. 2016. Toward an integrated theory of the firm: The interplay between internal organization and vertical integration. *Strategic Management Journal* **37**(12): 2481-2502.
- [22] Cecchetti S. 2012. The future of financial intermediation and regulation. Paper presented at the Second Conference of the European System of Central Banks Macro-prudential Research Network.
- [23] Dari-Mattiacci G, Gelderblom O, Jonker J, Perotti EC. 2017. The emergence of the corporate form. *Journal of Law, Economics, & Organization* **33**(2): 193-236.
- [24] Dearborn M. 2009. Enterprise liability: Reviewing and revitalizing liability for corporate groups. *California Law Review* **97**: 195-261.
- [25] De la Croix D, Doepke M, Mokyr J. 2018. Clans, Guilds, and Markets: Apprenticeship Institutions and Growth in the Preindustrial Economy. *Quarterly Journal of Economics* **133**(1): 1-70.
- [26] Dessein W. 2002. Authority and communication in organizations. *Review of Economic Studies* **69**(4): 811-838.
- [27] Gamble A, Kelly G. 2000. The politics of the company. In JE. Parkinson, A. Gamble, G. Kelly (Eds.), *The Political Economy of the Company*, 21-50. Portland, O.R.: Hart Publishing
- [28] Grossman SJ, Hart OD. 1986. The costs and benefits of ownership: A theory of vertical and lateral integration. *Journal of political economy* **94**(4): 691–719.
- [29] Hansmann H, Kraakman RH. 2000a. The essential role of organizational law. *Yale Law Journal* **110**: 387–440.
- [30] Hansmann H, Kraakman RH. 2000b. Organizational law as asset partitioning. *European Economic Review* **44**: 807–17.
- [31] Kagan R. 2000. Introduction: Comparing national styles of regulation in Japan and the United States. *Law & Policy* **22**(3-4): 225-244.
- [32] Khanna T, Yafeh Y. 2007. Corporate groups in emerging markets: Paragons or parasites? *Journal of Economic Literature* **45**: 331-372.

- [33] La Porta R, Lopez-de-Silanes F, Shleifer A. 2008. The economic consequences of legal origins. *Journal of Economic Literature* **46** (2): 285–332.
- [34] La Porta R, Lopez-de-Silanes F, Shleifer A, Vishny RW. 1997. Legal determinants of external finance. *Journal of Finance* **52**(3): 1131-1150.
- [35] La Porta R, Lopez-de-Silanes F, Shleifer A, Vishny RW. 1998. Law and finance. *Journal of Political Economy* **106**(6): 1113-1155.
- [36] Leff NH. 1978. Industrial organization and entrepreneurship in the developing countries: The economic groups. *Economic Development and Cultural Change* **26**: 661-675.
- [37] Lewellen WG. 1971. A pure financial rationale for the conglomerate merger. *Journal of Finance* **26**(2): 521-537.
- [38] Lezcano JM. 2015. *Piercing the corporate veil in Latin American jurisprudence: A comparison with the Anglo-American method*. New York, NY: Routledge.
- [39] Manne HG. 1967. Our two corporation systems: Law and economics. *Virginia Law Review*: 259-284.
- [40] Masten SE. 1988. A legal basis for the firm. *Journal of Law, Economics, & Organization* **4**(1): 181-198.
- [41] Melumad ND, Mookherjee D, Reichelstein S. (1995). Hierarchical decentralization of incentive contracts. *RAND Journal of Economics* **26**(4): 654-672.
- [42] Micklethwait J, Wooldridge A. 2003. *The Company: A Short History of a Revolutionary Idea*. Phoenix, London.
- [43] Muchlinski P. 2010. Limited liability and multinational enterprises: a case for reform? *Cambridge Journal of Economics* **34**(5): 915-928.
- [44] Pérez-González F, Yun H. 2013. Risk management and firm value: Evidence from weather derivatives. *Journal of Finance* **68**(5): 2143-2176.
- [45] Roe MJ. 1986. Corporate strategic reaction to mass tort. *Virginia Law Review* **72**(1): 1-59.
- [46] Rosenberg N, Birdzell LE Jr. 1986. *How the West Grew Rich: The Economic Transformation of the Industrial World*. Basic Books.
- [47] Schlissel D, Peterson P, Biewald B. 2002. Financial insecurity: The increasing use of limited liability companies and multi-tiered holding companies to own nuclear power plants. Synapse Energy Economics Report. Available at: <https://www.riverkeeper.org/wp-content/uploads/2011/03/SYNAPS2.pdf>
- [48] Smith A. (1776). *An Inquiry into the nature and causes of the wealth of nations*. London: George Routledge and Sons.
- [49] Stein JC. 1997. Internal capital markets and the competition for corporate resources. *Journal of Finance* **52**(1): 111-133.
- [50] Strasser KA. 2004. Piercing the veil in corporate groups. *Connecticut Law Review* **37**: 637-665.

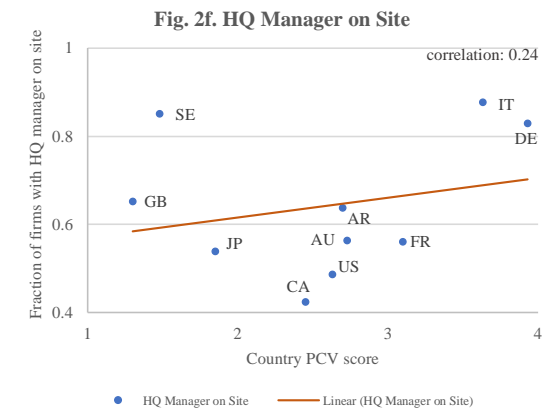
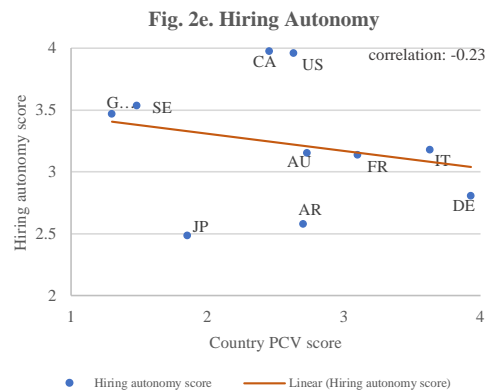
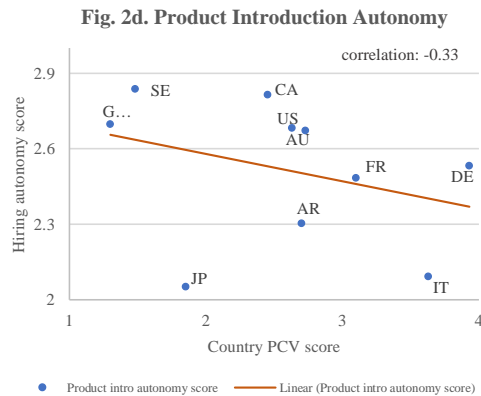
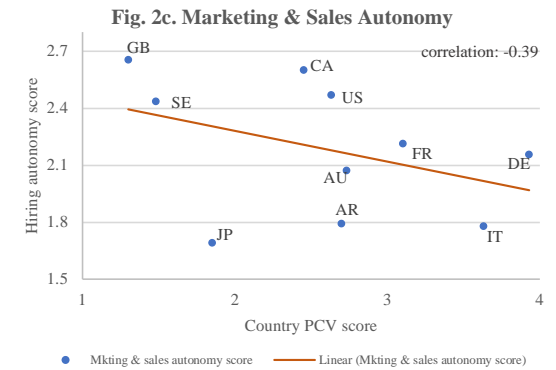
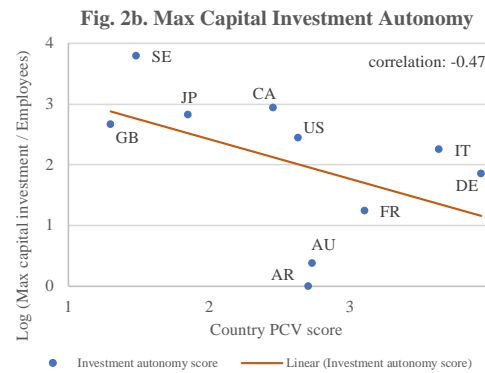
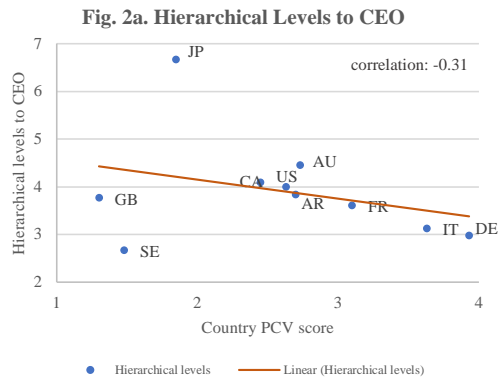
- [51] Vandekerckhove K. 2007. *Piercing the corporate veil*. The Netherlands: Kluwer Law International.
- [52] Weber M. 1961. *General economic history*. Collier Books.
- [53] Williamson O. 1975. *Markets and hierarchies: Analysis and antitrust implications*. New York, N.Y.: Free Press.
- [54] Zimmerman R. 1996. *The law of obligations: Roman foundations of the civilian tradition*. New York, N.Y.: Oxford University Press.

Figure 1. PCV Score and Number of Subsidiaries



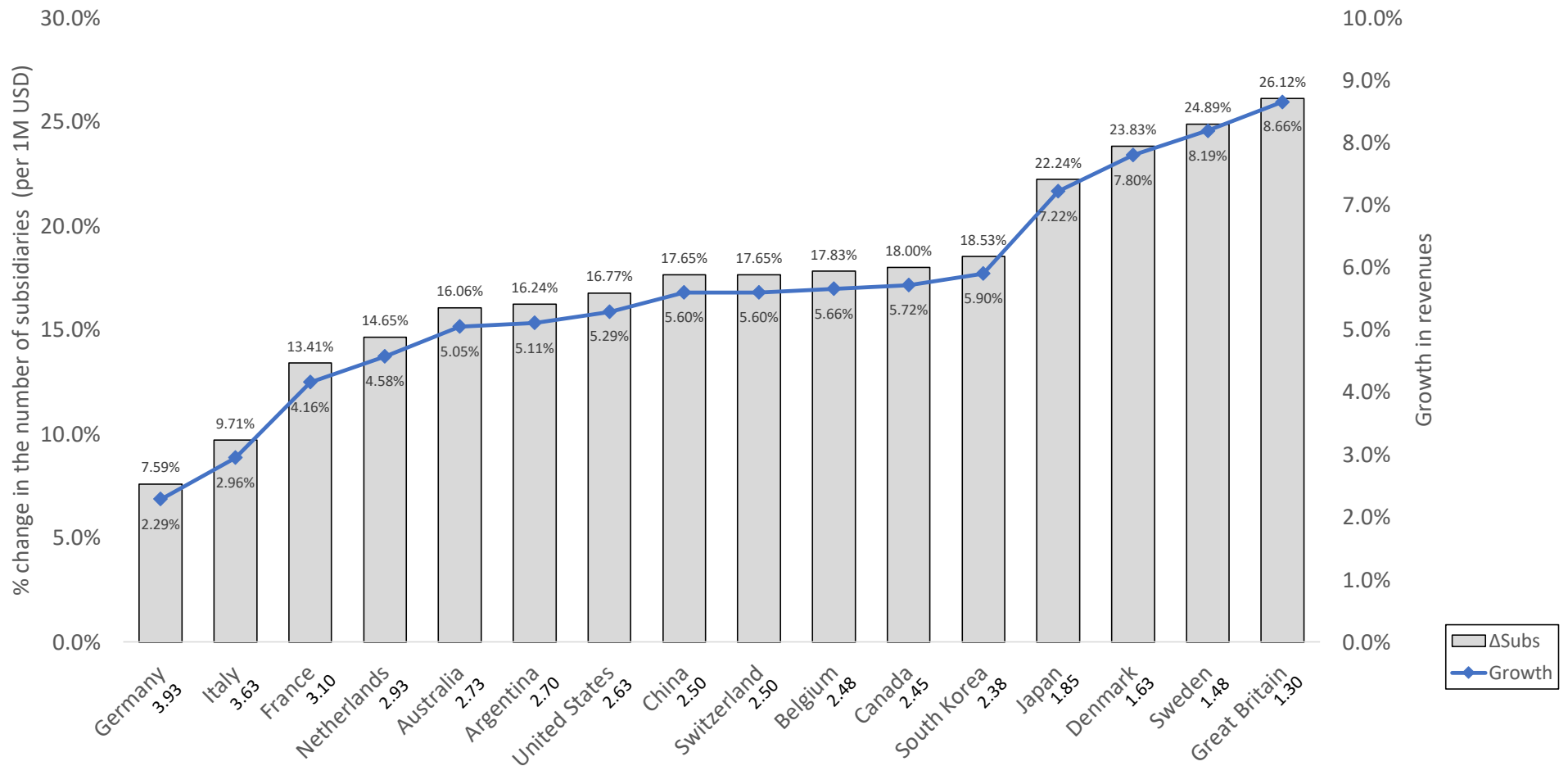
Notes: The figure shows how the number of subsidiaries (per 1M USD in revenues) varies with “piercing the corporate veil” (PCV) score. Countries included are Argentina (AR), Australia (AU), Belgium (BE), Canada (CA), China (CN), Denmark (DK), France (FR), Germany (DE), Great Britain (GB), Japan (JP), Italy (IT), Netherlands (NL), South Korea (KR), Sweden (SE), Switzerland (CH), United States (US).

Figures 2a-f. PCV score and WMS autonomy scores



Notes: The figures show how different autonomy measures from the World Management Survey (WMS) vary with “piercing the corporate veil” (PCV) score, which is an exception to the intra-firm limited liability law and reflects how willing courts are to hold parent firms liable for the losses of their subsidiaries. *Hierarchical levels to CEO* (WMS: *levels2ceo*) is the number of hierarchical layers between the shop floor workers at a subsidiary to the CEO: “Number of levels in the firm between the shop floor and the CEO.” *Capital investment autonomy* (WMS: *central5*) is the maximum amount of capital that subsidiaries can decide to invest without prior authorization from the corporate headquarter: “What is the largest capital investment your plant could make without prior authorization from corporate headquarter?” *Max capital investment* is normalized as $\log(\text{max capital investment} / \text{number of employees})$. *Marketing & sales autonomy* (WMS: *central6*) is the relative amount of sales marketing conducted by subsidiaries, compared to CHQ: “How much of sales and marketing is carried out at the plant level (rather than at CHQ)?” *product introduction autonomy* (WMS: *central7*) is the extent to which production introduction decisions are made at subsidiaries: “Where are decisions taken on new product introductions - at the plant, at the CHQ or at both?” *Hiring autonomy* (WMS: *central4*) measures the degree of autonomy that subsidiaries have in hiring new fully-time employees: “To hire a full-time permanent shop floor worker what agreement would your plant need from CHQ?” *HQ manager on site* (WMS: *onsite*) is the relative amount of sales marketing conducted by subsidiaries, compared to CHQ: “Is CHQ on the site being interviewed?” Countries included are Argentina (AR), Australia (AU), Canada (CA), France (FR), Germany (DE), Great Britain (GB), Japan (JP), Italy (IT), Sweden (SE), United States (US).

Figure 3. PCV Score and Number of Subsidiaries



Notes. This figure demonstrates the results from columns 2 and 3 of Table 7 (asset partitioning and firm growth). The bars show % changes in the number of subsidiaries and the line shows % growth in revenues both when PCV score drops from 5 (the highest score) to the country specific scores indicated below the country names on the horizontal axis. For industry downside risk, the sample mean value of 0.06 was used in the calculation.

