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ABSTRACT:

When do American CEOs have covenants not to compete (CNCs) in their employment contracts? To answer this question, we collected a random sample of nearly 1,000 CEO employment contracts for 500 companies randomly selected from the S&P 1500 for the time period 1996 to 2010. Our main findings are very revealing. First, our analysis shows that CEO's are less likely to have CNCs in their employment contracts if the contracts are being enforced in jurisdictions that do not permit strong CNC clauses. Thus, contracts that are likely to be enforced in California are much less likely to include non-compete clauses as its state courts will not enforce those provisions. Second, there is a significant trend toward greater usage of CNC clauses in CEO employment contracts over time. This suggests that employers are more aware than ever of the importance of using CNC clauses and confirms other scholars' assumptions that, at least in one context, these clauses are used increasingly by employers. Third, there is strong path dependence in the use of CNC clauses: if a company used one in a prior CEO employment contract, then it is much more likely to insist on one in a later contract. Next, longer term contracts are more likely to have CNC clauses than short term contracts. This is likely because the firm has more firm specific investment in CEOs that stay for longer periods. Finally, we find that more profitable firms are more likely to use noncompete provisions in their CEO's employment contract suggesting that for these firms the risk of harm from a departing CEO may simply be more acute than with other firms.

I. INTRODUCTION

Employers now routinely ask their employees to sign contracts containing covenants not to compete ("CNCs" or "noncompetes") that prohibit the employee from engaging in otherwise lawful post-employment productive activities. These restrictions have been contentious since at least the advent of the first covenants not to compete as the guild system began to breakdown in early eighteenth-century London.[1] Today, CNCs are often criticized as contracts of adhesion arising out of a perceived inequality in bargaining power between employers and employees.[2] This bargaining power disparity argument has been most broadly stated by Professor Estlund

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[1] *See* Harlan M. Blake, *Employee Agreements Not to Compete*, 73 HARV. L. REV. 625, 631 (1960) (citing the 1711 case of *Mitchel v. Reynolds*, (1711) 24 Eng. Rep. 347 (Q.B.); I P. Wms. 181).

[2] Professor Rachel Arnow-Richman asserts that disparate bargaining positions make it "inappropriate to view noncompete terms as the product of reasoned reflection or as dispositive of the parties' rights and obligations." Rachel S. Arnow-Richman, *Bargaining for Loyalty in the Information Age: A Reconsideration of the Role of Substantive Fairness in Enforcing Employee Noncompetes*, 80 OR. L. REV. 1163, 1214 (2001). She argues that "even if a particular employee possesses valuable human capital that is in demand in the relevant market, …there are reasons to distrust the quality of the bargain he or she reaches with the employer" because of a list of substantive and procedural grounds:

> Many noncompetes are presented to employees on the day they start their jobs or shortly thereafter, at which point the employee is effectively unable to assert the leverage he or she otherwise could by declining the job. More importantly, even an employee who is given the opportunity to review a noncompete before accepting a position is likely to have little incentive to negotiate its terms. In general, employees have limited information on which to base a decision about the fairness of a noncompete or evaluate the risk of accepting its terms. The employee cannot predict such things as the extent and value of training that the employer will provide, the progression of his or her wages, the personal satisfaction he or she will experience on the job, the duration of the parties' relationship, or the future direction of the company and the market, all of which will reveal the wisdom of signing the agreement. Although the employer likewise has limited information from which to determine whether and what type of noncompete it should demand from its employees, it is certainly in a better position to make that prediction given that it controls the structures through which the employment relationship will develop. Even so, the number of contingencies for which the employer can expressly provide by contract is finite.

Id. at 1214-15.

who claims that, “most contract terms are offered by employers on a take-it-or-leave-it basis, and are set under the shadow of employment at will—the employer's presumptive power to fire employees for any reason at all, including refusal to accept the employer's proffered or modified terms of employment.”[3]

Whatever the merits of these claims in the context of rank and file employees, such concerns are absent when CEOs negotiate their employment contracts because they enjoy substantial bargaining power and are routinely represented by legal counsel in negotiations with their firms.[4] In fact, the disparity in bargaining power arguments may be stood on their head in this context if one believes some commentators’ claim that CEOs dominate their firms’ boards of directors on issues such as managerial compensation and the terms of their employment relationship, virtually dictating contract terms that are most favorable to them.[5]

Yet, prior research reveals that CEOs regularly accept restrictions on their freedom of mobility and their ability to use their human capital after termination of the employment

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[3] Cynthia L. Estlund, *Between Rights and Contract: Arbitration Agreements and Non-Compete Covenants as a Hybrid Form of Employment Law*, 155 U. PA. L. REV. 379, 384-85 (2006).

Professor Estlund adds that:

> Skepticism about the bargaining power of employees has contributed to courts' willingness to intervene in the employment contract to redress abuses that offend public policy—for example, a discharge for refusing to violate the law or for exercising an employment-related right (e.g., filing a workers' compensation claim). Still, most terms of the employment relationship are governed not by external law or public policy but by the express or implied agreement of the parties."

Id. at 385.

[4] Stewart J. Schwab & Randall S. Thomas, *An Empirical Analysis of CEO Employment Contracts: What do Top Executives Bargain For?*, 63 WASH. & LEE L. REV. 231, 236-241 (2006).

[5] *See* LUCIAN BEBCHUK & JESSE FRIED, PAY WITHOUT PERFORMANCE: THE UNFULFILLED PROMISE OF EXECUTIVE COMPENSATION (2004).

relationship in the form of CNC clauses.[6] That CEOs with strong, or perhaps even overwhelming, bargaining power would accept CNCs in their employment contracts suggests that these clauses are in their employment contracts because firms are willing to bargain hard to obtain them to protect important company interests.

What it is that firms are trying to protect has been the subject of several theories by leading legal scholars. One theory is that CNCs may be an important tool for creating incentives for employers to invest in key employee training and skills by giving the employer a limited quasi-property right in that human capital based on the security of a tailored covenant not to compete.[7] In a similar vein, CNCs could be conceptualized as conditional waivers of employee contract rights that recognize employers also have interests and rights that can be protected at the expense of employee rights as long as they are truly legitimate interests.[8] These and other perspectives such as freedom of contract,[9] or even viewing CNCs as a business strategy tool for

[6] Earlier work by one of the authors has shown that a substantial percentage of CEO employment contracts contain CNC clauses with some restricting CEO's post-employment activities for more than four years. Schwab & Thomas, *supra* note 4, at 254-55. In their study of CEO contracts Professors Schwab and Thomas focused on several variables, including the presence of a non-competition clause and, if one existed, they "then determined the duration of the non-competition provision and the types of terminations that would activate these restrictions." *Id.* at 243. However, the focus of the article was not primarily on post-employment restrictions on competition.

[7] Eric A. Posner & George G. Triantis, *Covenants Not to Compete from an Incomplete Contracts Perspective* 2-3 (Univ. of Chi. Law and Econ., Olin Working Paper No. 137, 2001), *available at* http://papers.ssrn.com/paper.taf?abstract_id=285805 (discussing the two objectives of *ex post* (labor mobility) and *ex ante* (human capital investment). For a more general framework, see Gary S. Becker, *Investment in Human Capital: A Theoretical Analysis*, 70 J. OF POL. ECON. 9 (1962). *See also* Paul H. Rubin & Peter Shedd, *Human Capital and Covenants Not to Compete*, 10 J. LEG. STUD. 93 (1981) (the first legal article relating Becker's general and specific human capital distinction to covenant not to compete law).

[8] Estlund, *supra* note 3 at 415-20.

[9] *See*, *e.g.*, RESTATEMENT (SECOND) OF CONTRACTS ch. 8, topic 1, intro. note (1981) (stating the general proposition that "parties may contract as they wish, and courts will enforce their agreements without passing on their substance").

both "proprietary protection and strategic coercion",[10] offer potentially useful explanations for the presence of CNC clauses in CEO employment contracts. However, none of these theories have been empirically verified.

To shed some light on the validity of these theories, we collected a large sample of CEO employment contracts for 500 companies randomly selected from the Standard & Poor's Composite 1500 companies from 1996 to 2010. We then used these contracts in an empirical analysis that tries to answer the question: when do American CEOs have CNC clauses in their employment contracts? To the best of our knowledge, this is the first article to quantify the post-employment competitive restrictions in CEO employment agreements, and then use that information to gain insight into when public corporations attempt to extend control over the executive after termination of employment. We examine almost one thousand individual contracts to identify all CEOs at these firms that have competitive restrictions related to their post-employment activities in their employment agreements. This is much superior to earlier work that has largely used proxies, such as the mere possibility of enforcement or other

[10] Larry A. DiMatteo, *Strategic Contracting: Contract Law as a Source of Competitive Advantage*, 47 AM. BUS. L.J. 727, 765 (2010) ("The often litigated covenant not to compete in the employment setting serves two strategic purposes: proprietary protection and strategic coercion."). Professor DiMatteo further argues that the first purpose for the employer noncompete enforcement "relates to the employer's proprietary property that has been disclosed to the employee and that the employer seeks to protect" while the second purpose "seeks to deter employee movement to a competitor." *Id.* He adds that the first intent "is best served by drafting a covenant that is likely to be enforced by the courts [such that an] employer shows that there is some proprietary interest trade secrets, knowhow, client contacts, access to key employees, specialized training, databases, and compilations that are susceptible to being harmed if used or disclosed to a new employer." *Id.* For the second purpose he finds that it is an employer's attempt to overreach and assert control of the employee. *Id.*

imprecise measures of the strength and likelihood of CNC enforceability of in a particular jurisdiction, as a surrogate for the presence of a CNC in an employment contract.[11]

Our main findings are very revealing. First, our analysis shows that CEO's are less likely to have CNCs in their employment contracts if the contracts are being enforced in jurisdictions that do not permit strong CNC clauses. Thus, contracts that are likely to be enforced in California are much less likely to include non-compete clauses as its state courts will not enforce those provisions. Second, there is a significant trend toward greater usage of CNC clauses in CEO employment contracts over time. This suggests that employers are more aware than ever of the importance of using CNC clauses and confirms other scholars' assumptions that, at least in one context, these clauses are used increasingly by employers. Third, there is strong path dependence in the use of CNC clauses: if a company used one in a prior CEO employment contract, then it is much more likely to insist on one in a later contract. Next, contracts for which a longer term of employment has been negotiated are more likely to have CNC clauses than short term contracts. This is likely because the firm has more firm specific investment in CEOs that are expected to stay for longer periods. Finally, we find that more profitable firms are more likely to use noncompete provisions in their CEO's employment contract suggesting that for these firms the risk of harm from a departing CEO may simply be more acute than with other firms.

This Article is organized as follows. In Part I, we provide some background about CNC clauses and review the relevant existing studies concerning the alleged benefits and harms of noncompetes in the law and economics, management and business economics, and employee

[11] *See infra* Part II.B.2, for a discussion of the shortcomings of the recent empirical research on the influence of noncompetes and this Article's more precise methodology that addresses these issues.

rights literatures. Part II describes our data collection and study methodology. Part III presents descriptive statistics for the data and formulates our hypotheses for testing. Part IV contains our multiple regression analysis results. Part V discusses our findings and their policy implications with some brief concluding remarks on directions for further research.

I. POST-EMPLOYMENT RESTRICTIONS: BACKGROUND AND LITERATURE REVIEW

Before presenting our data and findings, it is first necessary to provide some initial background information on covenants not to compete enforcement and the arguments for and against these clauses. This Part begins with an overview of CNCs and then provides the various arguments and the limited empirical research related to the use and likely impact of CNCs.

