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The Modern Law of Corporate Groups: An Empirical Study of Piercing the Corporate Veil in the Parent-Subsidiary Context

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THE MODERN LAW OF CORPORATE GROUPS: AN EMPIRICAL STUDY OF PIERCING THE CORPORATE VEIL IN THE PARENT- SUBSIDIARY CONTEXT*

JOHN H. MATHESON**

Today, massive corporations—both national and international—dominate financial and commercial activities, exercising enormous economic power. The standard organizational structure for these businesses has a parent corporation as the sole shareholder of multiple, separately incorporated operating subsidiaries (or layers of subsidiaries) in a corporate group.

One particular application of the law of corporate groups entails dealing with the ramifications of subsidiary insolvency. Given the massive financial assets of many multinational parent corporations, actions to ignore the legal separateness of a corporate subsidiary of a parent company offer some of the biggest potential payoffs for claimants. In today's global economic world, the primary impact of piercing theory and application comes in the context of these corporate groups.

Empirical analysis treating the application of substantive piercing doctrine to the parent-subsidary context is virtually nonexistent. This Article begins to fill that void. The underlying project is an empirical analysis of piercing the corporate veil in the parent-subsidary context. The Article's first objective is to describe statistically the propensities of modern courts for piercing the corporate veil in the parent-subsidary situation. Its second objective is to use advanced statistical techniques to explore potential causal relationships regarding piercing the veil in the parent-subsidary context. Both of these objectives are unique to this study. The hope is that courts, commentators, and practitioners may be better equipped to understand and predict

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under what circumstances a court is likely to exercise its equitable discretion and hold a parent company liable.

Some of the empirical results of this study, even on a descriptive level, are startling. Among the statistically significant findings are:

- *Courts seldom pierce the subsidiary's corporate veil and do so much less often than in the overall universe of piercing cases, including the classic case of a small business with one or a few individual owners.*
- *Appellate courts pierce approximately twice as often as trial courts.*
- *Entity plaintiffs are more than twice as likely as individual plaintiffs to successfully pierce the subsidiary's veil.*
- *Courts are three times more likely to pierce in a contract case than in a tort case.*

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INTRODUCTION

The limited liability entity called the “corporation” has been both reveled and reviled. One early commentator described it as “the greatest single discovery of modern times,” so that “[e]ven steam and electricity are far less important than the limited liability corporation, and they would be reduced to comparative impotence without it.”¹ Yet, another early analyst attacked corporate limited liability as a “mode of swindling, quite common and honourable in these United States” and “a fraud on the honest and confiding part of the public.”² The debate continues unabated, with some current academics calling for bolstering limited liability, while others advocate limiting or eliminating corporate limited liability altogether.³

Today, massive corporations, both national and international, dominate financial and commercial activities, exercising enormous

1. NICHOLAS MURRAY BUTLER, WHY SHOULD WE CHANGE OUR FORM OF GOVERNMENT? 82 (1912). Butler was then serving as President of Columbia University.

2. THOMAS COOPER, LECTURES ON THE ELEMENTS OF POLITICAL ECONOMY 247, 250 (A.M. Kelley 1971) (1829).

3. Compare, e.g., Daniel J. Morrissey, *Piercing All the Veils: Applying an Established Doctrine to a New Business Order*, 32 J. CORP. L. 529, 533 (2007) (arguing that, because “LLCs and LLPs offer their members and partners more direct management power than usually afforded shareholders,” there is “greater justification to hold them personally accountable for the obligations of their businesses”), with Nina A. Mendelson, *A Control-Based Approach to Shareholder Liability for Corporate Torts*, 102 COLUM. L. REV. 1203, 1271–79 (2002) (espousing unlimited liability for torts in the parent subsidiary context), and Stephen M. Bainbridge, *Abolishing LLC Veil Piercing*, 2005 U. ILL. L. REV. 77, 79 (2005) (“[T]he case against veil piercing applies with equal force to LLCs as to corporations.”).

economic power.⁴ The standard organizational structure for these businesses has a parent corporation as the sole shareholder of multiple, separately incorporated operating subsidiaries.⁵ As with the formation of any limited liability entity, a primary purpose for this parent-subsidiary organizational structure is to minimize the potential liability of the parent company for the operations and potential claims against its operating subsidiaries.⁶ The “law of corporate groups” refers to the application of the law to these multi-entity business organizations.⁷

One particular application of the law of corporate groups entails dealing with the ramifications of subsidiary insolvency. Global competition, product and management failures, economic fluctuations, government regulation, tort claims, and environmental cleanups are just some of the circumstances and events that may imperil the financial life of a subsidiary company. When a subsidiary corporation is subject to significant unsatisfied claims or impending bankruptcy, claimants may call upon the courts to exercise traditional equitable powers to ignore the legal separateness of the subsidiary

4. For example, more than half of the world’s one hundred largest economic entities at the beginning of the twenty-first century were corporations, not countries. See SARAH ANDERSON & JOHN CAVANAGH, TOP 200: THE RISE OF CORPORATE GLOBAL POWER 3 (1996), http://www.rachel.org/files/document/Top_200_The_Rise_of_Corporate_Global_Power.pdf. Using different measures, the United Nations Conference on Trade and Development (“UNCTAD”) reported in 2002 that twenty-nine of the world’s largest economic entities were transnational corporations. Press Release, UNCTAD, Are Transnationals Bigger Than Countries? (Dec. 8, 2002), <http://www.unctad.org/Templates/webflyer.asp?docid=2426&intItemID=2079&lang=1>.

5. As of 2007, there were an estimated 77,000 transnational corporations in the world, with more than 770,000 foreign affiliates. UNCTAD, *The Universe of the Largest Transnational Corporations*, ¶ 10, U.N. Doc. UNCTAD/ITE/IIA/2007/2 (2007). A sampling of a dozen companies in the top fifty of the 2008 Fortune Global 500 shows a range of subsidiaries from 9 to 2,259, with an average of 399.75. See *World’s Largest Corporations: Global 500*, FORTUNE, July 21, 2008, at 165, available at http://money.cnn.com/magazines/fortune/global500/2008/full_list/. The companies sampled and the number of subsidiaries are ExxonMobil (167), Royal Dutch Shell (212), BP (62), Toyota Motor (35), General Electric (86), Citigroup (2,259), HSBC Holdings (40), Bank of America (1,174), UBS (123), JP Morgan Chase (384), American Intl. Group (246), and Royal Bank of Scotland (9). *Id.*

6. For a discussion of the evolution of corporateness and limited liability, see John H. Matheson & Brent A. Olson, *A Call for a Unified Business Organization Law*, 65 GEO. WASH. L. REV. 1, 5–9 (1996).

7. The concept and label of the law of corporate groups was popularized by PHILLIP I. BLUMBERG, *THE LAW OF CORPORATE GROUPS: PROCEDURAL PROBLEMS IN THE LAW OF PARENT AND SUBSIDIARY CORPORATIONS* (1983); see also Phillip I. Blumberg, *The Transformation of Modern Corporation Law: The Law of Corporate Groups*, 37 CONN. L. REV. 605, 607 (2005) [hereinafter Blumberg, *Transformation*] (discussing the rise of the corporate group as a response to the industrial revolution).

and to hold the parent company liable for the subsidiary's debts. Given the massive financial assets of many multinational parent corporations, actions seeking to ignore the legal separateness of a corporate subsidiary of a parent company offer some of the biggest potential payoffs for claimants. This may be part of the reason that piercing the corporate veil is "the most litigated issue in corporate law."⁸ In any event, there is "a sizable and increasing body of literature suggesting that the real focus of the piercing problem is in the area of parent and subsidiary law."⁹

The common law of piercing the corporate veil, generally recognized by both courts and commentators as an incomprehensible mess,¹⁰ is then brought to bear on this increasingly important category of legal disputes. Unfortunately, although piercing the corporate veil may be heavily litigated, little empirical research has investigated the circumstances under which courts actually pierce the corporate veil.¹¹ In particular, despite academic calls for a separate analysis of the corporate group context,¹² with its resulting expanded or unlimited

8. Robert B. Thompson, *Piercing the Veil Within Corporate Groups: Corporate Shareholders as Mere Investors*, 13 CONN. J. INT'L L. 379, 383 (1999).

9. STEPHEN B. PRESSER, *PIERCING THE CORPORATE VEIL* § 1:7, at 1-45 (1991).

10. Legal luminaries agree that this standard is muddled. *Compare* *Berkey v. Third Ave. Ry. Co.*, 155 N.E. 58, 61 (N.Y. 1926) (Cardozo, J.) ("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."), *with* ROBERT CHARLES CLARK, *CORPORATE LAW* § 2.1, at 38 (1986) ("Do you notice anything intellectually disturbing about this [standard piercing-the-corporate-veil] formulation? That's right; it's *vague*. It hardly gives you any concrete idea about which conduct does or does not trigger the doctrine—not enough of an idea, at least, to give you the ability to counsel clients in a meaningful way."); *see also* Douglas C. Michael, *To Know a Veil*, 26 J. CORP. L. 41, 41 (2000) ("Most Commentators recognize that it is jurisprudence without substance."). For a discussion of the state of judicial piercing analysis, *see* John H. Matheson & Raymond B. Eby, *The Doctrine of Piercing the Veil in an Era of Multiple Limited Liability Entities: An Opportunity to Codify the Test for Waiving Owners' Limited-Liability Protection*, 75 WASH. L. REV. 147, 173–82 (2000).

11. The prior empirical work on substantive piercing involved simple descriptive statistics—that is, a counting and categorization of cases, with no statistical analysis. *See, e.g.*, Robert B. Thompson, *Piercing the Corporate Veil: An Empirical Study*, 76 CORNELL L. REV. 1036, 1044–47 (1991). In 1999, Professor Thompson purported to extend his original database through 1996 but once again simply counted and categorized cases. Thompson, *supra* note 8, at 385. In 2008, two authors, apparently then students, purported to update Thompson's original study by considering a "random sampling of cases reported in Westlaw from January 1, 1986 through December 31, 1995." Lee C. Hodge & Andrew B. Sachs, *Empirical Study, Piercing the Mist: Bringing the Thompson Study into the 1990s*, 43 WAKE FOREST L. REV. 341, 347 (2008); *see also* Geoffrey Christopher Rapp, *Preserving LLC Veil Piercing: A Response to Bainbridge*, 31 J. CORP. L. 1063, 1068–69 (2006) (addressing sixty-one LLC piercing cases from 1997 to 2005).

12. *See infra* notes 29–38 and accompanying text.

parent liability, empirical analysis treating the application of the substantive piercing doctrine to the parent-subsidiary context is virtually nonexistent.

The purpose of this Article is to shed empirical light on an area of much rhetorical heat. The underlying project is an empirical analysis of piercing the corporate veil in the parent-subsidiary context. This Article's first objective is to statistically describe the propensities of modern courts for piercing the corporate veil in the parent-subsidiary situation. Its second objective is to use advanced statistical techniques to explore potential causal relationships regarding piercing the veil in the parent-subsidiary context. To the extent they are focused on the parent-subsidiary context, both of these objectives are unique to this study. The hope is that courts, commentators, and practitioners may be better equipped to understand and predict under what circumstances a court is likely to exercise its equitable discretion and hold a parent company liable.

This study has international implications as well. Many multinational corporations headquartered outside of the United States operate within the United States through separately incorporated subsidiaries. These subsidiaries, like all other American corporations, are incorporated under state law. When claims are brought against the American subsidiary, claimants may seek to pierce the subsidiary's corporate veil to hold the multinational parent liable. In these circumstances, courts in the United States generally apply the law of the state of the subsidiary's incorporation to the piercing determination.¹³ This choice of law principle, referred to as the internal affairs doctrine, dictates that the decision to pierce turns on a review of the common law of the subsidiary's state of incorporation. Thus, state law will ultimately determine the liability of a German, French, British, Chinese, or Indian parent company. Beyond this primary functional application to international corporations is the considerable impact of U.S. common law on

13. See, e.g., *United States v. Bestfoods*, 524 U.S. 51, 53 (1998) (upholding the principle of separate corporateness for parent and subsidiary, applying the presumptive application of the common law internal affairs doctrine, and stating that federal piercing law does not apply simply because a federal statute, in this case CERCLA, is involved); *Judson Atkinson Candies, Inc. v. Latini-Hohberger Dhimantec*, 529 F.3d 371, 378-79 (7th Cir. 2008) (applying the internal affairs doctrine to choice of law decision when considering whether to pierce the corporate veil in parent-subsidiary situation); see also *First Nat'l City Bank v. Banco Para El Comercio Exterior de Cuba*, 462 U.S. 611, 622 (1983) (refusing to give "conclusive effect to the law of the chartering state," Cuba, in an international case involving a Cuban banking institution).

foreign legal systems, many of which draw heavily from American concepts and court decisions.¹⁴

This empirical project is unique. Although some have undertaken empirical counting of piercing decisions previously,¹⁵ this study is the first to examine the concededly distinct question of substantive piercing in the corporate group context. The empirical results of this study, even on a descriptive level, are startling. Among the statistically significant findings are:

- Courts seldom pierce the subsidiary's corporate veil, and do so much less often than in the overall universe of piercing cases, including the classic case of a small business with either one or a few individual owners.
- Appellate courts pierce approximately twice as often as trial courts.
- Entity plaintiffs are more than twice as likely as individual plaintiffs to successfully pierce the subsidiary's veil.
- Courts are three times more likely to pierce in a contract case than in a tort case.

In addition, this project is the first to apply to substantive piercing the techniques of statistical logistic regression analysis, a method generally recognized as a necessary and effective means of understanding empirical data in a multi-factor context.

Part I presents a brief discussion of the history of veil piercing, the disparate viewpoints surrounding piercing the corporate veil and enterprise liability in the parent-subsidary context, and a review of prior empirical piercing research. Part II discusses the research design and explains the methodology employed in this study for capturing the relevant data. Part III presents the empirical results of this study, both in descriptive and in analytical form, including

14. See KAREN VANDEKERCKHOVE, *PIERCING THE CORPORATE VEIL* 28 (2007) (observing, as part of an international study of piercing systems, that “[i]t is fair to consider the United States as the origin of the doctrine of corporate veil piercing”). See generally Sandra K. Miller, *Piercing the Corporate Veil Among Affiliated Companies in the European Community and in the United States: A Comparative Analysis of U.S., German and U.K. Veil-Piercing Approaches*, 36 AM. BUS. L.J. 73, 79–85 (1998) (discussing the relative hesitancy or readiness with which various foreign courts approach the decision to pierce the corporate veil); Binda Sahni, *The Interpretation of the Corporate Personality of Transnational Corporations*, 15 WIDENER L.J. 1 (2005) (examining how courts in various foreign jurisdictions, including the United Kingdom, Australia, Argentina, and India, apply current piercing laws).

15. See *infra* notes 39–49 and accompanying text.

insights brought to bear by logistic regression analysis. Finally, this Article sets forth some conclusions regarding the application of piercing and related doctrines in the parent-subsidary context.

I. PIERCING THEORY, ENTERPRISE LIABILITY, AND PRIOR EMPIRICAL WORK

A. *Piercing and Enterprise Liability Theory*

Perhaps the single most salient characteristic of the business corporation, indeed probably its legal *raison d'être*, is the presumptive limited liability afforded to its owners, called shareholders or stockholders. The modern corporation, as a creature of statute, exists as a legal person separate from its owners.¹⁶ It employs agents and employees, contracts with third parties, commits torts, makes philanthropic donations, grows and develops, and ultimately may merge, be acquired, or dissolve. Corporate assets are available to satisfy corporate debts and obligations. Shareholders are shielded from these claims by recognition of the corporation's separate legal existence.¹⁷

The common-law courts have never been completely comfortable with the concept of corporate limited liability. Although use of the corporate form for the operation of a business statutorily shields the personal assets of its shareholders from the claims of the business's creditors, a court may be asked to ignore this liability shield when a claimant finds the corporation unable to pay its debts. In order to impose such shareholder liability, the claimant asks the court equitably to disregard or "pierce" the statutory limited-liability shield so that the corporate debts might be satisfied out of the shareholders' personal assets. Absent a judicial decision to pierce the corporate veil in this manner, the limited liability created by the applicable corporate statute stays intact, and the creditor must shoulder the loss.¹⁸

16. The existence of a corporate person necessarily involves the recognition of the three following principles: (1) the corporation is a person distinct from its members; (2) the property of the corporation is distinct from the property of its members; and (3) the property of its members cannot be taken in execution for the debt of the corporation and vice versa. See 3 WILLIAM S. HOLDSWORTH, A HISTORY OF ENGLISH LAW 482 (1942).

17. See, e.g., REVISED MODEL BUS. CORP. ACT § 6.22(b) (2008) ("Unless otherwise provided in the articles of incorporation, a shareholder of a corporation is not personally liable for the acts or debts of the corporation . . ."). For a discussion of the evolution of corporateness and limited liability, see Matheson & Olson, *supra* note 6, at 5–9.

18. For a discussion of the elements of the common law application of the piercing doctrine generally, see Matheson & Eby, *supra* note 10, at 173–82.