Table 1: Piercing the Corporate Veil (PCV) Scores

	Application of enterprise / economic unity approach	Number and diversity of factors considered to pierce the corporate veil	Veil piercing outside of bankruptcy cases	Veil piercing in the absence of fraudulent behavior or misconduct	Empirical Data	Final Score
Score Range	(0 to 5)	(0 to 5)	(0 to 5)	(0 to 5)	(-5 to 5)	
Score Weight	0.45	0.25	0.1	0.15	0.05	
Argentina	3.5	2.5	2	2	0	2.70
Australia	2.5	3.5	5	2	-1.5	2.73
Belgium	2	3.5	1	4	0	2.48
Canada	2	3	5	2	0	2.45
China	1	4	5	3	2	2.50
Denmark	2.5	1	1	1	0	1.63
France	4	3	1	3	0	3.10
Germany	5	3	2.5	4.5	0	3.93
Great Britain	1	1	5	1	-1	1.30
Italy	4	3.5	3.5	4	0	3.63
Japan	1	3	5	1	0	1.85
Netherlands	3	3.5	2.5	3	0	2.93
South Korea	1.5	3	5	3	0	2.38
Sweden	1	1	4	2.5	0	1.48
Switzerland	2.5	2	5	2.5	0	2.50
United States	2	4	4	2.5	-1	2.63

Notes: The scores presented in this table are based on the evaluation of the probability of intra-group veil piercing in each of countries listed. The higher the final score, the more likely that courts will pierce the corporate veil to hold the corporate group liable for the debts of the subsidiaries. The evaluation is separated into five sections, to which separate scores are assigned and later aggregated to arrive at the final score. Application of enterprise / economic unity approach, the strongest indication of the likelihood that courts will pierce the corporate veil, measures the extent to which courts will consider a corporate group as a single enterprise. The number and diversity of factors considered for relief from general veil piercing claims indicate the variety of factors that courts are willing to consider to hold the corporate group liable. Availability of veil piercing outside of bankruptcy cases and availability of veil piercing in the absence of fraudulent behavior or misconduct assess whether courts limit themselves to some specific types of cases, such as bankruptcy or fraud, when deciding to pierce the corporate veil. The empirical data assess the likelihood of courts to pierce the corporate veil based on the available empirical data. The scores given to the five sections are weighted to arrive at the final score.

Table 2: Summary Statistics for Main Variables

VARIABLES	No. Obs	Mean	Std. Dev.	Distribution		
				10th	50th	90th
Subsidiary country-industry-year level						
<i>Board member overlap</i>	635,332	0.40	0.43	0.00	0.25	1.00
<i>Corporate group growth rate</i>	3,122,026	0.09	0.54	-0.70	0.02	0.53
<i>Employees</i>	2,161,457	277.20	3927.00	1.00	16.00	264.00
<i>Number of subsidiaries</i>	3,122,026	1.45	3.84	1.00	1.00	2.00
<i>Operating revenues</i> (in mil)	3,122,026	77.9	1267.00	0.10	2.51	59.28
<i>Share of family owned subs</i>	3,122,026	0.66	0.48	0.00	1.00	1.00
<i>Share of wholly-owned subs</i>	3,122,026	0.45	0.49	0.00	0.00	1.00
<i>Share of family managers</i>	544,065	0.31	0.42	0.00	0.00	1.00
<i>Total assets</i> (in mil)	2,615,435	300.5	12933.00	0.17	2.30	61.30
Subsidiary country-year level						
<i>GDP</i> (in bil)	185	2359.00	3222.00	331.0	1169.0	5038.0
<i>Stock market development</i>	145	1.20	0.61	0.57	1.06	1.47
<i>Unemployment rate</i> (%)	185	6.45	2.30	3.70	6.20	9.20
<i>Unemployment protection legislation index</i>	185	2.33	0.59	1.40	2.27	3.14
Industry-year level						
<i>Industry downside risk</i>	2,911	0.06	0.13	0.00	0.00	0.18

Notes: The table presents summary statics for the main variables used in our analysis. The sample contains corporate groups at the country-industry (3-digit SIC) pair level for each year from 2002 to 2014. *Share of wholly-owned subs* is the fraction of subsidiaries that are wholly owned by the corporate parent. *Board member overlap* is the fraction of a subsidiary's board members who are also on the board of the corporate parent. *Parent-subsidiary name overlap* is the fraction of subsidiaries whose names match the names of their parent firm. *Share of family managers* is the fraction of the subsidiary's managers who are family members of the shareholders.

Table 3: Asset Partitioning and PCV Score

Dependent variable: $\ln(\text{Number of subsidiaries})$								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Baseline	Corporate group FE	Country-level controls	Single-industry groups	Multi-industry groups	>\$100M assets	Family-owned groups	Widely-held groups
<i>Country PCV score</i>	-0.011** (0.001)	-0.008** (0.002)	-0.060** (0.003)	-0.022** (0.009)	-0.062** (0.003)	-0.061** (0.003)	-0.060** (0.003)	-0.061** (0.003)
$\ln(\text{Country GDP})$			0.063** (0.002)	0.020** (0.004)	0.068** (0.002)	0.073** (0.002)	0.071** (0.002)	0.066** (0.002)
$\ln(\text{Country unemployment rate})$			-0.001 (0.002)	-0.000 (0.001)	-0.011** (0.003)	0.001 (0.004)	0.001 (0.003)	0.008** (0.002)
<i>Country EPL</i>			-0.053** (0.009)	-0.082** (0.018)	-0.035** (0.009)	-0.038** (0.010)	-0.043** (0.010)	-0.050** (0.009)
<i>Country stock market development</i>			-0.019** (0.004)	-0.009 (0.010)	-0.015** (0.004)	-0.011* (0.005)	-0.027** (0.004)	-0.023** (0.004)
$\ln(\text{Operating revenues})$	0.023** (0.001)	0.028** (0.001)	0.028** (0.001)	0.007** (0.001)	0.032** (0.001)	0.034** (0.001)	0.029** (0.001)	0.028** (0.001)
Legal origin dummies (4)	Yes**	Yes**	Yes**	Yes**	Yes**	Yes**	Yes**	Yes**
Year dummies (13)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Three-digit SIC dummies (474)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Corporate group fixed effects	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,122,026	3,122,026	3,122,026	1,628,983	1,493,043	1,732,870	2,052,924	2,183,316
R-squared	0.109	0.472	0.476	0.871	0.402	0.449	0.497	0.470

Notes: The table presents the relationship between *Country PCV score* and asset partitioning. The sample contains corporate groups at the country-industry (3-digit SIC)-year level, for years 2002 through 2014. *Country PCV score* is inclination to "pierce the corporate veil" for each country, where a higher value indicates a higher probability to hold corporate groups liable for debts of their subsidiaries. *Country EPL* is the strength of country's employment protection law. *Country stock market development* measures the ratio of total stock market capitalization to GDP. Legal origin dummies indicate the legal families (English, French, German, and Scandinavian) from which the country's commercial laws are derived. Standard errors are robust to heteroskedasticity and clustered at the corporate group-subsidary country-industry (3-digit SIC) level. ** p<0.01, * p<0.05

Table 4: Subsidiary Autonomy and PCV Score

Dependent Variable	ln(<i>investment amount</i>)	Number of hierarchical levels	Aggregate autonomy score
	(1)	(2)	(3)
VARIABLES	Investment autonomy	Hierarchical levels	Aggregate autonomy
<i>Country PCV score</i>	-0.670** (0.128)	-0.146* (0.041)	-0.167** (0.032)
Ln(<i>Group operating revenues</i>)	0.054* (0.023)	0.049** (0.007)	0.006 (0.007)
Ln(<i>Country GDP</i>)	0.016 (0.111)	0.427** (0.041)	0.075 (0.035)
Three-digit SIC dummies (118)	Yes	Yes	Yes
Year dummies (8)	Yes	Yes	Yes
Observations	1,381	1,363	1,521
R-squared	0.133	0.251	0.106

Notes: The table presents the relationship between *Country PCV score* and the level of autonomy granted to the subsidiaries at the corporate group-subsidiary-year level. The sample contains subsidiaries interviewed in the World Management Survey (WMS) with more than 100 employees. The dependent variable *hierarchical levels* (WMS measure: *levels2ceo*) in column 1 is the number hierarchical layers between shop floor workers at a subsidiary and the CEO: “Number of levels in the firm between the shop floor and the CEO.” The dependent variable *investment autonomy* (WMS measure: *central5*) in column 2 is the amount of capital investment that a subsidiary can make without prior authorization of the corporate headquarters: “What is the largest capital investment your plant could make without prior authorization from corporate headquarter?” The dependent variable *aggregate autonomy* (WMS measure: *central*) is an average of scores from the following three questions: “To hire a full-time permanent shop floor worker what agreement would your plant need from CHQ?”, “How much of sales and marketing is carried out at the plant level (rather than at CHQ)?”, and “Where are decisions taken on new product introductions - at the plant, at the CHQ or at both?” The dependent variable HQ on site (WMS measure: *onsite*) in column 4 is a dummy taking 1 if a manager from the corporate headquarters was present at the subaidiary being interviewed. The dependent variable *hierarchical levels* (WMS measure: *levels2ceo*) in column 5 is the number hierarchical layers between shop floor workers at a subsidiary and the CEO: “Number of levels in the firm between the shop floor and the CEO.” Countries included are AR, AU, CA, CN, DE, FR, GB, IT, JP, SE, and US. Standard errors are robust to heteroskedasticity. ** p<0.01, * p<0.05.

Table 5: Asset Partitioning, PCV Score, and Industry Downside Risk

Dependent variable: $\ln(\text{Number of subsidiaries})$							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Baseline	Corporate group FE	PCV-risk interaction	Single-industry groups	Multi-industry groups	Industry FEs	Country and industry FEs
<i>PCV score x industry downside risk</i>			-0.016** (0.003)	-0.002 (0.001)	-0.018** (0.004)	-0.002** (0.001)	-0.002** (0.001)
<i>Country PCV score</i>	-0.048** (0.001)	-0.058** (0.003)	-0.057** (0.003)	-0.025** (0.009)	-0.060** (0.003)	-0.052** (0.003)	
<i>Industry downside risk</i>	0.062** (0.001)	0.031** (0.003)	0.076** (0.008)	0.005 (0.004)	0.100** (0.012)		
$\ln(\text{Country GDP})$	0.029** (0.000)	0.060** (0.002)	0.060** (0.002)	0.022** (0.005)	0.064** (0.002)	0.063** (0.002)	
$\ln(\text{Country unemployment rate})$	-0.033** (0.001)	0.005* (0.002)	0.004 (0.002)	-0.001 (0.002)	-0.002 (0.003)	0.007** (0.002)	
<i>Country EPL</i>	-0.049** (0.002)	-0.088** (0.010)	-0.087** (0.010)	-0.083** (0.021)	-0.073** (0.010)	-0.079** (0.010)	
<i>Country stock market development</i>	-0.030** (0.001)	-0.014** (0.004)	-0.014** (0.004)	-0.008 (0.012)	-0.011* (0.004)	-0.007 (0.004)	
$\ln(\text{Operating revenues})$	0.021** (0.001)	0.029** (0.001)	0.029** (0.001)	0.008** (0.001)	0.032** (0.001)	0.031** (0.001)	0.031** (0.001)
Legal origin dummies (4)	Yes**	Yes**	Yes**	Yes**	Yes**	Yes**	Yes**
Year dummies (13)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country dummies (16)	No	No	No	No	No	No	Yes
Three-digit SIC dummies (243)	No	No	No	No	No	Yes	Yes
Corporate group fixed effects	No	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,397,944	2,397,944	2,397,944	1,238,318	1,159,626	2,397,944	2,397,944
R-squared	0.084	0.49	0.49	0.873	0.415	0.505	0.506

Notes: The table presents the moderating effect of industry downside risk on the relationship between *Country PCV score* and asset partitioning. The sample contains corporate groups at the country-industry (3-digit SIC)-year level, for years 2002 through 2014. *Country PCV score* is inclination to "pierce the corporate veil" for each country, where a higher value indicates a higher probability to hold corporate groups liable for debts of their subsidiaries. *Industry downside risk* is the fraction of subsidiaries at the country-industry level that experience a drop of more than 30% in revenues for a given year. Legal origin dummies indicate the legal families (English, French, German, and Scandinavian) from which the country's commercial laws are derived. Standard errors are robust to heteroskedasticity and clustered at the corporate group-subsidary country-industry (3-digit SIC) level. ** $p < 0.01$, * $p < 0.05$

Table 6: Group Characteristics

Dependent Variable: $\ln(\text{Number of subsidiaries})$			
	(1)	(2)	(3)
	Family manager (last name match)	Board member interlock	Wholly-owned subsidiary
<i>Industry downside risk x PCV score x share of family managers</i>	0.044** (0.012)		
<i>Industry downside risk x PCV score x board member interlock</i>		0.043** (0.012)	
<i>Industry downside risk x PCV score x share of wholly-owned subsidiaries</i>			0.032** (0.005)
<i>PCV score x share of family managers</i>	-0.010** (0.003)		
<i>Industry downside risk x share of family managers</i>	-0.187** (0.037)		
<i>PCV score x board member interlock</i>		-0.006* (0.003)	
<i>Industry downside risk x board member overlsp</i>		-0.184** (0.037)	
<i>PCV score x share of wholly-owned subsidiaries</i>			0.034** (0.002)
<i>Industry downside risk x share of wholly-owned subsidiaries</i>			-0.109** (0.018)
<i>PCV Score x industry downside risk</i>	-0.079** (0.010)	-0.071** (0.010)	-0.037** (0.005)
<i>Share of family managers</i>	0.035** (0.008)		
<i>Board member interlock</i>		0.039** (0.009)	
<i>Share of wholly-owned subsidiaries</i>			-0.104** (0.005)
<i>PCV score</i>	-0.079** (0.005)	-0.062** (0.006)	-0.070** (0.003)
<i>Industry downside risk</i>	0.301** (0.032)	0.260** (0.030)	0.146** (0.017)
$\ln(\text{Country GDP})$	0.078** (0.004)	0.064** (0.004)	0.060** (0.002)
$\ln(\text{Country unemployment rate})$	-0.021** (0.006)	0.026** (0.005)	0.004 (0.002)
<i>Country EPL</i>	0.051** (0.018)	-0.130** (0.017)	-0.084** (0.010)
<i>Country stock market development</i>	0.000 (0.007)	-0.017* (0.007)	-0.009* (0.004)
$\ln(\text{Operating revenues})$	0.043** (0.001)	0.042** (0.001)	0.029** (0.001)
Legal origin dummies (4)	Yes	Yes**	Yes**
Year dummies (13)	Yes	Yes	Yes
Corporate group fixed effects	Yes	Yes	Yes
Observations	421,918	493,029	2,397,944
R-squared	0.466	0.534	0.491

Notes: The table presents the moderating effect of corporate group characteristics on the relationship between *Country PCV score* and asset partitioning. The sample contains corporate groups at the country-industry (3-digit SIC)-year level, for years 2002 through 2012. (Column 3 covers years 2002 through 2014). *Country PCV score* is inclination to "pierce the corporate veil" for each country, where a higher value indicates a higher probability to hold corporate groups liable for debts of their subsidiaries. *Share of wholly-owned subs* is the fraction of subsidiaries that are wholly owned by the corporate parent. *Board member interlock* is the fraction of a subsidiary's board members who are also on the board of the corporate parent. *Share of family managers* is the fraction of the subsidiary's managers who are family members of the shareholders. Legal origin dummies indicate the legal families (English, French, German, and Scandinavian) from which the country's commercial laws are derived. Standard errors are robust to heteroskedasticity and clustered at the corporate parent-country-industry (3-digit SIC) level. ** p<0.01, * p<0.05

Table 7: Asset Partitioning and Firm Growth

Dependent variable: <i>Yearly revenue growth (%)</i>			
	(1)	(2)	(3)
	OLS	TSLS (Instr. variable)	
		First stage	Second stage
<i>ln(Number of subsidiaries)</i>	0.080** (0.002)		0.290** (0.074)
<i>PCV score x industry downside risk</i>		-0.010** (0.002)	
<i>Country PCV score</i>		-0.070** (0.003)	
<i>Industry downside risk</i>		0.023** (0.007)	
<i>ln(country GDP)</i>	0.014** (0.003)	0.093** (0.002)	-0.005 (0.006)
<i>ln(Country unemployment rate)</i>	0.007 (0.005)	0.029** (0.003)	0.006 (0.006)
<i>ln(Country EPL)</i>	0.064 (0.040)	-0.427** (0.023)	0.097 (0.060)
<i>Country stock market development</i>	-0.009 (0.008)	0.014** (0.005)	-0.032** (0.010)
<i>ln(Operating revenues)</i>	0.093** (0.000)	0.013** (0.000)	0.097** (0.001)
<i>ln(Total assets)</i>	-0.028** (0.001)	0.074** (0.000)	-0.046** (0.006)
Legal origin dummies (4)	Yes**	Yes**	Yes**
Year dummies (12)	Yes	Yes	Yes
Three-digit SIC dummies (446)	Yes	Yes	Yes
Corporate group fixed effects	Yes	Yes	Yes
Cragg-Donald Wald F statistic		229.072	
Observations	1,038,322	802,727	802,727
R-squared	0.265	0.604	0.266