A. BACKGROUND ON NONCOMPETE CLAUSES

Employers seek to restrict the post-employment activities of their employees in several ways. When worker is still employed by a particular firm, there are default fiduciary duties that guard against unfair competition with the employer.[12] These fiduciary duties include the duty of care and, most crucially, the duty of loyalty to the firm. Specifically, the duty of loyalty helps ensure that employees will serve the firm's interests and refrain from harmful competition with it during their employment.[13] However, once they are terminated – for whatever reason – these duties end and the departing employee is generally free to engage in lawful competition.[14] The

[12] *See* Dana M. Muir & Cindy A. Schipani, *The Challenge of Company Stock Transactions for Directors' Duties of Loyalty*, 43 HARV. J. ON LEGIS. 437, 444-57 (2006) (focusing on an executive's duty of loyalty to the firm).

[13] *Id.*

[14] Wendi S. Lazar & Gary R. Siniscalco, *Confidentiality, Trade Secrets, and Other Duties and Restrictive Covenants in a Global Economy*, *in* RESTRICTIVE COVENANTS AND TRADE SECRETS IN EMPLOYMENT LAW, AN INTERNATIONAL SURVEY 19 (Wendi S. Lazar & Gary R. Siniscalco, eds., 2010) ("In many U.S. states, in addition to the common law recognition of the duty of loyalty

employee's valuable knowledge, skills, and relationships walk out the door when the employee leaves and begins to compete with its former firm, much to the consternation of an employer that believes it owns them.[15]

The employer's goal for restrictive post-employment covenants is to control the activities of a former employee *after* the usual employee-employer relationship has ended. In this way, the company may maintain the status quo that existed prior to the employee's departure and avoid serious losses. In the case of CEOs, there is a far greater risk of harm associated with losing that key employee to a competitor, which increases an employer's incentive to insist on post-employment restrictions. This is because CEOs typically help create or have knowledge of and unfettered access to all of a firm's trade secrets, supplier and customer information, as well as the company's strategic plans, strengths, and weaknesses.

There are several typical mechanisms employers use to restrict an employee's post-employment competition. If permissible under a state's law, and within the bounds of public policy, many employers will insist that their employees accept noncompete clauses in their employment contracts.[16] These clauses are interpreted with some suspicion by courts because of their anti-competitive nature and likely adverse effects on the employee's further employment prospects. However, these terms will generally be judicially evaluated using a balancing test that

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that prevents employees from "raiding" employers' clients during employment, nonsolicitation provisions post employment will generally be upheld as long as they are reasonable and necessary to protect an employer's legitimate business interest") (case citations omitted).

[15] *See* Norman D. Bishara & David Orozco, *Using the Resource-Based Theory to Determine Covenant Not to Compete Legitimacy*, 87 IND. L.J. 979 (2012).

[16] In this Article we focus on post-employment restrictions that limit employee mobility and competitive behavior. We do not discuss covenants not to compete that restrict the activities of a former owner of a business where such restrictions are intended to protect the goodwill of a business following a sale.

weighs the firm's protectable business interest and purpose of the restriction, the scope (in time and geography) of the restriction, and the potential harm to the employee and the public.[17]

Perhaps the most active discussion regarding the propriety of CNCs relates to the well-known academic argument that the economic growth of Silicon Valley was made possible in part because of California's ban on noncompetes.[18] The state's longstanding statutory ban on contractual restrictions on employee mobility[19] and rise of the tech economy in the state has led to a burst of recent scholarship that attempts to test the effect, if any, of noncompete enforcement on various business outcomes – in other words, a so-called "California effect".[20] Scholars widely assume that outside California firms often use post-employment restrictive covenants for

[17] *See generally* Blake, *supra* note 1.

[18] *See generally* Ronald J. Gilson, *The Legal Infrastructure of High Technology Industrial Districts: Silicon Valley, Route 128, and Covenants Not to Compete*, 74 N.Y.U. L. REV. 575 (1999) (proposing that California's ban on employee noncompetes and the resulting ease of employee mobility is part of an advantageous legal framework that has made Silicon Valley's economy and high levels of technological innovation possible).

[19] California's anti-employee CNC statute is CAL. BUS. & PROF. CODE § 16600 (West 2011) ("Except as provided in this chapter, every contract by which anyone is restrained from engaging in a lawful profession, trade, or business of any kind is to that extent void."). For a detailed discussion of the serendipitous historical origins of California's ban on employee noncompetes see Gilson, *supra* note 18, at 613-20. The California Supreme Court has recently reiterated the state's strong public policy against post-employment CNCs in *Edwards v. Arthur Andersen, LLP*, 44 Cal. 4th 937 (2008).

[20] This developing area of research is discussed in detail in *infra* Part II.B.2.

employees[21] and recent research demonstrates that the majority of U.S. jurisdictions will allow some level of CNC enforcement.[22]

In modern employment contracts, the new employee may also find that along with her noncompete, the firm wants her to agree to other restrictions during and after the employment relationship, such as promises related to confidentiality and nondisclosure of proprietary information, soliciting other employees to leave and compete, and working with or for former clients.[23] Other mechanisms that serve as disincentives to leaving a firm for new employment opportunities with a competitor include agreements related to contingent compensation and benefits, and, more recently, garden leave provisions.[24] In addition, in all states a duly protected

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[21] *See, e.g.*, Gillian Lester, *Restrictive Covenants, Employee Training, and the Limits of Transaction-Cost Analysis*, 76 IND. L.J. 49, 49 (2001) (finding that CNCs "are an increasingly common feature of employment"); *see also* Peter J. Whitmore, *A Statistical Analysis of Noncompetition Clauses in Employment Contracts*, 15 J. CORP. L. 483 (1990) (presenting evidence of a growth trend in appellate decisions involving CNCs, but not directly measuring the actual inclusion of CNCs in employee contracts).

[22] *See generally* Norman D. Bishara, *Fifty Ways to Leave Your Employer: Relative Enforcement of Covenant Not to Compete Agreements, Trends, and Implications for Employee Mobility Policy*, 13 U. PA. J. BUS. L. 753 (2011) [hereinafter Bishara, *Fifty Ways to Leave Your Employer*].

[23] *See* Katherine V.W. Stone, *The New Psychological Contract: Implications for the Changing Workplace for Labor and Employment Law*, 48 UCLA L. REV. 519 (2001).

[24] The concept of garden leave is an alternative to a CNC. Essentially the employee agrees to provide a relatively long notice of termination period during which the individual remains an employee with all of the attendant fiduciary duties and is essentially paid not to come to work and, accordingly, is prohibited from taking other employment with a competitor. *See* Bob Hepple, *The Duty of Employee Loyalty in English Law*, 20 COMP. LAB. L. & POL'Y J. 205, 214 (1999) (discussing that the employer "pay[s] the employee's salary during this period without requiring the employee to come into work . . . on the assumption that the employee will have to stay home and work in the garden, but will be financially secure until the period of notice expires and he or she is then free to work for the competitor"). For a discussion of recent coverage of the garden leave concept in the academic literature, see Norman D. Bishara & Michelle Westermann-Behaylo, *The Law and Ethics of Restrictions on an Employee's Post-Employment Mobility*, 49 AM. BUS. L.J. 1, 25-27 (2012). *See also* Greg T. Lembrich, Note, *Garden Leave: A Possible Solution to the Uncertain Enforceability of Restrictive Employment Covenants*, 102 COLUM. L. REV. 2291 (2002) ("Garden leave may provide a solution to the prevailing uncertainty

and eligible business secret will give rise to trade secret protection and, where allowed in a handful of states, the doctrine of inevitable disclosure may provide further employer protection.[25] While these two default protections are often reinforced by contractual language to gain overt acknowledgment by the employee of the employer's existing legal protection, they are managed and raised, if at all, by the employer.

Interestingly, very little is understood about the actual deployment of CNCs and other post-employment restrictions on an employee's activities in modern business relationships. The extant legal literature focuses on litigated cases and the emerging policy responses to contractual restrictions.[26] In particular, legal researchers have studied the various uses and alleged abuses of non-compete clauses.[27] This includes discussions of the general and specific human capital investment aspect of noncompetes,[28] as well as how that understanding might be applied to a maximization of the positive spillovers of allowing noncompetes in some employment situations and not others.[29] The evolution of state enforcement of noncompetes has also been shown to be trending toward greater enforcement.[30]

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regarding the enforceability of restrictive covenants in the United States…however, American courts have not ruled on the legitimacy of garden leave provisions.").

[25] *See, e.g.*, Alan Hyde, *Should Noncompetes Be Enforced?: New Empirical Evidence Reveals the Economic Harm of Non-compete Covenants, in* REGULATION 6 (Winter 2010) (adapted from a chapter in RESEARCH HANDBOOK ON THE LAW AND ECONOMICS OF LABOR AND EMPLOYMENT LAW (Michael Wachter & Cynthia Estlund eds., forthcoming 2011)) [hereinafter Hyde, *Should Noncompetes Be Enforced?*].

[26] *See, e.g.*, Michael J. Garrison & John T. Wendt, *The Evolving Law of Employee Noncompete Agreements: Recent Trends and an Alternative Policy Approach*, 45 AM. BUS. L.J. 107, 164 (2008).

[27] *See, e.g,*, Arnow-Richman, *supra* note 2.

[28] *See* Rubin & Shedd, *supra* note 6.

[29] *See* Norman D. Bishara, *Balancing Innovation from Employee Mobility with Legal Protection for Human Capital Investment: 50 States, Public Policy, and Covenants Not to Compete in an*

Are CNCs for CEOs somehow different than those for other employees? The CEO is an often-discussed figure that is sometimes reviled and sometimes revered, depending on the observer's perspective. Much of the popular debate surrounds the issue of executive compensation.[31] Generally, the legal literature focuses on managerial agency costs and board capture,[32] the fiduciary duties of the officers and directors,[33] and executive compensation in the

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Information Economy, 27 BERKELEY J. EMP. & LAB. L. 287, 294 (2006) [hereinafter Bishara, *Balancing Innovation from Employee Mobility*].

[30] *See* Garrison & Wendt, *supra* note 26, at 164. However, Professors Garrison and Wendt also discuss how courts are heavily scrutinizing noncompete clauses.

[31] *See* Richard A. Posner, *Are American CEOs Overpaid, and, If So, What If Anything Should be Done About it?*, 58 DUKE L.J. 1013 (2006).

[32] *See id.* at 1018. In his initial critique of CEO oversight Judge Posner concludes that:

> Of all the employees of a corporation, the CEO poses the greatest challenge to the control issue. His performance is especially difficult to evaluate because of the uncertainty that surrounds success in business. And his only "supervisor" is the board of directors because management's advantages in proxy fights prevent shareholders from influencing the compensation policies adopted by the board -- and the board, as we shall see, is an unreliable agent of the principal (the shareholders). Even if the literature on performance-based evaluation of corporate executives yielded a reliable method of evaluating the performance of CEOs of large corporations, boards of directors would be unlikely to force it on the CEO.

Id.

[33] *See, e.g.*, Muir & Schipani, *supra* note 12, at 444-57 (focusing on the duty of loyalty to the firm).

U.S.[34] and other countries.[35] However, the actual duties and competitive restrictions contained in CEO's contracts are less well understood.[36]

Nonetheless, a CEO's central role in a public company must be appreciated to understand the importance of their employment contract to the firm. As the top officer of the firm, the CEO reports only to the Board of Directors and oversees the rest of the company's employees. The CEO is a highly valuable employee who possesses sought-after skills that set her apart in a very competitive marketplace for managerial talent.[37] This unique position at the top of the firm's governance structure allows the CEO access to all of the firm's proprietary information, trade secrets, customer and supplier relationships, product cost structures, research and development information, and strategic plans. While other key employees may have access to important corporate information, only the CEO will have unfettered access to nearly every aspect of the business and its strategic direction. As a result, the CEO is the single employee who can most harm the company if she leaves the firm to work for a competitor. It should come as no surprise

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[34] BEBCHUK & FRIED, PAY WITHOUT PERFORMANCE, *supra*, note 5*; see also* David I. Walker, *The Challenge of Improving the Long-Term Focus of Executive Pay*, 51 B.C. L. REV. 435 (2010) (describing the debates around executive pay and the portfolio of possible regulatory proposals).