Even though veil piercing is often central to litigation, the classical doctrine makes it difficult to predict how a court will rule. Professor Blumberg has described the classical theory of veil piercing from subsidiary to parent, stating:

Traditional “piercing” jurisprudence rests on a demonstration of three fundamental elements: the subsidiary’s lack of independent existence; the fraudulent, inequitable, or wrongful use of the corporate form; and a causal relationship to the plaintiff’s loss. Unless each of these three elements has been shown, courts have traditionally held “piercing” unavailable.¹⁹

Unfortunately, the tests used by the courts to determine the existence of these elements are vague and inconsistent. Application of these tests often consists largely of lists that courts recite with little analysis or justification.²⁰ A sample list from one court recites:

[1] insufficient capitalization for purposes of corporate undertaking, [2] failure to observe corporate formalities, [3] nonpayment of dividends, [4] insolvency of debtor corporation at time of transaction in question, [5] siphoning of funds by dominant shareholder, [6] nonfunctioning of other officers and directors, [7] absence of corporate records, and [8] existence of corporation as merely a facade for individual dealings.²¹

Yet, courts do little to clarify the relative weight given to each factor or how they interact. In the typical traditional piercing analysis, the presence of “[a]n unspecified number of these factors, combined with an element of injustice or fundamental unfairness,” could justify

19. Blumberg, *Transformation*, *supra* note 7, at 612.

20. The failure of courts’ attempts to articulate a single test for disregarding the corporate form and holding the owners of a corporation responsible for the business’s financial obligations has resulted in a number of overlapping lists of factors that are passed off as tests. See, e.g., *Richard v. Bell Atl. Corp.*, 946 F. Supp. 54, 61 (D.D.C. 1996) (setting out four different tests); *Laya v. Erin Homes, Inc.*, 352 S.E.2d 93, 98–99 (W. Va. 1986) (listing nineteen factors); *Victoria Elevator Co. v. Meriden Grain Co.*, 283 N.W.2d 509, 512 (Minn. 1979) (listing eight factors).

21. *Victoria Elevator*, 283 N.W.2d at 512. Even casual consideration of this list shows its infirmities. Some factors, such as “nonpayment of dividends,” are standard operating procedure and smart business practice for the small business with individual owners subject to personal taxation of distributions. Some factors are seemingly contradictory, such as “nonpayment of dividends” and “siphoning of funds.” A corporation can only pay out money to the shareholders or not. Yet, no matter the corporation’s choice, a court may find fault with its decision. Other factors, such as “existence of corporation as merely a facade for individual dealings,” are not factors at all but merely conclusions. Finally, other factors, such as “failure to observe corporate formalities,” seem irrelevant to the decision to ignore statutorily prescribed limited liability. See Matheson & Eby, *supra* note 10, at 173–76.

disregarding the corporation and holding the owners liable for a claim that will otherwise go unsatisfied.²²

Commentators have frequently criticized the manner in which courts apply the piercing doctrine, by relying upon conclusory terms, as opposed to a formal framework, and thus producing results-oriented decisions.²³ From an academic perspective, courts often provide little analysis of underlying facts and fail to discuss the policy rationales behind the use of specific piercing factors or even to clearly articulate specific relevant factors in their determinations. Veil piercing “seems to happen freakishly. Like lightning, it is rare, severe, and unprincipled.”²⁴ This ad hoc judicial approach to piercing does not diminish the desire of practitioners and corporate managers to understand and predict how courts will respond in piercing cases. More fundamentally, these disparate judicial results and apparent inconsistencies demonstrate the need for the more rigorous empirical and statistical analysis of actual results that this Article undertakes.

This lack of clarity has led commentators to complain that the courts are merely copying a template of variables articulated in previous cases, which the courts then apply in an inconsistent manner.²⁵ This criticism gives rise to several questions: What factors do courts articulate? What factors do they actually use in their determination? What factors are “the big ones”? And is the decision to pierce generally predicated upon whether the corporate form has been used to commit a fraud or misrepresentation? This latter factor of fraud or misrepresentation is the linchpin of the analysis proffered by Dean Robert Clark.²⁶ According to Clark, piercing cases represent a subset of a broader spectrum of fraudulent conveyance law.²⁷ When

22. Matheson & Eby, *supra* note 10, at 173 n.127.

23. See, e.g., Stephen M. Bainbridge, *Abolishing Veil Piercing*, 26 J. CORP. L. 479, 513 (2001) (“Judicial opinions in this area tend to open with vague generalities and close with conclusory statements with little or no concrete analysis in between. There simply are no [sic] bright-line rules for deciding when courts will pierce the corporate veil.”).

24. Frank H. Easterbrook & Daniel R. Fischel, *Limited Liability and the Corporation*, 52 U. CHI. L. REV. 89, 89 (1985). Stephen Bainbridge has complained that its use is “rare, unprincipled, and arbitrary,” and is also completely lacking in “bright-line rules for deciding when courts will pierce the corporate veil.” Bainbridge, *supra* note 23, at 535, 513.

25. See Easterbrook & Fischel, *supra* note 24, at 109 (arguing that veil-piercing tests used by the courts are arbitrary and unhelpful); Davis Millon, *Piercing the Corporate Veil, Financial Responsibility, and the Limits of Limited Liability*, 56 EMORY L.J. 1305, 1327 (2007) (describing veil-piercing factors as an “unweighted laundry list”).

26. CLARK, *supra* note 10, at 38.

27. See *id.* at 39 (“[T]he doctrines of equitable subordination and piercing the corporate veil are often applications of the same basic principles that underlie fraudulent conveyance law.”).

the corporation is used to escape corporate obligations rather than advance productive purposes, Clark would predict that courts will pierce the veil.²⁸

Many commentators argue that whatever the weaknesses of the current judicial tests for piercing the corporate veil generally, the case for disregarding the corporate entity is more compelling when the shareholder itself is another corporate entity—namely, that the corporations exist in the parent-subsidary context.²⁹ They may concede that the grant of limited liability to *individual* investors can advance economic policies by, among other things, encouraging a broader base of passive participants in business investment and funding.³⁰ Yet, they argue limited liability in the parent-subsidary context is inappropriate because the principal justification for limited liability—encouraging investors to provide capital for new business ventures—does not apply to the parent-subsidary context.³¹

In the typical parent-subsidary situation, the parent corporation is generally the sole shareholder and provides all of the capital investment in the subsidiary.³² “Even if . . . a parent corporation is

28. *Id.* at 71–81.

29. See, e.g., Kurt A. Strasser, *Piercing the Veil in Corporate Groups*, 37 CONN. L. REV. 637, 664–65 (2005) (asserting that the current justifications for limited liability do not apply in the corporate group context); John A. Swain & Edwin E. Aguilar, *Piercing the Veil to Assert Personal Jurisdiction Over Corporate Affiliates: An Empirical Study of the Cannon Doctrine*, 84 B.U. L. REV. 445, 446 (2004).

30. See, e.g., David W. Leebron, *Limited Liability, Tort Victims, and Creditors*, 91 COLUM. L. REV. 1565, 1566 (1991) (describing “the traditional corporate and economic justifications for limited liability” as “the need to encourage investment in productive, albeit risky, activities”). But see Henry Hansmann & Reinier Kraakman, *Toward Unlimited Liability for Corporate Torts*, 100 YALE L.J. 1879, 1879 (1991) (observing that limited liability “creates incentives for excessive risk-taking by permitting corporations to avoid the full costs of their activities”). Following the Industrial Revolution, capital-intensive businesses required substantial expenditures beyond the means of the typical entrepreneur, requiring the infusion of outside investment. See Blumberg, *Transformation*, *supra* note 7, at 607. Granting limited liability to those who contributed capital encouraged investment because people could invest without risking their full personal net worth. *Id.* The development of modern capital markets depended on limited liability because, although investors may be willing to risk their entire net worth in businesses they themselves operate, they are not willing—absent limited liability—to invest in businesses that they do not operate or closely monitor. *Id.* Limited liability continues to enable venture capitalists and casual investors to invest in diverse enterprises without incurring the excessive costs necessary to monitor each enterprise closely.

31. See Phillip I. Blumberg, *Limited Liability and Corporate Groups*, 11 J. CORP. L. 573, 574–75 (1986) (criticizing corporations’ frivolous creation of subsidiaries to insulate themselves from liability).

32. There may be unusual situations, such as joint ventures, where there are two or even several entity shareholders, where one of them may or may not hold a majority of the subsidiary’s equity interest.

not insulated from the liabilities of its subsidiaries, the ultimate individual shareholders [of the parent] would still be protected.”³³ Judge Frank Easterbrook and Professor Daniel Fischel stated their conclusions about piercing in this parent-subsidiary context as a function of economic analysis:

Courts are more likely to allow creditors to reach the assets of shareholders where limited liability provides minimal gains from improved liquidity and diversification, while creating a high probability that a firm will engage in a socially excessive level of risk taking [One] major category of piercing cases involves parent-subsidiary combinations, where creditors of the subsidiary attempt to reach assets of the parent. Courts’ greater willingness to allow creditors to reach the assets of corporate as opposed to personal shareholders is again consistent with economic principles.³⁴

Similarly, economic analysis knows no political boundaries. One international scholar summarizes the transnational case for veil piercing in corporate groups as follows:

Particularly with respect to corporate groups, it is frequently opined that the economic arguments supporting limited liability are premised on the idea of the single corporation with its individual investors. These arguments would not apply in a situation where a parent corporation actively engages in the business together with its subsidiaries. In such a situation there are no passive investors to be protected, there usually is no separation of ownership and control, there is no need to encourage widespread distribution of shares and there are no information and monitoring costs. Parent corporations are able to diversify their portfolio and spread the risks themselves; in addition, financial institutions as investors, contrary to individual investors, have the same ability to diversify. Also the argument relating to the efficiency of the capital markets is less relevant when all of the subsidiary’s shares are owned by the parent. Finally, the enforcement costs of creditors are less in

33. Swain & Aguilar, *supra* note 29, at 446.

34. See Easterbrook & Fischel, *supra* note 24, at 109–11; see also Fred S. McChesney, *Doctrinal Analysis and Statistical Modeling in Law: The Case of Defective Incorporation*, 71 WASH. U. L.Q. 493, 512 (1993) (“Under the Easterbrook and Fischel model, limited liability would be upheld rarely in parent-subsidiary cases.”). As the statistics in this Article will demonstrate, Easterbrook and Fischel’s factual assertion that courts have a “greater willingness to allow creditors to reach the assets of corporate as opposed to personal shareholders,” Easterbrook & Fischel, *supra* note 24, at 110–11, is not borne out by the facts.

corporate groups since creditors can proceed directly against the parent instead of numerous stockholders. As a result, both from the historical and from the economic perspective, limited liability and corporate groups would not constitute a good marriage.³⁵

Thus, the law and economics perspective is clear: the social or economic utility of limited liability for businesses in general does not apply when those businesses are operated in a parent-subsidary or other corporate group configuration. While this conclusion by itself may not be startling, the fact that it is widely shared by scholars not inclined to the law and economics mode of analysis is significant.

Indeed, the pressure for more expansive, if not unlimited, parent liability in the parent-subsidary context has resulted in legal commentators arguing for the courts to impose a form of “enterprise liability.” They note that a few courts have imposed liability on the modern corporate group if it is determined that the parent and subsidiary operate as one “single business entity.”³⁶ In essence, acceptance of this theory rests on the determination of a single factor, namely, whether the parent so dominates the subsidiary’s business operations that the subsidiary does not have a separate existence. If so found, “the ‘excessive’ exercise of ‘control’ depriving a subsidiary or other subservient party of any significant decision-making power suffices for the application of enterprise law in those jurisdictions

35. VANDEKERCKHOVE, *supra* note 14, at 9.

36. For example, in a 2005 symposium sponsored by the Connecticut Law Review in honor of Dean Philip I. Blumberg, Symposium, *The Changing Face of Parent and Subsidiary Corporation: Entity vs. Enterprise Liability*, 37 CONN. L. REV. 605, 605–817 (2005), the authors variously called for more expanded liability for parent corporations, echoing Dean Blumberg’s mantra that, “‘piercing the veil’ has proven a failure.” Blumberg, *Transformation*, *supra* note 7, at 611. Kurt Strasser summarized the authors’ calls for expanded liability, stating:

This “single business enterprise” liability coexists as a minor but apparently durable tributary to the main stream of veil piercing liability. By looking to the whole business, rather than its constituent separate corporate entities, “single business enterprise” avoids completely a direct discussion of the policies of limited liability as it focuses on the business enterprise rather than separate liability rules for the individual corporate entity and its corporate parent shareholder. The doctrine could theoretically serve as a vehicle to supplant all veil piercing law for corporate groups, but this has not been its history and is not its current prospect. “Single business enterprise” doctrinal merits are appealing, for the doctrine’s view of the structure of the modern large business corporate group is generally an accurate one. However, there appears to be no widespread movement to embrace this vision beyond its adoption in Texas and Louisiana and the limited application in a few other states it has seen thus far.

Strasser, *supra* note 29, at 647.

accepting the ‘single-factor’ form of ‘piercing’ jurisprudence.”³⁷ Even while pointing out that some cases have applied an expanded or single-factor liability test, enterprise liability’s staunchest proponent, Dean Blumberg, candidly admits that, “[n]otwithstanding this erosion, ‘traditional three-factor piercing’ continues to dominate American law.”³⁸

Nevertheless, whether explored in terms of traditional veil-piercing precepts or in terms of expanded enterprise or single-business entity liability, the debate over what the courts should be doing must proceed in light of clear facts about what they actually are doing. The purpose of this Article is not to take sides as to whether or not limited liability should be curtailed in the corporate group context. Rather, the purpose here is to systematically determine what modern courts have *actually* been doing in terms of holding parent corporations liable for the acts and obligations of their subsidiaries. What is sought is a clear, focused, and unbiased presentation of when the courts hold parent companies responsible for the liabilities of their subsidiaries, and identification of what factors are important when they do so. Exploration of these empirical results must inform the debate surrounding limited liability, veil piercing, and enterprise liability.

B. Previous Empirical Efforts

Empirical study of piercing data, like that in many other areas of legal discourse, is still in relative infancy. As discussed below, the few

37. Blumberg, *Transformation*, *supra* note 7, at 610. In the bankruptcy context, the same result may be achieved through what is sometimes referred to as “substantive consolidation.” See William H. Widen, *Corporate Form and Substantive Consolidation*, 75 GEO. WASH. L. REV. 237 (2007). This raises the question whether the power to control the subsidiary, interlocking directorates, common corporate officers, and economic and functional integration is enough in the parent-subsidiary context to pierce the corporate veil. From one perspective, it would seem not to be, as these factors can be seen as relatively normal and legitimate consequences of the single shareholder nature of the parent-subsidiary relationship. See, e.g., DAVID SUGARMAN & GUNTHER TEUBNER, REGULATING CORPORATE GROUPS IN EUROPE 317 (1990) (“The [corporate] group enterprise is . . . the ‘most efficient and flexible organizational form for business operations in the present conditions of market and society.’”). Nevertheless, such an enterprise liability or single-factor theory does have some critics. See, e.g., Marilyn Montano, *The Single Business Enterprise Theory in Texas: A Singularly Bad Idea?*, 55 BAYLOR L. REV. 1163 1187–1200 (2003); Stephen B. Presser, *The Bogalusa Explosion, “Single Business Enterprise,” “Alter Ego,” and Other Errors: Academics, Economics, Democracy, and Shareholder Limited Liability: Back Towards a Unitary “Abuse” Theory of Piercing the Corporate Veil*, 100 NW. U. L. REV. 405, 415–27 (2006).

38. Blumberg, *Transformation*, *supra* note 7, at 613.

efforts to date, while helpful, have limitations that relate both to the database and the research tools employed.

In 1991, Professor Robert Thompson undertook a watershed categorization of cases involving piercing the corporate veil.³⁹ The Thompson study examined almost 1,600 cases pertaining to piercing the corporate veil,⁴⁰ reporting that the corporate veil is pierced in about forty percent of reported cases.⁴¹ The major focus of the Thompson study was substantive veil piercing, although he included jurisdictional cases as well as substantive piercing cases, and statutory cases as well as common law ones.⁴²

Professor Thompson's study became a standard reference point in both business organization casebooks and in subsequent articles relating to veil piercing. Although the Thompson study was an important beginning, it was aimed primarily at simple case counting and categorization. Thus, it suffered from significant statistical limitations. As Professor Fred McChesney stated in his landmark article identifying the limitations of case counting alone, "the difficulty of identifying standards in any line of cases . . . may lie as much in the deficiencies of legal research techniques as in any judicial 'fuzziness.'"⁴³ In that vein, he found prior analytical and empirical work on piercing wanting:

Though clearly an advance in the level of corporate law discourse, the rethinking begun by Clark and by Easterbrook and Fischel and carried forward by Thompson is not wholly satisfactory methodologically. Merely counting cases and sorting them into various pigeonholes according to expressed judicial rationales (the process used by Thompson for veil-piercing cases and by Frey in studying defective incorporation) suffers from at least two deficiencies relevant to analyzing defective incorporation.⁴⁴

39. Thompson, *supra* note 11, at 1038.

40. The study asserts that "all Westlaw cases through 1985 concerning the issue of piercing the corporate veil" were examined. *Id.* at 1044.

41. *See id.* at 1048.

42. *Id.* at 1044-45.

43. McChesney, *supra* note 34, at 495. Professor McChesney's article was "the first to use multiple regression to discern the separate legal reasons for judicial decisions in a purely common-law domain." *Id.* at 519. The statistical techniques McChesney used have been employed subsequently by other authors. *See, e.g.,* Larry A. DiMatteo & Bruce Louis Rich, *A Consent Theory of Unconscionability: An Empirical Study of Law in Action*, 33 FLA. ST. U. L. REV. 1067, 1093-94 (2006); Swain & Aguilar, *supra* note 29, at 449-50.

