

SHOULD SIZE MATTER WHEN REGULATING FIRMS? IMPLICATIONS FROM BACKDATING OF EXECUTIVE OPTIONS[†]

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INTRODUCTION

There are numerous instances where small firms have been granted exemptions from regulatory restrictions.¹ The major justification offered by the proponents of this exemption for small firms is the claim that regulation has a disproportionate effect on these companies.² For example, in the area of securities law, regulation of small firms has drawn criticism throughout the years.³ It has been lamented that the U.S. Securities and Exchange Commission (SEC) has “never . . . understood small businesses, their capital needs, their importance to our economy, and the special circumstance they face”⁴ Similarly, since its enactment, the Sarbanes-Oxley Act of 2002 (SOX)⁵ has been highly criticized because efforts to comply with the legislation’s requirements impose great expense on firms.⁶

1. See *infra* Part I.A discussing the Regulation D of the federal securities laws, 17 C.F.R. § 230.504 (2010); Regulatory Flexibility Act, 5 U.S.C. §§ 601–612 (1994).

2. See, e.g., C. Steven Bradford, *Securities Regulation and Small Business: Rule 504 and the Case for an Unconditional Exemption*, 5 J. SMALL & EMERGING BUS. L. 1, 4 (2001) (explaining the undue burden registered public offerings create on small companies); Rutherford B. Campbell Jr., *Regulation A: Small Business’s Search for “A Moderate Capital”*, 31 DEL. J. CORP. L. 77, 80–81 (2006); James L. Huffman, *The Impact of Regulation on Small and Emerging Businesses*, 4 J. SMALL & EMERGING BUS. L. 307, 308 (2000) (arguing that twentieth-century regulation has significantly disadvantaged small and emerging business relative to big and established business).

3. See, e.g., C. Steven Bradford, *Does Size Matter? An Economic Analysis of Small Business Exemptions from Regulation*, 8 J. SMALL & EMERGING BUS. L. 1, 4 (2004); Campbell Jr., *supra* note 2, at 85–86 (explaining the economic importance of small businesses to the national economy); Joseph Castelluccio, III, *Sarbanes-Oxley and Small Business: Section 404 and the Case for a Small Business Exemption*, 71 BROOKLYN L. REV. 429, 444 (2005) (“In the case of small businesses, the relative costs of compliance with federal regulations can be disproportionately high”); Huffman, *supra* note 2, at 316 (arguing that the centralized “one-size-fits-all approach” since the New Deal has created disproportionately burdensome effects on small and emerging businesses).

4. Campbell Jr., *supra* note 2, at 80.

5. Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 745 (codified in scattered sections of 11, 15, 18, 28, and 29 U.S.C. (2006)).

6. See, e.g., Douglas M. Branson, *Too Many Bells? Too Many Whistles? Corporate Governance in the Post-Enron, Post-WorldCom Era*, 58 S.C. L. REV. 65, 75 (2006) (showing that smaller firms feel compelled to implement the same costly internal controls as larger firms); William J. Carney, *The Costs of Being Public After Sarbanes-Oxley: The Irony of “Going Private”*, 55 EMORY L.J. 141 (2006) (questioning whether the costs of compliance with the legislation have become so expensive that modest sized firms will “consider abandoning public markets for less regulated private markets”); Peter Ferola, *Internal Controls in the Aftermath of Sarbanes-Oxley: One Size Doesn’t Fit All*, 48 S. TEX. L. REV. 87, 88 (2006) (predicting the cost of

In order to decide if regulation should be lenient towards small firms, we need to first understand whether small firms are less likely, equally likely, or even more likely to engage in illegal behavior. Without answering this question, any discussion that is focused solely on the costs of complying with SOX requirements misses the point. If, for example, the empirical evidence shows that small firms are in fact more likely to engage in illegal behavior, then even if the firm's costs of compliance may be higher, societal benefits from imposing reporting requirements on small firms would also be greater. In this case, it would be unwise to grant blanket exemptions to small firms. Therefore, it is important to understand whether size should matter in regulatory policy decisions.

Policymakers, however, face an unavoidable endogeneity⁷ problem when addressing the question of optimal regulation. First, if certain groups of firms are not carefully scrutinized, we cannot be certain that they are abiding by the regulations. Second, if small firms are statutorily excluded from regulatory compliance, it is quite possible that exclusion would lead to socially harmful actions by these firms. These actions would likely not be detected because they would not be covered by regulations and therefore would not be reported. Third, regulatory authorities may systematically target large and visible firms either due to the perceived greater deterrent value or a greater chance of financial recovery. Finally, regulatory authorities may also pursue larger firms to further their personal career prospects, even if these targets do not provide the best chance of recovery or the most deterrent value. Thus policymakers would be advised to exercise caution

compliance programs would be prohibitive for many small issuers and “place a disproportionate financial burden on the smaller public companies, . . . impair their competitiveness, and . . . discourage continued listings by these companies on U.S. exchanges”); Joseph A. Grundfest & Steven E. Bochner, *Fixing 404*, 105 MICH. L. REV. 1643, 1645–47 (2007) (describing one of the greatest failures of cost-benefit analysis in the history of the SEC); Paul Rose, *Balancing Public Market Benefits and Burdens for Smaller Companies Post Sarbanes-Oxley*, 41 WILLAMETTE L. REV. 707, 735 (2005) (explaining companies will either go private or “go dark” to avoid expensive compliance, although they typically suffer a permanent decrease in the value of their stock, creating additional costs, and thus “affect the company’s ability to hire, to innovate, and to grow.”). *But cf.* Feng Gao et al., *Unintended Consequences of Granting Small Firms Exemptions from Securities Regulation: Evidence from the Sarbanes-Oxley Act*, 47 J. ACCT. RES. 459 (2008) (demonstrating that SOX’s exemptions for small firms cause those firms to act to remain below the size limits prescribed by SOX).