[35] *See* Randall S. Thomas, *Explaining the International CEO Pay Gap: Board Capture or Market Driven?*, 57 VAND. L. REV. 1171 (2004) (discussing various theories related to the justifications for CEO pay differentials across borders). For another comparative study of CEO contract provisions, see Jennifer G. Hill, Ronald W. Masulis & Randall S. Thomas, *Comparing CEO Employment Contract Provisions: Differences Between Australia and United States*, 64 VAND. L. REV. 559 (2011).

[36] The notable exception is Schwab & Thomas, *supra* note 4, at 254-57.

[37] *See* Lucian Arye Bebchuk, Jesse M. Fried & David I. Walker, *Managerial Power and Rent Extraction in the Design of Executive Compensation*, 69 U. CHI. L. REV. 751, 762 (2002) (acknowledging that: "A successful CEO of a large public company undoubtedly possesses a rare combination of skills and instincts. The CEO must manage an organization with a large number of employees, provide the strategic direction for the firm, and decide when or whether the company should acquire other firms or be acquired. Individuals who possess the necessary attributes might be scarce and competition among firms, particularly for rising stars, might be intense. Of course, compensation is not the only factor in attracting and retaining talent at the very top of the corporate pyramid, but it is an important one.").

then that CEO employment contracts may contain a variety of sophisticated restrictive covenants designed to acclimate the executive to the consequences of any disloyalty during employment, as well as provide recourse to the firm should the CEO ever leave and wish to compete against it.

How valuable to firms are CNCs in CEO employment agreements? One recent high-profile example illustrates how a company may incur great expense to insure it faces no competition from a departing executive. In this situation, General Electric's (GE) vice-chairman after nearly thirty years of service to the company retired and received a combined retirement and severance package from that company.[38] The executive's combined package included an $89,000 a month payment for ten years, as well as stock options, bonuses, and other forthcoming pension benefits worth an estimated $28.3 million dollars in recognition both of his retirement and also in exchange for "an agreement not to join a GE competitor anywhere in the world for three years."[39] A GE spokeswoman explained that the executive's "retirement terms reflect his senior position, long service and significant contribution to GE as well as our interest in receiving strong noncompete and nonsolicitation agreement protections."[40] Thus, while it is hard to break out the value of the CNC from the overall value of the executive's retirement package, GE seems to have attached substantial value to it.

Overall, there are two realities driving CEO noncompetes that seem different from a firm's concerns related to other employees: the CEO's greater bargaining power in their employment relationship and their company's greater fear of economic harm if the CEO competes with them after leaving the firm. The first makes it likely that a CEO could reject any

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[38] Kate Linebaugh & Joann S. Lublin, *For Retiring GE Executive, $89,000/Month Not to Work*, WALL STREET JOURNAL, Aug. 1, 2012, at B1.

[39] *Id.*

[40] *Id.*

less than serious effort by the company to impose a standard CNC clause in his or her contract, so that we would expect substantial variation in the presence, or absence, of these clauses in CEO employment contracts. The greater potential for the firm to suffer economic harm suggests another reason for variation in the presence, or absence, of these clauses—firms that will suffer greater harm from competing with their former CEO will be more likely to bargain to include such clauses in their CEO's contract. The combination of greater CEO bargaining power and greater firm concern about harm also suggest that once we dig into the substance of the CNC provisions, we would expect to find there are significant contractual tradeoffs between the CEO and the firm over the content of these clauses.[41]

In the next section, we present a literature review of the legal, economics, and management research related to CNCs. The section looks at the debate over whether the spillovers associated with noncompetes related to issues of employee freedom and mobility, efficiency, innovation, and enterprise creation (i.e., new startups) and sets the stage for the contribution of our research to resolving some of the unanswered questions related to the use and impact of CNCs.

B. ARE NONCOMPETES "GOOD" OR "BAD" FOR BUSINESS?

The controversy over CNC contract terms has led scholars to develop a range of arguments for and against their enforcement and, if they are to be allowed, the proper scope of enforcement.[42] While we have already discussed the importance of these clauses from the firm's

[41] We intend to explore these tradeoffs more fully in subsequent research that examines the specific terms of the CNCs and other post-employment restrictions.

[42] *See, e.g.*, Norman D. Bishara & David Orozco, *Using the Resource-Based Theory to Determine Covenant Not to Compete Legitimacy*, 87 IND. L.J. 979 (2012) (suggesting that state-level policy makers and state courts adjudicate knowledge ownership rights disputes between

perspective, the arguments against permitting them come from at least two perspectives. First, some scholars are concerned that the limitations are anti-competitive and bad for innovation and entrepreneurial activity;[43] and, second, other scholars claim that CNCs unfairly impinge on employee's freedom of choice by facilitating employer overreaching.[44] Roughly, all of the competing theories can be categorized as those arising out of an individual employee rights view versus those that are based in related freedom of contract, property protection, and efficiency views.[45]

We organize our literature review based on three overarching broad disciplinary approaches. The first comes from legal academics and is grounded in a law and economics perspective on the employee-employer relationship, roughly favoring pro-contract and property protection (and by implication, pro-employer) conclusions. The second and more recently emerging stream comes from the business economics and management literature. This stream tends to be empirical and focuses on business-related policy outcomes, such as innovation, enterprise creation, and rates of employee mobility. A third stream is an individual equity and rights-based approach, which favors employee freedom of mobility and disfavors employer prerogatives that curtail employee choice.

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employers and employees with an integrated framework approach utilizing a resource-based view of the firm).

[43] Gilson, *supra* note 18; *see also* Hyde, *Should Noncompetes Be Enforced?*, *supra* note 25, at 6.

[44] *See* Stone, *supra* note 23.

[45] For a description and comparison of the employee rights and law and economics perspectives, see Norman D. Bishara, *Balancing Innovation from Employee Mobility with Legal Protection for Human Capital Investment: 50 States, Public Policy, and Covenants Not to Compete in an Information Economy*, 27 BERKELEY J. EMP. & LAB. L. 287, 297-313 (2006).

1. The Law & Economics Approaches to Post-Employment Restrictions

Some law and economics scholars have weighed in on whether noncompetes are efficient contractual tools, while others have explicitly championed law and economic principles as a way for courts to interpret non-competition agreements.[46] Their general consensus has been that noncompetes are valuable because they provide a firm with a contractual mechanism to insure that a departing employee will not appropriate the firm's investment in employee human capital without some repayment obligation.

The beginnings of this line of reasoning arose out of economist Gary Becker's influential work on human capital[47] that inspired the first application of the general and specific human capital differentiation to noncompetes by Professors Peter Shedd and Paul Rubin.[48] This discussion, in turn, fostered the growth of law and economics defenses of noncompetes as useful tools for encouraging investment in employee training.[49] Two proponents, Professors Eric Posner and George Triantis, have argued that most employees do not have the resources to finance their own training costs, even when such specific human capital is highly valued by potential employers, and thus firms often provide such training.[50] Yet, human capital walks out

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[46] *See* Mark A. Glick, Darren Bush & Jonathan Q. Hafen, *The Law and Economics of Post-Employment Covenants: A Unified Framework*, 11 GEO. MASON L. REV. 357 (2002).

[47] Becker, *supra* note 7.

[48] *See* Rubin & Shedd, *supra* note 7.

[49] *See generally* Posner & Triantis, *supra* note 7; and Eric A. Posner, George G. Triantis, & Alexander J. Triantis, *Investing in Human Capital: The Efficiency of Covenants Not to Compete* (Univ. of Chi. John M. Olin Program in Law & Econ., Univ. of Chi. Working Paper Series, Paper No. 137, 2004), *available at*: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=285805##.

[50] Posner & Triantis, *supra* note 7.

the door every night to go home.[51] At a minimum, valuable employees are not guaranteed to return to work the next day, or worse, they could choose to take the skills provided by the employer to a competitor. Thus, in the law and economics literature the central business dilemma is how to ensure that employers will make these investments in human capital when they cannot easily ensure that others will not expropriate their investment.

One solution is the covenant not to compete. In related work, Professors Posner, Triantis, and Triantis see the noncompete as an important human capital investment tool and theorize that a balanced noncompete with the proper scope can enable efficient investment in human capital. While they acknowledge that employee mobility is important, their focus is on the parties' abilities to negotiate an efficient outcome with respect to an existing CNC clause after the relationship terminates. From their efficient contracting perspective, renegotiating the non-compete contract is key to achieving such a balance. They believe that the competing interests of *ex post* labor mobility and *ex ante* human capital investment can be balanced in a model where there is costless renegotiation.[52]

Of course, these authors recognize there is also a tendency of employers to overreach. Accordingly, policy makers need to address this problem where possible. Still, they conclude that low-cost renegotiation within industries is plausible and that cautious enforcement of noncompetes *ex post* is superior to other remedies that do not bind an employee in terms of

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[51] *See, e.g.*, Matt Marx, *The Firm Strikes Back: Non-Compete Agreements and the Mobility of Technical Professionals*, 76 AM. SOC. REV. 695, 697 (2011) ("Inseparability of skills from individuals suggests that workers can use skills developed at (or prior to) one organization or firm when moving to another. Such reasoning underlies the notion that modern careers are not organizationally circumscribed but boundaryless: workers move from firm to firm, carrying their accumulated experience with them.") (citation omitted).

[52] Posner, Triantis & Triantis, *supra* note 49, at 12-17.

promoting efficiency, even when renegotiation is not possible.[53] One prescription is that courts should intervene and enforce noncompetes within reasonable bounds, as traditionally done, when renegotiation is determined to be costly.[54]

There are some unverified assumptions implicit in this argument about the ability of the parties to rationally renegotiate outcomes, even when an employer has superior bargaining power. While their claims may be true, it may also be the case that in contentious battles over valuable human capital the aggrieved firm may be inclined toward legal intransigence to stop a departing employee from competing and to send a message to its remaining employees, as well as to disrupt the competitor's business. The resulting chilling effect of threatened or actual litigation over a disputed noncompete or other post-employment restrictive covenant is particularly difficult to measure.

However, for our purposes, the assumption of relatively equal bargaining power may well hold true for CEOs. Furthermore, CEOs are different than other employees in two other respects: their competition poses greater risks to the firm; and they generally have the resources to evaluate and negotiate a noncompete clause before employment and, if needed, litigate its enforcement after termination. This suggests that the law and economics perspective will be a useful one for our project.

Although not from a classic law and economics perspective, we group several similar business-friendly arguments in the legal literature together here. First, Professor Estlund argues that non-compete covenants are acceptable instances of conditionally-waivable employee contract rights and then discusses the various protectable employer interests recognized by

[53] *Id.* at 25.

[54] Posner & Triantis, *supra* note 7, at 18.

courts.[55] She calls the property right-based goal of protecting trade secrets "the quintessential legitimate employer interest."[56] Other scholars have asserted that resorting to contract restrictions is an attractive alternative to default intellectual property protections, in part because businesses are already comfortable with the idea of contracting.[57] Related arguments include policy prescriptions to maximize the positive spillovers of noncompetes related to human capital investment by certain types of workers[58] or for a Sherman Act antitrust rule of reason approach.[59]

2. The Management and Business Economics Research on Post-Employment Restrictions

A second emerging critique of noncompetes in both the legal and management literature is that they are detrimental to business activity and innovation. A leading example of this view is Professor Ronald Gilson's oft-cited assertion that Silicon Valley's success depends, at least in part, on California's legal ban on noncompetes.[60] In his estimation this legal rule has led to greater employee mobility than other jurisdictions and thereby encouraged the development of the high tech industry there.[61] Similarly, Professor Alan Hyde argues these clauses should be banned across the United States, as they are in California.[62] Hyde's arguments have convinced

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[55] Estlund, *supra* note 3, at 393-95.