Notes: The table presents the relationship between asset partitioning and corporate group growth, by exploiting a variation in industry downside risk. The sample contains corporate groups at the country-industry (3-digit SIC)-year level, for years from 2003 to 2014. *Country PCV score* is inclination to "pierce the corporate veil" for each country, where a higher value indicates a higher probability to hold corporate groups liable for debts of their subsidiaries. *Industry downside risk* is the fraction of subsidiaries at the country-industry level that experience a drop of more than 30% in revenues for a given year. *Number of subsidiaries* is the number of subsidiaries owned by a corporate parent at the country-industry-year level. Legal origin dummies indicate the legal families (English, French, German, and Scandinavian) from which the country's commercial laws are derived. Standard errors are robust to heteroskedasticity. ** p<0.01, * p<0.05

Table 8: Asset Partitioning and Firm Growth (Dynamic vs. Stable Industries)

	Dependent variable: <i>Yearly revenue growth (%)</i>					
	(1)	(2)	(3)	(4)	(5)	(6)
	Dynamic industries			Stable industries		
	OLS	TSLS (Instr. variable)		OLS	TSLS (Instr. variable)	
		First stage	Second stage		First stage	Second stage
<i>ln(Number of subsidiaries)</i>	0.109** (0.008)		0.731** (0.146)	0.086** (0.003)		0.218* (0.107)
<i>PCV score x industry downside risk</i>		-0.037** (0.009)			-0.043** (0.004)	
<i>Country PCV score</i>		-0.090** (0.005)			-0.047** (0.003)	
<i>Industry downside risk</i>		0.085** (0.027)			0.101** (0.011)	
<i>ln(country GDP)</i>	-0.008 (0.008)	0.139** (0.004)	-0.074** (0.018)	0.014** (0.004)	0.081** (0.002)	-0.000 (0.008)
<i>ln(Country unemployment rate)</i>	0.036* (0.015)	0.050** (0.006)	0.009 (0.016)	0.021** (0.007)	0.015** (0.004)	0.025** (0.007)
<i>ln(Country EPL)</i>	-0.074 (0.114)	-0.512** (0.046)	0.339* (0.153)	0.044 (0.054)	-0.388** (0.029)	0.018 (0.076)
<i>Country stock market development</i>	-0.046* (0.021)	0.021* (0.010)	-0.116** (0.027)	-0.014 (0.010)	0.009 (0.006)	-0.030* (0.012)
<i>ln(Operating revenues)</i>	0.114** (0.001)	0.012** (0.001)	0.107** (0.002)	0.097** (0.001)	0.016** (0.000)	0.105** (0.002)
<i>ln(Total assets)</i>	-0.021** (0.002)	0.060** (0.001)	-0.058** (0.009)	-0.026** (0.001)	0.073** (0.000)	-0.040** (0.008)
Legal origin dummies (4)	Yes	Yes**	Yes	Yes**	Yes**	Yes**
Year dummies (12)	Yes	Yes	Yes	Yes	Yes	Yes
Three-digit SIC dummies (dynamic: 44 / stable: 195)	Yes	Yes	Yes	Yes	Yes	Yes
Corporate group fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Cragg-Donald Wald F statistic		104.858			112.383	
Observations	121,724	121,156	121,156	552,252	476,801	476,801
R-squared	0.314	0.645	0.272	0.283	0.653	0.287

Notes: The table presents the relationship between asset partitioning and corporate group growth separately for stable and dynamic industries, by exploiting a variation in industry downside risk. The sample contains corporate groups at the country-industry (3-digit SIC)-year level, for years from 2003 to 2014. *Country PCV score* is inclination to "pierce the corporate veil" for each country, where a higher value indicates a higher probability to hold corporate groups liable for debts of their subsidiaries. *Industry downside risk* is the fraction of subsidiaries at the country-industry level that experience a drop of more than 30% in revenues for a given year. *Number of subsidiaries* is the number of subsidiaries owned by a corporate parent at the country-industry-year level. Standard errors are robust to heteroskedasticity. ** p<0.01, * p<0.05

Table 9: Asset Partitioning and Firm Growth (Manager Experience)

Dependent variable: <i>Yearly revenue growth</i> (%)			
	(1)	(2)	(3)
	OLS	TSLS (Instr. variable)	
		First stage	Second stage
<i>ln(Number of subsidiaries)</i>	0.032** (0.002)		0.232** (0.029)
<i>PCV score</i> × <i>Regional manager age</i> (group-country-region-year level)		0.109** (0.007)	
<i>Country PCV score</i>		-0.261** (0.004)	
<i>Regional manager age</i>		-0.332** (0.021)	
<i>ln(Country GDP)</i>	0.000 (0.003)	0.186** (0.002)	-0.024** (0.004)
<i>ln(Country unemployment rate)</i>	0.011* (0.005)	0.030** (0.003)	0.050** (0.006)
<i>ln(Country EPL)</i>	0.089* (0.044)	-2.255** (0.027)	0.401** (0.083)
<i>Country stock market development</i>	-0.034** (0.008)	-0.205** (0.006)	-0.038** (0.009)
<i>ln(Operating revenues)</i>	0.116** (0.000)	0.017** (0.000)	0.107** (0.001)
<i>ln(Total assets)</i>	-0.020** (0.001)	0.120** (0.000)	-0.036** (0.004)
Legal origin dummies (4)	Yes**	Yes**	Yes**
Year dummies (12)	Yes	Yes	Yes
Corporate parent fixed effects	Yes	Yes	Yes
Cragg-Donald Wald F statistic		1282.098	
Observations	969,255	730,682	730,682
R-squared	0.294	0.723	0.299

Notes: The table presents the relationship between asset partitioning and corporate group growth, by exploiting a regional variation in the level of manager experiences. The sample contains corporate groups at the country-region (NUTS2)-year level, for years 2003 through 2014. *Country PCV score* is inclination to "pierce the corporate veil" for each country, where a higher value indicates a higher probability to hold corporate groups liable for debts of their subsidiaries. *Regional manager experience* is the fraction of managers in a region (NUTS2) whose age is in the top quartile of the age distribution within each year. *Number of subsidiaries* is the number of subsidiaries owned by a corporate parent at the country-region-year level. Standard errors are robust to heteroskedasticity. ** p<0.01, * p<0.05

Table A1: Robustness Test for Industry Downside Risk

Dependent variable: $\ln(\text{Number of subsidiaries})$							
	(1)	(3)	(4)	(5)	(6)	(7)	(8)
	30% drop threshold			50% drop threshold			
	Net income	Cash	Current assets	Sales	Net income	Cash	Current assets
<i>PCV score x industry downside risk</i>	-0.016** (0.001)	-0.002 (0.001)	-0.044** (0.003)	-0.039** (0.005)	-0.014** (0.002)	-0.006** (0.002)	-0.045** (0.004)
<i>Country PCV score</i>	-0.052** (0.003)	-0.058** (0.003)	-0.055** (0.003)	-0.057** (0.003)	-0.054** (0.003)	-0.058** (0.003)	-0.058** (0.003)
<i>Industry downside risk</i>	0.053** (0.005)	0.012** (0.004)	0.162** (0.010)	0.171** (0.017)	0.049** (0.005)	0.027** (0.006)	0.180** (0.012)
$\ln(\text{Operating revenues})$	0.029** (0.001)	0.029** (0.001)	0.029** (0.001)	0.029** (0.001)	0.029** (0.001)	0.029** (0.001)	0.029** (0.001)
$\ln(\text{Country GDP})$	0.061** (0.002)	0.060** (0.002)	0.060** (0.002)	0.061** (0.002)	0.061** (0.002)	0.061** (0.002)	0.060** (0.002)
$\ln(\text{Country unemployment rate})$	0.003 (0.002)	0.005 (0.002)	0.004 (0.002)	0.004 (0.002)	0.004 (0.002)	0.005* (0.002)	0.004 (0.002)
<i>Country EPL</i>	-0.087** (0.010)	-0.088** (0.010)	-0.088** (0.010)	-0.087** (0.010)	-0.086** (0.010)	-0.087** (0.010)	-0.087** (0.010)
<i>Country stock market development</i>	-0.014** (0.004)	-0.014** (0.004)	-0.013** (0.004)	-0.014** (0.004)	-0.014** (0.004)	-0.014** (0.004)	-0.013** (0.004)
Legal origins dummies (4)	Yes**	Yes**	Yes**	Yes**	Yes**	Yes**	Yes**
Year dummies (13)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Corporate parent fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,399,270	2,397,500	2,380,707	2,397,944	2,400,038	2,398,268	2,381,475
R-squared	0.49	0.49	0.491	0.49	0.49	0.49	0.491

Notes: The table presents robustness tests using different downside risk measures: fraction of firms at the country-industry level with more than 30% / 50% yearly drop in net income, cash, and current assets for a given year. The sample contains corporate groups at the country-industry (3-digit SIC) level for years from 2002 to 2014. Standard errors are robust to heteroskedasticity and clustered at the corporate parent-country-industry (3-digit SIC) level. ** p<0.01, * p<0.05

ANNEX 1. CORPORATE VEIL PIERCING: COMPARATIVE DATABASE

(NOT NECESSARILY FOR PUBLICATION)

1. PCV scores

Table A1 presents the overall scores and a rank order of countries according to our qualitative analysis on how readily the courts within each country might pierce the corporate veil (PCV) in a lawsuit involving corporate group limited liability. The overall score ranges from 0 to 5, with a higher value indicating a stronger tendency of courts to pierce the corporate veil. These scores are constructed in collaboration with legal scholars at a top U.S. law school. According to our assessment, Germany has the highest PCV score (3.93) reflecting its unique attitude of considering a subsidiary an integral part of the corporation that controls it. At the other extreme of the PCV score is Great Britain (1.30), which places more emphasis on the legal boundary between a subsidiary and its corporate parent.

Table A1. Overall “PCV” scores and a rank order of countries according their “PCV” scores

Rank	Country	Overall score
1	Germany	3.93
2	Italy	3.63
3	France	3.10
4	Holland	2.93
5	Australia	2.73
6	Argentina	2.70
7	The U.S.	2.63
8	China	2.50
-	Switzerland	2.50
10	Belgium	2.48
11	Canada	2.45
12	South Korea	2.38
13	Japan	1.85
14	Denmark	1.63
15	Sweden	1.48
16	Great Britain	1.30

Table A2 presents individual scores for five criteria examined to derive the overall PCV scores. Each criterion is given a weight according its importance in determining how readily courts might pierce the corporate veil in a corporate liability lawsuit. The first criterion we assessed is the extent to which a legal system of a country applies the “enterprise approach” (also known as the “economic unity approach”). This criterion was assigned the highest weight as its application is based on the premise that a corporate parent and its subsidiaries constitute a single entity and thus directly contradicts limited liability provisions.

Second, we account for the various legal provisions that courts might consider in holding the corporate parent and individual owners liable for the losses of the firms they own. The number of avenues available to the plaintiff for a relief indicates how inclined the courts are to hold the corporate parent and owners liable for the mistakes of the firms they own.

We also assessed the extent to which corporate veil piercing is closely tied to bankruptcy or fraudulent cases. Bankruptcy and fraudulent behaviors often are procedural evidential barriers to holding owners liable for losses of the firms they own and bear special importance to the assessment of the strength of limited liability provisions. For this reason, we single them out from the second criterion.

Finally, we looked at the fraction of corporate liability cases in which the corporate veil was pierced in existing empirical studies. Because this evidence is limited to few countries and results are difficult to compare, it is assigned the least weight.

Table A2. Individual scores for five criteria examined to derive the overall PCV scores

Criterion Country	Application of enterprise approach	Factors considered in veil piercing cases	Veil piercing outside of bankruptcy cases	Veil piercing outside of fraudulent behaviors	Empirical data	Final Score
Possible Score	0-5	0-5	0-5	0-5	(-5)-5	
Weight	0.45	0.25	0.1	0.15	0.05	
Argentina	3.5	2.5	2	2	0	2.70
Australia	2.5	3.5	5	2	-1.5	2.73
Belgium	2	3.5	1	4	0	2.48
Canada	2	3	5	2	0	2.45
China	1	4	5	3	2	2.50
Denmark	2.5	1	1	1	0	1.63
France	4	3	1	3	0	3.10
Germany	5	3	2.5	4.5	0	3.93
Great Britain	1	1	5	1	-1	1.30
Italy	4	3.5	3.5	4	0	3.63
Japan	1	3	5	1	0	1.85
Netherlands	3	3.5	2.5	3	0	2.93
South Korea	1.5	3	5	3	0	2.38
Sweden	1	1	4	2.5	0	1.48
Switzerland	2.5	2	5	2.5	0	2.50
United States	2	4	4	2.5	-1	2.63

2. PCV by country

The following sections provide detailed analyses of countries based on the five criteria used to derive our PCV scores. The sections are organized by country and by criterion for each of the countries.

a. Argentina

1) Application of enterprise / economic unity approach

Argentinian law regulates corporate groups based on the economic unity approach (the *unidad juridica* theory). It provides that under certain circumstances the law will look at the parent and its subsidiary as one economic enterprise.¹

Argentinian jurisprudence recognizes three situations that warrant intra-group veil piercing under the economic unity theory: when the enterprise engages in fraudulent behavior, when the subsidiary is merely an agent or instrumentality of its parent, and when a member of the corporate group engages in commercial conduct that harms the entire enterprise and worsens its state of bankruptcy. In such cases, creditors may seek relief by bringing claims against the corporate parent as an extension of bankruptcy.²

2) Variety of factors considered by in veil piercing cases

Argentinian law views the corporate veil piercing doctrine as a remedy for the violation of Art. 2 of the Corporations Act, which provides that a corporation is a “technical means” through which individuals may attain their lawful goals. Argentinian courts pierce the veil when incorporation was conducted to achieve unlawful goals and to abuse the right of incorporation.

Art. 54 of the Business Corporations Act 1972 provides that “the liabilities of a corporation used to seek a purpose beyond the corporate goals, as a mere instrument to defraud the law, the public policy or the good faith, or to frustrate rights of third persons, will be imputed directly to its shareholders or to the controlling persons who facilitated such activities”.³ Argentinian courts have invoked this statutory tool most often when the corporation was involved in an illegal act that constitutes fraud, abuse of rights, and acts against morality and decency.⁴

Fraud is a central concept in veil piercing cases. The law provides three situations in which incorporation or a particular business conduct may facilitate fraud and thus justify veil piercing. First is the concept *Dolus (Deceit)*. In the context of incorporation, Dolus is invoked when the owners use the company’s form as a shelter to evade contractual obligations or to prejudice third parties, for example when the company is incorporated to perform legal actions which the owner is not allowed to pursue.⁵ Second, a company with a single owner is considered under Argentinian law fictitious and will not warrant limited liability.⁶ Third type of conduct is *Actio Pauliana (Fraudulent Conveyance)*, i.e. a fraudulent transfer to third parties in order to avoid debt. An *Actio Pauliana* claim is useful when the owners of a company in financial difficulties have provided capital in the form of secured loans in order to gain better standing as a creditor in case of bankruptcy.⁷

When veil piercing is sought in bankruptcy proceedings, Argentinian bankruptcy law allows courts to extend bankruptcy of the company to its owner when the owner demonstrated abusive control of the

¹ Claudia M. Pardinias, *The Enigma of the Legal Liability of Transnational Corporations*, 14 Suffolk Transnt'l L. J. 405 (1991); Stephen B. Presser, *Piercing the Corporate Veil* (Thomson Reuters 2017).

² Presser, 2017, at §5:2; Juan M. Dobson, *Lifting the Veil in Four Countries: The Law of Argentina, England, France and the United States*, 35 INT. COMP. L. QUARTERLY 839, 859 (1986); Pardinias, 1991, at 427-32. The Unidad Juridica theory was first introduced in the Parke Davis case (1973). In *Parke Davis* the Argentinian Supreme Court invalidated royalty payments made by an Argentinian subsidiary to its Detroit based parent upon finding that the subsidiary lacked independence to take the decision. In another decision handed down in 1973, *Frigorifico Swift de la Plata*, the court found a parent and sister companies liable for the debts of the subsidiary under the same rationale. *Frigorifico Swift de la Plata*, involved Deltec International Ltd., a Canadian corporation, and Swift, the largest Argentinian meatpacking company, which Deltec had acquired. When Swift faced financial difficulties Deltec negotiated with its creditors and provided cash advances, hoping to prevent Swift from going bankrupt. When the efforts failed and Swift filed for bankruptcy, Deltec and some of its other subsidiaries brought debt claims. The court denied their claims and extended bankruptcy proceedings on Deltec and the subsidiaries, finding that the entire group formed a single economic unit. The case went up the appellate chain and ultimately affirmed at the Supreme Court.