44. McChesney, *supra* note 34, at 515.

According to Professor McChesney, these deficiencies relate to the fact that judges, in deciding cases, may not always explain the complete rationale for their decisions, and it is necessary to look at underlying fact patterns in order to understand a court's decision.⁴⁵ Law students and lawyers learn to correct for this limitation by distinguishing cases based on the underlying facts and not just on statements of the law by the court. In addition, and more fundamentally, mere counting of cases and descriptive statistics cannot adequately account for multi-factor tests, such as those used in veil-piercing cases. Several factors or combinations of factors may explain case results rather than individual factors.⁴⁶ Finally, any statistical review of a multi-factor judicial analysis may run into the problems of assigning weights to the various factors and isolating the separate effects of factors that may operate simultaneously.

The Thompson study and those similar to it include only descriptive statistics with no tests for statistical significance.⁴⁷ Indeed, Professor Thompson recognized the limitations of such simple case-counting descriptive statistics at the time of his study.⁴⁸ Moreover, no study has looked solely at the corporate group context to analyze the various factors and issues present in piercing the corporate veil of a parent corporation to recover for the debts of a subsidiary. Multiple regression analysis, "a statistical technique that can solve the problems of calculating the influence of individual case factors, identifying their relative weights, and accounting for the simultaneous presence of different factors," is the tool best suited to overcoming

45. *Id.*

46. *Id.*

47. See Hodge & Sachs, *supra* note 11, at 347; Thompson, *supra* note 11, at 1036; Thompson, *supra* note 8, at 385.

48. McChesney, *supra* note 34, at 515 n.82 ("Thompson is aware of the methodological shortcomings of merely sorting cases, and reports that he is at work on a multiple regression model for the veil-piercing cases."). McChesney's citation is to footnote 62 of Thompson's original article, where Thompson states:

In an additional article in progress, I use this data and a logit analysis, a form of statistical regression analysis, to test the relationship between a dependent variable, here the court's decision to pierce the veil, and independent variables here the various factors recorded in the data set. Not surprisingly, the "conclusory" indicators of alter ego and instrumentality are the factors most closely associated with a piercing result. The explanation of that model and the results are left for another day.

Thompson, *supra* note 11, at 1046 n.62. Although Thompson recognized the need for a more sophisticated "logit analysis, a form of statistical regression analysis," the supposed "model and the results" have never been reported. *Id.*

these limitations.⁴⁹ It is for this reason that this Article undertakes just such an analysis.

II. RESEARCH DESIGN AND DATA COLLECTION

A. Objectives and Hypotheses

This study has two primary objectives. The initial goal is to statistically describe the propensities of modern courts for piercing the corporate veil in the parent-subsidary situation. This is the first study to document these judicial proclivities. In connection with these descriptive statistics, it is important to explore whether differences in piercing results, such as the level of piercing in corporate group cases as compared to all piercing cases, are statistically significant according to accepted quantitative measures of statistical analysis. The second aim of this study is to move beyond descriptive statistics and explore potential causal relationships regarding piercing the veil in the parent-subsidary context. Thus, the study is designed to test the following major hypotheses involving piercing in corporate groups:

1. Piercing occurs with the same frequency in the parent-subsidary situation as in the overall universe of piercing decisions.
2. Piercing occurs with relatively equal frequency in the parent-subsidary context irrespective of the level of court making the determination.
3. Piercing occurs with relatively equal frequency in the parent-subsidary context irrespective of whether the plaintiff is an individual or an entity.
4. Piercing occurs with relatively equal frequency in the parent-subsidary context in tort cases and in contract cases.

49. McChesney, *supra* note 34, at 519. "Indeed, as Franklin Fisher has observed, it is difficult to see how anyone could reach legal conclusions in proceedings involving large-sample, multivariable situations *without* resort to multiple regression." *Id.* at 519-20 (citing Franklin M. Fisher, *Multiple Regression in Legal Proceedings*, 80 COLUM. L. REV. 702, 730 (1980)). See generally Michael O. Finklestein, *Regression Models in Administrative Proceedings*, 86 HARV. L. REV. 1442 (1972) (addressing the use of multiple regression analysis in administrative proceedings); Daniel M. Rubinfield, *Econometrics in the Courtroom*, 85 COLUM. L. REV. 1048 (1985) (addressing the use of multiple regression analysis in court proceedings).

5. The decision to pierce in the parent-subsidary context is not significantly influenced by a finding of fraud or misrepresentation.
6. The decision to pierce in the parent-subsidary context is not significantly influenced by a finding of parent control/dominance.
7. The decision to pierce in the parent-subsidary context is not significantly influenced by a finding of overlap between the parent and subsidiary.⁵⁰
8. The factor of parental control/dominance is a conclusory term that incorporates other factors in its determination.

B. Data Collection

Unlike prior studies, this study purports to create a record of every piercing case during the effective period.⁵¹ Thus, the data for this study includes both reported and unreported cases in Westlaw and Lexis captured by the searches detailed below. Every effort was made to include only the final decision for a particular case.

Over 4,000 distinct cases resulted from the various searches on Westlaw and Lexis. The study used both Westlaw and Lexis in order to collect all relevant cases regarding piercing the corporate veil.⁵²

50. Overlap between the parent and subsidiary includes: common activities; persons; places such as common offices; common business activities; and common employees, including directors and officers.

51. The period used for the searches was January 1, 1990, through March 1, 2008, with the desire to capture what the courts have been doing recently in this area. Thompson only considered reported cases. Thompson, *supra* note 11, at 1046. The Hodge and Sachs update noted that:

Even more so than Professor Thompson's study, this [Hodge and Sachs] Study does not purport to create a record of every piercing case during the effective period. Nor does it attempt to draw any conclusions about the numbers of cases in which piercing the corporate veil is litigated. The data set for this Study is limited in many respects. It only includes cases reported in Westlaw. Thus, it does not include any cases that were settled or cases that were unreported. It may include decisions of both the trial and appellate courts for the same case. These variables may or may not result in a selection bias that prevents the data set from being representative of the totality of piercing disputes.

Hodge & Sachs, *supra* note 11, at 348–49. Of course, any study that uses litigated cases—both reported and unreported—is subject to the limitations inherent in relying on circumstances where the parties have seen fit not only to resort to litigation but have proceeded with that litigation to a point of some manner of judicial resolution.

52. Although this Article speaks in terms of piercing the corporate veil, some cases included did not exclusively involve corporate entities. There are a very few cases, for

The searches were conducted such that both state and federal cases would be captured. Duplicative cases were removed using the case cite. Where the same case appeared in several reported decisions, only the decision of the highest court hearing the case that reached a conclusive decision on the merits of the piercing claim was included.

While some of the search results returned duplicative cases, many of the searches provided distinct cases the other searches did not provide. Searches utilizing both terms/connectors and key numbers were included so as not to rely solely upon the categorization services of Westlaw and Lexis. These searches used a more flexible terminology than previous studies and did not require the specific term “corporate veil” for the case to be included.⁵³ Modern courts may not use the term “corporate veil” and will simply refer to the doctrine as “piercing the veil,” or they may dispense with piercing terminology altogether, as in situations where enterprise liability may be imposed.

1. Searches

The following searches were conducted in Westlaw:

1. PIERC! & VEIL! & SUBSID! PARENT! WHOLLY
2. SY, DI(pierc! /5 “corporate veil”)
3. topic (101) /p pierc! /5 “corporate veil”
4. 101k1.3
5. 101k1.4
6. 101k1.5
7. 101k1.6
8. 101k1.7

example, involving parent-subsidary relationships where one of the entities is a limited liability company. These cases were included if they met the other criteria.

53. This is an additional critique of the original Thompson study as it relates to the sample selection. The Thompson study claimed to include the entire population of piercing cases. See Thompson, *supra* note 11, at 1044 (stating that the project included all Westlaw “piercing the veil” cases through 1985). Yet, the Swain and Aguilar study found 265 cases involving jurisdictional piercing, while the Thompson study only found 153 during the comparable period. Swain & Aguilar, *supra* note 29, at 460–61. The likely reason for this apparent lack of completeness is the limited search terms that Thompson used. In his study, Thompson used the search terms “piercing the corporate veil” and “disregard! the corporate entity” and only four Westlaw key numbers—all in Westlaw only. Thompson, *supra* note 11, at 1036 n.1, 1044 n.47.

Search 1 produced all cases in which the terms pierc! and veil! as well as either subsid!, parent!, or wholly can be found. Search 2 was utilized to catch all cases that mention piercing the corporate veil. Search 3 was used to capture all cases labeled under Westlaw key number 101 (corporations) that mention piercing the corporate veil. Searches 4–8 are more specific key number searches, which disregard precise language, with the key numbers standing for specific issues addressed in the cases instead. Within category 101 (corporations): key number 1.3 searched for those cases addressing “distinct entity in general, corporation as”; key number 1.4 searched for those cases addressing “disregarding the corporate entity”; 1.5 searched those cases addressing “separate corporations, disregarding separate entities”; 1.6 searched those cases addressing “particular occasions for determining corporate entity”; 1.7 searched those cases addressing “pleading and procedure for determining corporate entity.”⁵⁴

2. Parent-Subsidiary Database

Of the over 4,000 cases identified by the searches, 618 of those cases involved parent-subsidiary piercing. Each of the over 4,000 cases were reviewed by a coder for the parent-subsidiary classification. Therefore, even cases not using the specific “parent” or “subsidiary” terminology were included in the parent-subsidiary database if appropriate. Of the parent-subsidiary cases identified, the current analysis of substantive parent-subsidiary piercing results identified 360 cases for final inclusion. As a result, and as explained next, 258 cases were excluded from the analysis because they: (1) failed to reach the merits of the piercing issue; (2) had a special statutory test for piercing; (3) involved jurisdictional or venue piercing; (4) involved horizontal piercing; or (5) involved reverse piercing.

Cases that failed to reach the merits of the piercing issue were excluded for the obvious reason of not being a final adjudication on the merits. Cases that used a special statutory liability test (such as “control” under federal securities laws) were excluded, as these tests did not apply the common law piercing test.⁵⁵

54. The following search was conducted in the “LN-Summary” segment of the cases in LexisNexis: (pierc! /5 veil! parent! subsid! or whol!). This search looked for cases that contain pierc! within five words of veil! and that also contain parent! or subsid! or whol!. The database also contained an additional initial search: pierce and corporate veil and (alter ego or instrumentality).

55. *See, e.g.*, 15 U.S.C. § 78t (2006) (providing for liability of “controlling persons” under the Securities Exchange Act). These cases are brought pursuant to a specific state

Jurisdictional cases were also excluded. Piercing in these cases is not a question of the ultimate liability of the parent but rather whether the parent can be made a part of the current lawsuit—that is, whether jurisdiction can be exercised over the parent as a matter preliminary to any adjudication of piercing or ultimate liability. It is generally acknowledged that the courts tend to apply a different and more expansive approach for those jurisdictional situations.⁵⁶

Horizontal piercing involves piercing between two corporations, both of which are subsidiaries of the same parent corporation. Cases involving these so-called brother/sister corporations were also excluded, so as only to include vertical liability in parent-subsi- diary cases. Reverse piercing cases, where the owners or shareholders of

or federal statutory provision. Cases that applied a separate special statutory test (such as direct liability under CERCLA) were excluded, as these tests are different from the common law piercing test. *See generally* Cindy A. Schipani, *The Changing Face of Parent and Subsidiary Corporations: Enterprise Theory and Federal Regulation*, 37 CONN. L. REV. 691 (2005) (examining the special tests employed by the courts under CERCLA and ERISA). Cases were included where they involved a statutorily-based civil claim and applied the common law piercing test. For example, when bankruptcy cases used a federal common law piercing test, they were included. *See, e.g., In re Owens Corning*, 419 F.3d 195, 205–07 (3d Cir. 2007) (comparing common law parent-subsi- diary piercing with the special concept of “substantive consolidation” under the federal bankruptcy laws); *see also* NLRB v. Bolivar-Tees, Inc., 551 F.3d 722, 728 n.4 (8th Cir. 2008) (comparing federal common law piercing with the separate “single employer doctrine” and alter ego analysis under the National Labor Relations Act). The Court in *Bolivar-Tees* explained:

Although the term “alter ego” is commonly employed in the context with piercing of the corporate veil, a distinct “alter ego doctrine” has developed under the NLRA, which “involves a more lenient standard for disregarding the corporate form than that employed in corporate law.” *Greater Kan. City Laborers Pension Fund v. Super. Gen. Contractors, Inc.*, 104 F.3d 1050, 1055 (8th Cir.1997) (internal quotations and citations omitted). The NLRB’s “alter ego doctrine focuses on whether one business entity should be held to the labor obligations of another business entity that has discontinued operations.” *Iowa Express [v. Nat’l Labor Relations Bd.]*, 739 F.2d 1305, 1310 (8th Cir. 1984)]. However, piercing of the corporate veil to attach liability to a shareholder is a doctrine of corporate law and is distinct from the alter ego doctrine developed under the NLRA. *See [United States v. Bestfoods]*, 524 U.S. 51, 61–63 (1998)]; [*Minnesota Laborers Health & Welfare Fund v. Scanlan*], 360 F.3d 925, 927–28 (8th Cir. 2004)].

Id. (emphasis added).

56. *See, e.g., D. Klein & Son, Inc. v. Good Decision, Inc.*, 147 Fed. App’x. 195, 196 (2d Cir. 2005) (“[T]he exercise of personal jurisdiction over an alleged alter ego . . . requires application of a ‘less onerous standard’ than that necessary for equity to pierce the corporate veil for liability purposes under New York law.”). These cases were the focus of Swain and Aguilar’s study. Swain & Aguilar, *supra* note 29, at 445. Thompson found that, in cases involving piercing the veil for jurisdictional purposes, the plaintiffs’ success rate was 36.8%. Thompson, *supra* note 11, at 1060. For venue purposes, however, Thompson found that the plaintiffs’ success rate was 58.3%, a higher piercing rate than in the substantive veil piercing cases. *See id.*

the corporation seek to have a court pierce the corporate veil for their own benefit, were excluded due to the different nature of the claims.

3. Variables

The dependent variable for this study was whether or not the court pierced the corporate veil. The cases were coded for potentially twenty-five categorical independent variables.⁵⁷ These variables can be separated under the following four headings: (1) type of case; (2) piercing factors; (3) court information; and (4) party information. As a simple record-keeping function, the following data was recorded for each of the cases: whether or not the veil was pierced, the year, the level of the court,⁵⁸ the jurisdiction hearing the case, the jurisdiction of law applied, the identity of the party seeking the piercing,⁵⁹ and the substance of the claim.⁶⁰

Consideration of additional operative independent variables is an important determination of the validity of any empirical study. Therefore, the analytical factors that courts noted in their decisions of whether to pierce the veil were specifically and meticulously recorded.⁶¹ This study took its independent variable factors from a careful consideration and compilation of those factors regularly identified by the courts informed by previous studies focusing on the parent-subsidiary context.⁶² Factors included were:

57. The complete listing of variables and coding instructions that were followed is available from the author.

58. Courts were placed in the following categories: District/Trial Court, Appellate Intermediate Court, Supreme Court (Highest Court), and U.S. Bankruptcy Court.

59. Parties seeking to pierce the corporate veil were placed in the following categories: Individual, Entity (corporations, LLCs, partnerships, etc.), and Unknown.

60. Substance of the claim included contract, tort, criminal, bankruptcy, and statutory claims.

61. Note that the method for coding the factors is identical to the method used by DiMatteo and Rich in their analysis of factors contributing to a finding of unconscionability. DiMatteo & Rich, *supra* note 43, at 1093–94.

62. See, e.g., Thompson, *supra* note 8, at 386–87.

As in the prior study, the data-gathering form included a universe of approximately 85 reasons used to describe piercing which had been gleaned from previous research in the area and a sampling of cases in the data set. These reasons were grouped into several major categories that described recurring justifications for piercing the corporate veil. The nine larger categories were: (1) undercapitalization; (2) failure to follow corporate formalities; (3) overlap of corporate, records, functions or personnel; (4) shareholder domination; (5) intertwining; (6) lack of substantive separation; (7) agency; (8) fraud or misrepresentation; and (9) general conclusory terms such as instrumentality or alter ego.

Id.

“fraud/misrepresentation”;⁶³ “commingling of funds”;⁶⁴ “undercapitalization”;⁶⁵ “overlap”;⁶⁶ “directors/officers or corporate records non-existent”;⁶⁷ “directors/officers non-functioning”;⁶⁸ “unfairness/injustice”;⁶⁹ “assumption of risk”;⁷⁰ and “parent control/dominance.”⁷¹ If the court noted the lack of any of the piercing factors, this was recorded. Similarly, if the court noted that multiple factors were either present or lacking, this was recorded as well.⁷²

63. Hodge & Sachs, *supra* note 11, at 348.

“Misrepresentation” included misrepresentation as to the corporation’s assets and financial condition, and misrepresentation as to the party responsible for payment. Professor Thompson notes that, while this activity is often referred to by the court as “fraud,” many courts will find that the evidence supports a finding of “misrepresentation” where a common law claim of fraud could not be established.

Id. (citing Thompson, *supra* note 11, at 1044 n.53).

64. These factors were noted where there was commingling of parent and subsidiary funds, siphoning of funds by the parent, or treatment by the parent shareholder of subsidiary funds as owned by the parent.

65. “Undercapitalization” includes both those cases where uncaptalization was present at the subsidiary’s inception and those where the subsidiary became undercapitalized later. See Thompson, *supra* note 11, at 1044 n.50.