[56] *Id.* at 393.

[57] *See* Kristen Osenga, *Information May Want to Be Free, but Information Products Do Not: Protecting and Facilitating Transactions in Information Products*, 30 CARDOZO L. REV. 2099, 2117 (2009).

[58] *See* Bishara, *Balancing Innovation from Employee Mobility*, *supra* note 29.

[59] *See* Glick, Bush & Hafen, *supra* note 46.

[60] Gilson, *supra* note 18.

[61] *Id.*

[62] *See* Hyde, *Should Noncompetes Be Enforced?*, *supra* note 25. Professor Hyde concludes that:

some business commentators that noncompete enforcement is a misguided policy choice that harms employees and the macro economy.[63]

The notion that California's legal framework is a cause of the strong tech economy in Silicon Valley has led to several empirical studies using a jurisdiction's noncompete enforcement as a factor in assessing employee mobility in California and beyond. One such study by Professor Mark Garmaise[64] hypothesizes that noncompete enforcement will impact executive mobility and compensation, as well as overall firm investments in research and development initiatives.[65] Garmaise finds that, on one hand, jurisdictions that enforce noncompetes give firms

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> Enforcing covenants not to compete reduces employee mobility, start-ups, venture capital, patenting, employee compensation, and growth. Enforcement harms employees (considerably), regions, and, in most cases, the enforcing firm itself. It has no economic function except to raise rivals' costs and decrease competition for consumers. There is, therefore, no more reason to enforce an employee's promise not to compete than any analogous agreement in which producers agree to limit competition.

Id. at 10.

Professor Hyde has developed these arguments against noncompetes over the last decade in the context of rapid mobility job markets, particularly in the context of the Silicon Valley, California labor pool. *See* ALAN HYDE, WORKING IN SILICON VALLEY: ECONOMIC AND LEGAL ANALYSIS OF A HIGH-VELOCITY LABOUR MARKET (2003).

[63] For example, Hyde's conclusions have appeared in a recent journal of the Cato Institute, the libertarian think-tank, Hyde, *Should Noncompetes Be Enforced?*, *supra* note 25, and cited approvingly by the Kauffman Foundation for entrepreneurship as a reason to eliminate noncompete enforcement to encourage new enterprise generation. *See* EWING MARION KAUFFMANN FOUNDATION, STARTUP ACT FOR THE STATES,14-15 (2012), *available at* http://www.kauffman.org/uploadedfiles/soe_address_2012.pdf. (summing up a body of recent research that addresses, in part, the potential impact of covenants-not-to-compete as part of a Kaufmann Foundation policy paper on regulatory and legal reforms targeted at fostering new economic activity in the United States and going on to recommend the elimination of noncompete enforcement by state legislatures).

[64] Mark J. Garmaise, *Ties That Truly Bind: Non-competition Agreements, Executive Compensation, and Firm Investment*, 27 J.L. ECON. & ORG. 376 (2009).

[65] The aggregated employee data is drawn mostly from Standard and Poor's *Execucomp* database, with some executive-specific identifiers that allow for tracking the mobility of executives between firms. *Id.* at 388. While "evidence of noncompetition agreements between a

an incentive to invest in their manager's human capital development.[66] However, these situations also discourage those same individual managers from investing in their own skills. Garmaise finds evidence that the presence of noncompete enforcement will encourage lower wages and less per-capita investment by firms.[67] This study engages in a fairly subtle analysis of the strength of enforcement of noncompetes in the subject jurisdictions,[68] but like the other studies where noncompete enforcement is a factor, it does not present data on actual employment contract terms.[69]

Professors Marx, Strumsky, and Fleming conduct a study of CNCs using an interesting

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firm and its top executives" was detected in 70.2% of a sample of the total firms, a systematic evaluation of individual contract-level terms was not conducted nor was the focus on a single executive rank, such as CEOs.

[66] *Id.* at 411-12 (discussing the theory that non-compete agreements discourage employees from investment in their own human capital development).

[67] *Id.* at 414.

[68] *Id.* at 388-40. For a more nuanced legal assessment of the relative strength of enforcement across the states, see Bishara, *Fifty Ways to Leave Your Employer*, *supra* note 22.

[69] It also uses the firm's headquarters in tracking executive movement and, presumably, state of enforcement, although no choice of law information in the executives' contracts is gathered. For instance, a 2006 study by Bruce Fallick, Charles A. Fleischman & James B. Rebitzer, *Job Hopping in Silicon Valley: Some Evidence Concerning the Micro-Foundations of a High Technology Cluster*, 88 REV. ECON. & STAT. 472 (2006), specifically addressed Gilson's theory about Silicon Valley's uniqueness and the mobility of high-tech workers. These researchers found higher rates of employee mobility in Silicon Valley's high-tech sector as compared to both other California industries and a sample of high-tech industry areas in states where noncompetes are enforceable. Their evidence "of a California effect on mobility lends support to Gilson's hypothesis that the unenforceability of noncompete agreements under California state law enhances mobility and agglomeration economies in IT [(Information Technology)] clusters," even where that same effect is absent from other industries in the state. *Id.* at 481. This study has limited applicability in that it is solely focused on Silicon Valley and computer industry mobility, intra-California mobility, and comparisons with one other state, Massachusetts. *Id*. at 472. The authors also acknowledge the limitations of the data for extending the research to another high-tech agglomeration economy, Denver, Colorado. This is due, in part, to the incomplete employee data and questions about the effects of Colorado's exceptions to its general noncompete statute. *Id.* at 479 n.22.

natural experiment related to noncompete enforcement.[70] Their study focuses on the mid-1980s, when an unintentional noncompete policy gap emerged in Michigan after commercial law revisions led to the inadvertent removal of a long-standing prohibition on noncompetes in the state.[71] The study tracks the movement of highly skilled workers who moved to new employers along with their patent portfolio.[72] The authors then compare patent citations and mobility in Michigan to those in other "nonenforcing states" for the years when noncompetes were not subject to enforcement in Michigan.[73] They find that the use of noncompetes after the ban expired lessened employee mobility, especially for employees with greater firm-specific human capital.[74]

A second study by Marx collected information from individual employees concerning their careers and perceptions about noncompetes to examine the sociological aspects of noncompete enforcement on engineers.[75] It found that the older and more experienced a professional, the less likely he or she was to sign a noncompete.[76] This research also found that employees with a

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[70] Matt Marx, Deborah Strumsky, & Lee Fleming, *Mobility, Skills, and the Michigan Non-Compete Experiment*, 55 MGMT. SCI. 875 (2009).

[71] *Id.* (related to the revocation of the Michigan statute, MCL 445, and its replacement with the Michigan Antitrust Reform Act (MARA) (1985), which no longer contained the traditional limitation on employee restrictive covenants).

[72] *See id.* at 876.

[73] *Id.* at 882.

[74] *Id.* at 887.

[75] Marx, *supra* note 51. The study is based on 52 interviews with individual employees from a single technical industry, as well as a survey of over 1,000 technical professionals across various industries. *Id.* A recent working paper that also explores the effects of noncompetes on individual employee actions is Orly Lobel & On Amir, *Innovation Motivation: Behavioral Effects of Post-Employment Restrictions* (Working Paper, 2011), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1876133.

[76] *Id.* at 13-15.

noncompete will avoid its prohibitions by working outside the restricted industry for the time period dictated by the contract terms.[77]

Professors Toby Stuart and Olav Sorenson use the presence of noncompetes as a variable in studying what happens in the wake of IPOs or acquisitions at biotechnology firms. They hypothesize that the presence of noncompete enforcement will reduce new firm creation after either of these two events.[78] Their findings "suggest that the liquidity infusions resulting from IPOs and cross-industry acquisitions stimulate entrepreneurial activity, but only in states that preclude employers from restricting employee mobility between firms."[79] Comparing areas where noncompetes were likely enforceable to those with perceived weak noncompete enforcement, the authors found "strong evidence that interstate variance in the enforceability of non-compete covenants in employment contracts underlies differences in the dynamics of organizational foundings," thus lending support to Gilson's thesis about noncompetes, at least in high-tech fields such as biotechnology.[80]

In a recent study, Professors Samila and Sorenson look at how noncompetes affect job creation related to venture capital investments.[81] They first recognize the "positive side" of noncompetes related to "helping companies protect the human capital, intellectual property, and

[77] *Id.*

[78] Toby E. Stuart & Olav Sorenson, *Liquidity Events and the Geographic Distribution of Entrepreneurial Activity*, 48 ADMIN. SCI. Q. 175 (2003). In this study, the presence of noncompete enforcement appears broadly as a weak or strong variable without much differentiation between these poles and, as with other studies, there is no recording of the actual presence of noncompete agreements for the potential entrepreneurs in their dataset. *Id.* at 190-91.

[79] *Id.* at 197.

[80] *Id.*

[81] Sampsa Samila & Olav Sorenson, *Non-Compete Covenants: Incentives to Innovate or Impediments to Growth?*, 57 MGMT SCI. 435 (2011).

relationships they have developed … [and acknowledging that] [c]ompanies can increase their productivity by training workers, developing new products and processes, and building relations with customers and suppliers."[82] However, in the context of venture capital investment in areas where noncompete enforcement is less pronounced, Samila and Sorenson find three times more employment growth than in jurisdictions where noncompetes are more strongly enforced.[83]

Other economists and management scholars use noncompete enforcement as a variable in assessing labor mobility and knowledge transfer. Specifically, scholars are increasingly looking at the role of noncompetes in reducing the free movement of high-value employees[84] and the economics of the potentially predatory nature of "poaching" employees when noncompetes are in effect.[85]

These empirical studies have several common weaknesses. They all use the mere option of enforcement (i.e., whenever CNCs are allowed to some extent) in a state as a surrogate variable for the actual existence of a noncompete clause. In addition, almost all of these articles ignore differences across states in their level of CNC enforcement. In other words, the use of a CNC variable in these studies is flawed because it connotes the possibility of enforcement – at

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[82] *Id.* at 425.

[83] *Id.* at 435. As with the other studies, the causal relationship in this study does not track the actual presence of noncompetes in employment contracts, but rather simply uses the availability of noncompete enforcement as a variable.

[84] Arijt Mukherjee, Mariano Selvaggi & Luis Vasconcelos, *Star Wars: Exclusive Talent and Collusive Outcomes in Labor Markets* (Working Paper, 2009), *available at* http://www.bus.umich.edu/Academics/Departments/BE/pdf/2009Oct9Mukgerhee.pdf.

[85] Jin-Hyuk Kim, *Employee Poaching, Predatory Hiring, and Covenants Not to Compete* (Cornell Univ. Dept. of Econ., Working Paper, 2007), *available at* https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=IIOC2008&paper_id=16 (discussing instances, in light of noncompetes, in which a firm's behavior in poaching workers from its competitors can be either acceptable competition or a predatory act).

any level of likelihood – rather than whether the employees in the study are in reality subject to a specific non-compete agreement. In this article, we overcome these weaknesses because we have evidence of which employee-CEOs are subject to a CNC *and* we use a complete strength of enforcement variable that captures the differences across the vast majority of jurisdictions by measuring their level of enforcement.