³ Jose Maria Lezcano Navaro, *Piercing the Corporate Veil in Latin American Jurisprudence: A comparison with the Anglo-American method*, 116 (2015).

⁴ Navaro, 2015, at 119-20.

⁵ Dobson, 1986, at 844

⁶ Dobson, 1986., at 841-43.

⁷ Dobson, 1986, at 845; Pardinias, 1991, at 426-27.

company. An example of an abusive conduct is owners promoting their personal interests with the company assets at the expense of the company's own interests.⁸

3) Availability of veil piercing outside of bankruptcy cases

Argentinian courts invoke veil piercing most often in bankruptcy cases. Nonetheless, fraud cases may be brought outside of bankruptcy cases.

4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

As described above, fraudulent behavior is a central factor in intra-group veil piercing claims according to current case law.⁹

b. Australia

1) Application of enterprise / economic unity approach

Australian courts have recognized a general principle under which the courts may hold the parent company liable for the acts of its subsidiary when individual entities within a corporate group is indistinguishable.¹⁰ *Bluecorp Pty Ltd (in liq) v ANZ Executors and Trustee Co. Ltd.* (1995) 18 ACSR 566 provides important factors considered by the courts in corporate veil piercing cases. Among them are relationship between corporate entities, corporate parent's control over its subsidiaries, participation in a common enterprise, use of the corporate form for fraud, and a deliberate attempt to shield the corporate parent from an existing legal obligation.

The mere exercise of control over a subsidiary by the corporate parent is insufficient to pierce the corporate veil. Furthermore, when a creditor and a subsidiary consensually enter into a contractual relationship, courts tend to respect their mutual agreement.¹¹

Sec. 588V of the Australian Corporations Act provides a cause of action for imposition of liability on a corporate parent for debts of an insolvent subsidiary when the subsidiary trades while it is insolvent and certain other conditions are satisfied.

2) Variety of factors considered by in veil piercing cases

Corporate debts can potentially be imposed on shareholders under the common law and also under 588V of the Corporations Act 2001. Notwithstanding the lack of a coherent and principled veil piercing analysis under Australian law, courts have recognized a number of discrete factors that may lead to piercing of the corporate veil.¹² These factors can be grouped into the following broad categories: (1) agency (where the shareholder has such a degree of dominance that the company acts as an agent of the shareholder in the sense that the company has no separate existence from the shareholder); (2) Fraud (where the company is established by the shareholder for a fraudulent purpose); (3) Avoiding an existing legal obligation (where the company is established to enable the shareholder to avoid an

⁸ The Insolvency Act of 1972 (revised in the Insolvency Reform Act of 1983). *See also*, Dobson, 1986, at 852-57.

⁹ Dobson, 1986, at 840.

¹⁰ Ian Ramsay & David Noakes *Piercing the Corporate Veil in Australia* (2002) (Available at SSRN: <http://ssrn.com/abstract=299488>)

¹¹ In *Briggs v James Hardie & Co Pty Ltd* (1989) 16 NSWLR 549, a former employee of a subsidiary who was allegedly poisoned with asbestos brought legal action against the parent claiming that the parent had exercised complete dominion and control over its direct employer. The court (Rogers AJA) dismissed this argument as "entirely too simplistic," noting that "every holding company has the potential and, more often than not, in fact, does, exercise complete control over a subsidiary". Under this rationale, using control as the benchmark for veil piercing would be equivalent to removing the veil altogether. *See further* in Helen Anderson, *Piercing the veil on corporate groups in Australia: the case for reform*, 33 MELBOURNE U. L. REV., 333, 353 (2009).

¹² *Briggs v James Hardie & Co Pty*, (1989) 16 NSWLR 549 (Rogers J.) ("there is no common, unifying principle, which underlies the occasional decision of the courts to pierce the corporate veil"); *Commissioner of Land Tax v Theosophical Foundation Pty Ltd.* (1966) 67 SR (NSW) 70 Herron J. ("[t]he cases merely provide instances in which courts have on the facts refused to be bound by the form or fact of incorporation when justice requires the substance or reality to be investigated")

existing legal obligation); and (4) unfairness/justice grounds (when veil piercing is necessary to achieve a just result).¹³

3) Availability of veil piercing outside of bankruptcy cases

Bankruptcy is not a prerequisite to commence veil piercing proceedings.

4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

Although not considered to be a prerequisite, misconduct and fraudulent behavior are central factors in veil piercing claims. For example, in order to prevail in a veil-piercing claim, the plaintiff may need to show that the defendant sought to use the corporate structure to deny the plaintiff some pre-existing legal right.¹⁴

5) Empirical data¹⁵

General piercing rate is around 39% of total claims (104 cases examined). Piercing rates differ according to the identity of the controller of the company whose veil is sought to be pierced. When human shareholders stand behind the company, courts pierce the corporate veil in about 42.5% of cases. When a parent company is behind the corporate veil, courts are less inclined to pierce (about 32.5%). Group enterprise arguments prevail in only 24% of the cases.

c. Belgium

1) Application of enterprise / economic unity approach

Belgian law follows the entity theory.¹⁶ A Belgian court may impose liability on the corporate directors for continuation of loss making activities.¹⁷ In the event of a bankruptcy, any person who exercised “effective management powers” with respect to the company may incur personal liability if it is established that a clear and gross negligence has contributed to the bankruptcy. The choice of the phrase “any person” extends the possible application of the provision to parent companies. However, the plaintiff must show that the parent suppressed the autonomy of the subsidiary's management and has effectively imposed its own decisions on the subsidiary.¹⁸ The Companies Code further provides that directors can be held liable for the increase in company debts from the date when the shareholders should have been convened to deliberate on the liquidation of the company if its net assets fall below 50 per cent of the issued share capital (and again in case the net assets fall below 25 per cent of the issued share capital).¹⁹

2) Variety of factors considered by in veil piercing cases

Belgium regulates shareholders' liability through statutory provisions that apply exceptions and limitations to the general limited liability rule, and through judge-made doctrines dealing with veil piercing in the context of bankruptcy laws. Art. 456(4) and 229(5) of the Belgian Company Code mandate the imposition of liability on a founder of a company with limited liability when the company files for bankruptcy within three years of its incorporation and its initial capital was manifestly inadequate for the conduct of its operations in the regular course of business during the first two years.²⁰

¹³ Ramsay & Noakes, 2002.

¹⁴ John Kluver, *Entity vs Enterprise Liability: Issues for Australia*, 37 CONN. L. REV. 765, 766 (2005).

¹⁵ The data presented here is based on Ramsay and Noakes, 2002.

¹⁶ Belgian Company Code, articles 210 and 438. *See also*, Karen Vandekerckhove, *Piercing the Corporate Veil*, 28 (2007).

¹⁷ Belgian Company's Code, Art. 530; Art. 265.

¹⁸ Vandekerckhove, 2007, at 319. Nevertheless, Belgian courts demonstrate restraint in intervening in intra group transactions. In a 2003 case, the Antwerp court of Appeals held that a parent company can validly pursue its own interests through an investment policy at odds with the entire group interests.

¹⁹ Belgian Companies Code, Art. 633.

²⁰ Vandekerckhove, 2007, at 30-31, 113-118. Founders' liability requires neither causal link between the undercapitalization and the bankruptcy nor a fault on behalf of the founder.

Art. 646 provides that collection of all shares of a stock company by one shareholder entails, if not remedied within one year, a joint liability of that shareholder for the company's debts.²¹

The judge made 'Extension of Bankruptcy' doctrine provides that when an individual demonstrates a complete control of a corporation and uses the control to conduct business activities behind the curtain of the corporation, the individual shareholder may be declared bankrupt and become liable for the insolvency of the corporation.²²

Courts have also held owners liable in cases of material undercapitalization, tort claims, disregard for corporate formalities and when a company was administrated as a mere branch of its parent company.²³

The Belgian Tax Code holds shareholders of companies liable for corporate tax debts. Shareholders owning at least 1/3 of the shares may be held liable for tax debts of the company in case of a transfer of at least 75% of the shares within one year.²⁴

3) Availability of veil piercing outside of bankruptcy cases

Most statutory and judge-made law requires bankruptcy as a prerequisite to hold the shareholders liable to the obligations of their subsidiaries.²⁵ Liability for reunion of all shares under the control of one shareholder, as prescribed under Art. 646 of the Belgian Company Code, seems to be a narrow exception allowing veil piercing outside bankruptcy proceedings.

4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

Statutory law does not include requirement of fraud or intentional misconduct. On the contrary, the invocation of the judge-made abuse of rights doctrine or imposition of liability under tort law may include in some cases considerations of shareholder misconduct.²⁶

d. Canada

1) Application of enterprise / economic unity approach

Following its British heritage, Canadian law generally adheres to the entity theory. The dominant view in the case law is that intra-group veil piercing appears to be possible if it is established that a parent company had exercised complete domination and control over the affairs and activities of the

²¹ Vandekerckhove, 2007, at 30-31

²² Vandekerckhove, 2007, at 29-30. Courts have applied the doctrine *inter alia* when found that the bankrupt company constitutes merely a screen or a straw-man for the operations of the master ('maitre de l'affaire') and when the bankrupt company was a 'dummy company'; namely, a mere instrument in the hands of the master. See Organization for Economic Cooperation and Development (OECD), Responsibility of Parent Companies for their Subsidiaries, 50 (1980).

²³ Vandekerckhove, 2007, at 32-33; 118-24. Undercapitalization claims can be pursued as a tort claim under Art. 1382 of the civil Code. Plaintiffs are required to show that founders could not reasonably assume that their contribution constitutes sufficient amount of capital for the operation of the business. Another cause of action might be abuse of rights, under which the plaintiff claim is required to demonstrate that the owners have exceeded the normal exercise of the right of separate legal personality or the right of limited liability. Courts frequently avoid piercing the veil based on undercapitalization alone, but rather ask for additional indications of shareholders' misconduct. In one case, a court considered an abuse of legal rights claim in circumstances when shareholders authorize transfer of the loss-making part of their company's activities to a new company they incorporated without providing sufficient capitalization. The court held that the separation between the two entities did not correspond to reality because both companies were in effect dependent departments of the same entity.

²⁴ Art. 441 of the Belgian Tax Code.

²⁵ The statutory rules concerning founder's liability for undercapitalization (Art. 456(4) and 229(5) of the Belgian Company Code) are triggered by commencement of bankruptcy proceedings upon the company. The judicial doctrine of Extension of Bankruptcy and abuse of rights claims are more equipped to deal with bankruptcy situations.

²⁶ For example, see Art. 1382 of the Civil Code (establishes tort liability for undercapitalization).

subsidiary, and the subsidiary is being used to shield an improper conduct.²⁷ A less widely held approach relaxes the requirement for impropriety in specific cases.²⁸

2) Variety of factors considered by in veil piercing cases

Canadian courts commonly adhere to a two-pronged analysis mandating both domination (to the level that the controlled corporation has no independent function) and the use of that domination to conceal egregious wrongdoing. Under this view, the courts disregard the separate legal personality of a corporate entity only when it is completely dominated and controlled and is used as a shield for a fraudulent or improper conduct. Specific factors that may amount to impropriety are thin capitalization, failure to maintain adequately separate records for different entities, overlap between affiliated entities with respect to access to funds, corporate function, employees, directors etc., and an attempt to avoid pre-existing legal obligations through an incorporation of a company.²⁹ In a handful of cases, courts have argued that impropriety is not a prerequisite to piercing the corporate veil, specifically when the court finds it necessary to prevent a flagrantly unjust result.³⁰

3) Availability of veil piercing outside of bankruptcy cases

Bankruptcy is not a prerequisite to commence veil piercing proceedings.

4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

Veil piercing is often granted when false representations are made or a fraudulent or other objectionable, illegal or improper activity is undertaken. As noted, in a few cases courts have settled for the showing of owner's dominance and have waived the requirement of impropriety when it is necessary to achieve justice.³¹

e. China

1) Application of enterprise / economic unity approach

China adheres to the entity theory. Courts seem to apply the same standards of veil piercing for corporate groups as they do for other types of companies.

2) Variety of factors considered by in veil piercing cases

The central provision of the Chinese veil piercing law³² is contained in Article 20(3) of the Company Law,³³ which mandates three accumulative requirements for veil piercing: (1) *misconduct*: a conduct that amounts to an abuse of the separate legal personality (e.g., undercapitalization). It is uncertain whether the provision requires fraudulent behavior (like in some other countries, France for example).

²⁷ 642947 Ontario Ltd. v. Fleischer, 2001, 56 O.R. (3d) 417, Ont. C.A. at para. 68. For critical accounts of court decisions applying a more liberal approach for corporate groups see Mohamed F. Khimji and Christopher C. Nicholls, Corporate Veil Piercing and Allocation of Liability: Diagnosis and Prognosis, 30(2) Banking & Finance Law Review, 211, note 132 and accompanying text (2015).

²⁸ Manley Inc. v. Fallis, 1977 CarswellOnt 56, 2 B.L.R. 277, 38 C.P.R. (2d) 74, [1977] O.J. No. 1080 (Ont. C.A.)

²⁹ Khimji & Nicholls, 2015, at 232-33.

³⁰ Thomas G. Heintzman, Q.C. & Brandon Kain, *Through the Looking Glass: Recent Developments in Piercing the Corporate Veil*, 28 B.F.L.R. 525, 539-40 (2013).

³¹ Khimji & Nicholls, 2015.

³² Veil piercing is a new concept in Chinese law. In 2006, China had gone through a massive legal reform by introducing a new company law. Until then, veil piercing had no statutory authority, and the concept was rarely used by some enterprising Chinese judges in selected provincial courts and under extremely narrow circumstances. In the 2006 overhaul, much of the previous Company Law was revised or eliminated, with many new provisions added. This development was much anticipated by Chinese and foreigners alike, as China's previous corporate law was unable to keep pace with its fast growing economy. One of the highlights of the new Company Law is its formal establishment of the concept of "piercing the corporate veil" in Chinese law (Mark Wu, *Piercing China's Corporate Veil: Open Questions from the New Company Law*, 117 YALE L.J. 328, 329 (2007)).

³³ Art. 20(3) reads "Where any of the shareholders of a company evades the payment of its debts by abusing the independent status of juridical persons or the shareholder's limited liabilities, and thus seriously damages the interests of any creditors, it shall bear joint liabilities for the debts of the company."

From a textual perspective, the law does not appear to require proof of fraud; (2) *intent*: the abusive behavior was intended to evade the debt payment; and (3) *consequence*: the abuse caused serious damage to the creditors' interests.³⁴

Article 64 of the Company Law sets out further rules under which the shareholder of a one-person limited liability company bears joint liabilities for the debts of his company when he is unable to prove that the property of the company is independent from his own.³⁵ The provision adds two important elements to the veil piercing doctrine which applies to a single shareholder companies. First, it introduces the commingling of assets as a valid consideration; second, this provision in effect shifts the burden of proof from the plaintiff creditor to the defendant shareholder of a one-member company, making it much easier to substantiate a veil piercing argument.

3) Availability of veil piercing outside of bankruptcy cases

Bankruptcy is not a prerequisite to commence veil piercing proceedings.³⁶

4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

Article 20(3) of the Company Law requires the demonstration of a misconduct by the owner. It has yet to be settled whether the requirement amounts to a fraudulent behavior.³⁷ Fraud or improper conducts are the most successful grounds for corporate veil piercing in Chinese courts (62.50% piercing rate when invoked).