66. “Overlap” identifies common activities, persons, or places between the parent and the subsidiary, such as common offices, common business activity, and common employees, including directors and officers.

67. “Directors/officers or corporate records non-existent” identifies cases in which a corporation never appointed some or all of its directors, officers, or other functionaries. This factor was also noted where no corporate records, financial or otherwise, were created at all.

68. “Directors/officers non-functioning” identifies cases in which a corporation appointed directors and officers, but the directors or offices held meetings or otherwise took formal action rarely, if ever. In other words, even though corporate functionaries existed, the business was run informally without recognition of titles or roles.

69. Cases that involved “Unfairness/Injustice” were most often marked by a statement, albeit a conclusory one, by the court.

70. “Assumption of Risk” identifies cases where the court determined that there was an assumption of risk by the plaintiff such that the veil should not be pierced. Generally, such cases included an explicit statement by the court.

71. “Parent control/dominance” identifies situations in which the parent/shareholder is to be held liable and the veil is pierced because the parent exerted direct control over or dominated the subsidiary company.

72. Potential inconsistencies in coding were reduced by having a stringent training method with each researcher, who would receive several test cases to code. Upon completion by the coder, the results were checked for completeness and correctness. Any resulting discrepancies were identified, discussed, and clarified. Particular attention was paid to the exclusionary factors and the graduations of the factors present (i.e., whether the factor was explicitly present, explicitly not present, or not discussed.) Five percent of the cases in the database were randomly spot-checked to ensure reliability. No significant coding problems were discovered. The complete coding instructions followed and given to research assistants are available from the author.

III. PARENT-SUBSIDIARY PIERCING EMPIRICAL RESULTS

After presenting frequency distributions and cross-tabulations, more rigorous statistical methods were applied to test the hypotheses and to refine the tentative conclusions drawn from the descriptive statistics.

A. *Frequency Distributions and Cross-Tabulation Analysis*

1. Initial Results and Comparisons

In this data set, the courts pierced the corporate veil in 20.56% of the cases, as shown in Table 1. This value is considerably lower than (approximately one-half of) Professor Thompson's original general figure of 40.18%.⁷³ It is also considerably lower than a recent update of Thompson's work by Hodge and Sachs—their figure was 35.3% when looking at data from January 1, 1986, through December 31, 1995.⁷⁴ Thompson's later work, purporting to “focus on corporate groups,”⁷⁵ garnered a 34% figure.⁷⁶ This difference is substantial: substantive piercing in the parent-subsidary context occurs approximately half as often as piercing does generally, and more than one-third less often than the most comparable database explored by other studies.

Table 1: Overall Piercing Results

Total Cases	Pierced	Not Pierced	Pierced (%)
360	74	286	20.56

Several factors may account for this marked difference, each of which is instructive on its own. The most obvious explanation is that parent-subsidary cases present factual situations that the courts find generally less favorable to piercing. The factors that often support holding individual shareholders of a small business liable, such as commingling of assets and failure to follow corporate formalities, may simply appear less often in corporate group cases. Thus, it may be that corporate shareholders follow rules better than individual ones.

73. Thompson, *supra* note 11, at 1048 tbl.1.

74. Hodge & Sachs, *supra* note 11, at 349.

75. Thompson, *supra* note 8, at 385.

76. *Id.* at 386.

In addition, prior studies involving databases containing all piercing cases are a jumble of various unrelated situations. They included both traditional single entity piercing as well as corporate group piercing. They also captured all forms of piercing, including both more lenient jurisdictional cases as well as cases that do not truly involve piercing, such as reverse piercing cases that provide benefits to corporate owners, instead of holding them liable. As to the thirty-four percent piercing figure from the nearest comparable database, which represents a more than sixty-percent greater piercing result than the current statistics, there are similar distinctions. That database included jurisdictional, horizontal, and reverse piercing, not just substantive piercing.

Moreover, parent-subsidary piercing claims present a fundamentally different analytical challenge for the courts than those involving the typical small business that has only one or just a few individual shareholders. Parent-subsidary piercing claims may involve relatively large entities at both parent and subsidiary levels, each of which has an economic reality. This factor, combined with the concept of the corporation as a separate legal person generally, may create a form of reification for the entities in this context. Moreover, as with other business litigation, the general intractability of applying the piercing doctrine within corporate groups may present its own juridical obstacles. For many judges, the attempt to sort out the corporate relationships and equities may fall into the “too hard” pile.

Nevertheless, the bottom line is clear: courts are significantly less likely to hold parent companies liable for the acts of their subsidiaries than they are to pierce in other contexts. The twenty percent piercing results are a far cry from the call for expanded parent-subsidary piercing by law and economics scholars such as Easterbrook and Fischel. The results also belie the claims by enterprise liability proponents that courts are more readily viewing this area as one involving corporate groups rather than distinct corporate entities.

Related to how often courts pierce is the question of whether the propensity to pierce has changed over time. Table 2 presents this data in two formats. First is the raw year-to-year data in both absolute and percentage terms. Admittedly, the percentages fluctuate substantially from year to year with no easily discernable trend. In comparison, Professor Thompson found no trend over time and noted that, while the percentage of cases where the veil was pierced varied from year to year, the value had remained relatively

constant over several prior decades.⁷⁷ Thus, Thompson concluded that there was no trend toward increased veil piercing.⁷⁸ Second, to get a better sense of movement over time, the average for each of the previous three years is calculated, showing what appears to be a slightly increasing reluctance of courts to pierce the corporate veil.⁷⁹ In any event, a pattern of *increasing* piercing over time does not appear to exist.

Table 2: Piercing Rates over Time

Year	Total Cases	Pierced	Not Pierced	Pierced (%)	Average Piercing for Previous Three Years (%)
1990	21	5	16	23.81	-----
1991	15	2	13	13.33	-----
1992	20	7	13	35.00	25.00
1993	21	6	15	28.57	26.79
1994	27	7	20	25.93	29.41
1995	20	3	17	15.00	23.53
1996	6	0	6	0.00	18.87
1997	17	5	12	29.41	18.60
1998	25	3	22	12.00	16.67
1999	22	6	16	27.27	21.88
2000	28	3	25	10.71	16.00
2001	25	5	20	20.00	18.67
2002	29	7	22	24.14	18.29
2003	23	3	20	13.04	19.48
2004	21	5	16	23.81	20.55
2005	9	2	7	22.22	18.87
2006	16	5	11	31.25	26.09
2007	13	0	13	0.00	18.42
2008	2	0	2	0.00	16.13
Total	360	74	286	20.56	-----

77. Thompson, *supra* note 11, at 1048–49.

78. *Id.* at 1048.

79. This is consistent with Hodge and Sachs's conclusion that the courts were showing an increasing reluctance to pierce the corporate veil. Hodge & Sachs, *supra* note 11, at 349–50.

Table 3 shows that federal courts pierce at approximately the same rate as state courts. This is consistent with the conclusions of the prior case-counting studies.⁸⁰

Table 3: Piercing by Jurisdiction

	Total Cases	Total Cases (%)	Pierced	Not Pierced	Pierced (%)	Thompson's Results (%)	Hodge & Sachs's Results (%)
Federal Courts	187	51.9	39	148	20.9	41.4	38.3
State Courts	173	48.1	35	138	20.2	39.3	31.0

Table 4 shows substantial differences in piercing among the various court levels. State supreme courts pierced at nearly twice the rate of the district/trial courts.⁸¹ This difference between trial courts

80. Professor Thompson found that state courts pierced at a similar but slightly lower rate than federal courts. See Thompson, *supra* note 11, at 1049 tbl.3. Hodge and Sachs's recent study supported the theory that federal courts pierced the veil more often than state courts. See Hodge & Sachs, *supra* note 11, at 350 tbl.3. In comparison to this study, the Thompson numbers and Hodge and Sachs's numbers reflect a study of all piercing cases, not just parent-subsidary cases, so it is interesting to note the differences between the findings.

81. This conclusion is contrary to the conclusion of Professor Thompson that "[t]rial, appellate and supreme courts pierce in a similar percentage of cases." Thompson, *supra* note 11, at 1049. The differences between the piercing rates in Table 4 could be considered marginally significant. The chi-square (χ^2) test is the standard method of testing for an association between variables in this context—that is, to examine whether two variables are independent or not. What does it mean to be independent, in this sense? It means that the two factors are not related. More generally, a variable Y is "not correlated with" or "independent of" the variable X if more of one is not associated with more of another. If two categorical variables are correlated, their values tend to move together, either in the same or opposite direction. The significance of the association is partly a factor of the degrees of freedom (d.f.) in the Table, with degrees of freedom calculated as (row-1) (column-1). The statistical significance associated with the cross-tab of data presented in Table 4 equals $\chi^2=7.343$, d.f.=3, and $p=0.062$. A low probability (p) factor effectively equates with the expectation that the results would occur by chance. Here, the results in the table would occur by chance in sixty-two out of 1,000 similar samples. The probability value of 0.062 does not demonstrate statistical significance at the conventional 0.05 level of confidence. Therefore, the hypothesis that the decision to pierce is not related to the level of court making the determination cannot be rejected. While the probability value of 0.062 does not quite reach the conventional level of confidence, this result could be seen as marginally statistically significant. In sharp contrast, Professor Thompson found that state trial, appellate, and supreme courts all pierced in relatively the same percentage of cases. Note, however, that the chi-square test is a test of association only and does not indicate which variable is the dependent variable or independent variable, nor does the test reveal any information on the strength of the

and appellate courts could be caused by, among other things, (1) a decreased willingness among trial courts to pierce in comparison to appellate courts; and/or (2) the probability that weaker piercing cases are less likely to be appealed. Piercing is generally regarded as an extraordinary remedy, and trial judges loathe being overturned. Thus, trial judges may be more conservative when deciding to pierce the corporate veil than appellate judges. It is also true that cases with a low perceived chance of success on appeal are less likely to be appealed, thereby weeding out weak cases and increasing the percentage of cases in which the appellate courts pierce.

Table 4: Piercing by Court Level

Category	Total Cases	Total Cases (%)	Pierced	Not Pierced	Pierced (%)	Thompson's Results (%)	Hodge & Sachs's Results (%)
District/Trial Court	203	56.4	32	171	15.8	40.2	34.5
Appellate/Intermediate Court	130	36.1	35	95	26.9	39.3	39.1
Supreme Court (Highest Court)	20	5.6	6	14	30.0	42.1	23.5
US Bankruptcy Court	7	1.9	1	6	14.3	-----	-----

The percentage of cases in which courts pierce the veil varies from state to state, as shown in Table 5. Among the jurisdictions with the most piercing decisions, the percentage of cases in which courts pierced ranged from 0% in Pennsylvania and 6.7% in Delaware to 27.3% in California and Florida. New York, as one of the country's leading commercial centers, produced the most piercing cases. The New York piercing percentage of 21% was substantially above the national average of 20.56%. Delaware, the most dominant state in corporate law, had the highest number of piercing cases behind federal common law, New York, and Texas. However, at 6.7%, Delaware by far had the lowest piercing percentage within this group, with only one out of fifteen cases ultimately resulting in piercing. This fact may reflect the larger size of Delaware corporations as well

relationship. For a discussion of the strength and direction of the relationships, see the discussion of the logistic regression analysis in Part IV.B, *infra*.

as a general pro-business predilection in that jurisdiction. The differences between the states were not statistically significant due to the small number of cases in each jurisdiction. Therefore, it is not possible to say with statistical certainty that these results are due to different views regarding piercing the corporate veil, although that is the clear implication.

Table 5: Differences by State

State	Total Cases	Not Pierced	Pierced	Total Cases (%)	Pierced (%)	Thompson's Pierced ⁸² (%)
Alabama	4	3	1	1.1	25.0	64.71
Alaska	0	0	0	0.0	0.0	30.00
Arizona	2	2	0	0.6	0.0	41.18
Arkansas	5	4	1	1.4	20.0	39.13
California	11	8	3	3.1	27.3	44.94
Colorado	4	3	1	1.1	25.0	53.85
Connecticut	7	5	2	1.9	28.6	63.64
District of Columbia	0	0	0	0.0	0.0	0.00
Delaware	15	14	1	4.2	6.7	60.00
Federal Common Law	67	51	16	18.6	23.9	39.40
Florida	11	8	3	3.1	27.3	41.30
Georgia	6	6	0	1.7	0.0	38.30
Hawaii	2	1	1	0.6	50.0	25.00
Idaho	1	1	0	0.3	0.0	66.67
Illinois	13	10	3	3.6	23.1	42.31
Indiana	3	3	0	0.8	0.0	68.75
Iowa	4	3	1	1.1	25.0	58.33
Kansas	5	3	2	1.4	40.0	78.95
Kentucky	0	0	0	0.0	0.0	26.67
Louisiana	6	2	4	1.7	66.7	35.82
Maine	2	1	1	0.6	50.0	25.00
Maryland	2	2	0	0.6	0.0	40.00
Massachusetts	13	10	3	3.6	23.1	40.00
Michigan	9	8	1	2.5	11.1	27.27
Minnesota	8	6	2	2.2	25.0	38.46
Mississippi	4	3	1	1.1	25.0	35.71
Missouri	3	2	1	0.8	33.3	40.00
Montana	0	0	0	0.0	0.0	50.00
Nebraska	2	1	1	0.6	50.0	58.33

82. Thompson, *supra* note 11, at 1051 tbl.6. It was assumed that the state coded HA by Thompson was Hawaii. It should be noted again that Thompson's data included all piercing cases not just parent-subsidary cases.

State	Total Cases	Not Pierced	Pierced	Total Cases (%)	Pierced (%)	Thompson's Pierced (%)
Nevada	1	1	0	0.3	0.0	41.67
New Hampshire	0	0	0	0.0	0.0	0.00
New Jersey	11	9	2	3.1	18.2	45.00
New Mexico	0	0	0	0.0	0.0	15.38
New York	62	49	13	17.2	21.0	34.91
North Carolina	6	6	0	1.7	0.0	42.86
North Dakota	1	1	0	0.3	0.0	75.00
Ohio	7	6	1	1.9	14.3	57.14
Oklahoma	2	1	1	0.6	50.0	40.00
Oregon	2	2	0	0.6	0.0	56.25
Pennsylvania	14	14	0	3.9	0.0	30.77
Puerto Rico	2	2	0	0.6	0.0	0.00
Rhode Island	2	1	1	0.6	50.0	33.33
South Carolina	3	3	0	0.8	0.0	37.50
South Dakota	1	1	0	0.3	0.0	62.50
Tennessee	5	3	2	1.4	40.0	38.89
Texas	17	13	4	4.7	23.5	34.91
Utah	0	0	0	0.0	0.0	42.86
Vermont	0	0	0	0.0	0.0	0.00
Virginia	6	5	1	1.7	16.7	25.00
Washington	2	2	0	0.6	0.0	44.44
West Virginia	0	0	0	0.0	0.0	42.86
Wisconsin	6	6	0	1.7	0.0	50.00
Wyoming	1	1	0	0.3	0.0	62.50
Total	360	286	74	100.0	20.56	40.18

Knowledge of differences between states is useful only in situations in which parties to litigation can predict and choose which state's law will be applied. Potential defendants can choose the state of incorporation. Those who have chosen a restrictive piercing jurisdiction would argue that a court should apply the "internal affairs" rule and the laws of the state of incorporation to the piercing decision.⁸³ Knowledge of the differences between state approaches will be of greater use to prospective plaintiffs who would rather file in a state that is more likely to pierce or a state that does not automatically apply the law of the state of incorporation to that determination.

83. See, e.g., *Judson Atkinson Candies, Inc. v. Latini-Hohberger Dhimantec*, 529 F.3d 371, 378 (7th Cir. 2008) (applying the internal affairs doctrine to choice of law decision on piercing the corporate veil in parent-subsidary situation).

2. Piercing Factors Analysis

In considering the piercing decision in the parent-subsiary situation, courts explicitly consider a number of individual variables or factors. In addition, there are other variables—such as who brings the piercing claim or whether the piercing claim arises in a contract or tort situation—which are not explicitly discussed but which affect a court's decision to pierce. The following tables explore both types of factors, with the unattributed variables considered first.

Table 6 shows that courts were more likely to pierce for entity and corporate plaintiffs than they were for individual plaintiffs, at least with regard to parent-subsiary piercing claims. The difference between the treatment of piercing cases involving individual plaintiffs and those brought by entity plaintiffs was statistically significant.⁸⁴ In contrast, Professor Thompson's data revealed no significant difference between individual and corporate plaintiffs.⁸⁵ Hodge and Sachs's results were consistent with Thompson's.⁸⁶

Table 6: Individual vs. Corporate Plaintiffs

Type of Plaintiff	Total Cases	Pierced	Not Pierced	Pierced (%)	Thompson's Results (%)	Hodge & Sachs's Results (%)
Individual	165	20	145	12.12	37.70	32.35
Entity/ Corporation ⁸⁷	195	54	141	27.69	36.81	33.66

Although this study does not show the reasons for the variation between cases brought by individual plaintiffs as compared to entity plaintiffs, several factors might be considered. Tort claims are brought more often by individuals, and tort claims, as will be demonstrated shortly, are the least successful type of piercing claims.⁸⁸ It may be that most tort claims against businesses are covered by insurance and that only the most controverted and/or

84. The results of the chi-square test for Table 6 are: $\chi^2=13.270$, d.f.=1, $p < 0.001$. The lower the probability (p), the less likely it is that the results obtained in any given table occurred by chance. Here, the results in Table 6 would occur by chance in less than 1 out of 1,000 similar samples. Therefore, we can reject the null hypothesis that the decision to pierce is not related to whether the plaintiff is an individual or an entity.