3. The Employee Rights Approach to Post-Employment Restrictions

Finally, a third recent critique of noncompetes is rooted in the changing nature of the relationship between employers and employees in the modern world, often in the context of service and technology rich jobs replacing a traditional long-term and manufacturing-based employment model.[86] This so-called "New Psychological Contract" for employees is associated with the critique of noncompetes and employer overreaching presented by Professor Stone.[87] This view is opposed to contractual restriction on workers and pro-employee on fairness and equity grounds, and has been associated with an employee rights challenge to noncompetes.[88]

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[86] *See* Richard L. Hannah, *Post-Employment Covenants in the United States: Legal Framework and Market Behaviours*, 149 INT'L LAB. REV. 107, 116 (2010) (stating that "[p]ost-employment covenants are indicative of the institutional forces that are emerging in the twenty-first century labour market . . . [and] the behaviour of firms and workers in regard to the post-employment constraints remains highly uncertain because it is dynamic and evolving"). For additional discussion of the new environment for the employment relationship see Kenneth G. Dau-Schmidt, *Employment in the New Age of Trade and Technology: Implications for Labor and Employment Law,* 76 IND. L.J. 1, 1 (2001); Kenneth G. Dau-Schmidt & Timothy A. Haley, *Governance of the Workplace: The Contemporary Regime of Individual Contract*, 28 COMP. LAB. L. & POL'Y J. 313, 313-14 (2003); and Joan T.A. Gabel & Nancy R. Mansfield, *The Information Revolution and Its Impact on the Employment Relationship: An Analysis of the Cyberspace Workplace*, 40 AM. BUS. L.J. 301, 323 (2003) (reviewing the legal implications for employees in a technology-based work environment).

[87] *See* Stone, *supra* note 23; *see also* Catherine Fisk, *Reflections on the New Psychological Contract and the Ownership of Human Capital*, 34 CONN L. REV. 765 (2002) (discussing Stone's article and critiquing the aspect of implied contracts as a safeguard for employee rights).

[88] *See, e.g.*, Bishara, *Balancing Innovation from Employee Mobility*, *supra* note 29, at 311-13.

Moreover, this scholarship emphasizes employee rights that can be lost in the battle over human capital ownership.[89]

Stone claims that employees believe that "the growth of their human capital and the enhancement of their labor market opportunities" are standard job benefits.[90] Further, she asserts, employees believe the skills and knowledge they acquire in a particular position rightly belong to them and are essentially inalienable.[91] Employers, in contrast, she adds "believe that if they have imparted valuable skills or knowledge to their employees, they should 'own' that human capital in the sense of being able to ensure that it is utilized on their firm's behalf."[92] Employers secure these claims by using covenants not to compete when they are enforceable. Stone concludes that courts should consider this implied contract when assessing restrictive covenants in employment and force firms to uphold their side of the common bargain.[93] By

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[89] Katherine V.W. Stone, *Knowledge at Work: Disputes Over the Ownership of Human Capital in the Changing Workplace*, 34 CONN. L. REV. 721, 742 (2002) [hereinafter Stone, *Knowledge at Work*] ("Because courts usually enforce noncompete covenants with injunctions, an at-will employee who has been fired unfairly can be barred from accepting all subsequent employment in the type of work that she is best able to perform. That is, an employee subject to a restrictive covenant, who is fired unfairly, is left without a job and is unable to take another one in her specific area of expertise."). Stone's view that the New Psychological Contract between employers and employees is characterized by a lack of traditional job security and an increase in employee access to varied training, but at the same time employers are inclined to overreach and demand loyalty from employees without providing them with reciprocal benefits. This employee-centric view clashes with employers' opportunistic efforts to restrict employee mobility through non-compete agreements, which leads Stone to call for a narrow interpretation of the human capital ownership rights of firms in relation to the departing employees. *Id.* at 763 (concluding that courts should "adopt a narrow definition of trade secrets, limit enforcement of noncompete covenants to the protection of trade secrets narrowly defined, reject the doctrine of inevitable disclosure, and thereby give employees broad rights to acquire, retain, and deploy their human capital."); *see also* Arnow-Richman, *supra* note 2.

[90] Stone, *Knowledge at Work*, *supra* note 89, at 722.

[91] *Id.*

[92] *Id.* at 723.

[93] *Id.* at 762-63.

implication, she calls for a reassessment of the expansion of noncompete enforcement in recent years in favor of emphasizing employee rights.[94]

Other scholars have argued that employees are not fully aware of their rights or the harshness of the employment-at-will doctrine in most jurisdictions.[95] They raise issues about employer-beneficial post-employment restrictions on employee voice.[96] Concerning noncompetes specifically, these academics have called for a more balanced approach to interpreting noncompetes by focusing on the role of equity in adjudicating these disputes.[97] Others have argued for courts to consider the bargaining leverage of the employee, *ex ante*, related to the restrictive covenant and protect those employees without significant bargaining power[98] and for policy makers to consider the business ethics and legal implications of balancing noncompetes, garden leave, and the doctrine of inevitable disclosure to maximize fairness to both parties.[99]

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[94] *Id.*

[95] *See* Pauline T. Kim, *Bargaining with Imperfect Information: A Study of Worker Perceptions of Legal Protection in an At-Will World*, 83 CORNELL L. REV. 105, 145-55 (1997) (presenting evidence that employees generally misunderstand the law governing employment relationships, including overestimating job protections and worker rights).

[96] Terry Morehead Dworkin & Elletta Sangrey Callahan, *Buying Silence*, 36 AM. BUS. L.J. 151, 169-71 (1998) (discussing noncompete enforcement in the context of other restrictive covenants that restrict employee disclosure).

[97] *See generally* T. Leigh Anenson, *The Role of Equity in Employment Noncompetition Cases*, 42 AM. BUS. L.J. 1 (2005) (presenting the historical background of equity in noncompete decisions and the courts' role in the equitable analysis of noncompetes and arguing for courts to balance competing interests of firms and employees when settling disputes).

[98] *See* Kate O'Neill, *Should I Stay or Should I Go?—Covenants Not to Compete in a Down Economy: A Proposal for Better Advocacy and Better Judicial Opinions*, 6 HASTINGS BUS. L.J. 83 (2010) (arguing that courts should limit noncompete enforcement to employees possessing sufficient bargaining power to negotiate the restrictive covenant at the start of the employment relationship).

[99] *See* Bishara & Westermann-Behaylo, *supra* note 24.

Many questions remain despite recent scholarship on both sides of this debate that we summarize in this Part. Are these restrictions on otherwise lawful and encouraged free competition essential instruments for the protection and encouragement of an employer's investment in the human capital of its employees and the protection of its hard-earned competitive advantage? Or, in contrast, are these agreements legal cover for an employer's abusive overreaching through contracts of adhesion that seriously curtail employee freedom of choice and mobility, as well as harm competition, innovation, and entrepreneurial activity? If these restrictive covenants have a place in managing the employment relationship, human capital investment, and business knowledge diffusion, should only certain types of valuable employees be allowed to bargain away their future freedom of mobility? Most importantly for this article's focus on public company Chief Executive Officers, do those top employees have noncompetes in their employment contracts, and if so, when? We turn next to our empirical analysis to examine this issue.

II. Data Collection, Description, and Methodology

To create our sample, we began by randomly selecting a sample of 500 S&P 1500 public corporations. These companies are subject to the federal securities laws periodic disclosure requirements. They are required to disclose any employment contracts that they have entered into with their CEO. As shown in Table 1 below, our initial sample of 500 firms had 2,508 potential CEO contracts over the time period running from January 1, 1996 to December 31, 2010.[100] By potential CEO contracts, we mean that the sample companies had named CEOs in

[100] We use the SEC's EDGAR database for corporate disclosures as our basic source for all of these contracts. Beginning January 1, 1996, all registered U.S. corporations were required to make electronic disclosures using the EDGAR database. Some companies voluntarily began

their disclosures that could have had, and in most cases did have, employment contracts with their employer. Each named CEO is counted as having at least one potential contract with the firm. There are more potential contracts than firms because over this fifteen year time period each firm may have several CEO's and each CEO may, or may not, have a contract with the firm.[101] Furthermore, for CEOs that have contracts, some CEOs have an initial contract with their firm (an "Initial Contract"), and then subsequently enter into a second contract that amends (a "Contract Amendment") that contract, and then later a further contract that restates (and sometimes makes additional amendments to) the terms of their Initial Contract (a "Restated Contract"). Each of these would be counted as a contract in our initial sample.

Table 1: Description of CEO Contracts in Initial Sample

Description	Number
Initial entries for potential CEO contracts	2,508
Less: Entries for companies whose CEO does not have a contract	693
Less: Entries for contracts where we could not locate a disclosed initial or restated contract	189
Less: Contract amendments	625
Less: Firms whose data cannot be located on Compustat	13
Net usable contracts	988

Having determined the total number of potential contracts (2,508), we need to subtract from our sample several different categories of data that are not relevant to our study or which we are unable to collect. First, we set aside all 693 CEOs that potentially could have entered

making electronic disclosures on EDGAR prior to this time, and some companies voluntarily disclosed their CEO's employment contracts that were entered into prior to January 1, 1996. This accounts for the pre-1996 contracts that are contained in our database.

[101] In a small number of cases firms changed names during the sample period, but we continued to treat these successor firms as the original firms.

into, but did not enter into, an employment contract with their firms at least for some portion of their employment with their firms. These potential contracts are an interesting sample of "implicit" contracts, but other researchers have already examined the question of why some CEOs do not have "explicit" employment contracts with their firms.[102] In this paper, our focus is examining CEOs that have "explicit" employment contracts and determining when those contracts include CNC clauses.

Next, we exclude from our sample all those contracts whose existence was disclosed by the company, but that we could not find attached to any of the companies' securities filings. For future researchers' interest, we note that companies are not required to attach these contracts to any particular filing, therefore finding them can be a time consuming and difficult process. Most companies disclose them as attachments to their Form 10-K, but we also routinely found them as exhibits to a host of other securities filings. Where the existence of a contract was disclosed, we searched every filing within a two year period after the date of the contract for contracts entered into after the effective date for mandatory EDGAR filings (January 1, 1996), thus we believe that most of the 189 cases where we did not find a contract are likely the result of the company failing to file the contract as required by law.[103] In any event, the difficulty in finding these contracts seems a likely explanation for why few researchers have previously mined these sorts of documents for clues about the contractual relationships between executives and their employers.

We also chose to eliminate the Contract Amendments from the sample. These documents are amendments to an existing employment contract and do not restate the prior contract. They

[102] Stuart Gillan, et al., *Explicit vs. Implicit Contracts: Evidence from CEO Employment Contracts*, 64 J. FIN. 1629 (2009).

[103] The SEC should clarify its disclosure rules on this issue to specify where companies attach these disclosures. Logically, that would be attached as an exhibit to the companies' Form 10-K.

almost universally are very short documents that contain relatively minor changes to an existing contract, such as changing the specified base salary of the CEO. There were no Contract Amendments in our sample that affected the presence or absence of a CNC clause, so we decided that they did not add any pertinent information for our study.

Finally, in thirteen instances where we are unable to locate the named company in the Compustat database, which we use to supply several important pieces of information about the sample companies. We exclude these contracts because we are unable to include them in our logistic regression analysis (see Table 12). This leaves us with a sample of 988 Initial Contracts and Restated Contracts for our analysis.

We next coded each of the contracts. This work began by identifying the contracting parties and other aspects of the general employment contract, such as the contract's date of execution and its length. Next, the agreements were coded for the terms related to prohibitions on competition during and after employment. We also coded a variety of other variables described in Appendix A that we intend to use for future research.

III. DESCRIPTIVE STATISTICS

Our empirical analysis starts with a description of the contracts and the other variables that we compiled for our sample. Table 2 shows the year that each contract was entered into for 986 CEO contracts.[104] For simplicity, we group the contracts that were dated prior to 1993 into a "pre-1993" category.[105] The table shows the total number of sample contracts per year, as well

[104] For 2 contracts, the effective date of the contract is not available, therefore the total number of contracts in Table 2 is 986.

[105] We note that these contracts were disclosed by the company when it began making its EDGAR filings and therefore must have been in effect as of that time.

as a breakdown by initial versus restated contracts, and the number and percentage of contracts per year that contained CNC clauses.