5) Empirical data³⁸

A survey conducted between 2006 and 2010 reports the corporate veil piercing rate of 63%. In 2006, courts pierced the veil in 53% of the cases examined; in 2008 the rate was increased to 62% and in 2010 the rate soared to a captivating 83% (note, however, that the study in 2010 recorded only 12 cases). Chinese courts' decision to pierce the corporate veil appears to have been influenced by the number of shareholders involved: the piercing rate declined as the number of shareholders increased. The veil was pierced in all cases involving one-member companies. The largest group of cases involved companies with two shareholders but showed a lower rate of piercing (75%). The lowest rate was found for companies with three to five shareholders (about 42%). None of the target companies had six or more shareholders. This suggests that small companies are more susceptible to veil piercing. The study examined 18 corporate group cases, and, in 11 of the cases, courts have decided to pierce the veil (61% rate). When the target shareholder was a parent company, the veil was pierced in 6 out of 7 cases; when the target shareholder was a sibling company, the veil was pierced 4 out of 10 cases; and in the only case when the target company was a subsidiary, the court granted the plaintiff's request to pierce the veil.

f. Denmark

1) Application of enterprise / economic unity approach

Danish law does not include direct reference to enterprise or a single economic unit approach. The Danish corporate veil piercing jurisprudence has been developed almost exclusively in the parent-subsidiary context, but the presumption of limited liability applies to corporate groups as well as any other limited liability company.

2) Variety of factors considered by in veil piercing cases

³⁴ Hui Huang, *Piercing the Corporate Veil in China: Where Is It Now and Where Is It Heading*, 60 AM. J. COMP. L. 743, 746 (2012).

³⁵ Art. 64 reads "If the shareholder of a one-person limited liability company is unable to prove that the property of the one-person limited liability company is independent from his own property, he shall bear joint liabilities for the debts of the company."

³⁶ The presence of bankruptcy in a veil piercing action is required under neither Art. 20(3) nor Art. 64 of the Company Law.

³⁷ Huang, 2012, at 746.

³⁸ Huang, 2012, at 748-54.

Limited liability is a statutory right (codified under § 1.2 of the Danish Companies Act) applicable to shareholders in private and public Danish companies.³⁹ Courts have relied on three legal constructions to disregard limited liability and hold shareholders liable, these are PCV (“*hæftelsesgennembrud*”), identification (aka in Denmark, mixing of assets) and tort law principles, under which parent corporations that exercise complete control over their subsidiaries have a fiduciary duties toward the subsidiaries.⁴⁰

Danish courts have considered the following factors in PCV cases: (1) owner’s control/dominance, when involving mismanagement; (2) assets stripping; (3) incorporation as a shell company⁴¹; (4) incorporation with the sole purpose of circumventing legal obligations⁴²; (5) asset mixing⁴³; and (6) undercapitalization⁴⁴.

3) Availability of veil piercing outside of bankruptcy cases

Under Danish law, bankruptcy is not a prerequisite to commence veil piercing proceedings or any of the other doctrines that allow imposition of liability on the parent. However, the entire Danish PCV case law has been developed in cases of insolvency. Consequently, plaintiffs are most likely to prevail when the original debtor is insolvent.

4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

Most Danish PCV case law is grounded in tort law principles. Courts have more often than not reasoned their decision to impose liability by referring to the defendant’s gross negligence or intent to commit fraud or circumvent the law. Sec. 363 of the Danish Companies Act provides that “a shareholder is liable for any loss inflicted intentionally or with gross negligence on the company, the other shareholders or any third party”.

g. France

1) Application of enterprise / economic unity approach

French law generally follows the entity theory but has several exceptions that follow the enterprise approach in the context of corporate group limited liability. French courts have applied the doctrine of economic unity as a variant of the doctrine of appearance. These situations arise typically in cases of

³⁹ Danish law recognizes several corporation organizations that feature limited liability. These are public limited liability companies “*aktieselskaber*” (A/S), private limited liability companies “*anpartsselskaber*” (ApS), cooperative organizations with limited liability (A.m.b.a) as well as limited liability companies (S.m.b.a). Limited partnerships (K/S) (*in Danish: kommanditselskab*) and Partner companies (P/S) (*in Danish: partnerselskab*) are a hybrid between the personal liability companies and the limited liability companies. Here, there are general partners (*kommanditist*) and limited partners (*komplementar*). These types of business organizations are regulated differently but share the principle of limited liability with the limited liability companies.

⁴⁰ The Satair case, U.1997.364H.

⁴¹ In *Frigor* (U.1980.806V), the High Court held that when a subsidiary has no actual economic rationale and is only used to avoid certain obligations of the parent company, the latter can be held liable. It is of importance to note that in the instant case the creditors were employees of the subsidiary, a class of creditors that generally enjoys increased legal protection. See Krüger Andersen, K2, 2010, at 538, Hansen & Krenchel, DS1, 2010, at 114f and U.2001.100H, section 2.4.1.1.

⁴² *Frigor* (U.1980.806V). The Court found that the subsidiary had not had any real content since its balance only contained the salary to workforce which was matched by a corresponding payment by the parent company. The subsidiary met the legal requirements to management, financial statements, etc., but had not been independently registered for VAT. The Board of Directors of the subsidiary had never engaged in real decision-making and had not influenced lending of capital to the parent company or any subsequent decisions. Thus, in reality the parent company’s board of directors made the decisions. In addition, the company was structured to avoid employee representation on the board of directors of the parent company and the subsidiary constituted only an intermediary for the payment of wages.

⁴³ The Midfynsfestival case, U.1997.1642H.

⁴⁴ The Midfynsfestival case, U.1997.164. The Danish Supreme court emphasized that the two companies were not regarded as two separate entities to the public and that the companies’ finances were mixed together. In addition, the company structure was organized in a way that profit was kept in R and the risk was mostly allocated in F, which was heavily undercapitalized.

misrepresentation where a creditor is misled to believe that he is dealing with an entity other than the real corporation. For instance, in a parent-subsidary context, a parent company might appear to contract with a good faith third party, but it is actually the subsidiary who signs the contract.⁴⁵ Two or more entities may be regarded as an economic unity when multiple entities reasonably appear to form an economic unit.

French courts may also impose liability on the corporate parent when the assets and affairs of the parent and those of its subsidiary have been so closely intertwined so that the latter is can be considered a mere instrumentality of the former. At the same time, courts recognize that usual group organization and functioning, such as cash flow advances, cannot establish abnormal financial relations required for imposition of liability on the corporate parent.⁴⁶ Ultimately, both the doctrine of appearance and the commingling of assets and affairs require something more than mere economic unity to pierce the corporate veil. That “something more” might well include findings of misrepresentation or abnormal financial relations.⁴⁷

Additionally, under the Bankruptcy law, French courts have found that when a parent corporation has a predominant influence over its subsidiary and exercises a de facto authority over its directors, the parent may be considered a de facto director of its subsidiary. This construction enables creditors of an insolvent subsidiary to seek relief from the corporate parent. Furthermore, the law provides a possibility to declare the de facto director (the corporate parent) of a bankrupt subsidiary also bankrupt.⁴⁸

French law further applies specific statutory rules for shared liability in specific bodies of law such as competition, labor relations, and environmental law. Some French courts have invoked the economic unity theory independently from the instruments cited above. Under this approach, when the financial and economic features of the group members are intermingled, they are treated as one legal entity. However, this approach has been widely criticized and was never accepted by the Supreme Court.⁴⁹

2) Variety of factors considered by in veil piercing cases

The Bankruptcy Statute and a variety of less frequently invoked court doctrines such as doctrine of appearance (“théorie de l'apparence”) and Paulienne action (“actio pauliana”) provide most of the PCV regulation under French law.

French bankruptcy law provides several grounds for shareholder liability claims: (1) “asset insufficiency”, which applies directly to managers and implicitly to controlling shareholders in companies where separation between ownership and management is absent; (2) cessation of payments to creditors due to actions or inactions of the managers per Art. 652-1, which mandates the court to hold

⁴⁵ Vandekerckhove, 2007, at 441-42 (arguing that French courts invoke the doctrine of appearance when the corporations in a group create the impression that they are one entity); Presser, 2017, § 5:7. (noting that lack of distinctive features among the group members (e.g., same address, similar names, overlapping business activities) may mislead third parties acting in good faith).

⁴⁶ Vandekerckhove, 2007, at 437-38 (suggesting that only an entire commingling of all group assets may trigger identification of the members as one single unit); Karl Hofstetter, *Parent Responsibility for Subsidiary Corporations: Evaluating European Trends*, 39 INT'L & COMP. L. Q. 577 (1990); Presser, 2017, § 5:7..

⁴⁷ In the *Metaleurope* case (2005), the French Supreme Court contemplated on a parent's liability for the subsidiary's environmental law violations. The Court held that identification between members of a group will be examined based on two criteria. First, mingling of assets among the group members to the extent that a professional accountant would not be able to tell which debt whose is. Second, findings of abnormal financial relations between the group members (e.g., transfer of funds without consideration), which exceed usual group dealings. The Court's refusal to extend bankruptcy proceedings of the subsidiary to the parent demonstrates flexible approach to the term “abnormal financial relations” in the parent-subsidary context. See, Presser, 2017, § 5:7.; Vandekerckhove, (2007), at 438.

⁴⁸ Art. L 651-2 of the French Commercial Code (“Where the judicial liquidation proceedings of a legal entity reveals an excess of liabilities over assets, the court may, in instances where management fault has contributed to the excess of liabilities over assets, decide that the debts of the legal entity will be borne, in whole or in part, by all or some of the de jure or de facto managers, or by some of them who have contributed to the management fault. If there are several managers, the court may, by way of a reasoned ruling, declare that they are liable in solidarity”).

⁴⁹ Art. L 651-2 of the French Commercial Code.

de-facto or de-jure manager liable; (3) incorporation of a fictitious company;⁵⁰ (4) comingling of assets of the owners and the corporation.⁵¹

The doctrine of appearance is invoked typically in cases of misrepresentation, where a creditor is misled to believe that he is dealing with an entity other than the real corporation.⁵² Paulienne action (“actio pauliana”) enables creditors to challenge a debtor’s fraudulent transfer of assets to a third party for additional claims.⁵³

3) Availability of veil piercing outside of bankruptcy cases

Bankruptcy proceedings are the only settings in which veil piercing is available under French law. Even when claims are made under the fictitious corporation doctrine, veil piercing is available exclusively in bankruptcy cases. The only exception to this rule is when the doctrine of appearance is invoked to impose liability on the corporate parent.

4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

Article L 652-1 of the French Commercial Code on bankruptcy requires the manager or the director to have engaged in a misconduct to impose liability on them. The provision accommodates mostly claims against shareholders in small, closed corporations with practically no separation between ownership and management.

The fictitious corporation doctrine, under which French courts may impose liability on shareholders, is most often invoked in situations where the incorporation of the entity is aimed to withdraw assets from creditors' reach and for fraudulent purposes.⁵⁴

h. Germany

1) Application of enterprise / economic unity approach

The Stock Corporation Act (Aktiengesetz) provides special provisions regulating intra-group liability. The law defines Konzern as “controlling and one or more controlled enterprises [that] are subject to the common direction of the controlling enterprise”. If enterprises are parties to a control agreement or if one enterprise has been integrated into the other, such enterprises are considered to be subject to common management. In other words, the controlling and controlled entities are presumed to constitute a Konzern (group).⁵⁵

The law on Konzernrecht (“controlled companies”) provides that a corporate parent may be liable for the obligations of its controlled subsidiaries either through express agreement or when the corporate parent had a complete control over its subsidiary to the detriment of the subsidiary (*de-facto Konzern*). In essence, the law promotes a trade-off between two unique features of intra-group relations. On the one hand, the corporate parent is entitled to give binding instructions to the subsidiary even when they are not in the interest of the subsidiary. On the other hand, to compensate for the additional risk that the subsidiary and its stakeholders bear, the law provides ways to hold the corporate parent liable for the losses incurred by its subsidiary. Specifically, the law imposes an additional regulation for the protection of creditors. For example, among the duties imposed on the corporate parent are the duty to make the execution and termination of controlling agreement available to creditors and the responsibility to maintain money reserves to compensate for losses incurred by the subsidiary.⁵⁶

⁵⁰ Vandekerckhove, (2007) at 434-35.

⁵¹ Presser, 2017, § 5:5-7..

⁵² Presser, 2017, § 5:6-7..

⁵³ Larry Catá Backer, Comparative corporate law: United States, European Union, China, and Japan: cases and materials 1073 (2002); Presser, 2017, § 5:5-6..

⁵⁴ Presser, 2017, § 5:6.

⁵⁵ Art. 16-19 of the Stock Corporation Act (Aktiengesetz).

⁵⁶ German law regulates various forms of corporate. The Aktiengesetz distinguishes between (1) domination based on agreements (a contractual Konzern, Art. 291-310), (2) de facto domination (Art. 311-318), and (3) integrated entities (Art. 319-327). Additionally, there is the concept of qualified (centralized) de facto domination which has no statutory basis and was developed by German court, in the context of a dominated private companies (GH). For detailed analysis on the law on Konzerns see Carsten Altig, *Piercing the Corporate Veil in American and*

Unlike in the case of public corporations, the law governing private companies (GH) has been developed through judicially made doctrines and thus is not regulated through the Stock Corporation Act. In 2001, the Federal Supreme Court's decision on *Bremer Vulkan* substantially limited the application of the enterprise theory to private companies by abandoning the application of Konzern law for a *qualified de facto konzern*, in which subsidiaries are controlled by the corporate parent without a controlling agreement between them. The Supreme Court held that liability of a private corporate parent is to be determined according to the "existence destroying encroachments" concept, under which a corporate parent removes assets from its subsidiary without guaranteeing the latter of sufficient assets to satisfy its liabilities.⁵⁷

2) Variety of factors considered by in veil piercing cases

Germany applies the doctrine of *Durchgriffshaftung* to impose corporate liability on owners outside of the context of Konzern law that controls corporate groups.⁵⁸ The underlying justification for shareholder liability is the abuse by the owners of the legal personality principle. Creditors are protected in four different situations that generally coincide with American case law: commingling of assets (the ownership of the shareholder and the company is indistinguishable); failure to follow corporate formalities (most commonly when the failure to follow formalities makes a company's identity unclear to creditors); undercapitalization; and total domination of a company by another.⁵⁹

3) Availability of veil piercing outside of bankruptcy cases

German courts invoke veil piercing most often in bankruptcy cases. Nonetheless, there is no statutory or judicially prescribed prerequisite for bankruptcy.

4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

German law does not require showing of a fraudulent intention to establish shareholder liability. However, more recent legal cases suggest that corporate veil piercing is enforced mostly when the corporate parent exercises a control over its subsidiary in an abusive manner and against the interest of the subsidiary.⁶⁰

i. Great Britain

1) Application of enterprise / economic unity approach

The UK strictly adheres to the entity theory under which each corporation in the group is a separate juridical entity with its own rights and duties distinct from those of its shareholders.⁶¹ In the past some court decisions had relied on a single economic unit theory as an independent basis for imposing liability

German Law - Liability of Individuals and Entities: A Comparative View, 2 TULSA J. COMP. & INTL. L. 187, 233-40 (1995); Sandra K. Miller, *Piercing the Corporate Veil Among Affiliated Companies in the European Community and in the U.S.: A Comparative Analysis of U.S., German, and U.K. Veil piercing Approaches*, 36 AM. BUS. L.J. 73, 99-108 (1998).

⁵⁷ Vandekerckhove, 2007, at 54-60.

⁵⁸ Vandekerckhove, 2007, at 62-65.

⁵⁹ Vandekerckhove, 2007, at 63-64; Altling, (1995), at 201; 207-210; 214-218.

⁶⁰ For example, in the ITT case the Supreme Court held that a controlling shareholder bears a special duty to conduct its affairs with the subsidiary in corporate good faith. When the duty is breached, the parent may be held liable. Vandekerckhove, 2007, at 54.

⁶¹ *Bank of Tokyo v. Karoon*, [1986] 3 WLR 414 (refusing to treat a parent and its subsidiary as one single economic unit despite the claim they were functioning as one economic enterprise. The court held that "counsel suggested beguilingly that it would be technical for us to distinguish between parent and subsidiary company in this context; economically, he said, they were one. But we are concerned not with economics but with law. The distinction between the two is, in law, fundamental and cannot here be bridged"). In *Adams v. Cape Indus.* 2 WLR. 657 (C.A.1990)), the court denied a claim to lift the corporate veil in a group of companies engaged in mining operations. Although it was found that the group had operated as a single integrated mining division with the parent setting the broad business policy of the subsidiaries, the court held that a parent and subsidiary should not be regarded as one enterprise because of the single integrated nature of the business.

on the parent.⁶² The theory was considered and rejected on the merits of *Adams v Cape Industries Plc.* (1990), a leading authority in Britain until 2013,⁶³ and was officially overruled in the seminal *Prest* decision.