7. Endogeneity refers to an econometric problem of simultaneity, whereby a so-called ‘independent’ variable is determined by the dependent variable, or where both the independent and dependent variables are simultaneously determined by a third unobserved omitted variable. Endogeneity results in biased estimates of the structural relations.

before relying on prosecutions or investigations to decide which types of firms are engaging in illicit activity and are thus worthy of regulation or investigation. Although this endogeneity problem is easy to understand, it is difficult to document. After all, we typically do not know if certain firms are violating a statute unless they are caught doing it.

This paper provides a data point relevant to this policy discussion by using the options backdating context⁸ to circumvent the endogeneity issue discussed above. The backdating scenario provides a unique opportunity to predict which firms are likely to have engaged in illegal backdating activity. By examining the timing of option grants and the stock price patterns, we can compute a statistical likelihood of backdating, regardless of whether a firm is identified as a possible back-dater. In most circumstances, ascertaining this kind of ex-ante likelihood of engaging in an illicit activity is impossible. Typically, there is some suspicion of illicit activity, which leads to an investigation, which is then followed by resolution. If there is no investigation, there can be no estimate of the probability of the illicit activity. With options backdating, however, we can establish the likelihood that a firm is engaging in illicit activity independent of whether the firm is ever investigated. We can then compare the size of firms likely to have engaged in the illicit activity with the general population of firms to determine if smaller firms are overrepresented in the illicit activity sample.

We find that it is indeed the case that smaller firms are overrepresented in the sample. We then compare the size of firms in the illicit activity sample with the size of firms that were investigated, while holding constant other determinants of likely options backdating. Here, we find firms that were investigated for engaging in illicit options backdating practices are likely to be, on average, larger compared to firms that have been engaging in options backdating but were not investigated. This finding suggests that prosecutorial motives might be driving the types of firms that are being subjected to investigations, which implies that policy decisions regarding the type of firms to regulate should not be based on observed investigations or prosecutions. Our results therefore raise significant implications for the public policy debate on the level of regulation that should apply to smaller firms.

8. See definition and discussion of the practice of options backdating, *infra* Part III.A.

To address these issues, this paper is organized as follows. Part I reviews legislative examples where, by statute or enforcement, firms that do not meet minimum size requirements appear to be exonerated from compliance with regulation. Questions of the moral hazard of prosecutorial influences and discretion are raised in Part II, with consideration of how federal prosecutors appear to select cases worthy of investigation. Part III then empirically analyzes the backdating investigations to shed light on whether it seems that, as a matter of public policy, prosecutors and legislators are seeking out the likely offenders for investigation. Concluding remarks follow.

I.

WHERE SIZE MATTERS

Numerous exemptions from federal regulations exist for small businesses. These exemptions take varied forms, from releasing the business entity from just a single regulatory requirement to releasing it from most or all of the regulatory framework.⁹ Measurements of firm size also vary, and can include size of assets, number of employees, and number of clients.¹⁰ In addition, there are also circumstances where, although firms are not exempted from regulation due to size, size appears to impact whether the firm finds itself the subject of investigation or prosecution.

A. *Social Welfare: Exemptions from Regulation*

This Part examines a few areas where small firms appear to enjoy exemptions from regulation, either directly or indirectly. Presumably, exemptions are provided to small firms to promote social welfare. That is, as it is argued, that regulating small firms to the same degree as larger firms would not benefit society when considering the costs of the regulation on these firms, such as the hardship they would endure compared to the benefits gained from the regulation.¹¹ These exam-

9. See Bradford, *supra* note 3, at 3 nn.8–9 (discussing the full Americans with Disabilities Act exemption for employers with fewer than fifteen employees and ERISA continuation coverage requirements exemptions for group plans where all employers have fewer than twenty employees).

10. See *id.* at 3 nn.11–13 (referencing exemptions from the Securities Exchange Act of 1934 for firms with less than \$10 million in total assets, from the Americans with Disabilities Act for employers with fewer than fifteen employees, and from the Investment Advisers Act for advisers with fewer than fifteen clients).

11. See *infra* notes 12–13; 5 U.S.C. § 603; Bradford, *supra* note 3, at 3; Thomas O. Sargentich, *The Small Business Regulatory Enforcement Fairness Act*, 49 ADMIN. L. REV. 123, 125 (1997). Initial regulatory flexibility analysis is required to describe the impact of rule making on small business entities, including the number of small business entities to which the regulation will apply, projected reporting, recordkeeping,

ples include Regulation D¹² of the federal securities laws, the Regulatory Flexibility Act (RFA),¹³ the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA),¹⁴ and certain provisions of the Sarbanes-Oxley (SOX) legislation.¹⁵ These exemptions are discussed briefly below.