Table 2: Time Series of CEO Contracts: Pre-1993 to 2010

Year	Total	Initial Contracts	Restated Contracts	Number of Contracts with CNC Clauses	Percent of Contracts with CNC Clauses
Pre-1993	28	24	4	20	71.4%
1993	17	15	2	11	64.7%
1994	31	25	6	19	61.3%
1995	36	31	5	27	75.0%
1996	66	51	15	50	75.8%
1997	69	58	11	53	76.8%
1998	89	66	23	72	80.9%
1999	78	64	14	60	76.9%
2000	69	53	16	50	72.5%
2001	81	63	18	64	79.0%
2002	53	45	8	42	79.3%
2003	47	32	15	39	83.0%
2004	42	38	4	32	76.2%
2005	54	45	9	46	85.2%
2006	43	35	8	36	83.7%
2007	49	36	13	40	81.6%
2008	72	32	40	64	88.9%
2009	29	17	12	25	86.2%
2010	33	24	9	26	78.8%
Total	986	754	232	776	78.7%

Overall, nearly 79% of the contracts contain CNC clauses, although the annual average percentage ranged from 61.3% to 88.9%.[106] We note that over time the proportion per year of contracts containing CNC clauses seems to have increased. To determine if there is a

[106] These findings are consistent with the approximately 72% of executive CNCs found by Garmaise, *supra* note 65, however our findings are more specific to CEOs, more discretely categorized by year, and coded for greater details as to the actual content of the noncompete and other restrictive covenants.

statistically significant increase over the sample period, we do a simple linear regression of the percent of contracts with CNC clauses against the year they were signed. The results indicate that the time trend is statistically significant.[107]

We next look more closely at the CNC clauses to see when they apply. In Table 3, we display these results broken out into three mutually exclusive categories: no CNC clause; Post-employment CNC clause only; and a CNC clause only during the period of the employment contract.

Table 3: Contracts with CNC Clauses

	No CNC	Post-Employment CNC	CNC During Employment Only	Total
Number of Contracts	210	689	89	988
Percentage of Contracts	21.3%	69.7%	9.0%	100.0%

For the full sample of 988 contracts, Table 3 shows that that almost 70% (689) have CNC clauses that restrict only the CEO's post-employment activities. By comparison, only 9% (89) have CNC clauses that act solely to restrict the CEOs activities during employment. Finally, just over 21% (210) of the contracts in the sample do not include CNC clauses.

Next, we examine whether a prior CEO's contract with the company, or the current CEO's prior contract, included a CNC clause, and how that relates to the inclusion of a CNC clause in a later contract. We undertake this analysis to determine all of the factors that may influence whether a company includes a noncompete clause in a subsequent CEO employment

[107] The coefficient on the year variable has a t-statistic of 4.88, which is significant at the .0002 level.

contract. One important reason may be path dependence: that is, that the company has included a CNC clause in prior CEO contracts, so it includes it in the new contract.[108] To test this relationship, Table 4 separates out the 653 instances in which a company had at least 2 CEO contracts in our sample (whether or not the CEO was the same person).

Table 4: CNC in Prior CEO Contract[109]

	CNC in Prior Contract	CNC in Prior Contract	Total
	Yes	No	
CNC in Sample Contract (% of total)	484 (90%)	52 (10%)	536
No CNC in Sample Contract (% of total)	32 (27%)	85 (73%)	117
Total	516	137	653
Chi-square (p-value)	229.54 (<0.001)		

We find both a CNC in the prior contract *and* a CNC in the subsequent contract in 484 cases. In another 52 cases where we had more than one contract for a sample company, there was no CNC clause in a prior contract, but there did exist a CNC clause in the current contract. Finally, of the remaining 117 cases, 85 cases involved situations where there was no CNC in the prior contract and there was no CNC in the current contract either. The remaining 32 cases were where a CEO had a CNC in an earlier contract, but no CNC in a subsequent contract.

[108] As an example of why this would happen, one can imagine that if the company is drafting the initial version of the new contract, it would simply mark up the prior contract without changing an existing CNC clause. Subsequent negotiations might not change the initial language sufficiently to remove the CNC clause.

[109] This table includes only observations with at least 2 sample contracts per company, but does not include the first contract.

To determine if there is a statistical relationship between the presence of a CNC in a prior contract and its presence in a subsequent contract, we use a contingency table approach and a chi-square statistic, which is significantly different from zero at the .00001 level.[110] In other words, we can reject the null hypothesis of independence between a CNC being in a sample contract and a CNC also being in a prior contract.

In continuing our search for potential reasons why a CNC clause may be present in a sample contract, we next consider if contract length is a significant factor in whether such a clause is included.[111] We hypothesize that longer contract lengths are associated with a higher likelihood of including a CNC clause. Our reasoning is that the longer the CEO is expected to be with the firm, the more firm-specific knowledge that he or she will have acquired. This knowledge would be potentially harmful to the employer if the CEO were to go to work for a competing firm, hence the need for greater protection in the form of a CNC clause.

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[110] To analyze count data such as that in Table 4, we employ a contingency table approach. This approach tests whether the classification of data according to whether a CNC is in the prior contract and whether the sample contract contains a CNC are independent. The appropriate test statistic for such a test is a chi-square test. If the p-value associate with the chi-square test statistic is smaller than a critical level, say .10, then we reject the null hypothesis of independence between the classifications at that level of significance. WILLIAM MENDENHALL & JAMES E. REINMUTH, STATISTICS FOR MANAGEMENT AND ECONOMICS 471-85 (Wadsworth Pub. Co., 2d ed. 1974).

[111] We recognize that the interpretation of contract length can be uncertain because contracts that are for even a lengthy term may be accompanied by liberal termination provisions elsewhere in the employment contract that give an employer wide discretion to end the employment at nearly any moment. On the other hand, contracts with no term or a relatively short term can still continue indefinitely in the sense that the parties are free continue the employment relationship going forward. It is also the case that CEO contracts of any length are often renewed multiple times. Nonetheless, in the context of CEOs the stated length of a contract is still credible evidence of the parties' intent at the conclusion of negotiations. We therefore use the stated length of the contract – or a lack of a stated term – as a useful variable to understand what the parties' value and are willing to accept with regard to the CEO's expected tenure at the firm.

Table 5 breaks out the distribution of the length of the CEO's contract separately for the full sample of contracts and then for the sub-sample of contracts that contain a CNC clause. We include rows for contracts where: the contract length is not mentioned, is at will, or is for an indefinite period (166);[112] the contract expires when the CEO is terminated (65); the contract's length is tied to the CEO reaching retirement age or retiring (7), or in one case where the contract states it is for a definite term, but the length is unspecified (1). For the remaining contracts, we show the number and percentage of contracts grouped by their stated contract length. To create a manageable number of rows, we sort them into year length intervals.

Table 5: Length of CEO Contracts that include DNC Clauses

Contract Length (years)	Total number of contracts	Number of contracts with CNC	Percentage of contracts with CNC
Length not mentioned/at-will/indefinite period	166	102	61.4%
Until CEO is terminated	65	45	69.2%
Until CEO reaches retirement age or retires	7	1	14.3%
Contract length missing[113]	1	1	100.0%
0 < Length <= 1 year	79	60	75.9%
1 < Length <= 2 years	106	91	85.8%
2 < length <= 3 years	313	265	84.7%
3 < length <= 4 years	66	56	84.8%
4 < length <= 5 years	137	117	85.4%
Length > 5 years	48	40	83.3%
Total	988	778	78.7%

These data suggest that the longer employment contracts are more likely to include CNC clauses. For example, for short term contracts, those that expire within 1 year, only roughly 76%

[112] In each of these cases, the contract has an effective length of zero so we group them together.
[113] We are missing contract length for one contract that also states it has a definite term.

have CNC clauses. Similarly, in indefinite length contracts, at will contracts and contracts without a specified length – all of which have effective lengths of zero – only 61.4% of contracts with CNC clauses. In sum, 65.6% of all short or zero term contracts have CNC clauses. By contrast, 84.9% of the longer term contracts, those that are more than one year in length, have CNC clauses. These differences imply a statistically significant positive relationship between the length of a contract and the existence of a CNC clause in the contract. [114]

Prior research has found that the enforceability of CNC clauses varies across states.[115] We therefore hypothesize that a further factor that may influence the inclusion of a CNC clause is the state in which the contract will be enforced. For example, California is noted as being one of two states in which the courts do not enforce post-employment noncompete agreements.[116] Thus, we would hypothesize that companies with contracts that are likely to be contested in the state of California might be less likely to include CNC clauses as the clause would not be legally enforceable in that state's courts. We test this hypothesis using our data which are displayed in Table 6A below.

[114] The chi-square test statistic for the null hypothesis of independence between contract length and existence of a CNC is 47.91 with a p-value less than 0.0001. We thus reject the null hypothesis of independence in these classifications.

[115] *See generally* Bishara, Fif*ty Ways to Leave Your Employer*, *supra* note 22.

[116] *See* discussion of California law related to the state's ban on post-employment CNCs s*upra* Part II.A.

Table 6A: CNC Clauses and the California Effect[117]

Description	Total number of contracts in sample	Number in sample with CNC clause present (%)	Number in sample with no CNC present (%)
Primary location in California	181	114 (63%)	67 (37%)
Primary location not in California	807	664 (82%)	143 (18%)
Chi-square (p-value)	32.89 (0.0001)		

Table 6A shows that for a total of 181 sample contracts, the firm is headquartered in California. For these contracts, only 63% (114) include CNC clauses. By comparison, we have 807 contracts where Compustat states that the firm is primarily located outside California. For these contracts, 82% (664) have noncompete agreements. To see if these differences are statistically significant, we conduct a chi-square test. We find that the test statistic of 32.89, which is highly statistically significant, and consistent with our hypothesis that there is a strong California effect in our data.

Rather than just focusing on one state's lack of enforceability of CNC clauses, we also use a broader measure, which is an "enforceability index" as developed by one of the authors.[118] The index weights various factors that impact how strictly a state will enforce a CNC clause in an employment contract. In Table 6B, we present the mean and median of the enforceability index for the sub-samples of contracts with CNC clauses and those without CNC clauses.

[117] To code for enforcement state, we use the variable "Primary Location" as provided in the Compustat electronic database.

[118] For a detailed description of this index, *see* Bishara, *Fifty Ways*, *supra* note 22.

Table 6B: CNC Clauses and the Enforceability Index

Description	Sample with CNC clause	Sample with no CNC present
Sample size	774	209
Mean (median) enforceability index	310.7 (350.0)	252.2 (240.0)
t-statistic (p-value) (for difference in means test)	5.58 (<0.0001)	
z-statistic (p-value) (for difference in medians test)	1.49 (0.1351)	

Both the mean and the median of the index for the sample with CNC clauses are greater than those for the sub-sample without CNC clauses. The t-statistic for the difference in means is 5.58, which is highly significant (at less than the .0001 level). However, the test for a difference in the medians is not statistically significant. Thus, these univariate statistics provide mixed evidence as to whether the level of enforceability is an important factor in the presence of a CNC clause in a CEO's employment contract.

A final set of variables that we think may affect the likelihood of a CNC in a CEO employment contract relate to characteristics of the industry in which the firm competes. Tables 7-12 detail some features of these different firm characteristics such as industry type, sales growth and volatility, corporate, profitability, and investments in research and development. To begin, Table 7 shows the distribution of non-compete clauses across the various sectors in our sample. The percentage use of CNCs is highest in consumer-based industries, health care, industrials, materials, and telecommunication services. In contrast, there is generally a lower incidence of CEOs with a CNC in the energy and utility sectors, financials, and information technology sectors.