2) Variety of factors considered by in veil piercing cases

UK courts have taken a minimalist approach to corporate veil piercing, even questioning whether the doctrine has ever existed in British law.⁶⁴ In *Prest v Petrodel* (2013), the Supreme Court handed down what is emerging as the seminal decision in PCV in British law. While making clear that veil piercing is available, the Court introduced two guiding principles that have circumvented the availability of the doctrine.⁶⁵ First is the evasion principle. *Prest* provides that “the principle that the court may be justified in piercing the corporate veil if a company’s separate legal personality is being abused for the purpose of some relevant wrongdoing is well established in the authorities. [...] I think that the recognition of a limited power to pierce the corporate veil in carefully defined circumstances is necessary if the law is not to be disarmed in the face of abuse⁶⁶. Abuse, the Court followed, may arise only when the incorporation had been made or used for deliberately evading a legal obligation or liability: “[t]hese considerations reflect the broader principle that the corporate veil may be pierced only to prevent the abuse of corporate legal personality. It may be an abuse of the separate legal personality of a company to use it to evade the law or to frustrate its enforcement”⁶⁷ The second guiding principle provides that veil piercing will be considered only as a remedy of last resort, when all other avenues for relief have been exhausted.

In an effort to define the scope of the doctrine, Lord Sumption noted: “I conclude that there is a limited principle of English law which applies when a person is under an existing legal obligation or liability or subject to an existing legal restriction which he deliberately evades or whose enforcement he deliberately frustrates by interposing a company under his control. The court may then pierce the corporate veil for the purpose, and only for the purpose, of depriving the company or its controller of the advantage that they would otherwise have obtained by the company's separate legal personality.”⁶⁸

3) Availability of veil piercing outside of bankruptcy cases

Bankruptcy is not a prerequisite to commence veil piercing proceedings. However, under the rule of last resort, courts may refuse to pierce the corporate veil when other avenues for relief are available.

⁶² Consider two examples. In *DHN Food distributions Ltd v. Tower Hamlets London Borough Council* [1976] WLR 852 a parent company distributed the operation of a business between two wholly owned subsidiaries, one of them held the title of the land in which a warehouse used for the business was located. The land was compulsorily acquired by the council, but no compensation was paid as the council claimed that the owner of the land (the subsidiary) did not have an interest in the business. The court agreed with the plaintiff that in these circumstances the council should have treated the business as one economic unit and consequently ordered the veil to be lifted. *Woolfson v. Strathclyde Regional Council* 1978 SC (HL) 90 presented similar facts. An individual held the majority of shares in two companies where one company owned the property and another operated the enterprise. Once again, the council compulsorily acquired the land without paying compensations. This time however, the court refused to consider the companies as one single economic unit, and rejected the precedential value of *DHN Food distribution*.

⁶³ *Adams v Cape Industries Plc.* [1990] Ch 433.

⁶⁴ *VTB Capital Plc v Nutritek International Corp and others* [2013] UKSC 5.

⁶⁵ See, Alexander Schall, *The New Law of Piercing the Corporate Veil in the UK*, ECFR 2016, 549–574, at 550.

⁶⁶ *Prest v Petrodel Resources Ltd.* [2013] UKSC, at ¶ 27 (Lord Sumption).

⁶⁷ *Prest v Petrodel Resources Ltd.* [2013] UKSC, at ¶ 34.

⁶⁸ *Prest v Petrodel Resources Ltd.* [2013] UKSC, at ¶ 35. Earlier cases have mentioned additional factors to be considered, such as commingling of assets and disregard to corporate formalities, although it is not clear to what extent they still constitute good law after *Prest*. For example, in *Creasey v. Breachwood Motors Ltd.* [1993] BCLC 480, a general manager brought an action against his employer, Breachwood Welwyn Ltd., for wrongful dismissal. After the claim was filed all of the defendant’s assets and business activity were transferred into a new corporation, Breachwood Motors Ltd. The plaintiff then moved to enforce the judgment against the new corporation. In lifting the veil and imposing the debt on Breachwood Motors Ltd., the court held that the shareholders and directors demonstrated total disregard of their duties. The court further held that the new corporate form cannot be used to avoid the old entity’s legal obligations.

- 4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

The corporate veil is pierced only in extreme cases of misconduct including those that involve fraud.

- 5) Empirical data

Average piercing rate is around 47% of the total claims (290 cases from 1859 to 1998).⁶⁹ Critically, many decisions that granted veil piercing can no longer stand as good law after *Prest*.

j. **Holland**

- 1) Application of enterprise / economic unity approach

Holland regulates affiliated corporations primarily through the doctrine of identification, under which the law considers affiliated corporations as one legal person in various situations. Other constructions for imposition of parent liability are liability as de facto director and rules concerning asset transfers. However, unlike in Germany, the default regime between affiliated corporations relies on the entity theory. In general, parents will not be held liable when the subsidiary's management have given its full consent to acts carried out by the parent.

The identification doctrine allows courts to treat the parent and subsidiary as one entity when some factors are found to be present. Courts identify affiliated corporations in situation such as parent dominance, intensive involvement in the management of the controlled corporation, commingling of assets and intermingling in corporate formalities (e.g., identity in addresses, letterhead and directors/shareholders). Moreover, courts examine whether treating the corporations separate would lead to consequences contrary to good faith. The Dutch Supreme Court has traditionally treated the identification doctrine with restraint, while the lower courts have applied it more frequently.⁷⁰ It will usually take a combination of factors to trigger corporate veil piercing. A mere commingling of assets among corporate group entities or even some indications of economic unity are not enough to justify veil piercing in most cases.⁷¹

Dutch law does not recognize specific rules limiting intra-group asset transfers. The general policy is that as long as a subsidiary may draw benefits from the group relationship in the long term, and so long as a transaction is in the interests of the group, the dealing is valid. However, shareholders may incur liability in extreme cases where acts conducted by the parent endanger the existence of the subsidiary.⁷²

Imposition of liability as de facto director is regulated under Art. 2:138, 248(7) of the Dutch Civil Code. The law provides for liability of de facto directors in cases of gross mismanagement that has important contribution to the bankruptcy of the subsidiary. A parent corporation may be considered de facto director when it has had a direct influence over the subsidiary's management and when in reality the subsidiary's management has been set aside. When the parent imposes its own will (actively engages in

⁶⁹ Charles Mitchell, *Lifting the Corporate Veil in the English Courts: An Empirical Study*, 3 COMPANY FIN. & INSOLVENCY L. REV. 15 (1999).

⁷⁰ The *Bato's Erf* Case provides an example of the narrow approach taken by the Supreme Court in comparison to lower courts. The case involved a company that transferred its operations to a wholly owned subsidiary to avoid liability for soil pollution. The court of appeals found that both companies were closely intermingled and identified them in order to impose liability on the parent. On an appeal before the Supreme Court the decision was reversed. The court held that the mere showing of control on behalf of the parent should not identify the acts of the subsidiary with the parent. Vandekerckhove, (2007), at 424.

⁷¹ See generally, Vandekerckhove, (2007) at 410-411. For instance, in the *Koenrades* case a Dutch court identified a group of affiliated companies with their sole (natural person) shareholder for debts to an employee after it was held that the owner abused the legal personality of its companies. The plaintiff was successful in showing that the shareholder intentionally caused one of his companies to go bankrupt for the sole purpose of thwarting the execution of a monetary judgment against it.

⁷² Vandekerckhove, 2007, at 207.

management functions) while ignoring the subsidiary's formal management, it may be responsible for a part or all of the subsidiary's debts in bankruptcy proceedings.⁷³

2) Variety of factors considered by in veil piercing cases

Dutch law applies corporate veil piercing for remedial purposes in tort cases. Under Dutch law, a tort consists of an act or omission that violates rights of another person or is contrary to a legal obligation, good morals or expected prudence between persons in society.⁷⁴ To pierce the veil, a court would review whether (1) the owner of a corporation knew or should have known that his act or omission would harm the creditors of the corporation; (2) the degree of involvement / control that the owner exercised in the management was substantial.⁷⁵ Among the factors courts have considered in establishing the owner's liability are continuation of loss making activities, selective payment practices, unjustified refusal to pay creditors, unjust dividend policy, and frustration of creditors' security rights.⁷⁶

3) Availability of veil piercing outside of bankruptcy cases

Courts pierce corporate veil typically in bankruptcy cases. The doctrine of identification may be applied in cases not involving bankruptcy.⁷⁷

4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

Dutch law does not require fraudulent behavior or other intentional shareholder misconduct to hold shareholders liable. However, in most veil piercing cases, acts or omissions that prejudice creditors seem to be a key factor in imposing corporate debts on shareholders.⁷⁸

The doctrine of identification views some kind of misconduct (e.g., abuse of rights, fraudulent intent or wrongful creation of false representations) as a necessary condition (albeit not sufficient) for identifying the controlled entity and the shareholder.⁷⁹

k. Italy

1) Application of enterprise / economic unity approach

Italian law regulates corporate groups differently from independent entities. Art. 2497 of the Company Law prescribes a rule under which the corporate parent is held liable for mistakes of its subsidiary if the parent causes damages to the integrity of the subsidiary's assets. Furthermore, other stakeholders of the corporate group (e.g., sister subsidiary, the parent's shareholders) that benefit from the parent's control over its subsidiary and participates in a harmful activity may also be held liable.

Art. 2325 and 2462 also provide that single-owner companies⁸⁰, which constitute the majority of the subsidiaries, must meet certain capital formalities in order to qualify for limited liability.

2) Variety of factors considered by in veil piercing cases

⁷³ Vandekerckhove, 2007, at 331-32. Vandekerckhove points however, that "a normal central management in corporate groups, characterized by an overall coordination of central financing and a definition of policies on the longer term does not amount to quasi management."

⁷⁴ Article 2:5 of the Dutch Civil Code.

⁷⁵ *Osby-Pannan A/B v. Las Verkoopmaatschappij BV*, NJ 1982 no. 443, Supreme Court (Hoge Raad). Quoted in Vandekerckhove, 2007, at 33-35.

⁷⁶ Vandekerckhove, 2007, at 33-35

⁷⁷ Vandekerckhove, 2007, at 37-38.

⁷⁸ In the aftermath of *Osby*, a flow of judgments established the notion that parent corporations bear responsibility to take into account the interests of their subsidiaries' creditors. In order to pierce the veil, a court would review whether (1) the parent knew or should have known that its act or omission would harm the creditors; (2) the degree of involvement/control that the parent exercised in the management of the subsidiary. Vandekerckhove, (2007), at 34-35.

⁷⁹ Vandekerckhove, 2007, at 433.

⁸⁰ Italian Companies law sets out two main types of incorporated entities: the *Società per Azioni* (SPA), a company limited by shares, and the *Società a Responsabilità Limitata* (SRL), a company limited by 'quotas'.

Italian law considers several veil piercing criteria for both public and private limited liability corporations. Main reasons for corporate veil piercing include a disregard for corporate formalities and commingling of assets.⁸¹ The de-facto Director doctrine is invoked in bankruptcy cases most often when shareholders disregard corporate structure and formalities, interfere directly with management, and commingle personal and corporate assets.⁸²

Additionally, Company Law 2003 (Civil Code Art. 2476) mandates that shareholders and directors who intentionally decide or authorize activities that damage their company may incur joint liability for debts incurred by their company.

Bankruptcy Law 2006 (Art. 147) also regulates the joint liability of members of unlimited partnerships. It further imposes liability on “shadow or secret partners” who act in the capacity of a partner without formally being introduced as one. Italian jurists argue that this construction may be extended to a “tyrant” or a dominating shareholder who commingles personal and corporate assets.

Finally, Italian courts are more inclined to pierce the corporate veil when a limited liability company is incorporated solely to dodge legal obligations assumed by the corporate parent (e.g. non-compete obligation).⁸³

3) Availability of veil piercing outside of bankruptcy cases

Bankruptcy is not a prerequisite to commence veil piercing proceedings, but it is required for actions brought under Art. 147 of the Bankruptcy law and is a relevant factor in proceedings taken under Art. 2467 of the Companies Law.

4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

Italian law does not require a fraudulent intent to hold shareholders liable for the obligations of their subsidiaries. At the same time, intent to commit wrongdoing is a factor considered under Art. 2476 of the Companies Law, which is applicable to private limited liability companies. This rule holds shareholders and directors jointly liable for the debts incurred by their company if they intentionally authorize actions that are damaging to the company. However, under the governing law of corporate groups, neither intent nor fraudulent behavior is required to establish liability.

l. Japan

1) Application of enterprise / economic unity approach

Japan adheres to the entity theory. Courts seem to apply the same standards of veil piercing for corporate groups as they do in other cases.⁸⁴

2) Variety of factors considered by in veil piercing cases

The emergence of the piercing the veil doctrine in Japanese law came in 1969 when the Supreme Court held that “where the legal personality of [a company] is nothing more than a mere shell, or where it is misused in order to avoid the application of legislation...it will be necessary to pierce the corporate veil.”⁸⁵

⁸¹ See generally, Marco Speranzin, Piercing the Corporate Veil in Italian Company and Banking Law (2008). http://www.academia.edu/10285563/Piercing_the_corporate_veil_in_Italian_company_and_banking_law.

⁸² See, e.g., Cass. 23 aprile 2003, n. 6478 (Italian High Court).

⁸³ Speranzin, 2008.

⁸⁴ The Sendai District Court held in 1970 that the instrumentality theory may be applied more easily upon corporate groups than individual shareholders when the parent parents possess the right to control the assets of subsidiaries. In another case, 111 employees of an insolvent subsidiary brought a claim seeking to pierce the veil of the parent in order to collect their salaries. The court ruled in their favor, finding that the subsidiary's officers had been seconded from the parent, the business of the two firms had often been intermingled and the parent firm had made all significant (and even many minor) business and personnel decisions for the subsidiary. J. MARK RAMSEYER AND MINORA NAKAZATO, JAPANESE LAW: AN ECONOMIC APPROACH, 117 (1999)

⁸⁵ Presser, 2017, § 5:10.

The general test for veil piercing requires demonstration of a total control by the owner and an additional factor, such as commingling of assets, repeated overlap of business transactions or activities, failure to follow corporate formalities, inadequate capitalization, lack of a separate identity between corporation and individual, misrepresentation of the real entity dealing with the plaintiff, or an incorporation to avoid a legal duty.⁸⁶ Impropriety and fraud are central factors in veil piercing claims.⁸⁷ The application of the PCV doctrine is generally confined to closely held corporations.

3) Availability of veil piercing outside of bankruptcy cases

Bankruptcy is not a prerequisite to commence veil piercing proceedings.

4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

Subjective intent to commit wrongdoing is typically required to establish veil piercing claims. Bad motives of the shareholder seem to play a critical role in the determination of corporate veil piercing.⁸⁸

m. South Korea

1) Application of enterprise / economic unity approach

South Korea's economy is predominantly structured around corporate groups called *Chaebol* groups. *Chaebol* groups are family-controlled global conglomerates with a highly centralized management structure.⁸⁹ In most cases, companies operating under the same group are intertwined by either cross-company shareholding or intra-group loans.⁹⁰

Korean law, nonetheless, features hardly any rules governing parent-subsidary relations, particularly regarding creditors and minority shareholders. Art. 412(5) of the Korean Commercial Code prescribes rules allowing a statutory audit of the subsidiary's business but only under very specific conditions. There are also few restrictions on subsidiary's granting credit to its controlling company as long as the subsidiary is publicly listed⁹¹ and on dealings that may benefit the parent or other affiliates at the expense of the subsidiary's other shareholders.⁹²

Other than the particular provision in the Commercial Code, Korean case law strictly recognizes the legal separation between wholly owned subsidiaries and their owners. For example, in one case, a wholly owned subsidiary approved resolutions in a shareholders meeting that never took place. The court decided that such resolutions would be upheld as long as the owner kept written minutes regardless of whether the meeting actually took place.⁹³

Korean courts apply the Shadow Director doctrine on controlling companies in corporate groups and controlling family members. Under Korean law, a parent will not be rendered the shadow director of

⁸⁶ Presser, 2017, § 5:10.

⁸⁷ Larry Catá Backer, Comparative corporate law: United States, European Union, China, and Japan: cases and materials, at 1,114 (2002). In that vein, Presser cites the Japanese Supreme Court decision of October 26, 1973 to support the view that "subjective intent is key. The Court held that there was an abuse which justified piercing the veil because the intent of establishing the particular corporation was to avoid the liabilities of a prior corporation. Instances that may constitute such an abuse of the corporate form, the court explained, include avoidance of debt, inadequate capitalization, unfair labor practices and violations of non-competition agreements." Presser, 2017, § 5:10.