Some firms benefit from direct exemptions from regulation based on size. Regulation D of the securities regulations permits the issuance of securities valued under \$1,000,000 without requiring the firm to follow costly SEC registration requirements.¹⁶

There are other legislative examples where the size of the firm is relevant to whether the regulation applies. For example, Congress has attempted to specifically release small businesses from the burdens of federal regulation by legislating broadly across all federal agencies. Both the RFA and the SBREFA require regulatory agencies to consider implementing exemptions for small businesses.¹⁷ Congress passed the RFA in 1980 with the goal of sparing small businesses the expensive costs associated with government regulation.¹⁸ The RFA requires federal agencies to take into account and report on the effects of a proposed or final rule on small businesses.¹⁹ This report is referred to as a regulatory flexibility (reg-flex) analysis, and agencies must provide time for public comment between the issuance of a reg-flex analysis of a proposed rule and the effective date of the rule.²⁰ Reg-

and other compliance requirements of the proposed rule, as well as any significant alternatives that would minimize the economic impact of the proposed rule on small entities. This cost-benefit framed regulatory flexibility analysis is a specific carveout for small business firms.

12. 17 C.F.R. § 230.504 (2010).

13. Regulatory Flexibility Act, 5 U.S.C. §§ 601–612 (1994).

14. Small Business Regulatory Enforcement Fairness Act of 1996, Pub. L. No. 104-121, 110 Stat. 857 (codified in scattered sections of 5 and 15 U.S.C.).

15. 15 U.S.C. § 7262 (Supp. II 2002).

16. *Id.* The SEC provides further exemptions for small business under Regulation A, which allows small issuers offering their securities publicly to escape many of the registration requirements of the Securities Act of 1933 and to solicit widely for investors, while permitting purchases of shares in a Regulation A offering to engage in unlimited resales. 17 C.F.R §§ 230.251–.263 (2011). *See generally* Campbell, *supra* note 2 (analyzing the current state of Regulation A). This regulation, however, has proven ineffective and is rarely utilized. *Id.*

17. *See* Bradford, *supra* note 3, at 3.

18. *See* Sargentich, *supra* note 11, at 125. The bill included the following statement of congressional purpose: “[U]niform Federal regulatory and reporting requirements have in numerous instances imposed unnecessary and disproportionately burdensome demands including legal, accounting, and consulting costs upon small businesses, small organizations, and small governmental jurisdictions with limited resources.” Regulatory Flexibility Act, S. 299, 96th Cong. § 2(a) (1980).

19. 5 U.S.C. § 604 (2006).

20. § 603.

flex analyses have been performed for such disparate regulations as the Federal Aviation Agency's rule that air carriers require drug and alcohol testing of its contractors and subcontractors who perform safety-related functions,²¹ and the Federal Communication Commission's rule setting forth the conditions under which wired telecommunications carriers must transfer telephone numbers to wireless carriers.²²

Congress amended the RFA with the SBREFA in 1996.²³ Judicial review was expanded under Subtitle D and is now applicable to the substance of a reg-flex analysis, any determination that a reg-flex analysis is unnecessary, and also to an agency's delay in completion of a reg-flex analysis.²⁴ Subtitle D further requires some agencies²⁵ to seek recommendations from the small business community after notifying the general counsel of the Small Business Administration that small entities would be affected by a proposed rule.

The SBREFA further requires agencies to use plain English in their rule-making and also to publish guides assisting small businesses.²⁶ Subtitle B establishes the position of a small business ombudsman, who may comment on behalf of anonymous small businesses and promote their interests to federal agencies.²⁷ Subtitle C further allows for the recovery of attorneys' fees when an agency's enforcement requirements have been deemed unreasonable.²⁸

Another example of regulatory exemptions applied to small firms involves certain provisions of the SOX legislation. In its original form, Section 404 of SOX required: (a) that a corporation issue an internal control report assessing the effectiveness of the organization's internal control structure in place to ensure responsible financial reporting,

21. *See* *Aeronautical Repair Station Ass'n, Inc. v. FAA*, 494 F.3d 161 (D.C. Cir. 2007).

22. *See* *U.S. Telecom Ass'n v. FCC*, 400 F.3d 29 (D.C. Cir. 2005).

23. Small Business Regulatory Enforcement Fairness Act of 1996, Pub. L. No. 104-121, 110 Stat. 857.

24. Sargentich, *supra* note 11, at 127.

25. Specifically, the requirements apply to the Environmental Protection Agency and the Occupational Safety and Health Administration. *Id.* at 128.

26. *Id.* at 130.

27. *See id.* at 131. The ombudsman is to "work with each agency with regulatory authority over small businesses to ensure that small business concerns . . . are provided with a means to comment on . . . enforcement activity . . ." 15 U.S.C. § 657(b)(2)(A) (2006).

28. *See id.* at 133. The SBREFA has not escaped criticism. The most serious critique of the act is that it replaces the balanced nature of the RFA with a decidedly pro-business and anti-regulation scheme. *See id.* at 137. The numerous procedural requirements applied to federal agencies under the SBREFA pose an undue hardship on these institutions, which already struggle to meet minimum performance requirements. *Id.*

with responsibility for its accuracy, and (b) that any registered public accounting firm that prepares or issues an audit report for a public corporation also issue a report on management's assessment of its internal controls.²⁹ After granting several temporary exemptions for small firms from this requirement,³⁰ Congress ultimately created a permanent exemption for them.³¹ Section 404(c) of SOX was amended by the Dodd-Frank Wall Street Reform and Consumer Protection Act to provide that the requirements of 404(b) do not apply to any audit report prepared for an issuer that is neither a "large accelerated filer" nor an "accelerated filer" as those terms are defined in Rule 12b-2 of the Commission.³² Small firms that fall outside either of these requirements will continue to receive protection from reporting requirements under this regulatory exemption.