85. Thompson, *supra* note 11, at 1050.

86. Hodge & Sachs, *supra* note 11, at 353.

87. The Entity/Corporation category includes corporations, LLCs, partnerships, etc.

88. *See infra* Tables 7, 8.

potentially remunerative are litigated, resulting in a lower success rate. In addition, the quality of legal representation for entities may generally be higher than for individuals. This may be due to the relatively greater litigation resources available to entities to deal with the complex issues presented in piercing cases, such as proving that management is non-functioning or that a subsidiary is dominated by the parent. The quality of the representation also could affect both the decision to seek piercing and the effectiveness of the presentation to the court once that decision has been made.

Table 7: Underlying Cause of Action

Type of Claim	Total Cases	Total Cases (%)	Pierced	Not Pierced	Pierced (%)
Contract	191	53.06	55	136	28.80
Tort	127	35.28	12	115	9.45
Statute ⁸⁹	27	7.50	2	25	7.41
Bankruptcy	13	3.61	4	9	30.77
Criminal	2	0.56	1	1	50.00

Table 7 breaks cases down by underlying cause of action and shows that courts pierce more often in contract cases than in tort cases. This difference is statistically significant.⁹⁰ This finding is consistent with what is arguably Professor Thompson's most controversial finding—that courts pierced more often in contract cases than in tort cases.⁹¹

89. Cases that used a special statutory test were excluded. See *supra* note 55 and accompanying text.

90. The results of the chi-square test for Table 7 relating to tort claims are: $\chi^2=13.883$, d.f.=1, $p < 0.001$. The lower the probability (p), the less likely it is that the results obtained in any given table occurred by chance. Here, the results in Table 7 would occur by chance in less than 1 out of 1000 similar samples. The results of the chi-square test for Table 7 relating to contract claims are: $\chi^2=15.004$, d.f.=1, $p < 0.001$. Therefore, we can reject the hypothesis that the decision to pierce is not related to the nature of the claim. Because these descriptive statistics suggest a connection between the type of case and piercing, they will be revisited in the regression analysis below.

91. Thompson, *supra* note 11, at 1058. The conventional wisdom at the time of Professor Thompson's study was that the involuntary nature of tort cases would lead to a higher percentage of piercing compared to contractual disputes in which the plaintiffs voluntarily chose to deal with the corporation. *Id.* at 1058 & n.118. Professor Thompson,

Table 8: Type of Plaintiff (π) and Underlying Cause of Action

Type of Claim	Total Cases	Ind. π Cases	Ind. π (%)	Entity π Cases	Entity π (%)
Bankruptcy	13	3	23.08	10	76.92
Contract	191	54	28.27	137	71.73
Criminal	2	1	50.00	1	50.00
Statute	27	18	66.67	9	33.33
Tort	127	89	70.08	38	29.92
Total	360	165	45.83	195	54.17

Table 8 shows that individuals brought 70.08% of the tort cases in the piercing dataset, but only 28.27% of the contract claims. Entities brought only 29.92% of the tort cases and 71.73% of the contract claims. Thus, a connection between the type of plaintiff and the type of case exists, which may also assist in understanding the disparate results between tort and contract piercing claims.

Beyond differences based on who brings the underlying cause of action, there is the more central issue of what factors the courts explicitly identify as relevant to their piercing determinations in the parent-subsidiary context. Table 9 identifies nine individual categories of factors and how often they arise in piercing cases.

however, found that courts pierced the corporate veil in almost 42% of contract cases but in less than 31% of tort cases. *Id.* at 1058 tbl.9. Professor Thompson's data identified 779 contract cases and 226 tort cases. *Id.* The current study found 191 contract cases (53.06% of the total cases) and 127 tort cases (35.28% of the total cases), which becomes 834 and 555, respectively, when the sample rate is extrapolated to Professor Thompson's sample size of 1,572. *See id.* On their face, these results disprove the hypothesis that courts are more likely to pierce in tort cases, as opposed to contract cases. In fact, these results suggest the opposite is true—courts are more likely to pierce in order to impose liability for a contract claim than they are for a tort claim. *Id.*

This data included two criminal piercing cases. This finding is probably not significant. In Professor Thompson's pre-1986 study, there were only fifteen criminal cases out of a total of 1,572 cases. *Id.* The rate of piercing in Table 5 in statute-based cases is substantially different from Thompson's analysis with pre-1986 data, where 35% of the total cases were statutory; the current study found only 7.5% of the total cases to be statutory. *Id.* It should be noted that Thompson's study included procedural and venue piercing cases, which were explicitly excluded from this study, as well as cases in which a statute created a separate test for liability in addition to common-law piercing. *See id.* at 1059–62.

Table 9: Presence of Specific Factors in Decisions to Pierce

Factor	Presence	Total Cases	Total Cases (%)	Not Pierced	Pierced	Not Pierced (%)	Pierced (%)
Parent Control & Dominance	Not Present	142	39.4	139	3	97.9	2.1
	Present	61	16.9	11	50	18.0	82.0
	Not Discussed	157	43.6	136	21	86.6	13.4
Fraud/Misrepresentation	Not Present	141	39.2	129	12	91.5	8.5
	Present	26	7.2	2	24	7.7	92.3
	Not Discussed	193	53.6	155	38	80.3	19.7
Overlap	Not Present	56	15.6	52	4	92.9	7.1
	Present	98	27.2	51	47	52.0	48.0
	Not Discussed	206	57.2	183	23	88.8	11.2
Commingling of Funds	Not Present	73	20.3	70	3	95.9	4.1
	Present	56	15.6	14	42	25.0	75.0
	Not Discussed	231	64.2	202	29	87.4	12.6
Undercapitalization (During start-up & ongoing business)	Not Present	71	19.7	68	3	95.8	4.2
	Present	44	12.2	13	31	29.5	70.5
	Not Discussed	245	68.1	205	40	83.7	16.3
Unfairness/Injustice	Not Present	84	23.3	80	4	95.2	4.8
	Present	27	7.5	2	25	7.4	92.6
	Not Discussed	249	69.2	204	45	81.9	18.1
Nonexistent	Not Present	68	18.9	60	8	88.2	11.8
	Present	16	4.4	4	12	25.0	75.0
	Not Discussed	276	76.7	222	54	80.4	19.6
Non-functioning	Not Present	79	21.9	70	9	88.6	11.4
	Present	23	6.4	5	18	21.7	78.3
	Not Discussed	258	71.7	211	47	81.8	18.2
Assumption of Risk	Not Present	11	3.1	8	3	72.7	27.3
	Present	2	0.6	1	1	50.0	50.0
	Not discussed	347	96.4	278	69	80.1	19.9

a. Parent Control/Dominance

Dominance is the most frequently addressed issue in piercing cases. For purposes of this study, this category addresses situations in which the court determined that the parent exerted extraordinary control over the subsidiary company or dominated it. In cases where the courts determined that control or dominance was present, piercing occurred 82.0% ($n=50$) of the time. Courts found that dominance was not present in 39.4% ($n=142$) of the cases. In cases where the court determined that dominance was not present, piercing occurred only 2.1% ($n=3$) of the time.⁹² That is, if no control or dominance was found, the courts almost literally refused to pierce the corporate veil, absolving the parent from liability in 97.9% of the cases. The difference in piercing the veil when parent control/dominance was present, not present, or not mentioned was statistically significant.⁹³

It is especially interesting to note that courts found parental control or dominance to be present less than 17% (16.9% ($n=61$)) of the time. As a simple matter of first appearances, this infrequent judicial finding of control or dominance seems counterintuitive. A parent who owns 100% of the shares of a subsidiary company admittedly “controls” and “dominates” the subsidiary in any usual sense of those terms. The parent, as sole shareholder, elects the board of directors of the subsidiary (and can remove any of those directors), which is the policy-making organ of the corporation. The chosen board then selects the subsidiary’s officers and managers. The parent initiates, directly or through the board, and must as shareholder approve any fundamental corporate or policy changes in the subsidiary’s operations. The parent is the sole beneficiary of the productivity and profits of the subsidiary’s operating results. This is control or dominance in the normal sense of those terms and exists automatically and tautologically in the parent-subsidiary situation.

As a matter of piercing jurisprudence, then, the parental control or dominance necessary to pierce the subsidiary’s corporate veil must

92. In cases where the courts did not discuss dominance, piercing occurred 13.4% ($n=21$) of the time. Since this is somewhat lower than the mean level of piercing, the choice to discuss dominance increases the likelihood that a court will ultimately pierce.

93. The results of the chi-square test for piercing and the parent control/dominance factor are: $\chi^2=175.409$, d.f.=2, $p < 0.001$. The lower the probability (p), the less likely it is that the results obtained in any given table occurred by chance. Here, the results in the table would occur by chance in fewer than 1 out of 1,000 similar samples. Therefore, we can reject the hypothesis that the decision to pierce is not related to a finding of control or domination.

take on a different meaning, since courts find it to exist relatively rarely. This seems to be the attitude of the courts as well. As the Supreme Court has stated:

It is a general principle of corporate law deeply “ingrained in our economic and legal systems” that a parent corporation (so-called because of control through ownership of another corporation’s stock) is not liable for the acts of its subsidiaries Thus 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.”⁹⁴

Nevertheless, as discussed earlier, some commentators have called for expanded or unlimited parental liability based on the single factor of extraordinary control or domination alone.⁹⁵ They point for support to cases such as *Carte Blanche (Singapore) Pte., Ltd. v. Diners Club International, Inc.*,⁹⁶ where the Court of Appeals for the Second Circuit pierced the corporate veil of Carte Blanche International, Ltd., to hold its parent company, Diners Club International, Inc., liable for an arbitration award.⁹⁷ While the result itself was not remarkable, language in the case caused commentators to argue that “the traditional ‘three-factor’ doctrine has presented so many problems that some courts such as the Court of Appeals for the Second Circuit have abandoned it entirely and have adopted ‘single-factor piercing’ as governing law for ‘piercing’ cases.”⁹⁸

It appears that this report of the demise of the traditional parent-subsubsidiary piercing doctrine was quite premature. The Second Circuit

94. *United States v. Bestfoods*, 524 U.S. 51, 61–62 (1998) (quoting William O. Douglas & Carroll M. Shanks, *Insulation from Liability Through Subsidiary Corporations*, 39 *YALE L.J.* 193, 193–96 (1929)). The Court went on to say:

But there is an equally fundamental principle of corporate law, applicable to the parent-subsubsidiary relationship as well as generally, that the corporate veil may be pierced and the shareholder held liable for the corporation’s conduct when, *inter alia*, the corporate form would otherwise be misused to accomplish certain wrongful purposes, most notably fraud, on the shareholder’s behalf.

Id. at 62.

95. See *supra* notes 36–37 and accompanying text.

96. 2 F.3d 24 (2d Cir. 1993).

97. *Id.* at 26.

98. Blumberg, *Transformation*, *supra* note 7, at 612.

later clarified its position in *Freeman v. Complex Computing Co.*⁹⁹ In that case, the court began by generally noting that it will only pierce the corporate veil in “certain limited circumstances,” and that liability “may be predicated upon either a showing of fraud or complete control by the dominating [entity] that leads to a wrong against parties.”¹⁰⁰ The court then reaffirmed the traditional three-pronged test, stating:

[T]o pierce the corporate veil under New York law, a plaintiff must prove that “(1) [the owner] ha[s] exercised such control that the [corporation] has become a mere instrumentality of the [owner], which is the real actor; (2) such control has been used to commit a fraud or other wrong; and (3) the fraud or wrong results in an unjust loss or injury to plaintiff.”¹⁰¹

The court reiterated that a mere finding of dominance or control, without more, does not satisfy all three elements of the traditional test. It squared that proposition with its previous position in *Carte Blanche*, explaining:

To the extent that we have restated this test in cases such as [*Carte Blanche*], in which we stated that veil-piercing will be allowed “in two broad situations: to prevent fraud or other wrong, or where a parent dominates and controls a subsidiary,” the element of domination and control never was considered to be sufficient of itself to justify the piercing of a corporate veil. Unless the control is utilized to perpetrate a fraud or other wrong, limited liability will prevail.¹⁰²

Thus, despite calls to abandon the traditional three-pronged test, courts have refused to adopt unlimited parental liability based solely on extraordinary control or domination.

99. 119 F.3d 1044 (2d Cir. 1997).

100. *Id.* at 1052.

101. *Id.* at 1053.

102. *Id.* (emphasis in original) (citing *Wm. Passalacqua Builders, Inc. v. Resnick Developers S., Inc.*, 933 F.2d 131, 138 (2d Cir. 1991)). The court went on to explain:

[E]ven if a plaintiff showed that the dominator of a corporation had complete control over the corporation so that the corporation “had no separate mind, will, or existence of its own,” New York law will not allow the corporate veil to be pierced in the absence of a showing that this control “was used to commit wrong, fraud, or the breach of a legal duty, or a dishonest and unjust act in contravention of plaintiff’s legal rights, and that the control and breach of duty proximately caused the injury complained of.”

Id. (quoting *Elec. Switching Indus., Inc. v. Faradyne Elec. Corp.*, 833 F.2d 418, 424 (2d Cir. 1987)).

Whatever the vagary of this extraordinary control or domination determination,¹⁰³ the current inquiry explores what happens when these factors are found to exist. The results strongly suggest that extraordinary control or dominance is an integral part of a court's decision whether or not to pierce the corporate veil. Note that only three courts in the survey pierced the corporate veil after finding that dominance was not present and only eleven courts were willing to forego piercing when they determined that extraordinary control or dominance was present.¹⁰⁴

b. Fraud/Misrepresentation

Fraud or misrepresentation is the second most frequently addressed issue in piercing cases. In this context, fraud or misrepresentation has taken on a variety of forms, ranging from traditional fraud, in which the subsidiary "affirmatively, intentionally, and calculatedly led [plaintiff] to believe it was [parent],"¹⁰⁵ to the more circuitous situation in which "plaintiff's allegation that [parent] created a network of subsidiary corporations for the purpose of avoiding federal regulation [was] sufficient to establish the fraud or wrong requirement."¹⁰⁶

Fraud or misrepresentation was discussed in 46.4% ($n=167$) of the piercing cases. Courts found fraud to be present in 7.2% ($n=26$)

103. When viewed as part of the piercing analysis based on domination, factors indicating that the subsidiary corporation is the mere alter ego of another corporation have been stated by one court to be:

- 1) the absence of the formalities and paraphernalia that are part and parcel of the corporate existence, i.e. issuance of stock, election of directors, keeping of corporate records and the like, (2) inadequate capitalization, (3) whether funds are put in and taken out of the corporation for personal rather than corporate purposes, (4) overlap in ownership, officers, directors, and personnel, (5) common office space, address and telephone numbers of corporate entities, (6) the amount of business discretion displayed by the allegedly dominated corporation, (7) whether the related corporations deal with the dominated corporation at arms [sic] length, (8) whether the corporations are treated as independent profit centers, (9) the payment or guarantee of debts of the dominated corporation by other corporations in the group, and (10) whether the corporation in question had property that was used by other of the corporations as if it were its own.

Wm. Passalacqua Builders, 933 F.2d at 138–39 (finding that the doctrine of piercing the corporate veil and the "alter ego theory" are indistinguishable and "should be treated as interchangeable").

104. Since these results support the hypothesis that dominance affects a court's decision whether to pierce, they will be revisited in the regression analysis below.

105. *OTR Assoc. v. IBC Servs., Inc.*, 801 A.2d 407, 410 (N.J. Super. Ct. App. Div. 2002).

106. *Campo v. 1st Nationwide Bank*, 857 F. Supp. 264, 271 (E.D.N.Y. 1994).

of the cases. In cases in which the courts determined that fraud was present, piercing occurred 92.3% ($n=24$) of the time. Where fraud was present, courts refused to pierce 7.7% ($n=2$) of the time. Courts found that fraud was not present in 39.2% ($n=141$) of the cases. In cases in which the court determined that fraud was not present, piercing occurred 8.5% ($n=12$) of the time. Thus, where fraud was not present, courts declined to pierce 91.5% ($n=129$) of the time. Where the court did not discuss fraud, it pierced 19.7% ($n=38$) of the time, which is nearly identical to the mean rate of piercing. This suggests that cases that do not include an issue of fraud are typically distributed. The difference in piercing the veil when fraud was present, not present, or not mentioned was statistically significant.¹⁰⁷

These statistics support the hypothesis that fraud cases are a unique subset of piercing. They also strongly support the hypothesis that a court is more likely to pierce if it finds fraud to be present than if it finds that fraud is not present. Quite simply, where fraud or misrepresentation is not found, courts refused to pierce in more than nine out of ten cases, irrespective of the presence of other factors.

c. Overlap

Overlap was the third most frequently discussed factor in parent-subsidary piercing. Overlap, as a category, identifies activities, persons, and places shared between the parent and the subsidiary, such as common offices, common business activity, and common employees, including directors and officers.