⁸⁸ Backer, 2002, 1,114; Presser, 2017, § 5:10..

⁸⁹ As of 2011, 62 corporate groups were responsible for more than 52% of Korea's national turnover. See Hyeok-Joon Rho, *Corporate Groups in Korea*, in GERMAN AND ASIAN PERSPECTIVES ON COMPANY LAW 307, 308 (HOLGER FLEISCHER ET. AL. EDS., 2015).

⁹⁰ Jack B. Jacobs, *The Utility of the "Piercing The Corporate Veil" Doctrine In American and South Korean Corporate Law: An Essay* (unpublished manuscript), at *1.

⁹¹ Art. 542-9 of the Korean Commercial Code.

⁹² Art 398 of the Korean Commercial Code requires such dealings to qualify as "fair trade" and be approved by two thirds majority of the board.

⁹³ Supreme Court, 11 June 1993 Da 8702 (quoted in Rho, 2015, at 318).

its subsidiary merely because of its capacity to impose common policies on the subsidiary⁹⁴ but may incur liability for having issued wrongful instructions to the subsidiary.⁹⁵ As of 2011, no parent was held shadow director by Korean courts, the main reason is the evidentiary hurdle to prove the influence of the parent.⁹⁶

2) Variety of factors considered by in veil piercing cases

Korean corporate law is based on the entity approach, according to which every corporation is a distinct legal entity having its own assets and liabilities. The Commercial Code mandates the corporate entity (Art. 171 provides that a company “shall be a juristic person”) and provides limited liability to its owners (Art. 331).⁹⁷

Veil piercing law has been created and developed in a number of court decisions beginning in the late 1970s. To date, a principle doctrine setting the conditions for corporate veil piercing (“the denial of corporate status” as referred by Korean judges) cannot be extracted from the case law.

The case law includes instances in which the corporate veil was pierced when the controlling shareholder completely dominated the business and the management. Comingling of assets, abuse of the corporate entity (e.g., incorporating a wholly owned foreign subsidiary merely to insulate from liability⁹⁸), and disregard for corporate formalities (e.g., failure to hold board of director meetings or to maintain an operating office⁹⁹) were also invoked to justify decisions to pierce the corporate veil.

Controlling shareholders may also be held liable for company’s obligations under the Shadow Director doctrine. Art. 401-2 of the Commercial Code provides that a person who uses its influence to direct another officer in the company (e.g., director, president, vice-president etc.) and to conduct the company’s business may be held liable for the company’s acts.

3) Availability of veil piercing outside of bankruptcy cases

Bankruptcy is not a prerequisite to commence veil piercing proceedings.

4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

Korean law does not require a fraudulent intent to establish shareholder liability. Abuse of the corporate entity, which in most cases will involve some level of subjective intent has played a role in veil piercing case law.

n. Sweden

1) Application of enterprise / economic unity approach

No specific findings were available for application of different veil piercing policy on corporate groups. Courts seem to apply the general standards of veil piercing in all cases.¹⁰⁰

2) Variety of factors considered by in veil piercing cases

Swedish law has recognized veil piercing in a restrictive manner. To complement the protection of creditors, Swedish law further provides specific statutory schemes for creditor protection outside of the context of ex-post shareholder liability.¹⁰¹

⁹⁴ Rho, 2015, at 329-30.

⁹⁵ Rho, 2015, at 330.

⁹⁶ Rho, 2015, at 330.

⁹⁷ South Korea’s legal system is based mostly on statutory laws created by the legislative branch (in the legal community this approach is commonly known as the civil law tradition, in contrast to the common law tradition under which the law is developed by judicial decisions).

⁹⁸ Judgment of November 22, 1988, 87-Daka-1671.

⁹⁹ Judgment of January 19, 2001, 97-DA-21604.

¹⁰⁰ Swedish Supreme Court Decision NJA 1947 s. 647.

¹⁰¹ Richard Ramberg, *Piercing the Corporate Veil: Comparing the United States with Sweden*, 17 NEW ENG. J. INT’L & COMP. L. 159. (2011)

Piercing the corporate veil doctrine seems to follow a totality of the circumstances analysis, focusing mostly on undercapitalization, dependency (dominance), and impropriety (unfair or inequitable conduct).¹⁰² In addition, imposition of liability on shareholders usually requires causality (between the damage and the ground for piercing the veil), and good faith on behalf of the plaintiff.¹⁰³

There is a general support for the claim that undercapitalization is absolutely required (but not sufficient) in order to pierce the corporate veil (NJA 1947 s. 647).¹⁰⁴ Even scholars who do not share this view consider undercapitalization a fundamental factor determining corporate veil piercing.¹⁰⁵

3) Availability of veil piercing outside of bankruptcy cases

Bankruptcy is not mandatory in veil piercing claims. Nonetheless, bankruptcy does seem to become a factor within the Mandatory Creditor Protection Rules. If the company has entered into liquidation or bankruptcy proceedings, the liquidator/trustee may prosecute on the company's behalf. If a refund cannot be made in full, shareholders (and others) may be deemed a liable pursuant under 17 Ch. 7 § ABL for the remaining amount if they knew of or were grossly negligent with regard to the transfer.

4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

The common three-prong analysis includes the impropriety requirement, under which the plaintiff must show unfair or inequitable conduct. When the defendant's conduct is fraudulent or in violation of a statutory or other positive legal duty, or dishonest and unjust in contravention of plaintiff's legal rights, veil piercing may be warranted. While this factor is not imperative for veil piercing, it is central to the Swedish veil piercing doctrine.¹⁰⁶

o. Switzerland

1) Application of enterprise / economic unity approach

Swiss law does not include a codified provision regulating the relationship between a corporate parent and its subsidiaries. General PCV conventions apply to corporate groups as they do to all other owner-corporation relations.

Under Swiss law, additional legal doctrines may be invoked in order to impose liability on the parent. A legal entity that decides on matters that ought to be subject to the approval of a board of directors and thus preponderantly influence the decision-making in the subsidiary, may be considered as the "de facto corporate body".¹⁰⁷ Therefore, if the subsidiary is unable to repay the debt, the creditors may file a suit

¹⁰² The impropriety test provides that when the defendant's conduct is fraudulent or in violation of a statutory or other positive legal duty, or a dishonest and unjust act in contravention of plaintiff's legal rights, veil piercing may be warranted. Ramberg, 2011, at 182.

¹⁰³ Ramberg, 2011, at 182.

¹⁰⁴ *NJA 1947 s. 647* was a Supreme Court case in which the court held the parents of a subsidiary formed for regulating certain activities connected with power production personally liable for the debts of the subsidiary. In *NJA 1947*, a city and four companies who all owned power plants next to a stream, formed a company together with the purpose of acquiring a pond and regulating it to the advantage of the power plants. A neighboring land owner who incurred damages from the pond brought legal action against the parent after he had learned that the subsidiary does have sufficient capital. The court held the shareholders personally liable, stating that the company had been a joint body of execution for managing the water conservation and that it had no independent business. Commentators emphasized that the company's inadequate capitalization in relation to the operation it was formed to carry out was central to the court's holding. Considering this, and "other circumstances," the shareholders were held personally liable. *See further*, Ramberg, 2011, at 178-80.

¹⁰⁵ Ramberg argues that undercapitalization is viewed more narrowly in Sweden than in the U.S. The Swedish scholars' use of expressions such as "clearly insufficient" or "obviously insufficient," resonates a more restrictive view of undercapitalization than what is applied in the United States. The traditional view of adequate capitalization in the United States is the amount of capital necessary to cover reasonably foreseeable risks of the business. Consequently, any capitalization insufficient to cover the reasonably foreseeable risks of the business is relevant, without it being clearly or obviously insufficient. Ramberg, 2011, at 181.

¹⁰⁶ Ramberg, 2011.

¹⁰⁷ BGE 132 III 523. *See also* Bsk-OR-Gericke/Waller Art. 754 N 5.

against the management and also the de facto corporate body. The only exception is when the de facto corporate body provides a proof that the damages were not preventable.¹⁰⁸

The concept of inspiration of trust is not codified but is a judicial convention. Generally, it describes a situation in which the parent implicitly suggests to the creditor that it will become liable for the debts of the subsidiary if the subsidiary is not able to pay. The doctrine folds five cumulative elements, which has been interpreted rather strictly by Swiss courts¹⁰⁹: (1) a lack of an agreement to establish liability between the parties (parent, subsidiary, and creditor); (2) a trust relationship was inspired by the parent; (3) the creditor undertook an investment due to the trust inspired; (4) the trust was violated; (5) a consequential damage occurred as a result of the violation of the trust.

2) Variety of factors considered by in veil piercing cases

Swiss PCV doctrine is a judicial convention derived from Art. 2 of Swiss Civil Code. The courts apply a two- (or three-) prong test to determine the applicability of the PCV doctrine. First, the shareholder / defendant must control the relevant legal entity.¹¹⁰ Second, the person must have acted maliciously.¹¹¹ Third, the plaintiff must prove consequent injury.¹¹²

Furthermore, courts may pierce the corporate veil in cases of abuse of rights. Art. 2(1-2) of the Swiss Civil Code stipulates that rights should be exercised in good faith. A shareholder acting in bad faith abuses his legal right and may be held liable from the debts of the corporation.¹¹³

3) Availability of veil piercing outside of bankruptcy cases

Bankruptcy is not a prerequisite to commence corporate veil piercing proceedings, or any other doctrines that allow imposition of liability on the parent.

4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

Malicious act is a prerequisite in veil piercing claims according to current case law. Nonetheless, in the intra-group context, the de facto corporate body may be triggered even without specific intent of fraud / malice by the parent.

p. *The United States*¹¹⁴

1) Application of enterprise / economic unity approach

Setting aside a limited number of cases considering affiliated companies as single-business enterprises, American courts adhere to the entity approach which considers each member of a corporate group as a single distinct legal entity with liability limited to the undertakings of other group members.¹¹⁵

¹⁰⁸ Bsk-OR-Gericke/Waller Art. 754 N 5.

¹⁰⁹ BGE 120 II 331. See also Sethe, Konzernrecht, 2009, 7 f.

¹¹⁰ BGer 5A_498/2007 E. 2.2. See also Kobierski, Der Durchgriff im Gesellschafts- und Steuerrecht, 2012, 111; Sethe, Konzernrecht, 2009, 6 et seq.; Koller, Schnyder & Druey, Das schweizerische Obligationenrecht, Zürich 2000, § 65 N 18 et seq.

¹¹¹ Sethe, Konzernrecht, 2009, 7; Koller, Schnyder & Druey, Das schweizerische Obligationenrecht, Zürich 2000, § 60 N 47

¹¹² Dennler, Durchgriff im Konzern, 32; Sethe, Konzernrecht, 2009, 7.

¹¹³ Swiss Civil Code, Art. 2 (2).

¹¹⁴ In the US, courts apply the PCV doctrine on both Federal and State levels. This summary of American law covers rules common to most states laws, with some emphasis on Delaware and New-York's laws, which govern most of the publicly traded companies in the US. In addition, a reference is made to federal jurisprudence on PCV. Federal PCV law is applied when a particular federal statute or policy is involved in a case.

¹¹⁵ Phillip I. Blumberg, *Accountability of Multinational Corporations: The Barriers Presented by Concepts of the Corporate Juridical Entity*, 24 HASTINGS INT'L & COMP. L. REV. 297, 302-03 (2000) (arguing that courts have never paused to consider whether the doctrine of limited liability should be extended to shield parent corporations from the debts of their subsidiaries. Rather, they automatically "applied concepts and policies designed to separate investors from liability for the risks of the business to protect as well each of the upper-tier companies of the enterprise from liability for the debts incurred by their lower-tier subsidiaries in conducting the common business of the group").

In a limited number of states such as Louisiana and Texas (until 2008), courts have applied an enterprise approach as an independent basis for ignoring limited liability.¹¹⁶ Louisiana courts, in particular, treat affiliated corporations as a single business enterprise if the level of control reaches a certain threshold, regardless of whether the parent abused the corporate form. In other states, courts have made a reference to the concept of single business enterprise but used the concept as another factor within a broader corporate veil piercing analysis. Thus, the courts still required a proof of some form of abusive conduct by the parent to pierce the corporate veil. For example, in North Carolina, courts consider under the general veil piercing analysis the “[e]xcessive fragmentation of a single enterprise into separate corporations.”¹¹⁷

In other jurisdictions, courts consider parent-subsidary cases under the general corporate veil piercing framework, with no reference to an overarching enterprise theory.¹¹⁸ Nonetheless, unique features of corporate groups are considered under the general framework.¹¹⁹ While full ownership of stocks by the parent is not a dispositive fact, nor is common identity of the parent's and the subsidiary's officers and directors,¹²⁰ when abusive practices are also present, courts will be more inclined to pierce the veil between the parent and the subsidiary. Important factors considered by the courts are control of day-to-day operations and managerial decision-making. Misrepresentation of the corporate structure may also warrant intra-group veil piercing.¹²¹ Other factors considered by courts in corporate group veil piercing cases are unfair intra-enterprise transactions, excessive dividends, wrongful conduct in the performance

¹¹⁶ In *Grayson v. R.B. Ammon and Associates, Inc.*, the Court of Appeals of Louisiana held that when clear and convincing evidence demonstrates the existence of a single business enterprise, courts can pierce the veil between the entities forming the enterprise. *Grayson v. R.B. Ammon and Associates, Inc.*, 778 So. 2d 1, 15 (La. App. 1st Cir. 2000), writ denied, 782 So. 2d 1026 (La. 2001), and writ denied, 782 So. 2d 1027 (La. 2001). In the mid 80's, Texas courts advanced a theory by which plaintiffs were allowed to pierce the veil of affiliated corporations which have “integrated their assets to achieve a common business purpose (*Paramount Petroleum Corp. v. Taylor Rental Center*, 712 S.W.2d 534 (1986)).” However, in 2008 the Supreme Court abrogated the theory, saying it was inconsistent with Texas veil-piercing laws (*see SSP Partners v. Gladstrong Investments (USA) Corp.*, 275 S.W.3d 444, 455 (Tex. 2008)). Following the *SSP Partners* decision, a party seeking to impose parent's liability must show (i) that the persons or entities upon whom a claimant seeks to impose liability are alter egos of the debtor, and (ii) that the corporate fiction was used for illegitimate purposes, i.e., to perpetrate fraud. *See Tryco Enters., Inc. v. Robinson*, 390 S.W.3d 497 (Tex.App.—Houston 2012, pet. dismissed).

¹¹⁷ *See, Glenn v. Wagner*, 329 S.E.2d 326, 331 (N.C. 1985).

¹¹⁸ *See, e.g., Mesler v. Bragg Management Co.*, 39 Cal. 3d 290, 216 Cal. Rptr. 443, 702 P.2d 601 (1985). *See also Miller*, (1998), at 86 (claiming that as a general rule the business risk of multi intra-firm incorporation is limited on an entity-by-entity basis.)

¹¹⁹ *Berkey v. Third Ave. Ry. Co.*, 155 N.E. 58 (N.Y. 1926).

¹²⁰ For example, in *United States v. Bestfoods*, 524 U.S. 51, 61-62, (1998) the U.S. Supreme Court discussed parent corporations' liability for environmental problems caused by their subsidiaries under the Comprehensive Environmental Response, Compensation and Liability Act. The court rejected the notion that parents should incur liability for violations made by their subsidiaries merely for having “actual control” of the subsidiary. It further noted that “it is hornbook law that the exercise of the ‘control’ which stock ownership gives to the stockholders ... will not create liability beyond the assets of the subsidiary. That ‘control’ includes the election of directors, the making of by-laws ... and the doing of all other acts incident to the legal status of stockholders. Nor will a duplication of some or all of the directors or executive officers be fatal”. Ultimately, the court held that liability will be imposed only under the narrow circumstances when the parent could be viewed as operating a subsidiary's facility.