B. Investigations, Prosecutions, and Sentencing

There have been a few studies examining the effect of firm size and the degree of culpability of corporate executives on whether a governmental agency decides to investigate or prosecute a company under a regulatory framework. One study, for example, notes the effects of size on recent actions taken by the SEC³³ and another finds size significant in actions taken by the Environmental Protection Agency (EPA).³⁴ Another study concludes that small firms are prosecuted more vigorously than large firms.³⁵ Yet, it becomes difficult to

29. Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, § 404, 116 Stat. 745 (2002) (amended 2010).

30. *See, e.g.*, Press Release, U.S. Sec. & Exch. Comm'n, SEC Approves One-Year Extension for Small Businesses From Auditor Attestation Requirement in Sarbanes-Oxley Act (June 20, 2008).

31. Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, Pub. L. No. 111-203, 124 Stat. 1376 (codified as amended in scattered sections of 15 U.S.C.).

32. 15 U.S.C. § 7262(b); 17 C.F.R. § 240.12b-2 (2011).

33. James D. Cox & Randall S. Thomas, *Public and Private Enforcement of the Securities Laws: Have Things Changed Since Enron?*, 80 NOTRE DAME L. REV. 893, 906 (2005) (concluding that the SEC has "shifted its enforcement focus away from challenging frauds at firms in financial distress to seeking out frauds at companies where investors may have suffered larger losses, especially if they are smaller firms.").

34. Jeremy Firestone, *Enforcement of Pollution Laws and Regulations: An Analysis of Forum Choice*, 27 HARV. ENVTL. L. REV. 105, 158 (2003) ("The evidence indicates that federal regulators target small firms for criminal prosecution because the detected violations of small firms are more harmful or potentially more harmful than those committed by large firms. However, even after accounting for the harm of the violation . . . the probability of a small firm facing a criminal sanction is still twice as great as that of a large firm.").

35. William S. Laufer & Alan Strudler, *Corporate Crime and Making Amends*, 44 AM. CRIM. L. REV. 1307, 1315 (2007) ("Data from the United States Sentencing

draw empirical conclusions regarding the influence of firm size on prosecutions of firms because large firms are often “diverted from the criminal process,”³⁶ due to the proliferation of deferred and non-prosecution agreements entered into between companies and the Department of Justice (DOJ). Deferred and non-prosecution agreements have been an important component of the federal government’s post-Enron efforts to pursue sanctions against the largest firms, and may be part of a conscious program of structural reform.³⁷ Furthermore, the Organizational Sentencing Guidelines outline some instances where size should matter in sentencing. These studies and the Organizational Sentencing Guidelines are discussed below.

1. SEC Investigations and Prosecutions

One of the more exhaustive empirical studies suggests that January 1, 2002,³⁸ represents a noticeable change in decisions of the SEC regarding the size of enforcement targets.³⁹ In this study, Professors Cox and Thomas used a data set of 389 securities class action settlements that occurred between 1990 and 2003 to examine the overall effectiveness of public (SEC) and private securities enforcement.⁴⁰ Their research uncovered a trend suggesting that the SEC began selecting larger enforcement targets post-January 1, 2002.⁴¹ Before January 1, 2002, financial distress was the only statistically significant factor in predicting SEC enforcement decisions, highlighting the agency’s focus on protecting investors likely to incur substantial, irreversible losses from fraud at a failing corporation.⁴²

Commission reveal that more than ninety percent of the between two and four hundred corporations convicted in federal courts each year are small, privately-held businesses with fifty or fewer employees.”).

36. *Id.* (“[Large] companies that have invested in compliance programs are simply diverted from the criminal process, whether by plea agreements, through civil or administrative law sanctions, or by individual prosecutions of white collar offenders.”).

37. Brandon L. Garrett, *Structural Reform Prosecution*, 93 VA. L. REV. 853, 858, 886–87 (2007).

38. January 1, 2002 marks the passage of about one month since the Enron bankruptcy.

39. Cox & Thomas, *supra* note 33, at 899.

40. *Id.* at 895.

41. *Id.* at 901–02. Although these firms are relatively small, compared to the pre-Enron period, the firms being targeted by the SEC post-Enron are, on average, twenty-three times larger than firms targeted pre-Enron in terms of market capitalization. *Id.* at 902, 906. Cox and Thomas offer two reasons which may account for the shift in the size of enforcement targets: (1) a new group of SEC commissioners and a new SEC Director of Enforcement were appointed following the 2000 national elections, and (2) “public concern about fraudulent practices at the largest corporations” may have contributed to an SEC preference for pursuing more high-profile cases). *Id.* at 906.

42. *Id.* at 905.

2. *Investigations of the Environmental Protection Agency*

The SEC is not the only federal agency receiving scrutiny for prosecutorial bias based on firm size. Other studies have focused on the relationship between a company's size and the likelihood of prosecution by the EPA. One study focuses on the EPA's venue decisions, noting that the EPA tends to file criminal suits against small defendants while it pursues larger defendants civilly.⁴³ The study suggests that the EPA may choose to target large firms civilly rather than criminally because it may be more difficult to determine which individuals had personal knowledge of the environmental violations at large firms, a requirement for a criminal conviction.⁴⁴ Civil prosecutions provide the agency with a lower evidentiary burden of proof.⁴⁵ Furthermore, compliance with EPA regulations may be more burdensome for small firms, thus increasing the likelihood that they will engage in violations and that the agency will subject them as a group to more frequent criminal sanctions.⁴⁶ But although the EPA has sought prosecutions against small and medium-sized companies, it has been shown that these companies have an extremely low audit rate, and many firms were not even familiar with the term "environmental audit."⁴⁷

3. *Proliferation of Deferred and Non-Prosecution Agreements*

After the collapse of Enron and the ensuing wave of corporate scandals, much has been written about the response of prosecutors to corporate fraud.⁴⁸ Since 2003, however, rather than prosecute a corpo-

43. Firestone, *supra* note 34, at 148.

44. *Id.* at 109, 120 (explaining that the EPA faces a lower evidentiary burden when bringing actions for civil violations because scienter requirements are generally absent and suggesting that this factor weighs in favor of the agency choosing to bring civil prosecutions rather than criminal prosecutions).