Overlap was discussed in 42.8% ($n=154$) of the piercing cases. Courts found overlap to be present in 27.2% ($n=98$) of the cases and pierced the corporate veil in 48.0% ($n=47$) of the cases in which overlap was present. Courts refused to pierce in 52.0% ($n=51$) of the cases in which overlap was present. Courts found that overlap was not present in 15.6% ($n=56$) of the cases coded and refused to pierce in 92.9% ($n=52$) of these cases.¹⁰⁸

107. The results of the chi-square test for piercing and the fraud/misrepresentation factor are: $\chi^2=94.584$, d.f.=2, $p < 0.001$. The lower the probability (p), the less likely it is that the results obtained in any given table occurred by chance. Here, the results in the table would occur by chance in less than 1 out of 1,000 similar samples. Therefore, we can reject the hypothesis that the decision to pierce is not related to a finding of fraud. Since these findings strongly suggest a relationship between piercing and fraud, they will be revisited in the regression analysis below.

108. These results were statistically significant. The results of the chi-square test for piercing and the overlap factor are: $\chi^2=62.359$, d.f.=2, $p < 0.001$. The lower the probability (p), the less likely it is that the results obtained in any given table occurred by chance.

d. Commingling of Funds

Commingling of funds was the next most frequently discussed factor. Commingling of funds was identified where the court determined that the parent inappropriately combined the funds of the subsidiary corporation with the parent's own funds. Commingling was discussed in 35.8% ($n=129$) of the piercing cases. Courts found commingling to be present in 15.6% ($n=56$) of the piercing cases. In cases in which commingling was found to be present, courts pierced 75.0% ($n=42$) of the time and refused to pierce 25.0% ($n=14$) of the time. The courts determined that commingling was not present in 20.3% ($n=73$) of the cases. Where courts found that commingling was not present, they refused to pierce 95.9% ($n=70$) of the time.¹⁰⁹

e. Undercapitalization

Undercapitalization was the fifth most discussed factor by courts. This category addresses undercapitalization of the subsidiary when the parent did not properly capitalize the entity from the outset, when there was draining of the subsidiary's funds, or when there was determined to be a failure to recapitalize. Undercapitalization was discussed in 31.9% ($n=115$) of the piercing cases. The courts found that undercapitalization was present in 12.2% ($n=44$) of the cases and chose to pierce in 70.5% ($n=31$) of the cases where undercapitalization was present. Courts refused to pierce in 29.5% ($n=13$) of the cases where undercapitalization was found to be present. Additionally, courts found that undercapitalization was not present in 19.7% ($n=71$) of the cases and refused to pierce in 95.8% ($n=68$) of these cases.¹¹⁰ These results support the hypothesis that undercapitalization, especially a finding that undercapitalization is not present, is related to a court's decision whether to pierce.

Here, the results in the table would occur by chance in less than 1 out of 1000 similar samples.

109. This result was statistically significant. The results of the chi-square test for piercing and the commingling factor are: $\chi^2=122.796$, d.f.=2, $p < 0.001$. The lower the probability (p), the less likely it is that the results obtained in any given table occurred by chance. Here, the results in the table would occur by chance in less than 1 out of 1000 similar samples.

110. This result was statistically significant. The results of the chi-square test for piercing and the parent control/dominance factor are: $\chi^2=175.409$, d.f.=2, $p < 0.001$. Although undercapitalization will be revisited in the logistic regression below, it does not reach statistical significance due to the small number of cases concerning undercapitalization.

f. Unfairness/Injustice

Unfairness or injustice is both a factor identified by the courts and a conclusion that they apply to the facts.¹¹¹ Courts discussed unfairness in 30.8% ($n=111$) of piercing cases. The courts determined that unfairness was present in 7.5% ($n=27$) of cases and pierced in 92.6% ($n=25$) of these cases. Further, courts refused to pierce in 7.4% ($n=2$) of cases where unfairness was present. Courts determined that unfairness was not present in 23.3% ($n=84$) of cases and refused to pierce in 95.2% ($n=80$) of these cases. Courts pierced in 4.8% ($n=4$) of cases where unfairness was present. These results were statistically significant.¹¹² Thus, these results support the hypothesis that unfairness is related to a court's determination of whether to pierce and, therefore, should be included in the regression analysis.

g. Directors, Officers, or Records Non-Existent

This category identifies that some or all of the subsidiary's directors or officers or other functionaries were never appointed or that no corporate, financial, or other records were created at all. Courts discussed management non-existence in 23.3% ($n=84$) of the piercing cases. Courts determined that management non-existence was present in 4.4% ($n=16$) of the cases and chose to pierce in 75% ($n=12$) of these cases. Moreover, courts found that non-existence was not present, which is to say that management existed, in 18.9% ($n=68$) of the piercing cases and refused to pierce in 88.2% ($n=60$) of these cases. Courts pierced in 11.8% ($n=8$) of the cases where management existed.¹¹³ These results support the hypothesis that the existence of separate management in a subsidiary is related to a court's willingness to pierce the corporate veil.

111. An indication of the latter is the question of whether the presence of some other significant factor presages a finding of unfairness. For example, a chi-square test between fraud/misrepresentation and unfairness/injustice revealed an association between the two variables that was statistically significant. The results of the chi-square test for fraud/misrepresentation and the unfairness/injustice factor are: $\chi^2=62.275$, d.f.=4, $p < 0.001$. Similarly, a chi-square test between dominance and unfairness/injustice also revealed an association between the two variables that was statistically significant. The results of the chi-square test for parent dominance/control and the unfairness/injustice factor are: $\chi^2=81.598$, d.f.=4, $p < 0.001$.

112. The results of the chi-square test for piercing and the unfairness/injustice factor are: $\chi^2=99.570$, d.f.=2, $p < 0.001$.

113. These results were statistically significant. The results of the chi-square test for piercing and the officers/directors nonexistent factor are: $\chi^2=32.426$, d.f.=2, $p < 0.001$.

h. Directors or Officers Non-Functioning

Courts discussed non-functioning management in 28.3% ($n=102$) of piercing cases. This category identifies where directors and officers were appointed but never or rarely held meetings or otherwise took formal action. That is, even though corporate functionaries existed, the business was run informally without recognition of titles or roles. There is a potential overlap between the categories of non-existent and non-functioning. For example, the failure of shareholders or directors to hold meetings (therefore, no “minutes”) or officers to sign corporate documents as officers was coded as a “nonfunctioning” informality, not a “non-existent” corporate record.

Courts determined that non-functioning management was present in 6.4% ($n=23$) of cases and chose to pierce in 78.3% ($n=18$) of these cases. Courts refused to pierce in 21.7% ($n=5$) of the cases where non-functioning management was found. Courts found that non-functioning management was not present, which is to say that functioning management was present, in 21.9% ($n=79$) of the cases and refused to pierce in 88.6% ($n=70$) of these cases. Courts chose to pierce in 11.4% ($n=9$) of the cases in which functioning management was present.¹¹⁴

i. Combined Non-Existence and Non-Functioning of Directors and Officers

Because non-existence and non-functioning of management are highly correlated ($r > 0.602$), these two variables were combined to avoid collinearity in the regression analysis that would decrease significance.¹¹⁵ The combination of non-existence and non-functioning will be labeled as a “lack of management.”

114. These results were statistically significant. The results of the chi-square test for piercing and the officers/directors nonfunctioning factor are: $\chi^2=51.825$, d.f.=2, $p < 0.001$. These results support the hypothesis that the functioning of subsidiary management is related to a court’s decision whether to pierce. Therefore, these results will be revisited in the logistic regression analysis below, though they will be combined with directors or officers non-existent to avoid collinearity, as discussed below.

115. The combination of these two categories, nonexistent and nonfunctioning management, respectively, were coded as follows. Cases coded 0 (explicitly not present) and 99 (not mentioned as a factor) for the categories were coded as 0. Cases coded 1 (explicitly present) and 99 (not mentioned as a factor) for the categories were coded as 1. When the two sets of coding were combined, cases coded as 1, 1 were coded as 1. Cases coded as 0, 0 were coded as 0. Cases coded as 0, 1 were coded as 1. Cases coded as 99, 99 were coded as 99.

j. Assumption of Risk

Assumption of risk was discussed in only 3.7% ($n=13$) of piercing cases, demonstrating that assumption of risk is not generally a factor that courts consider when determining whether to pierce. This factor will not be included in the regression analysis due to the extremely small number of cases concerning assumption of risk.

B. Logistic Regression Analysis

1. Explanation of Statistical Analysis Process

The foregoing descriptive statistics and analysis suggest that there are meaningful associations between the dependent variable (piercing the corporate veil) and certain independent variables (e.g., fraud, domination, and overlap). This kind of data analysis, known as bivariate analysis, explores the concept of association between two variables. Bivariate analysis,¹¹⁶ however, fails to control for other independent variables, thereby allowing statistical confounding.¹¹⁷ Bivariate analysis also cannot tell us the strength of any relationship between the variables.

Regression analysis is the generally recognized statistical technique¹¹⁸ for analysis of numerical data consisting of values of a

116. The cross-tabulation of an independent variable with the dependent variable, as shown above in Tables 6 through 9, is a form of bivariate analysis.

117. See DAVID COPE, *FUNDAMENTALS OF STATISTICAL ANALYSIS* 67 (2005) (“When a correlation coefficient misleads as to the strength of a causal connection between two correlated variables because it reflects not only the relationship between those variables but also the influence of one or more other variables whose individual effects can’t easily be isolated and assessed, there is said to be *confounding*.”). While all statistical models are susceptible to confounding variables, certain models, such as the logistic regression analysis employed herein, are able to control for the independent variables included in the model.

118. Thirty years ago, Michael Finklestein wrote:

The term “regression,” as it is used here, refers to a certain technique for estimating a mathematical relationship between factors on the basis of numerical data. The use of regression has become firmly established as the standard method of analysis in econometric (mathematical economic) models used by both public and private decision makers in formulating and examining policies. The same techniques are now beginning to be used in dealing with important issues in sharply contested regulatory proceedings; in these contexts the precision, reliability, and usefulness of regression methodology have become a special province and concern of lawyers.

MICHAEL O. FINKELSTEIN, *QUANTITATIVE METHODS IN LAW* 211 (1978). See generally Lee Epstein & Gary King, *Building an Infrastructure for Empirical Research in the Law*, 53 J. LEGAL EDUC. 311 (2003) (discussing the use of empirical research methodologies in legal scholarship); Howell E. Jackson, *Analytical Methods for Lawyers*, 53 J. LEGAL

dependent variable (response variable) and of one or more independent variables (explanatory variables).¹¹⁹ *Multiple regression analysis* is the technique used when the study has more than two variables, as does the study of parent-subsidary piercing cases.¹²⁰ A peculiar and important benefit of multiple regression analysis is that it

allows us to take account of all additional relevant factors for which we have data. We develop a multiple regression equation that includes all relevant explanatory variables (or at least as many as practicable) and then focus on the coefficient of the variable of interest This coefficient . . . reflects the magnitude of the relationship between [piercing results and the specific factor identified] when the influence of the other predictor variables is accounted for.¹²¹

As described above, the dependent variable for the current parent-subsidary study is whether a court chose to pierce the corporate veil in a particular case. Because the dependent variable has only two possible values (0—no pierce or 1—pierce), it is known as a dichotomous variable.¹²²

As an initial matter, classical linear regression coefficients would seem, on the surface, to be an adequate means of analyzing a dichotomous variable with values of 0 and 1. The regression coefficients will show an increase or decrease in the predicted probability of piercing the corporate veil due to a one-unit change of the independent variables. When working with dichotomous categorical values, however, linear regression models produce a line that can extend upward toward positive infinity and downward

EDUC. 321 (2003) (explaining the importance of regression and other analytical methods in the legal field).

119. COPE, *supra* note 117, at 70–80.

120. *Id.* at 83–85; see also G. David Garson, *Multiple Regression*, in *Statnotes: Topics in Multivariate Analysis*, <http://www2.chass.ncsu.edu/garson/PA765/regress.htm> (last visited Mar. 30, 2009) (“Multiple regression, a time-honored technique going back to Pearson’s 1908 use of it, is employed to account for (predict) the variance in an interval dependent, based on linear combinations of interval, dichotomous, or dummy independent variables. Multiple regression can establish that a set of independent variables explains a proportion of the variance in a dependent variable at a significant level (through a significance test of R^2), and can establish the relative predictive importance of the independent variables (by comparing beta weights).”).

121. COPE, *supra* note 117, at 84–85.

122. In addition, all of the variables present in this analysis are categorical rather than numerical. That is, they represent a category or event, such as the court piercing or not piercing the veil, or a court finding or not finding fraud to be present. Since these events do not have any true numerical value, a number is assigned to each event. These are then referred to as the dummy variables, because they do not represent any specific numerical value.

toward negative infinity. This produces nonsensical results because the dependent variable (pierce or no pierce) is bounded at 0 and 1.¹²³

The favored analytical tool for analysis involving dichotomous dependent variables such as the current study is called *logistic regression analysis*.¹²⁴ Phrased more simply and elegantly than I could:

Logistic regression is a variation of ordinary regression which is used when the dependent (response) variable is a dichotomous variable (i.e. it takes only two values, which usually represent the occurrence or non-occurrence of some outcome event, usually coded as 0 or 1), and the independent (input) variables are continuous, categorical, or both. For instance, in a medical study, the patient survives or dies. Unlike ordinary linear regression, logistic regression does not assume that the

123. FRED C. PAMPEL, *LOGISTIC REGRESSION: A PRIMER* 3-10 (2000). Dichotomous dependent variables require a transformation that will eliminate the floor and ceiling by allowing for decreasing effects of the independent variables as the probabilities approach 0 and 1. Analysis of dichotomous dependent variables requires a statistic that will not create probabilities outside the bounds of 0 and 1, that is, a non-linear model. Non-linear simply means that, rather than a straight line, the model creates an S-curve. The S-curve will have a relatively steep slope at probabilities of 0.5, and the slope will flatten as it approaches 0 and 1 so that it will create asymptotes approaching but never reaching 0 and 1. This S-curve will represent decreasing effects of the independent variable on the probability of the dependent variable as the probability approaches 0 or 1. The logit transformation has become a popular tool for this transformation. *Id.*

In order to achieve non-linearity, the logit begins by transforming probabilities into odds and then taking the natural log of the odds. Probabilities have values between 0 and 1. Odds are the ratio of the probability over one minus the probability, or $p/(1-p)$. This transformation eliminates the problem with upper bound that probabilities impose. The logit coefficient is the natural log of the odds. The formula for a logit coefficient then is $\ln(p/(1-p))$. Taking the natural log is done to eliminate the problem with a lower bound. A regression is then performed using the logit, and the analysis is referred to as a logistic regression, which results in a logit coefficient as its primary explanatory variable. *Id.*

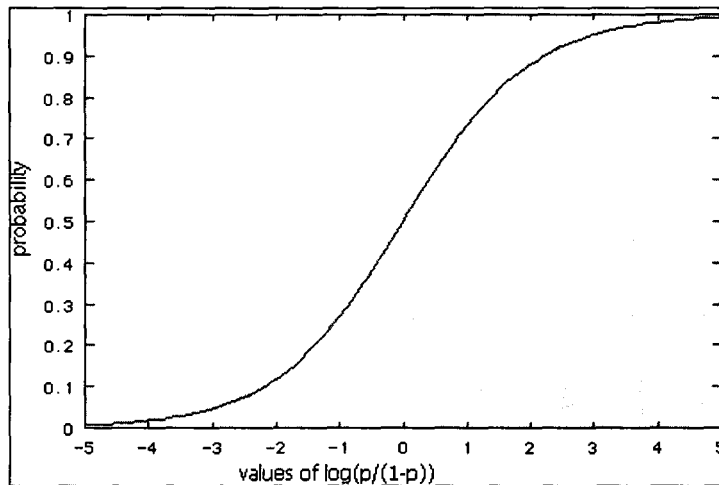
124. See Garson, *supra* note 120 (“*Binomial (or binary) logistic regression* is a form of regression which is used when the dependent is a dichotomy and the independents are of any type Logistic regression can be used to predict a dependent variable on the basis of continuous and/or categorical independents and to determine the percent of variance in the dependent variable explained by the independents; to rank the relative importance of independents; to assess interaction effects; and to understand the impact of covariate control variables. The impact of predictor variables is usually explained in terms of odds ratios.”).

This form of logistic regression is the means of analysis used by Swain & Aguilar. See *supra* note 29, at 446. For other studies using this technique, see generally Kevin M. Clermont & Theodore Eisenberg, *Xenophilia in American Courts*, 109 HARV. L. REV. 1120 (1996) (using logistic regression to study the effect of foreignness on favorable verdicts); Deborah Jones Merritt & Barbara F. Reskin, *Sex, Race, And Credentials: The Truth about Affirmative Action in Law Faculty Hiring*, 97 COLUM. L. REV. 199 (1997) (using logistic regression to study the effects of sex and race on tenure-track hiring at law schools).

relationship between the independent variables and the dependent variable is a linear one. Nor does it assume that the dependent variable or the error terms are distributed normally.

The form of the model is

$$\log\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k$$



where p is the probability that $Y=1$ and X_1, X_2, \dots, X_k are the independent variables (predictors) $b_0, b_1, b_2, \dots, b_k$ are known as the regression coefficients, which have to be estimated from the data. Logistic regression estimates the probability of a certain event occurring. Logistic regression thus forms a predictor variable ($\log(p/(1-p))$) which is a linear combination of the explanatory variables. The values of this predictor variable are then transformed into probabilities by a logistic function. Such a function has the shape of an S. On the horizontal axis we have the values of the predictor variable, and on the vertical axis we have the probabilities.