¹²¹ *Quarles v. Fuqua Indus., Inc.*, 504 F.2d 1358, 1364 (10th Cir. 1974) (establishing a standard of domination of day to business decisions to pierce the veil between a parent and its subsidiary). Example of such level of domination was present in *McKinney v. Gannett Co.* (817 F.2d 659 (10th Cir. 1987)). In *McKinney*, a publisher of a newspaper brought action against the parent of the direct owner of the newspaper for alleged breach of employment contract. The Court of Appeals for the 10th Circuit ruled in favor of the publisher by holding that domination in this case was virtually complete and was moreover used for improper purposes. It was found, *inter alia*, that in addition to complete stock ownership, the parent controlled the subsidiary's board of directors, treated the subsidiary as a division with little operating control, that all revenues were paid to the parent, all expenditures were approved by the parent, and that the parent had in fact directly negotiated, drafted, and breached the employment contract at issue although it was signed by the subsidiary.

of contracts (e.g., when the parent depletes the subsidiary's assets to the point that the subsidiary cannot satisfactorily perform its contract obligations), and commingling or shuffling of assets.¹²²

2) Variety of factors considered by in veil piercing cases

Both Federal and state courts apply an array of standards, tests, and theories in adjudicating veil piercing claims. There are essentially two leading frameworks: the alter-ego theory and the instrumentality theory. The alter-ego framework contains three steps for concluding that liability should be imposed on the owner: “(1) Control, not mere majority or complete stock control, but complete domination, not only of finances but of policy and business practice in respect to the transaction attacked so that the corporate entity as to this transaction had at the time no separate mind, will or existence of its own; and (2) Such control must have been used by the defendant to commit fraud or wrong, to perpetrate the violation of a statutory or other positive legal duty, or dishonest and unjust act in contravention of plaintiff's legal rights; and (3) The aforesaid control and breach of duty must proximately cause the injury or unjust loss complained of.”¹²³ The instrumentality framework includes a two-part analysis: (1) that there be such unity of interest and ownership that the separate personalities of the corporation and the individual [shareholders] no longer exist [and the corporate entity is a mere instrumentality for advancing the personal interests of the owner]; and (2) that, if the acts are treated as those of the corporation alone, an inequitable result will follow.”¹²⁴

Most US courts follow a two/three prong analysis based on either of these theories or a combination of them. A widely accepted synthesis was offered in an influential book by Frederick J. Powell in 1931. The Powell test, while formulated to address parent-subsidiary relationship, influenced many US jurisdictions and has been adopted regularly by courts in general veil piercing cases. It contains three prongs: “(1) the ‘alter ego,’ or ‘mere instrumentality’ test, requiring that the subsidiary be completely under the control and domination of the parent, (2) the ‘fraud or wrong’ or ‘injustice’ test, requiring that the defendant parent's conduct in using the subsidiary have been somehow unjust, fraudulent, or wrongful towards the plaintiff, and (3) the ‘unjust loss or injury’ test requiring that the plaintiff actually have suffered some harm as a result of the conduct of the defendant parent.”¹²⁵

In considering the different tests, courts weigh a wide range of factors. Among them are (1) undercapitalization; (2) commingling of corporate and personal affairs; (3) disregard for corporate formalities; (4) fraud/misrepresentation; (5) unfair/unjust conduct; (6) owner control/dominance; (7) Dysfunctional management; (8) whether incorporation was made to avoid legal duties or debts of other entities; and (9) assumption of risk by creditor.¹²⁶

3) Availability of veil piercing outside of bankruptcy cases

Bankruptcy is not a prerequisite, but bankruptcy and insolvency are relevant factors under the general court's analysis.¹²⁷ Some courts, nonetheless, employ an “exhaustion rule” under which creditors may not recover from the parent or its stockholders until they have exhausted their legal remedy against

¹²² *FMC Finance Corp. v. Murphree* (632 F.2d 413, 423 (5th Cir. 1980)) (“[w]hen the shareholder or affiliate, however, engages in conduct likely to create in the creditor the reasonable expectation that he is extending credit to an economic entity larger than the corporation he actually contracted with, and the creditor reasonably relies to his detriment on his reasonable belief concerning who or what he was dealing with, then the corporate veil can be pierced”). See also Kurt A. Strasser, *Piercing the Veil in Corporate Groups*, 37 CONN. L. REV. 637, 652-54 (2005).

¹²³ *Consumer's Co-op. of Walworth County v. Olsen*, 419 N.W.2d 211, 217-218 (Wis. 1988).

¹²⁴ *Consumer's Co-op.*, 419 N.W.2d 211, at 217-218 (footnote 5). Also see, *Fontana Builders, Inc. v. Assurance Co. of Am.*, 882 N.W.2d 398, 414 (Wis. 2016), reconsideration denied (Sept. 12, 2016).

¹²⁵ Presser, 2017, § 1:6.

¹²⁶ For a discussion of the different factors see, John H. Matheson, *Why Courts Pierce: An Empirical Study of Piercing the Corporate Veil*, 7 BERKELEY BUS. L.J. 1 (2010) (provides empirical examination of the piercing factors); Vandekerckhove, 2007, at 82 (citing Powell's “laundry list” of factors to be examined by courts in veil piercing cases); Cathy S. Krendl & James R. Krendl, *Piercing the Corporate Veil: Focusing the Inquiry*, 55 DENVER L.J. 1, 52-55 (1978) (citing factors considered by courts).

¹²⁷ Strasser, 2005, at 654-55 (justifying intra-group veil piercing in circumstances when the parent depletes the subsidiary from assets thus causing it to become insolvent).

corporation, unless they show that such remedy was impossible or would have been useless. Use of the “exhaustion rule” is more common in federal courts in New York and Washington, D.C.¹²⁸

4) Availability of veil piercing in the absence of fraudulent behavior or misconduct

Most state courts insist on a proof of some form of abuse or wrong committed by the owner before piercing the corporate veil. Under the common two/three prong analyses veil piercing is frequently associated with intentional acts of fraud. Nonetheless, other misleading conducts could trigger veil piercing as well.¹²⁹ While some states such as Delaware and Maryland strictly require a showing of a fraudulent behavior, other states that opt for a more liberal approach such as Tennessee and Oregon settle for milder forms of misconduct.

5) Empirical data¹³⁰

Corporate veil piercing rates range from 35% to 49% of the total claim, but the rates and the number of cases examined vary across studies. Average veil piercing rate for corporate groups is 20%, and the U.S. has seen the largest number of veil piercing cases.

3. Bibliography

Primary sources

Adams v. Cape Indus. 2 W.L.R. 657 (C.A.1990)
Aluminum Co of Canada v Toronto (1944) 3 DLR 609
Berkey v. Third Ave. Ry. Co., 155 N.E. 58 (N.Y. 1926)
Bluecorp Pty Ltd (in liq) v ANZ Executors and Trustee Co Ltd (1995) 18 ACSR 566
Briggs v James Hardie & Co Pty, (1989) 16 NSWLR 549
Chatterley v. Omnico 485 P.2d 667 (Utah 1971)
Code de commerce (2010) (France)
Code des sociétés (updated ver. May 7, 2012) (Belgium)
Commissioner of Land Tax v Theosophical Foundation Pty Ltd. (1966) 67 SR (NSW) 70
Companies Law of the People's Republic of China (2014)
Conseil de la Santé (Montréal) v City of Montréal (1994) 3 SCR 29
Creasy v. Breachwood Motors, Ltd., (1993] BCLC
Eagle Air, Inc. v. Corroon & Black Dawson & Co. 648 P.2d 1000 (Alaska 1982)
FMC Finance Corp. v. Murphree, 632 F.2d 413 (5th Cir. 1980)
German Stock Corporation Act (Aktiengesetz)
In Re Polly 2 All E.R. 433 (1996)
Kinney Shoe Corp. v. Polan, 939 F.2d 209 (4th Cir. 1991)
Laya v. Erin Homes Inc., 352 S.E.2d 93 (W.Va. 1986)
Le Car GmbH v Dusty Roads Holdings Ltd., 22 Carswel INS 138 (S.C. 2004)
Lowendahl v. Balt. & Ohio R.R., 287 N.Y.S. 62, 272 N.Y. 360 (1936)
M. Germain, V. Magnier, Traite de droit commercial-Les sociétés commerciales, L.G.D.J. (2009)
McKinney v. Gannett Co., 817 F.2d 659 (10th Cir. 1987)
Merchandise Transport Ltd. v. British Transport Commission, 2 Q.B. 173 (1962)

¹²⁸ See, e.g., Eskimo Pie Corp. v. Whitelawn Dairies, Inc., 266 F. Supp. 79, 82 (S.D.N.Y. 1967); Vuitich v. Furr, 482 A.2d 811, 819 (D.C. 1984).

¹²⁹ Blumberg, 2004; Miller, 1998.

¹³⁰ A number of studies, published in recent decades, engaged in empirical analysis of veil piercing in US courts. The data provided in this table is based upon the following scholarship: John H. Matheson, *Why Courts Pierce: An Empirical Study of Piercing the Corporate Veil*, 7 BERKELEY BUS. L.J. 1 (2010); Robert B. Thompson, *Piercing the Corporate Veil: An Empirical Study*, 76 CORNELL L. REV., 1036 (1991); C. Hodge & Andrew B. Sachs, Empirical Study, *Piercing the Mist: Bringing the Thompson Study into the 1990s*, 43 WAKE FOREST L. REV. 341 (2008); Peter B. Oh, *Veil-Piercing*, 89 TEXAS L. REV. 81 (2010); John H. Matheson, *The Modern Law of Corporate Groups: An Empirical Study of Piercing the Corporate Veil in the Parent-Subsidiary Context*, 87 N.C. L. REV. 1091, 1093-95 (2009).

NJA 1947 s. 647 (Sweden)
 Ontario Ltd. v. Fleischer, 56 O.R.3d 417 (Ont. C.A. 2001)
 Prest v Petrodel Resources Ltd., UKSC 34 (2013)
 Re A Company Ltd., 205 BCLC 333 (C.A. 1985)
 Salomon v. Salomon & Co., A.C. 22 (1897)
 Sea-Land Services Inc. v. Pepper Source, 941 F.2d 519 (7th Cir. 1991)
 Sharrment Pty Ltd. V. Official Trustee in Bankruptcy, 82 ALR 530 (1988)
 Smith, Stone and Knight Ltd. V. Birmingham Corporation, 4 All ER 116 (1939)
 United States v. Milwaukee Refrigerator Transit Co., 142 F. 247, 249 (C.C.E.D. Wis. 1905)
 Walkovszky v. Carlton, 18 N.Y.2d 414 (N.Y. 1966)
 Dutch Civil Code, Book 2 (Holland)
 Osby-Pannan A/B v. Las Verkoopmaatschappij BV, no.443 (N.J. Supreme Court 1982)

Secondary sources

Alting, C. (1995) Piercing the corporate veil in American and German law - Liability of individuals and entities: A comparative view, *Tulsa Journal of Comparative and International Law*, 2:187.
 Anderson, H. (2009) Piercing the veil on corporate groups in Australia: The case for reform, *Melbourne University Law Review*, 33:333.
 Backer, L.C., (2002) *Comparative corporate law: United States, European Union, China, and Japan: cases and materials*, Durham, NC: Carolina Academic Press.
 Ballantine, H.W. (1925) Separate entity of parent and subsidiary corporations, *California Law Review*, 14.
 Ballantine, H.W. (1946) *Ballantine on corporations*, Chicago, IL: Callaghan & Co.
 Blumberg, P.L. (1985) Limited liability and corporate groups, *Journal of Corporation Law*, 11:573.
 Blumberg, P.L. (2004) The transformation of modern corporation Law: The law of corporate groups, *Connecticut Law Review*, 37:605.
 Cataldo, B.F. (1953) Limited liability with one-man companies and subsidiary corporations, *Law and Contemporary Problems*, 18(4):473-504.
 Cheng, T.K. (2011) The corporate veil doctrine revisited: A comparative study of the English and the U.S. corporate veil doctrines, *Boston College International and Comparative Law Review*, 34:329.
 Clarke, R.C. (1986) *Corporate law*, Boston, MA: Little, Brown and Company.
 Dobson, J.M. (1986) Lifting the veil in four countries: The law of Argentina, England, France and the United States, *International and Comparative Law Quarterly*, 35:839.
 Douglas, W.O., Shanks, C.M. (1929) Insulation from liability through subsidiary corporations, *Yale Law Journal*, 39:193
 Easterbrook, F.H., Fischel D.R. (1985) Limited liability and the corporation, *The University of Chicago Law Review*, 52(89).
 Fu, T. (1993) Legal person in China, *American Journal of Comparative Law*, 41:261.
 Hargovan, A., Harris, J. (2007) Piercing the corporate veil in Canada: A comparative analysis. *Company Lawyer*, 28(2):58-62.
 Hargovan, A., Harris, J. (2011) Cutting the Gordian knot of corporate law: revisiting veil Piercing in corporate groups, *Australian Journal of Corporate Law*, 26:39.
 Heintzman, T.G., Kain, B. (2013) Through the looking glass: Recent developments in piercing the corporate veil, *Banking and Finance Law Review*, 28:525.
 Hodge, L.C., Sachs, A.B. (2008) Empirical study, piercing the mist: Bringing the Thompson study into the 1990s, *Wake Forest Law Review*, 43:341.
 Hofstetter, K. (1990) Parent responsibility for subsidiary corporations: Evaluating European trends, *International and Comparative Law Quarterly*, 39(3):577.
 Horton, R.A. (1966) Liability of corporation for torts of subsidiary, *American Law Reports*, 7:1343.
 Huang, H. (2012) Piercing the corporate veil in China: Where is it now and where is it heading, *American Journal of Comparative Law*, 60:743.
 Landers, J.M. (1975) A unified approach to parent, subsidiary, and affiliate questions in bankruptcy, *The University of Chicago Law Review*, 42: 589.
 Liability of a corporation for acts of a subsidiary or affiliate (1958), *Harvard Law Review*, 71:1122.

- Matheson, J.H. (2008) The modern law of corporate groups: An empirical study of piercing the corporate veil in the parent-subsidary context. *North Carolina Law Review*, 87:1091.
- Matheson, J.H. (2010) Why courts pierce: An empirical study of piercing the corporate veil, *Berkeley Business Law Journal*, 7:1.
- Miller, S.K. (1998) Piercing the corporate veil among affiliated companies in the European community and in the U.S.: A comparative analysis of U.S., German, and U.K. veil piercing approaches, *American Business Law Journal*, 36:73.
- OECD (1980) Responsibility of Parent Companies for their Subsidiaries.
- Oh, P.B. (2010) Veil-piercing, *Texas Law Review*, 89:81.
- Oh, P.B. (2013) Veil-piercing unbound, *Boston University Law Review*, 93:89.
- Pardinas, C.M. (1991) The enigma of the legal liability of transnational corporations, *Suffolk Transnational Law Journal*, 14:405
- Posner, R.A. (1975) The rights of creditors of affiliated corporations, *The University of Chicago Law Review*, 43: 499.
- Presser, S.B. (2015) Piercing the corporate veil - Database (Westlaw), *Thomson Reuters*.
- Ramberg, R. (2011) Piercing the corporate veil: Comparing the United States with Sweden, *New England Journal of International and Comparative Law*, 17:159.
- Ramsay, I.M., Noakes, D.B. (2001) Piercing the corporate veil in Australia, *Company and Securities Law Journal*, 19:250.
- Ramseyer, J.M., Nakazato, M. (1999) *Japanese law: An economic approach*, Chicago, IL: University of Chicago Press.
- Schall, A. (2016) The new law of piercing the corporate veil in the UK, *European Company and Financial Law Review*, 13(4): 549.
- Schwartz, J.A. (2008) Piercing the corporate veil of an alien parent for jurisdictional purposes: A proposal for a standard that comports with due process, *California Law Review* 96: 731.
- Shishido, Z. (2014) *Enterprise law: contracts, markets, and laws in the US and Japan*, Northampton, MA: Edward Elgar Publishing, Inc.
- Siems, M.M., Cabrelli, D. (2013) *Comparative company law: A case-based approach*, Portland, OR: Hart Publishing.
- Squire, R. (2011) Strategic liability in the corporate group, *The University of Chicago Law Review*, 78:605.
- Strasser, K.A. (2005) Piercing the veil in corporate groups, *Connecticut Law Review*. 37:637-641.
- Thompson, R.B. (1991) Piercing the corporate veil: An empirical study, *Cornell Law Review*, 76:1036.
- Vandekerckhove K. (2007) *Piercing the corporate veil*. The Netherlands: Kluwer Law International.
- Wu, M. (2007) Piercing China's corporate veil: Open questions from the new company law, *Yale Law Journal*, 117:328.