45. *Id.* at 120.

46. *Id.* at 133.

47. James E. Meason, *Environmental Audits, Privileges from Disclosure, and Small Business Penalty Policies*, 18 N. ILL. U. L. REV. 497, 502 (1998).

48. See Kathleen F. Brickey, *Enron's Legacy*, 8 BUFF. CRIM. L. REV. 221, 234, 244 (2004) (describing how prosecutors have been given potent enforcement tools to charge firms in "cases they believe are truly egregious"); Peter J. Meitl, *Who's the Boss? Prosecutorial Involvement in Corporate America*, 34 N. KY. L. REV. 1, 15 (2007) (emphasizing that prosecutorial discretion has taken on "amplified power in the corporate criminal context"); Dale A. Oesterle, *Early Observations on the Prosecution of Business Scandals of 2002-03: On Sideshow Prosecutions, Spitzer's Clash with Donaldson over Turf, the Choice of Civil or Criminal Actions, and the Tough Tactic of Coerced Cooperation*, 1 OHIO ST. J. CRIM. L. 443, 444 (2004) (asserting that prosecutors have responded with investigations that have "produced a trickle of indictments and a guilty plea or two from some minor players and one CEO"); Christopher A. Wray & Robert K. Hur, *Corporate Criminal Prosecution in a Post-Enron World: The Thompson Memo in Theory and Practice*, 43 AM. CRIM. L. REV. 1095,

rate entity, prosecutors have frequently entered into Deferred Prosecution Agreements (DPA) and Non-Prosecution Agreements (NPA) with those entities.⁴⁹ Under a DPA, the government indicts a company but does not prosecute the claim. Instead, the parties enter into an agreement and if the company fulfills its obligations under the agreement, the government dismisses the indictment when the agreement expires.⁵⁰ A company entering an NPA is not indicted, but similarly must agree to certain conditions. If the company violates the terms of the NPA, then charges may still be filed.⁵¹ Because in some cases an indictment alone may have severe consequences for a corporation, NPAs, which may be taken by the market to signify a lower level of culpability than DPAs, are preferable for firms.⁵² DPAs and NPAs have traditionally been used to sanction juvenile and drug offenders,⁵³ but they are now powerful tools in handling corporate fraud cases.⁵⁴ Before 1993, DPAs and NPAs had not been used to deal with federal criminal charges against a corporation,⁵⁵ and between 1993 and 2002,

1098 (2006) (discussing how prosecutors have been prompted to “distinguish more readily between companies that deserve to be charged criminally and those that merit more lenient treatment” while at the same time overcome some of the “unintended consequences” that may “thwart” the practice of justice).

49. Historically, DPAs and NPAs were used exclusively as pretrial diversion tools for individuals accused of minor criminal offenses. See Leonard Orland, *The Transformation of Corporate Criminal Law*, 1 BROOK. J. CORP. FIN. & COM. L. 45, 57 (2006); Wray & Hur, *supra* note 48, at 1103; Benjamin M. Greenblum, Note, *What Happens to a Prosecution Deferred? Judicial Oversight of Corporate Deferred Prosecution Agreements*, 105 COLUM. L. REV. 1863, 1866 (2006). The first formal DPA between federal prosecutors and a corporation was an agreement entered into by the United States Attorney for the Southern District of New York and Prudential Securities in 1994. Orland, *supra* note 49, at 59. DPAs and NPAs only appeared frequently in cases against corporations after the Thompson Memorandum, see *infra* p. 13 and note 63, appeared in 2003. See Meitl, *supra* note 48, at 14; see also JED S. RAKOFF ET AL., CORPORATE SENTENCING GUIDELINES: COMPLIANCE AND MITIGATION 1–11 (2005); Cindy A. Schipani, *The Future of the Attorney-Client Privilege in Corporate Criminal Investigations*, 34 DEL. J. CORP. L. 921, 954–60 (2009) (discussing waiver of the attorney-client privilege in DPAs and NPAs).

50. Greenblum, *supra* note 49, at 1864 (“If [a] prosecutor agrees at the close of the deferral period that the offender has cooperated with the authorities, been rehabilitated, and made restitution when applicable, the prosecutor may dismiss the indictment and free the offender from criminal liability in that jurisdiction.”).

51. Orland, *supra* note 49, at 56 (citing Sue Reisinger, *By Any Other Name . . .*, CORP. COUNS., Sept. 19, 2006 (LEXIS), available at <http://www.law.com/jsp/cc/PubArticleCC.jsp?id=1158656720280>).

52. Erik Paulsen, *Imposing Limits on Prosecutorial Discretion in Corporate Prosecution Agreements*, 82 N.Y.U.L. REV. 1434, 1438 (2007) (explaining the benefits of “not fil[ing] a charging instrument . . . [and] send[ing] a less stringent message to the market”).