Logistic regression also produces Odds Ratios (O.R.) associated with each predictor value. The "odds" of an event is defined as the probability of the outcome event occurring divided by the probability of the event not occurring. In general, the "odds ratio" is one set of odds divided by another. The odds ratio for a predictor is defined as the relative amount by which the odds of the outcome increase (O.R. greater than

1.0) or decrease (O.R. less than 1.0) when the value of the predictor variable is increased by 1.0 units. In other words, $(\text{odds for PV}+1)/(\text{odds for PV})$ where PV is the value of the predictor variable.¹²⁵

Logistic regression analysis, then, both simultaneously controls for all other independent variables included in the model when evaluating the effects of each independent variable on the dependent variable, and measures the strength of the relationship of each independent variable in the researcher's model to the dependent variable. Therefore, using logistic regression, one can ask the question: what is the effect of a particular variable regardless of the values of the other independent variables? Logistic regression analysis allows us to determine the statistical significance of each of the factors that, as discussed above, descriptively seemed to have an impact on the likelihood of a court to pierce the corporate veil.

2. Parent-Subsidiary Logistic Regression Model—Legal Piercing Factors

Based upon the hypotheses and courts' statements about what factors would affect the outcome of a piercing case, the first theoretical model included the following independent variables: fraud/misrepresentation, commingling of funds, undercapitalization, overlap, lack of management, unfairness, and parent control/dominance. These are the variables that the descriptive statistics suggest are related to a determination of whether to pierce.

Tables 10 and 11 present the results of the logistic regression analysis of the dependent variable on the effect of the independent variables that were included in the first theoretical model. Table 10 uses cases where the factor is not discussed at all as the comparison situation (that is, as the reference variable), and Table 11 uses cases where the factor was determined not to be present as the comparison situation (that is, as the reference variable).¹²⁶

In these tables, the first statistic is the logit coefficient. These coefficients show the direction and relative strength of effects for

125. Cytel Statistical Software, *Logistic Regression*, http://www.resample.com/xlminer/help/Lreg/lreg_intro.htm (last visited Mar. 30, 2009).

126. The values are generated in the regression analysis using the dependent variable and a reference variable. The reference variable for these tests generally is "99" (that is, for cases in which the variable is not discussed), though it is sometimes useful to set the reference as "0" (that is, for cases when the variable is not found). The values generated are then a comparison of the likelihood of the dependent variable occurring when the independent variable is present compared to when the reference variable is present.

each of the independent variables. Negative coefficients are interpreted as moving the value of the dependent variable toward the “no pierce” category, and positive coefficients are interpreted as moving the dependent variable toward the “pierce” category. The column labeled “*p* value” presents the probability value associated with each coefficient. When the *p* value is below 0.05, the relationship is statistically significant, and we can reject the hypothesis that there is no relationship between the independent and dependent variable.¹²⁷ The column showing the odds ratio tells us the ratio of the probability that some event will occur over the probability that the same event will not occur.¹²⁸ Finally, the last two columns state the upper and lower confidence intervals for the odds ratio.¹²⁹

Based on the results of the logistic regression analyses summarized in Tables 10 and 11, the variables that emerged as statistically significant¹³⁰ are fraud/misrepresentation, commingling, overlap, unfairness/injustice, and parent control/dominance. Each of

127. The interpretation of the probability here is the same as in the chi-square values presented above in connection with the descriptive statistics. When the *p* value is below 0.05, the null hypothesis that there is no relationship between the independent and dependent variable is rejected. In the tables, *p* values between 0.05 and 0.10 are treated as marginally significant.

128. A word of explanation and caution regarding the concept and significance of odds ratios, which may often appear as inflated if not unrealistic probabilities: Odds and probability are two different ways to express the likelihood of an outcome. The *probability* of something happening is the ratio of the number of times it does happen *over the number of times it could happen*. For flipping a coin, the probability of heads is 1/2 (0.5) and the probability of rolling a dice so that it comes up as a six is 1/6 (0.16). *Odds*, in comparison, represent the ratio of the number of times something does happen *over the number of times it does not happen*. The denominator in an odds determination is smaller than in a probability determination, making the odds calculation by definition a larger number than a probability calculation. Once again, for a coin flip, the odds are 1/1 (1) and the odds for the dice throw of six is 1/5 (0.2). The “odds ratio” then normally magnifies this distinction, because it is one set of odds divided by another. Although odds ratios in logistic regression analysis are instructive, they should be read with these limitations in mind and are most useful when compared to other odds ratios relating to the same regression or other statistical inquiry.

129. See Garson, *supra* note 120 (“*Confidence interval on the odds ratio*. SPSS labels the odds ratio Exp(B) and prints Low and High confidence levels for it. If the low-high range contains the value 1.0, then being in that variable value category makes no difference on the odds of the dependent, compared to being in the reference (usually highest) value for that variable. That is, when the ninety-five percent confidence interval around the odds ratio includes the value of 1.0, indicating that a change in value of the independent variable is not associated in change in the odds of the dependent variable assuming a given value, then that variable is not considered a useful predictor in the logistic model.”).

130. In the tables, the *p* values that represent statistical significance are in bold type. See *supra* note 81 for an explanation of the significance determination.

these variables will be addressed separately. Undercapitalization and lack of management were not statistically significant.

Table 10: Logistic Regression Analysis with Piercing as Dependent Variable and with Not Discussed as Reference Variable¹³¹

Variable	Logit Coefficient	p Value	Odds Ratio for Piercing	95.0% C.I. for OR	
				Lower	Upper
Fraud/Misrepresentation					
Not Present vs. Not Discussed	-0.633	0.298	0.531	0.161	1.750
Present vs. Not Discussed	4.520	0.000	91.840	7.274	1159.496
Commingling					
Not Present vs. Not Discussed	-1.311	0.141	0.270	0.047	1.546
Present vs. Not Discussed	1.446	0.043	4.245	1.045	17.243
Undercapitalization					
Not Present vs. Not Discussed	-0.221	0.790	0.802	0.158	4.071
Present vs. Not Discussed	0.383	0.651	1.467	0.279	7.710
Overlap					
Not Present vs. Not Discussed	2.154	0.011	8.623	1.644	45.241
Present vs. Not Discussed	2.060	0.002	7.847	2.067	29.793
Lack of Management					
Not Present vs. Not Discussed	-0.287	0.715	0.751	0.161	3.503
Present vs. Not Discussed	-0.168	0.854	0.846	0.141	5.055

131. Number of cases = 360. In traditional ordinary least squares (“OLS”) regression analysis, the value of the R² indicates how much of the variance in the dependent variable (pierce or no pierce) is explained by the independent variables (e.g., fraud, commingling, undercapitalization, overlap, lack of management, unfairness/injustice, or parent control/dominance). A standard R² value cannot be calculated for any logit model, so several variants approximating the explanatory nature of OLS R² values have been developed to evaluate the goodness-of-fit of logistic models. The Pseudo R² value is roughly equivalent to the traditional R² value reported in standard OLS regression, and ranges from 0 to 1, with higher values indicating better model fit. For Table 10, the Pseudo R² values are: Cox and Snell = 0.502, and Nagelkerke = 0.787. These values indicate that the first model explains anywhere from 50% to 79% of the variance in the piercing of the corporate veil.

Variable	Logit Coefficient	p Value	Odds Ratio for Piercing	95.0% C.I. for OR	
				Lower	Upper
Unfairness/Injustice					
Not Present vs. Not Discussed	-1.149	0.201	0.317	0.055	1.843
Present vs. Not Discussed	2.797	0.008	16.395	2.094	128.389
Parent Control/Dominance					
Not Present vs. Not Discussed	-1.456	0.049	0.233	0.055	0.991
Present vs. Not Discussed	2.707	0.000	14.978	4.269	52.548

Table 11: Logistic Regression Analysis with Piercing as Dependent Variable and with Not Present as Reference Variable¹³²

Variable	Logit Coefficient	p Value	Odds Ratio for Piercing	95.0% C.I. for OR	
				Lower	Upper
Fraud/Misrepresentation					
Present vs. Not Present	5.252	0.000	190.984	14.114	2584.248
Not Discussed vs. Not Present	0.725	0.216	2.064	0.654	6.516
Commingling					
Present vs. Not Present	2.647	0.007	14.115	2.056	96.888
Not Discussed vs. Not Present	1.192	0.170	3.292	0.600	18.060
Undercapitalization					
Present vs. Not Present	0.733	0.509	2.080	0.236	18.317
Not Discussed vs. Not Present	0.259	0.757	1.296	0.251	6.697
Overlap					
Present vs. Not Present	0.024	0.976	1.024	0.219	4.793
Not Discussed vs. Not Present	-1.869	.022	0.154	0.031	0.761
Lack of Management					
Present vs. Not Present	0.446	0.675	1.561	0.195	12.500
Not Discussed vs. Not Present	0.141	0.851	1.152	0.263	5.041

132. Number of cases = 360. Pseudo R^2 = Cox and Snell: .496, and Nagelkerke: .778. The values reported indicate that this model explains anywhere from 50% to 78% of the variance in the piercing of the corporate veil.

Variable	Logit Coefficient	p Value	Odds Ratio for Piercing	95.0% C.I. for OR	
				Lower	Upper
Unfairness/Injustice					
Present vs. Not Present	3.793	0.004	44.391	3.377	583.568
Not Discussed vs. Not Present	1.094	0.216	2.987	0.529	16.882
Parent Control/Dominance					
Present vs. Not Present	4.006	.000	54.915	10.533	286.312
Not Discussed vs. Not Present	1.466	.042	4.332	1.055	17.791

The fraud/misrepresentation factor emerges as statistically significant as well as having the largest effect of any of the variables in the first model.¹³³ The positive coefficient¹³⁴ indicates that the effect of a finding of fraud/misrepresentation increases the likelihood that the court will pierce the corporate veil. This result is consistent with the findings in Table 9. The odds ratio of piercing when fraud was present to when it is not discussed shows that the court was 92 times more likely to pierce the corporate subsidiary's veil.¹³⁵ Comparing the odds of piercing when fraud was present to the odds of piercing when fraud was not present, the court was approximately 191 times more likely to pierce the veil.¹³⁶

Commingling also emerged as statistically significant. The positive coefficient¹³⁷ indicates that the effect of a finding of commingling increases the probability that the court will pierce the corporate veil. This result is also consistent with the findings in Table 9. Comparing when commingling was present to when it was not discussed, a court was approximately 4.2 times more likely to pierce the corporate veil. Comparing when commingling was present to when it was not present, a court was approximately 14 times more likely to pierce the veil.

133. The model includes all variables found to be statistically significant in the descriptive analysis.

134. This is the coefficient for present versus not present and present versus not discussed.

135. For this odds ratio, the confidence interval is from 7 to 1,159. Since the 95% confidence interval around the odds ratio does not include the value of 1.0, the fraud variable is considered a useful predictor in the logistic model. *See supra* note 128.

136. The confidence interval for the odds ratio was from 14 to 2,584.

137. This is the coefficient for present versus not present and present versus not discussed.

Overlap also emerged as statistically significant in certain circumstances. Overlap was not statistically significant when comparing when overlap was present to when it was not present. Overlap was statistically significant when comparing whether it was present or not to whether it was discussed or not. Discussion of overlap as a factor (whether or not it was found) increases the probability that the court will pierce the corporate veil. Discussing whether or not overlap was found made the court 7.8 to 8.6 times more likely to pierce the corporate veil.¹³⁸

Unfairness/injustice was also statistically significant in certain circumstances. Unfairness was statistically significant when it was present versus not discussed and present versus not present. If unfairness was considered as a factor, the court was 16.4 times more likely to pierce the corporate veil than in those cases where unfairness was not discussed. If unfairness was deemed present, the court was 44.4 times more likely to pierce the veil than in those cases where it was not present.

Finally, parent control/dominance was always statistically significant. Parent control/dominance as not present versus not discussed was significant, and the negative coefficient indicates that, when the court finds it not present, it is less likely to pierce the corporate veil by a factor. When the factor is present versus not discussed, the court is approximately 15 times more likely to pierce the corporate veil. When parent control/dominance is present as opposed to not present, the court is approximately 55 times more likely to pierce the veil. Parent control/dominance not discussed compared to it not being present is related to the court being 4.3 times more likely to pierce the corporate veil.

3. Variation I: Controlling for Fraud and Control/Dominance

As noted in both the descriptive data and the results from the logistic regression analysis, fraud/misrepresentation and parent control/dominance are far and away the most significant factors in the courts' piercing analysis. Interaction between variables should be addressed not only to be comprehensive but also because it provides valuable insight into the phenomenon of piercing the corporate veil. The classic example of interaction is the effect of one variable becoming stronger or weaker depending on the level of another variable. When a significant interaction may be expected in a data

138. The confidence interval for not present versus not discussed is from 1.6 to 45.2. The confidence interval for present versus not discussed is from 2.0 to 29.8.

set, one exploratory approach is to estimate odds ratios separately for one of the two factors involved in the interaction. For example, when investigating the interaction between fraud/misrepresentation and overlap in a logistic regression predicting piercing of the veil, the simplest method is to look at the odds ratio relating to overlap and piercing the veil first when fraud is present only, and then when fraud is not present only.¹³⁹

Tables 12 and 13 present the logistic regression analyses of various legal piercing factors with the dependent variable of piercing the corporate veil when fraud/misrepresentation is not present.¹⁴⁰ That is, what do the courts view as most important when they fail to find that there has been any significant misrepresentation of the relationship between the parent and the subsidiary? This analysis had a sample size of 141 ($n=141$). The variables that emerged as statistically significant were overlap and unfairness/injustice, with parent control/dominance showing marginal significance.

As Table 12 shows, when fraud/misrepresentation was not present, a finding of overlap being present as opposed to not discussed increased the odds of the court piercing the corporate veil to 90.6 times. Without controlling for fraud, the court was only 7.8 times more likely to pierce in this situation. When fraud/misrepresentation is not found, a court relies more heavily upon a finding of overlap in its determination to pierce.

A particularly interesting finding is that where a court found no overlap as opposed to not discussed, such a finding increased the odds of the court piercing the corporate veil to 58.3 times. Previously, when the study did not control for fraud/misrepresentation, a finding of overlap being not present versus not discussed only increased the odds by 8.6 times. Therefore, the court simply discussing overlap as a factor when fraud/misrepresentation was not present made the court much more likely to pierce the corporate veil when compared to the court not discussing overlap as a factor. Of course, where no overlap exists, as compared to that factor not being discussed, the negative

139. Due to restrictions based on the amount of data collected, the traditional interaction assessment between the variables would not produce viable results. Even the type of analysis actually employed here is also limited by the size of the database, and therefore, the ability to get statistically significant results is limited when slicing the data into smaller and smaller pieces.

140. A similar analysis for determining when fraud was present could not be run due to the small number of cases where fraud was found present—only 26 of 360 cases. Likewise, this analysis could not be complete for unfairness/injustice because of the small number of cases where unfairness was found to be present, $n=27$ cases, and the small number of cases where it was found to be present, $n=84$ cases.

coefficient in Table 13 demonstrates that the court is less likely to pierce.¹⁴¹

A finding of unfairness/injustice being present as opposed to not discussed in Table 12 resulted in the court being 490.8 times more likely to pierce when fraud/misrepresentation was not present. Before controlling for fraud/misrepresentation, this situation resulted in the court being 16.4 times more likely to pierce. Not surprisingly, as Table 13 illustrates, a finding of unfairness/injustice being present as opposed to not present resulted in the court being 4,300 times more likely to pierce the corporate veil when fraud/misrepresentation was found not present.¹⁴² Therefore, a finding of unfairness/injustice is highly influential on the court when fraud/misrepresentation is not found. In some sense, a finding of fraud or misrepresentation may be taken to imply unfairness or injustice, whereas, when fraud is not present, a finding of unfairness/injustice as a stand-alone factor is crucial to the decision to pierce.

141. This finding is statistically significant ($p=0.014$) but does not affect the odds ratio significantly (0.017).

142. A finding of parent control/dominance being present as opposed to not present was marginally significant and resulted in the court being 10.7 times more likely to pierce the corporate veil when fraud/misrepresentation was not present.

Table 12: Logistic Regression Analysis When
Fraud/Misrepresentation Is Not Present with Not Discussed as
Reference Variable¹⁴³

Variable	Logit Coefficient	<i>p</i> Value ¹⁴⁴	Odds Ratio for Piercing	95.0% C.I. for OR	
				Lower	Upper
Commingling					
Not Present vs. Not Discussed	2.430	0.185	0.088	0.002	3.192
Present vs. Not Discussed	-1.027	0.435	0.358	0.027	4.717
Undercapitalization					
Not Present vs. Not Discussed	2.240	0.150	9.390	0.445	198.258
Present vs. Not Discussed	0.790	0.681	2.203	0.051	94.648
Overlap					
Not Present vs. Not Discussed	4.064	0.014	58.229	2.279	1487.737
Present vs. Not Discussed	4.507	0.008	90.642	3.301	2489.252
Lack of Management					
Not Present vs. Not Discussed	-2.003	0.100	0.135	0.012	1.463
Present vs. Not Discussed	-2.753	0.312	0.064	0.000	13.223
Unfairness/Injustice					
Not Present vs. Not Discussed	-2.170	0.101	0.114	0.009	1.525
Present vs. Not Discussed	6.196	.019	490.835	2.779	86682.356
Parent Control/Dominance					
Not Present vs. Not Discussed	-0.633	0.565	0.531	0.062	4.585
Present vs. Not Discussed	1.737	0.147	5.678	0.544	59.258

143. Number of cases = 141. Pseudo R^2 = Cox and Snell: 0.240, Nagelkerke: 0.543. The values reported indicate that the model explains anywhere from 24% to 54.3% of the variance in the piercing of the corporate veil.