Table 7: Frequency of CEO Contracts with and without CNCs by S&P GICS Economic Sector and by Primary Company Location*

All Contracts

Sector	Contract includes CNC Clause	Contract does not include CNC	Total	% with CNC	% No CNC
Consumer Discretionary	215	39	254	85%	15%
Consumer Staples	30	2	32	94%	6%
Energy	20	16	36	56%	44%
Financials	82	38	120	68%	32%
Health Care	134	25	159	84%	16%
Industrials	110	22	132	83%	17%
Information Technology	110	41	151	73%	27%
Materials	27	2	29	93%	7%
Telecommunication Services	20	2	22	91%	9%
Utilities	30	23	53	57%	43%
Grand Total	778	210	988	79%	21%

* GICS stands for the Global Industry Classification Standard that was developed by MSCI (originally Morgan Stanley Capital International) and Standard and Poor's. It involves classifying companies according to their principal business activity into one of 10 sectors, 24 industry groups, 68 industries, and 154 sub-industries. For more information, see Global Industry Classification Standard (GICS) Methodology (Dec. 08, 2009), available at: http://us.spindices.com/resource-center/index-policies/.

The relatively high incidence of CNCs in consumer discretionary and consumer staple industries, telecommunication services, and health care is potentially explained by the highly competitive nature of those industries where client information and constantly evolving products, marketing, and strategies, as well as the generally transferable management skills required of a CEO in that market. One explanation for the lower rate of noncompetes in the energy and utility industries is that these fields are not defined by firm-specific strategies or technologies, but by assets and holdings are relatively transparent and predictable. The firms in these sectors may also tend to be highly consolidated with few and well-defined competitors. Another difficult to measure influence on difference in CNC use across industries could be industry cultural differences where restrictive contracts may not historically, for whatever reason, be part of the general CEO contract negotiations in that field.

In contrast, we would predict that firms categorized in the financials and information technology industries would tend to have higher rates of noncompetes among their CEOs. This is because of the heightened role of business valuable proprietary knowledge and client relationships bound up in the human capital that firms in these industries would seek to protect by contract, including with traditional noncompetes. Moreover, we should note that our study is limited to CEO contracts, and it may still be the case that these firms still vigorously seek and obtain non-competition agreements from employees in other management or client services roles, or in technology development, when firm-owned and developed proprietary information and relationships are at risk.

We are also concerned about the California effect across industry sectors. In untabulated results, we find that California firms are less likely to have CNCs in their CEO's contracts than firms headquartered in other states in all sectors of our sample, except for the financial services sector where the likelihood of a CNC is the same in California as elsewhere. Once again, this result highlights the importance of the California effect.

Table 8A presents industry sales growth volatility as measured by the average standard deviation in industry sales growth over the period 1992–2011. This is a period that covers both economic expansions and contractions in the overall economy and would reflect the volatility in the underlying businesses. We hypothesize that more volatile industries might be likely to have more CEO turnover and thus more opportunity for those CEOs to compete with their former firms. Thus, firms in these industries might want to bargain harder for noncompete clauses in

CEO contracts in those situations. Table 8A displays the raw data.

Table 8A: CNC Clauses and Industry Sales Growth Volatility[119]

Description	Contracts with CNC clause present	Contracts without CNC present
Sample size	778	210
Mean (median) of standard deviation of industry sales growth over 1992-2011	15.34% (14.03%)	16.03% (14.48%)
t-statistic (p-value)	-0.95 (0.34)	
z-statistic (p-value)	2.55 (0.01)	

The mean standard deviations in Table 8A do not seem to support this argument as the sub-sample with CNC clauses present have a mean standard deviation of 15.34% in industry sales growth rates, whereas the sub-sample without CNC clauses has a mean of 16.03%. We test for the statistical significance of this difference in the means and find it insignificant. However, the effect seems to be reversed for the median difference, and this difference is also significant using a nonparametric median test at the .01 level.

In Table 8B, to further explore this result, we separate our sample into firms that are in industries with very high sales growth volatility and very low sales growth volatility as measured over the period from 1992 - 2011. To define very high volatility, we use a cutoff of approximately the upper 1/3 of the distribution, and to define very low volatility, we use approximately the lower 1/3 of the distribution. This gives us a sub-sample of 691 total

[119] Industry categories are based on 2-digit SIC codes. In examining the data underlying Table 7, we discovered that in one industry from 1992 to 1993 there was a substantial change in the number of firms reported by Compustat and, hence, in the total level of sales and sales growth over that year. To keep this one observation from unduly influencing our results, we removed it from that industry's computation of the standard deviation of industry sales growth.

observations, 345 in the high volatility sub-sample, and 346 in the low volatility sub-sample. We then categorize the observations according to whether the contract includes a CNC clause or not.

Table 8B: CNC Clauses and Industry Sales Growth Volatility by High and Low Volatility[120]

Description	Contracts with CNC clause present	Contracts without CNC present	Totals
Sample size	560	131	691
High volatility (Industry sales growth standard deviation > 0.1644, 65th percentile)	263 (76%)	82 (24%)	345 (100%)
Low volatility (Industry sales growth standard deviation <= 0.1185, 33rd percentile)	297 (86%)	49 (14%)	346 (100%)
Chi-square statistic (p-value)	10.38 (0.0013)		

In the high volatility category, 263 (76%) of the 345 contracts have non-compete clauses, whereas 82 (24%) do not. In the low volatility category, 297 (86%) of the 346 contracts have CNC clauses, whereas just 49 (14%) do not. The appropriate statistic to test for independence between classifications such as in Table 8B is the chi-square statistic.[121] The chi-square statistic is 10.38, which is statistically significant at the 0.0013 level. We thus reject the null hypothesis of independence between industry sales growth volatility and the presence of a CNC clause. This result is also consistent with the overall results reported in Table 8A. We also know that companies that are acquired, merged, and bankrupt or liquidated will often experience CEO

[120] Industry categories are based on 2-digit SIC codes.

[121] MENDENHALL & REINMUTH, *supra* note 109, at 471-85.

departures.[122] We hypothesize that these firms may wish to ensure their departing CEOs do not compete against their former firms by negotiating for CNC clauses. To test this hypothesis, Table 9 cuts the contract sample by the percent of companies within an industry subject to merger, acquisition, bankruptcy, or liquidation according to the Compustat data base over the period for which Compustat provides the data (1992 - 2011).

Table 9: CNC Clauses and Average Percentage of Companies Within an Industry Subject to Acquisition, Merger, Bankruptcy, or Liquidation: 1992-2011

Description	Sample with CNC present	Sample with no CNC present
Sample size	778	210
Average (median) percent of companies deleted	30.82% (28.57%)	31.19% (28.27%)
t-statistic	-0.55 (0.58)	
z-statistic (p-value)	0.68 (0.50)	

However, the results of Table 9 do not support this hypothesis.[123] The average percent of companies deleted from the active Compustat database due to merger, acquisition, bankruptcy, or liquidation is not significantly different between the sub-samples of contracts with noncompetes and those without noncompetes.

We further hypothesize that firms that are more profitable may be less willing to allow CEOs to compete against them, especially assuming that the outperformance is the result of the CEO's effort. To test for evidence of this potential effect, Table 10 focuses on differences in firm profitability as measured by 5-year average return on capital between the two sub-samples

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[122] Steven N. Kaplan & Bernadette Minton, *How has CEO Turnover Changed? Increasingly Performance Sensitive Boards and Increasingly Uneasy CEOs*, Nat'l Bureau of Econ. Research, Working Paper No. 12,465, 2006).

[123] We also calculated high and low samples for this index and compared them. The results were still insignificant.

of contracts.[124] We can only find data for companies that have a total of 863 contracts in the Compustat database.

Table 10: CNC Clauses and Firm Profitability

Description	Sample with CNC clause	Sample with no CNC present
Sample size	695	168
Mean (median) 5-year average return on capital	0.45% (4.81%)	-12.89% (3.75%)
t-statistic	4.14 (0.0001)	
z-statistic (p-value)	-1.70 (0.09)	

The results of Table 10 are consistent with this hypothesis. The average 5-year return on capital for the sub-sample of contracts with noncompetes is 0.45%. Although this is a relatively low figure on an absolute basis, it is significantly higher than the average of -12.89% for the sub-sample without noncompetes. The test of difference in medians is also statistically significant although at the .09 level.

Finally, we hypothesize that in an industry in which R&D intensity is high, firms will have an especially strong reason to stop their CEOs from taking their knowledge of the firm's research to another competitor. If CEOs are, on average, extremely knowledgeable about the firm's R&D activities, and such knowledge would be particularly beneficial to competitors, then the sub-sample of contracts with noncompetes should have a higher level of R&D intensity. In other words, these CEOs' contracts are more likely to contain a CNC clause. Table 11 shows the results of comparing the sub-samples of contracts with noncompetes versus those without noncompetes using an industry average intensity of research and development expenditures.

[124] Return on capital is taken from Compustat and is defined as the annual income before extraordinary items divided by total invested capital. For each company, we compute the average annual return on capital for the five years prior to each CEO's contract year.

This variable is measured as industry average R&D expenses divided by Sales, where the industry is based on 2-digit SIC codes.

Table 11: CNC Clauses and Industry R&D Intensity over 1992-2011

Description	Sample with CNC clause	Sample without CNC
Sample size	778	210
Average (median) industry R&D / Sales ratio	2.27% (0.39%)	2.32% (0.46%)
t-statistic	-0.20 (0.84)	
z-statistic (p-value)	0.97 (0.33)	

The results of the univariate analysis of Table 11 are not consistent with either hypothesis as neither the mean nor the median industry average ratio of R&D to sales are significantly different between the two sub-samples.[125]

IV. MULTIPLE REGRESSION ANALYSIS

Table 12 presents logistic regression results with the dependent variable CNC equal to 1 if a noncompete is included in the CEO's employment contract, and 0 if not. We use a logistical regression model because our dependent variable can only assume the values of 0 or 1.[126] We present 4 different specifications of the model because of we are missing data for some of the independent variables at some of the companies. Each of the specifications is highly significant as demonstrated by the large Chi-Square likelihood ratios shown at the bottom of Table 12 for each specification.

[125] We also calculated high and low R&D intensity measures and found no significant differences between them.

[126] JOHN NETER, WILLIAM WASSERMAN & MICHAEL H. KUTNER, APPLIED LINEAR REGRESSION MODELS 361-67 (Richard D. Irwin, Inc., 2d ed. 1985).

Table 12
Logistic Regression Results
Dependent variable: CNC = 1 if contract includes a noncompete clause, 0 if not
(p-values in parentheses)

ENFORCEABILITY_INDEX measures the strength of enforcement of a CNC clause depending on jurisdiction. YEAR is equal to the beginning calendar year of the contract. 5-YEAR_AVG_ROC is the 5-year average return on capital beginning with the year prior to the start year of the CEO's contract. KLENGTH is the length of the contract in months. CNC_IN_PRIOR_CONTRACT is a dummy variable equal to 1 if a previous CEO contract at the company included a noncompete clause, 0 if not. INDUSTRY_CHANGE is measured by the percentage of companies in a firm's industry deleted from *COMPUSTAT* due to acquisition, merger, bankruptcy, or liquidation. INDUSTRY_VOLATILITY is the standard deviation in the industry's annual sales growth rates; R&D_INTENSITY is the industry average R&D/Sales ratio. CONSTAPLES is 1 if the firm is in the Consumer Staples sector, 0 if not, ENERGY is 1 if the firm is in the Energy sector and 0 if not, FINANCIALS is 1 if the firm is in the Financials sector and 0 if not, HEALTHCARE is 1 if the firm is in the Health Care sector and 0 if not, INDUSTRIALS is 1 if the firm is in the Industrials sector and 0 if not, INFOTECH is 1 if the firm is in the Information Technology sector and 0 if not, MATERIALS is 1 if the firm is in the Materials sector and 0 if not, TELECOM is 1 if the firm is in the Telecommunications sector and 0 if not, UTILITIES is 1 if the firm is in the Utilities sector and 0 if not.