53. See, e.g., Wray & Hur, *supra* note 48, at 1103.

54. See Orland, *supra* note 49, at 45.

55. See *id.* at 57.

only thirteen such agreements were made.⁵⁶ In the following four years, thirty-five agreements were made.⁵⁷

There are several reasons supporting the popularity of DPAs and NPAs. One is that entering into a NPA avoids the collateral consequences associated with an indictment, such as closing the company, which, in turn, may leave thousands of people unemployed.⁵⁸ Moreover, the prosecution of companies requires extensive investigation and time, making litigation costly for the prosecutor.⁵⁹ By entering into DPAs and NPAs, prosecutorial resources are saved.⁶⁰ Prosecutors also claim that they could not obtain broader or even the same relief through the courts.⁶¹ In addition, the corporation may be less blameworthy than the individual employees, and resources are therefore best spent prosecuting only those culpable individuals.⁶²

Another explanation for why DPAs and NPAs are frequently used in the corporate context may be the result of the Thompson Memorandum.⁶³ In 2003, then-Deputy Attorney General Larry Thompson issued a memorandum stating that prosecutors would only bring charges against a corporation in a minority of cases, and that prosecution of individuals should always take precedence over the prosecution of corporate entities.⁶⁴ DPAs and NPAs are claimed to be a useful means to elicit the cooperation of a corporation in the prosecution of individuals within the organization.⁶⁵

56. *See id.*

57. *See* Garrett, *supra* note 37, at 894.

58. *See id.* at 901; *see also* Greenblum, *supra* note 49, at 1864–65 n.7 (citing John C. Coffee, Jr., *No Soul to Damn: No Body to Kick: An Unscandalized Inquiry into the Problem of Corporate Punishment*, 79 MICH. L. REV. 386, 400–05 (1981) (describing the externalities caused by prosecutions of corporations)).

59. Garrett, *supra* note 37, at 901. A U.S. Attorneys' Manual presents DPAs as a means to save prosecutorial and judicial resources. *See* Greenblum, *supra* note 49, at 1867.

60. *See* Garrett, *supra* note 37, at 901.

61. *See id.*

62. *See id.* Furthermore, prosecuting individuals instead of corporations avoids the harmful collateral consequences of prosecuting corporations. *See supra* note 58 and accompanying text.

63. Memorandum from Larry D. Thompson, Deputy Att'y Gen., to Heads of Dep't Components, U.S. Att'ys (Jan. 20, 2003) [hereinafter Thompson Memorandum], available at http://www.usdoj.gov/dag/cftf/corporate_guidelines.htm.

64. *See* Wray & Hur, *supra* note 48, at 1098 (summarizing the Thompson Memorandum).

65. *See id.* at 1106. *But see* Orland, *supra* note 49, at 75 (noting that the indictment of executives is only reflected in seventeen of forty-four DPAs and NPAs between 1993 and 2006). *See generally* Garrett, *supra* note 37, at 882–83 (discussing the unique theoretical issues associated with organizational cooperation in the prosecution of employees).

Even though the focus may have already been on individuals, it looks as if, due to the proliferation of DPAs and NPAs, even fewer companies are indicted and tried.⁶⁶ The major exceptions were the prosecution of Arthur Anderson, LLP in 2002⁶⁷ and Milberg Weiss, LLP in 2006.⁶⁸ Generally, it has been only the cases involving small companies that have gone to trial, while DPAs or NPAs tend to be entered into by large firms.⁶⁹ But when the current leadership of a corporation has played a role in the fraud, they may be less likely to agree to settle with the DOJ, as doing so could have far-reaching consequences for them as individuals.⁷⁰ This may be what happened in the case of Arthur Andersen, LLP and Milberg Weiss, LLP, but may more commonly be the case with smaller companies.⁷¹

It may be that when prosecutors choose to focus their resources on a select group of well-known companies after a major scandal, even if in the form of an NPA or DPA, they are attempting to send a strong message to other companies that the conduct in question has serious consequences.⁷² Viewed in this light, prosecutors would not only be heeding politics and public outcry or trying to advance their own careers, but would also be trying to achieve optimal deterrence. This approach is known as the optimal penalty theory.⁷³

Further evidence of the propensity of prosecutors to focus on large companies in the wake of the Enron and WorldCom scandals comes from the large amounts of fines, restitution, and compensation paid under DPAs and NPAs.⁷⁴ Between 2003 and 2006, the DOJ en-

66. See Orland, *supra* note 49, at 45 (“Since 2003 . . . [nearly] every major federal case of corporate misconduct has been resolved without filing an indictment against the firm.”).

67. Indictment, United States v. Arthur Andersen, LLP, No. 02-121 (S.D. Tex. Mar. 7, 2002), *available at* <http://news.findlaw.com/hdocs/docs/enron/usandersen030702ind.html>.

68. Superseding Indictment, United States v. Milberg Weiss Bershad & Schulman, LLP, No. 05-587(A) (C.D. Cal. Oct. 2004), *available at* <http://f11.findlaw.com/news.findlaw.com/wp/docs/classactns/usmlbrg51806ind.pdf>; *see also* Orland, *supra* note 49, at 45 n.4.

69. See Garrett, *supra* note 37, at 890 (finding that deferred or non-prosecution agreements are between the DOJ and Fortune 500 companies).

70. See *id.* at 902.

71. See *id.*

72. See Ashwini Jayaratnam, Note, *Prosecuting Stock-Option Backdating: The Ethics of Enforcement Techniques*, 20 GEO. J. LEGAL ETHICS 755, 760 (2007) (“[Selective prosecutions] send a strong signal to other companies that illegally backdating options could result in criminal sanctions.”).