144. When the *p* value is below 0.05, the null hypothesis that there is no relationship between the independent and dependent variable was rejected. In the table, *p* values between 0.05 and 0.10 are treated as marginally significant.

Table 13: Logistic Regression Analysis When
Fraud/Misrepresentation Is Not Present with Not Present as
Reference Variable¹⁴⁵

Variable	Logit Coefficient	p Value	Odds Ratio for Piercing	95.0% C.I. for OR	
				Lower	Upper
Commingling					
Present vs. Not Present	1.403	0.467	4.065	0.093	177.765
Not Discussed vs. Not Present	2.430	0.185	11.355	0.313	411.611
Undercapitalization					
Present vs. Not Present	-1.450	0.507	0.235	0.003	16.977
Not Discussed vs. Not Present	-2.240	0.150	0.106	0.005	2.249
Overlap					
Present vs. Not Present	0.443	0.712	1.557	0.149	16.284
Not Discussed vs. Not Present	-4.064	0.014	0.017	0.001	0.439
Lack of Management					
Present vs. Not Present	-0.750	0.798	0.472	0.002	147.278
Not Discussed vs. Not Present	2.003	0.100	7.409	0.684	80.304
Unfairness/Injustice					
Present vs. Not Present	8.366	0.005	4,300.065	12.127	1,524,753.961
Not Discussed vs. Not Present	2.170	0.101	8.761	0.656	117.027
Parent Control/Dominance					
Present vs. Not Present	2.369	0.066	10.689	0.852	134.052
Not Discussed vs. Not Present	0.633	0.565	1.883	0.218	16.248

Tables 14 and 15 present the logistic regression analyses of various factors with the dependent variable of piercing the corporate

145. Number of cases = 141. Pseudo R^2 = Cox and Snell: 0.240, Nagelkerke: 0.543. The values reported indicate that the model explains anywhere from 24% to 54.3% of the variance in the piercing of the corporate veil.

veil when parent control/dominance is not present. The effort here was to test the outcome if the court has affirmatively found that no excessive parent domination exists. This analysis had a sample size of 142 cases ($n=142$). In this context, no individual variables emerged as statistically significant.¹⁴⁶

Table 14: Logistic Regression Analysis When Parent Control/Dominance Is Not Present with Not Discussed as Reference Variable¹⁴⁷

Variable	Logit Coefficient	p Value ¹⁴⁸	Odds Ratio for Piercing	95.0% C.I. for OR	
				Lower	Upper
Fraud/Misrepresentation					
Not Present vs. Not Discussed	1.116	0.452	3.054	0.166	56.060
Present vs. Not Discussed	-15.575	1.000	0.000	0.000	-----
Commingling					
Not Present vs. Not Discussed	-1.487	0.510	0.226	0.003	18.943
Present vs. Not Discussed	-0.835	1.000	0.434	0.000	-----
Undercapitalization					
Not Present vs. Not Discussed	0.614	0.743	1.848	0.047	72.766
Present vs. Not Discussed	-16.679	0.999	0.000	0.000	-----
Overlap					
Not Present vs. Not Discussed	-0.054	0.978	0.947	0.021	41.768
Present vs. Not Discussed	-17.110	0.998	0.000	0.000	-----

146. This result likely is due at least in part to the relatively small sample size.

147. Number of cases = 142. Pseudo R^2 = Cox and Snell: 0.240, Nagelkerke: 0.543. The values reported indicate that the model explains anywhere from 24% to 54.3% of the variance in the piercing of the corporate veil.

148. When the p value is below 0.05, the null hypothesis that there is no relationship between the independent and dependent variable is rejected. In the table, p -values between 0.05 and 0.10 are treated as marginally significant.

Variable	Logit Coefficient	p Value	Odds Ratio for Piercing	95.0% C.I. for OR	
				Lower	Upper
Lack of Management					
Not Present vs. Not Discussed	0.570	0.796	1.768	0.023	133.937
Present vs. Not Discussed	-14.820	0.999	0.000	0.000	-----
Unfairness/Injustice					
Not Present vs. Not Discussed	-1.286	0.563	0.276	0.004	21.572
Assumption of Risk					
Not Present vs. Not Discussed	3.614	0.114	37.122	0.418	3298.414

Table 15: Logistic Regression Analysis When Parent Control/Dominance is Not Present with Not Present as Reference Variable¹⁴⁹

Variable	Logit Coefficient	p Value	Odds Ratio for Piercing	95.0% C.I. for OR	
				Lower	Upper
Fraud/Misrepresentation					
Present vs. Not Present	-16.691	1.000	0.000	0.000	-----
Not Discussed vs. Not Present	-1.116	0.452	0.327	0.018	6.011
Commingling					
Present vs. Not Present	0.652	1.000	1.919	0.000	-----
Not Discussed vs. Not Present	1.487	0.510	4.423	0.053	370.657
Undercapitalization					
Present vs. Not Present	-17.293	0.999	0.000	0.000	-----
Not Discussed vs. Not Present	-0.614	0.743	0.541	0.014	21.317
Overlap					
Present vs. Not Present	-17.056	0.998	0.000	0.000	-----
Not Discussed vs. Not Present	0.054	0.978	1.055	0.024	46.533

149. Number of cases = 141. Pseudo R^2 = Cox and Snell: 0.039, Nagelkerke: 0.212. The values reported indicate that the model explains anywhere from 3.9% to 21.2% of the variance in the piercing of the corporate veil.

Variable	Logit Coefficient	p Value	Odds Ratio for Piercing	95.0% C.I. for OR	
				Lower	Upper
Lack of Management					
Present vs. Not Present	-15.390	0.999	0.000	0.000	-----
Not Discussed vs. Not Present	-0.570	0.796	0.566	0.007	42.863
Unfairness/Injustice					
Present vs. Not Present	1.286	0.563	3.617	0.046	282.204
Assumption of Risk					
Present vs. Not Present	-3.614	0.114	0.027	0.000	2.393

4. Variation II: Interaction of Parent Control/Dominance with Other Factors

As the last two tables indicate, when excessive parental control/dominance is not found, no other individual factors stood out as statistically significant. Nevertheless, the major piercing factor of excessive parent control/dominance may have other interrelations and indeed may operate more as a conclusion than as an analytical variable. For example, we have seen that excessive parental control appears to be a major determination in whether a court will pierce the corporate veil, but it may be simply another phrase for the court's conclusion to pierce.¹⁵⁰ One way to explore this issue is to take the significant variables/conclusions and see how much of the variation in the parental control determination by the courts can be tied to the absence or presence of the other variables.

Tables 16 and 17 present the results of the logistic regression analysis using parent control/dominance as the dependent variable.¹⁵¹ Cases in which parent control/dominance was not discussed were not included in this analysis, therefore, the data set included only the 203

150. For example, the court in *Victoria Elevator Co. v. Meriden Grain Co.*, 283 N.W.2d 509, 512 (Minn. 1979), listed eight factors for consideration in the initial step of a piercing analysis. One of those factors was stated to be the "existence of corporation as merely a façade for individual dealings." *Id.* However, it is not clear whether this is really an analytical factor or merely the court's conclusion with respect to its consideration of other factors.

151. The coefficients show the direction and relative strength of effects for each of the independent variables. The column labeled level of statistical significance presents the probability value associated with each coefficient. The interpretation of this probability is the same as in the χ^2 values presented above. When the *p*-value is below 0.05, the null hypothesis that there is no relationship between the independent and dependent variable is rejected. In the table, *p*-values between 0.05 and 0.10 are treated as marginally significant.

cases that discussed parent control/dominance, finding it either present or not present.

The variables that emerged as statistically significant were fraud/misrepresentation, commingling, and unfairness/injustice. Therefore, these variables are statistically and legally connected with a finding of parent control/dominance that supports the piercing determination. Undercapitalization,¹⁵² overlap,¹⁵³ and lack of management¹⁵⁴ were marginally significant in certain situations.

Table 16: Logistic Regression Analysis of Dominance with Not Discussed as Reference Variable¹⁵⁵

Variable	Logit Coefficient	<i>p</i> Value ¹⁵⁶	Odds Ratio for Piercing	95.0% C.I. for OR	
				Lower	Upper
Fraud/Misrepresentation					
Not Present vs. Not Discussed	0.586	0.306	1.796	0.585	5.513
Present vs. Not Discussed	2.933	0.006	18.782	2.364	149.219
Commingling					
Not Present vs. Not Discussed	-0.504	0.539	0.604	0.121	3.022
Present vs. Not Discussed	1.613	0.038	5.016	1.096	22.957
Undercapitalization					
Not Present vs. Not Discussed	0.191	0.805	1.210	0.266	5.500
Present vs. Not Discussed	1.436	0.100	4.206	0.760	23.269

152. Undercapitalization was marginally statistically significant with a *p*-value of 0.100, comparing when undercapitalization was present to when it was not discussed, and a court was approximately 4.2 times more likely to find parent control/dominance.

153. Overlap was marginally statistically significant, with a *p* value of 0.094, comparing when overlap was present to when it was not present, and a court was 8.3 times more likely to find parent control/dominance.

154. Lack of management was marginally statistically significant with a *p*-value of 0.055, comparing when lack of management was present to when it was not present. In these cases, the court was approximately 10.8 times more likely to find parent control/dominance.

155. Number of cases = 203. Pseudo R^2 = Cox and Snell: 0.467, Nagelkerke: 0.663. The values reported indicate that the model explains anywhere from 46.7% to 66.3% of the variance in the parent control/dominance.

156. When the *p*-value is below 0.05, the null hypothesis that there is no relationship between the independent and dependent variable is rejected. In the table, *p* values between 0.05 and 0.10 are treated as marginally significant.

Variable	Logit Coefficient	p Value	Odds Ratio for Piercing	95.0% C.I. for OR	
				Lower	Upper
Overlap					
Not Present vs. Not Discussed	-1.058	0.405	0.347	0.029	4.184
Present vs. Not Discussed	1.060	0.126	2.885	0.743	11.206
Lack of Management					
Not Present vs. Not Discussed	-1.071	0.186	0.343	0.070	1.678
Present vs. Not Discussed	1.308	0.223	3.701	0.451	30.383
Unfairness/Injustice					
Not Present vs. Not Discussed	-1.435	0.038	0.238	0.061	0.927
Present vs. Not Discussed	21.686	0.998	N/A	0.000	N/A

Fraud/misrepresentation emerged as statistically significant in both tables. The positive coefficient¹⁵⁷ indicates that the effect of a finding of fraud/misrepresentation was to make the court more likely to find parent control/dominance when there was evidence of misrepresentation. Comparing when fraud was present to when it was not discussed, the court was approximately 18.8 times more likely to find parent control/dominance. Comparing when fraud/misrepresentation was present to when it was not present, the court was approximately 10.4 times more likely to find parent control/dominance.

Commingling emerged as statistically significant in both circumstances as well. Once again, the positive coefficient indicates that the effect of a finding of commingling was to make the court more likely to find parent control/dominance. Comparing when commingling was present to when it was not discussed, the court was approximately 5 times more likely to find parent control/ dominance. Comparing when commingling was present to when it was not present, the court was approximately 8.3 times more likely to find parent control/dominance.

157. This is the coefficient for present versus not present and present versus not discussed.

Table 17: Logistic Regression Analysis of Dominance with Not Present as Reference Variable

Variable	Logit Coefficient	P Value	Odds Ratio for Piercing	95.0% C.I. for OR	
				Lower	Upper
Fraud/Misrepresentation					
Present vs. Not Present	2.347	0.021	10.457	1.416	77.227
Not Discussed vs. Not Present	-0.586	0.306	0.557	0.181	1.709
Commingling					
Present vs. Not Present	2.117	0.034	8.306	1.169	59.000
Not Discussed vs. Not Present	0.504	0.539	1.656	0.331	8.286
Undercapitalization					
Present vs. Not Present	1.246	0.242	3.475	0.431	28.012
Not Discussed vs. Not Present	-0.191	0.805	0.826	0.182	3.756
Overlap					
Present vs. Not Present	2.117	0.094	8.308	0.699	98.748
Not Discussed vs. Not Present	1.058	0.405	2.879	0.239	34.687
Lack of Management					
Present vs. Not Present	2.380	0.055	10.803	0.953	122.411
Not Discussed vs. Not Present	1.071	0.186	2.919	0.596	14.301
Unfairness/Injustice					
Present vs. Not Present	23.121	0.997	N/A	0.000	N/A
Not Discussed vs. Not Present	1.435	0.038	4.200	1.079	16.345

Unfairness/injustice also emerged as statistically significant. The negative coefficient for unfairness not discussed as compared to not present indicates that the effect of unfairness/injustice not being present was to make the court less likely to find parent control/dominance. Comparing when unfairness/injustice was not discussed to when it was found not present, the court was approximately 0.24 times less likely to find parent control/dominance. Comparing when unfairness/injustice was present to when it was not present, the court was approximately 4.2 times more likely to find parent control/dominance.

Consequently, the combination of the significant and marginally significant variables explained from about one-half to two-thirds of the variation when courts would find excessive parent control or dominance.¹⁵⁸ Query whether this qualifies excessive parent control as a conclusion as opposed to an independent variable. In any event, the ties between a finding of these factors and the determination of excessive parent control/dominance are unmistakable, if not surprising.

CONCLUSION

The best way to summarize the results of the current study is to answer the research hypotheses posed at its inception, first revisiting the original hypothesis and then assessing its validity.

1. Piercing occurs with the same frequency in the parent-subsidary situation as in the overall universe of piercing decisions. UNTRUE. Piercing occurs about half as often as in the overall universe of piercing decisions. The current study found a much lower rate of piercing when compared to the Thompson study. This deviation appears to be caused by a combination of factors, including the observance of appropriate boundaries by corporate shareholders, the reification of “corporateness” in the parent-subsidary context, and the relative intractability of corporate group litigation. In any event, there is a clear reluctance of courts to hold the parent liable for the acts of the subsidiary barring some fraud/misrepresentation or some truly extraordinary and excessive parental control or dominance.
2. Piercing occurs with relatively equal frequency in the parent-subsidary context irrespective of the level of court making the determination. UNTRUE. The current study found statistically significant differences between trial, appellate, and supreme courts, with supreme courts piercing at almost twice the rate of trial courts.
3. Piercing occurs with relatively equal frequency in the parent-subsidary context, irrespective of whether the plaintiff is an individual or an entity. UNTRUE. This study found that corporate entities are more likely than individuals to persuade a

158. Number of cases = 203. Pseudo R^2 = Cox and Snell: 0.467, Nagelkerke: 0.663. The values reported indicate that the model explains anywhere from 46.7% to 66.3% of the variance in the parent control/dominance.

court to pierce. Indeed, they are more than twice as likely to pierce. Various factors could account for this disparity, including (1) the relative inequality of resources that may be available to entity plaintiffs, and (2) the fact that courts pierce more often in contract cases, which are most often brought by corporate entities, while individuals are more likely to bring tort claims.

4. Piercing occurs with relatively equal frequency in the parent-subsidiary context in tort cases and in contract cases. UNTRUE. Courts were three times more likely to pierce in contracts than in tort cases. This finding confirmed generally the results of previous studies, although the divergence in the parent-subsidiary context is much greater.

5. The decision to pierce in the parent-subsidiary context is not significantly influenced by a finding of fraud or misrepresentation. UNTRUE. In the logistic regression analyses reported in this study, a finding of fraud/misrepresentation had far and away the most significant effect on the decision of a court to pierce. Nevertheless, courts found fraud to exist in less than ten percent of the parent-subsidiary cases that were studied here. In addition, where courts affirmatively found fraud not to exist, piercing occurred in less than ten percent of the cases, irrespective of the presence or absence of any other factor or factors.

6. The decision to pierce in the parent-subsidiary context is not significantly influenced by a finding of extraordinary and excessive parent control/dominance. UNTRUE. Parental control and dominance was the factor (or conclusion) most addressed by courts. Given, however, the normal control that sole ownership of all shares of stock of a corporation entails, it is surprising that the courts found the factor of parental control or dominance to exist in less than sixteen percent of the parent-subsidiary piercing cases. There does not appear to be any judicial trend toward finding unlimited liability of parent corporations for the operations of their subsidiaries; rather, the opposite continues in both the law and the case results.

7. The decision to pierce in the parent-subsidiary context is not significantly influenced by a finding of overlap between the parent and subsidiary. TRUE AND UNTRUE. In the descriptive statistics, overlap of various corporate offices,

officers, and functions appeared important to the courts. Overlap was the third most frequently addressed factor, although the courts pierced in only half the cases where overlap was determined to exist, which was not statistically significant. Nevertheless, when fraud is eliminated as an operative variable, even a discussion of overlap results in a significant increase in the likelihood of piercing.

8. The factor of parent control/dominance is a conclusory term that incorporates other factors in its determination. UNCLEAR. When parent control/dominance was eliminated as an operative variable, no other variable individually rose to a level of statistical significance. However, when parent control/dominance was employed as the dependent variable, the other factors explained were all statistically significant (or marginally significant) to parent control/dominance and explained somewhere between approximately one-half to two-thirds of the variation in parent control/dominance.

This Article offers an initial foray into the empirical data informing the policy debate over the application of piercing doctrine in the parent-subsidiary context. The purpose was to add a factual information overlay on this debate and to provide an introductory, though certainly not exhaustive, statistical analysis of the results. The results belie the arguments from several and diverse quarters calling for expansion of corporate group liability.