Independent Variables	(1)	(2)	(3)	(4)
Intercept	-97.90***	-114.40**	-140.40***	-26.25
	(0.002)	(0.014)	(<0.0001)	(0/69)
ENFORCEABILITY_INDEX	0.003***	0.003***	0.003***	0.003***
	(<0.0001)	(<0.0001)	(<0.0001)	(0.002)
YEAR	0.05***	0.06**	0.07***	0.01
	(0.002)	(0.013)	(<0.0001)	(0.70)
INDUSTRY_CHANGE	0.60	1.15	-0.54	-1.182
	(0.60)	0.363)	(0.65)	(0.52)
INDUSTRY_VOLATILITY	0.09	-0.608	0.22	0.23
	(0.93)	(0.56)	(0.83)	(0.89)
R&D_INTENSITY	-2.63	-2.79	2.20	-0.60
	(0.55)	(0.58)	(0.63)	(0.93)
5-YEAR_AVG_ROC		0.006***		
		(0.003)		
KLENGTH			0.03***	
			(<0.0001)	
CNC_IN_PRIOR_CONTRACT				3.05***
				(<0.0001)
CONSTAPLES	0.84	13.66	0.90	14.06
	(0.27)	0.98)	(0.24)	(0.98)
ENERGY	-1.77***	-1.73***	-2.10***	-0.63
	(<0.0001)	(<0.0001)	(<0.0001)	(0.34)
FINANCIALS	-0.99***	-0.99***	-1.15***	0.03
	(0.002)	(0.003)	(0.0005)	(0.95)
HEALTHCARE	0.028	0.06	0.16	0.44

	(0.93)	(0.86)	(0.63)	(0.37)
INDUSTRIALS	-0.23	-0.26	0.50	0.56
	(0.44)	(0.44)	(0.12)	(0.24)
INFOTECH	-0.52	-0.45	0.13	0.22
	(0.12)	(0.22)	(0.71)	(0.67)
MATERIALS	0.76	13.81	0.79	14.09
	(0.32)	0.98	(0.31)	(0.98)
TELECOM	0.47	0.69	0.38	13.25
	(0.55)	(0.52)	(0.64)	(0.99)
UTILITIES	-1.70***	-1.43***	-1.78***	-0.80
	(<0.0001)	(0.0003)	(<0.0001)	(0.15)
N	983	860	982	653
Likelihood ratio Chi-Square	97.4178***	95.364***	151.830***	222.879***
(p-value)	(<0.0001)	(<0.0001)	(<0.0001)	(<0.0001)

***,**,* indicates statistically significant at the .01, .05, or .10 level, respectively.

The variable ENFORCEABILITY INDEX (a measure of the strength of each state's law in enforcing CNC clauses) is significant across the different specifications. This is consistent with the hypothesis that contracts where the parties have selected a state's law that is more likely to enforce a CNC clause are significantly more likely to include a noncompete. This supports our belief that the CNC clauses are more likely to be used in situations where they are likely to be enforceable.

We also find evidence that CNCs are more frequently employed in more recent years compared to the earlier years in our sample period. The YEAR variable is significant across the first three specifications of our regression equation, which largely confirms the time trend we observed in Table 2. This suggests that companies have been bargaining to get CNC clauses inserted in their CEOs' contracts, either by offering alternative concessions, or by striking harder bargains, or because that has become the new norm for CEO employment contracts. In a related finding, regression 4 shows that the existence of a noncompete in a prior contract variable is highly correlated with its presence in a later contract. This result is consistent with the idea that there is strong path dependence in contract terms.[127]

Firm profitability, represented by the variable 5-YEAR-AVG-ROC (5-year average return on capital) is positive and significant in regression 2. Thus, our evidence supports the claim that firms that are more profitable may view their CEOs as an integral factor in that profitability and are therefore more likely to restrict the CEOs outside activities by including a noncompete provision in their employment contract.

We further find that the length of the CEOs contract (KLENGTH) is also positive and significant in regression 3. This is consistent with our hypothesis that CEOs who are expected at the time of negotiation and contract execution to have longer tenures are more likely to build up more firm-specific knowledge. Therefore, firms are more likely to want to restrict these CEOs from competing with them in the future. In the sector control variables, we find that energy, financials, and utilities are significantly negatively correlated with the presence of a CNC clause in the first three regressions. This is consistent with the univariate evidence presented in Table 7. Variables that are not generally significant include our industry change variable, R&D Intensity measure and industry volatility variable.

V. SUMMARY OF FINDINGS AND POLICY IMPLICATIONS

To briefly summarize, our main findings are as follows. First, CEO's are less likely to have CNCs in their employment contracts if the contracts are being enforced in jurisdictions that do not permit strong CNC clauses. For example, contracts that are likely to be enforced in

[127] Stephen J. Choi, G. Mitu Gulati & Eric A. Posner, *The Dynamics of Contract Evolution* (Working Paper 2012), *available at* http://ssrn.com/abstract=2125224.

California because a firm is headquartered there are much less likely to include noncompete clauses as its state courts will not enforce those provisions.[128] While this is consistent with our expectations, it is comforting to know that companies and their lawyers pay attention to legal doctrine.

Second, we find a statistically significant trend toward more noncompete clauses in CEO employment contracts over time. In part, this may reflect many jurisdictions' increased tendency to enforce these provisions.[129] However, it also suggests that employers are more aware than ever of the importance of using CNC clauses to protect against the loss of firm specific investments and knowledge, thus lending some support to a rationalist, law and economics justification for CNCs – at least in the context of executives with relatively strong bargaining power.

This finding is also the first reliable evidence to confirm widely held assumptions in the academic and practitioner literature that noncompetes are being used more in recent years. Unlike previous empirical papers where the mere possibility of CNC enforceability regardless of the likelihood of enforcement was used as an imprecise variable, we demonstrate that this trend exists with evidence tied to the actual presence of these clauses in employee contracts.

Next, we see strong path dependence in the use of CNC clauses. Our results show that when companies use a non-compete clause in a CEO employment contract, then they are much more likely to insist on including a noncompete in subsequent CEO employment contracts. This

[128] Nonetheless, there are still a significant number (about 65%) of California firms that still have CNCs in their CEO contracts when it is highly likely that both parties realize these clauses are not enforceable. The reasons why nonenforceable terms may persist in these contracts is beyond the scope of this Article. However, possible explanations are that these clauses are costless to include in this context and, therefore, the firms' lawyers include CNCs in case California law changes in the future or perhaps because having a CNC might be seen as a signal to other stakeholders, such as shareholders.
[129] *See generally* Bishara, *Fifty Ways to Leave Your Employer*, *supra* note 22.

effect has not been picked up in any of the earlier literature on CNC clauses. In addition, this finding sheds light on the contract negotiation process between firms who are repeat players in these negotiations and their top employees. In contrast, we did not see evidence that industries with higher volatility related to corporate mergers and acquisitions are more likely to have CEOs with noncompetes that restrict their post-employment activities.

Fourth, our analysis shows that where the parties' negotiations result in longer term contracts, those CEO contracts are more likely to have CNC clauses than short term CEO contracts. This is likely because the firm has more firm specific investment in CEOs that stay for longer periods. We also find that more profitable firms are more likely to use noncompete provisions in their CEO's employment contract. This is consistent with the claim that firms that are more profitable are less willing to permit their CEOs to compete with them, which would seem particularly likely if the firm believed that their strong profits were somewhat due to their CEOs' efforts. Because we are examining CEOs the policy concerns of employee rights advocates are not relevant in the sense that these clauses are not troublesome contracts of adhesion forced on rank and file employees. Rather, these restrictions are heavily negotiated with the assistance of counsel and the employee is well compensated during and after employment. Therefore, the finding that profitable firms tend to have CNCs in their CEO contracts gives further support to our claim that these agreements reflect the employer's valuation of firm specific knowledge and skills.

There are some possible policy implications to be drawn from what we have learned. First, this information may be useful to informing the debate over CEO dominance and executive compensation because it provides additional evidence that CEOs are willing to give up a future right of free mobility and goes against claims that CEOs ride roughshod over board decision making related to CEO contract terms. Second, because our study is focused on CEOs and not average employees who may be subject to employer overreaching and abuse, our findings provide future researchers with a glimpse into what competitive restrictions firm's value enough to pay for at a premium. Third, our findings on the prevalence of CEO noncompetes and the connection to profitability may provide certain stakeholders such as investors and analysts with another piece of information about how firms interact with their single most influential employee and where the bargaining balance lies between CEO dominance and board of director influence. Also, future researchers could use our findings about CEOs as a starting point to investigate to what extent executive employment terms match or influence the restrictions on other employees throughout the firm.

Finally, of particular note is our finding that longer term contracts are more likely to have non-compete clauses than short term contracts because of the possibility of more firm specific investments in CEOs that the parties contemplate staying for a relatively longer period. This suggests that firms that negotiate and enter longer term employment relationships with CEOs will invest in this individual in part due to the added protection that a CNC provides for those investments. This situation is, thus, consistent with a law and economics justification for CNCs to facilitate investment in human capital that can perhaps lead to more stable executive leadership that can also have an influence on firm profitability.

Overall, this evidence, and our findings that CNC enforceability in a jurisdiction is related to the presence of a CNC, also provides more information to state policy makers who are in the process of reviewing their noncompete enforcement policies. This is because our research demonstrates that there is value to allowing CNCs between executives and firms, despite the remaining fairness concerns with enforcing noncompetes for average employees with less bargaining power. Specifically, this research supports the intuition of legislators in several states who are currently proposing statutes that limit the CNC enforceability to executive-level employee instead of simply imposing a California-like ban on all employee noncompetes.

Appendix A: CEO Post-Employment Competitive Restrictions Coding Summary

Information Type	Coding Category	Description or Question Addressed
Background Information	Employer Name	The public company's name.
	Employee Name	The CEO's name.
	Contract Type	Is it a regular employment contract or amendment, or other type of agreement?
	Effective Date	The day when the contract goes into force.
	Contract Term	Is the contract for a specific term?
	Contract Length	The length of the contract (in months or by other measurement, such as the CEOs retirement age).
Jurisdictional Issues	State of Choice of Law	If a state choice of law is made, which state is chosen?
	State of Forum Selection	If there is a forum selection clause, which state is selected?
Restrictions on Post-Employment Activities and Competition	Covenant not to Compete (noncompete)	The presence or absence of a covenant not to compete clause.
	Noncompete Terms	The terms of the noncompete, including prohibitions on working for a competitor, starting a competing enterprise, ownership stake in a competitor, or outside consulting restrictions.
	Percent Cap on Ownership	Where there is a cap on ownership stake in other entities, what is it?
	Noncompete Length (six versions)	The length of the noncompete restriction, based on if the termination event was triggered by the employee, the employer, for good cause or without cause, or for a change in control event.
	Noncompete Geographic Scope	If there is a geographic scope of restriction, what is it?
	Noncompete Triggering Event	What events, such as types of termination for or without cause, will trigger the noncompete?
	Other Nonsolicitation Prohibitions (for other employees, or customers and clients)	The absence or presence of the nonsolicitation clause, as well as the coverage of the clause if one is present.
	Nonsolicitation Time	The length of time the nonsolicitation provisions are in effect.
	General Restrictions	Other restrictions that were not previously captured

Other Post-Employment Restrictions	Non-Disclosure Agreements	The presence or absence of a non-disclosure agreement (if present, the information covered and the length was recorded)
	Garden Leave	The presence or absence of garden leave (if present, how is it triggered, for how long, and what is the pay, and the terms.
	Forfeiture Clause	If a breach of the post-employment restrictions occurs, is there a forfeiture of some benefit?