73. See *id.* at 761.

74. See Garrett, *supra* note 37, at 900.

tered into thirty-five DPAs and NPAs,⁷⁵ and the average amount of compensation paid was \$141 million.⁷⁶

In the past, cases against large companies were almost never pursued.⁷⁷ It is still true today that large companies are almost never indicted; it may even be the case that there are fewer indictments than in the past. But looking to the incidence of the indictment of large companies is misleading. Instead, it has been found that large firms are being investigated at a higher rate—they are not prosecuted simply because they are entering sweeping agreements to prevent indictment.⁷⁸

4. Sentencing

Theoretically, firm size is not a factor to be considered explicitly when a judge makes sentencing decisions. The U.S. Sentencing Commission (Sentencing Commission) targeted the issue directly, and ultimately decided not to include organizational size as a factor when determining the amount of corporate liability.⁷⁹ The Sentencing Commission instead chose to support the policy that “size alone was neither favored nor disfavored under federal criminal laws.”⁸⁰ Yet, due to practical considerations, such as the variable impact of a universal fine on firms of different sizes, the Sentencing Commission allowed firm size to have an indirect effect on corporate sentencing under the Organizational Sentencing Guidelines.⁸¹ First, the Organizational Sentencing Guidelines provide that if a firm is so small that a fine would force it to enter bankruptcy proceedings, the fine should be reduced.⁸² Second, if top officials of a large company are involved in the criminal activity, then the resulting fine will be larger than if top officials at a small company are implicated.⁸³ Third, sufficiency stan-

75. *Id.* at 894.

76. *Id.* at 900.

77. *See id.* at 854.

78. *See id.* at 888–89.

79. *See* Richard S. Gruner, *Towards and Organizational Jurisprudence: Transforming Corporate Criminal Law Through Federal Sentencing Reform*, 36 ARIZ. L. REV. 407, 411–12 (1994).

80. *Id.* at 411 n.29.

81. *See* Ilene H. Nagel & Winthrop M. Swenson, *The Federal Sentencing Guidelines for Corporations: Their Development, Theoretical Underpinnings, and Some Thoughts About Their Future*, 71 WASH. U. L. Q. 205, 248–51 (1993). *See generally* U.S. SENTENCING GUIDELINES MANUAL § 8 (2010) (providing organizational sentencing guidelines).

82. *See* U.S. SENTENCING GUIDELINES MANUAL § 8C3.3(b) (2010).

83. *See id.* § 8C2.5.

dards for corporate compliance programs⁸⁴ are lower for smaller firms.⁸⁵ Fourth, if a firm has fewer than fifty employees, it is immune from probation sentences incurred for lacking a compliance program.⁸⁶ Finally, fines for closely held firms may be reduced by the amount of the fine imposed on the firm's owner, although similar concerns do not affect larger firms' fines.⁸⁷

II.

THE MORAL HAZARD: INFLUENCES ON THE DECISION OF WHETHER TO PROSECUTE

Moral hazard refers to situations where individuals or firms behave differently because they do not fully bear the consequences of their actions.⁸⁸ For example, if an individual obtains automobile insurance, he or she may be more likely to forget to lock the car, thereby increasing the probability of theft. Similarly, availability of deposit insurance may make the banks more likely to engage in excessive risk-taking. Depositors do not necessarily care about this excessive risk because the federal government insures their deposits. Moral hazard also arises in the context of principal-agent situations, where the

84. *Id.* § 8B2.1(a)–(b) (“(a) To have an effective compliance and ethics program, for purposes of subsection (f) of § 8C2.5 (Culpability Score) and subsection (c)(1) of § 8D1.4 (Recommended Conditions of Probation - Organizations), an organization shall— (1) exercise due diligence to prevent and detect criminal conduct; and (2) otherwise promote an organizational culture that encourages ethical conduct and a commitment to compliance with the law. Such compliance and ethics program shall be reasonably designed, implemented, and enforced so that the program is generally effective in preventing and detecting criminal conduct. The failure to prevent or detect the instant offense does not necessarily mean that the program is not generally effective in preventing and detecting criminal conduct. (b) Due diligence and the promotion of an organizational culture that encourages ethical conduct and a commitment to compliance with the law within the meaning of subsection (a) minimally require the following: (1) The organization shall establish standards and procedures to prevent and detect criminal conduct. (2) (A) The organization’s governing authority shall be knowledgeable about the content and operation of the compliance and ethics program and shall exercise reasonable oversight with respect to the implementation and effectiveness of the compliance and ethics program. (B) High-level personnel of the organization shall ensure that the organization has an effective compliance and ethics program, as described in this guideline. Specific individual(s) within high level personnel shall be assigned overall responsibility for the compliance and ethics program.”).

85. *See id.* § 8B2.1 cmt. 2(C).

86. *See id.* § 8D1.1(a)(3).

87. *See id.* § 8C3.4.

88. *See* Bengt Holmström, *Moral Hazard and Observability*, 10 *BELL J. ECON.* 74 (1979); *see also* PAUL KRUGMAN, *THE RETURN OF DEPRESSION ECONOMICS AND THE CRISIS OF 2008* 62–66 (2009) (discussing “the principle of moral hazard”).

agent makes decisions on behalf of the principal. Because the agent will typically have more information than the principal, the agent may tend to make decisions that he or she prefers, even if those decisions are not in the best interests of the principal.⁸⁹

Prosecutors can be viewed as the agents for the general public in enforcing laws and regulations, as they will typically have a lot more information and power than the public about each case. The relevant question then becomes whether prosecutors use this information and power purely in the public interest or also for their own interests.⁹⁰

In this vein, concerns have been voiced about prosecutorial discretion.⁹¹ As long as a prosecutor has probable cause to believe an accused committed a crime, he or she may decide to bring a charge; a decision that is essentially unreviewable by the courts.⁹² This power, however, is counterbalanced by the doctrine of supervisory powers, the doctrine of separation of powers, professional discipline, and the political process.⁹³ Further, in the case of white-collar crime, it has been said that prosecutors do not play as great of a role in selecting

89. See Kathleen M. Eisenhardt, *Agency Theory: An Assessment and Review*, 14 ACAD. MGMT. REV. 57, 58 (1989) (“[T]he agency problem . . . arises when (a) the desires or goals of the principal and agent conflict and (b) it is difficult or expensive for the principal to verify what the agent is actually doing.”).

90. See, e.g., H. W. Perry, Jr., *United States Attorneys - Whom Shall They Serve?*, 61 LAW & CONTEMP. PROBS. 129, 147 (1998) (arguing that the relationship between U.S. Attorneys and the President of the United States can be viewed as a principal-agent relationship; concluding that increased willingness on the part of Presidents to fire U.S. Attorneys would reduce agency loss, although it brings about the concomitant danger that U.S. Attorneys would be made “too politically responsive”).

91. See, e.g., Janet C. Hoeffel, *Prosecutorial Discretion at the Core: The Good Prosecutor Meets Brady*, 109 PENN ST. L. REV. 1133, 1138 (2005) (explaining that a prosecutor “must show the public can trust him, or . . . be forced to cede his discretion”).

92. See Tracey L. Meares, *Rewards for Good Behavior: Influencing Prosecutorial Discretion and Conduct with Financial Incentives*, 64 FORDHAM L. REV. 851, 862 (1995) (“So long as the prosecutor has probable cause to believe that the accused committed an offense, the prosecutor is entitled to bring the charge. The prosecutor’s decision, moreover, is rarely second-guessed by the courts. Similarly, the prosecutor’s decision not to initiate a prosecution or to dismiss a prosecution is effectively unreviewable by the courts.”).

93. See Alexandra White Dunahoe, *Revisiting the Cost-Benefit Calculus of the Misbehaving Prosecutor: Deterrence Economics and Transitory Prosecutors*, 61 N.Y.U. ANN. SURV. AM. L. 45, 45 (2005). While prosecutors enjoy broad discretion, under the supervisory powers doctrine courts have the authority to see that this discretion does not trammel on justice within the courtroom. Separation of powers, as a system of checks and balances, allows courts to check and to restrain prosecutorial abuse of power. Additionally, prosecutor behavior is checked by potential sanctions, as well as having to satisfy voter confidence in their performance.

cases as is commonly thought.⁹⁴ This is because most investigations are initiated by regulatory agencies such as the SEC, and not by the DOJ.⁹⁵

It is generally agreed, however, that, notwithstanding these safeguards, prosecutors still have substantial power.⁹⁶ This may be, in part, because the safeguards are inadequate. For example, although federal prosecutors are supposedly guided by the *Principles of Federal Prosecution of Business Organizations*,⁹⁷ by several other manuals,⁹⁸ and by ethical standards,⁹⁹ it has been argued that these principles may be too vague and meaningless to provide any practical guidance.¹⁰⁰ For example, Michael Simons suggests that although the *Principles of Federal Prosecution* imposes some limitations,¹⁰¹ prosecutors are still left with enormous discretion due to their unchecked ability to decide whether to bring a federal action when criminal actions are also available in state court.¹⁰² This is so even though prosecutions should not be undertaken when there is “no substantial [f]ederal interest served by prosecution; . . . the person in question is subject to effective prosecution in another jurisdiction; or . . . there is an adequate noncriminal alternative to prosecution.”¹⁰³

Although prosecutors are vested with broad discretionary power to weigh the interests of society when making a decision to charge, the interests of prosecutors are not perfectly aligned with those of society.¹⁰⁴ This Part considers some factors that may influence the exercise of prosecutorial discretion. These factors include career

94. See Michael L. Seigel & Christopher Slobogin, *Prosecuting Martha: Federal Prosecutorial Power and the Need for a Law of Counts*, 109 PENN ST. L. REV. 1107, 1109 (2005).

95. *Id.*

96. See, e.g., Dunahoe, *supra* note 93, at 45–46.

97. See Thompson Memorandum, *supra* note 63.

98. See, e.g., U.S. DEP’T OF JUSTICE, UNITED STATES ATTORNEYS’ MANUAL (2d ed. 2011) [hereinafter MANUAL].

99. See, e.g., MODEL RULES OF PROF’L CONDUCT R. 3.8 (1998); see also ABA STANDARDS FOR CRIMINAL JUSTICE PROSECUTORIAL INVESTIGATIONS (Feb. 2008).

100. See Michael A. Simons, *Prosecutorial Discretion and Prosecution Guidelines: A Case Study in Controlling Federalization*, 75 N.Y.U. L. REV. 893, 934–35 (2000).

101. See MANUAL, *supra* note 98, §§ 9-27.000–760.

102. See Simons, *supra* note 100, at 934–35.

103. *Id.* at 934. Although Simons refers to the provisions of the general *Principles of Federal Prosecution*, the *Principles of Federal Prosecution of Business Organizations* instructs U.S. Attorneys to refer to the factors provided by the more general document. Thompson Memorandum, *supra* note 63 (referring to MANUAL, *supra* note 101, § 9-27.220).

104. A legislative constraint on prosecutorial discretion would likely result in over-prosecution, as legislatures also tend to over-criminalize behavior.

advancement,¹⁰⁵ the influence of political aspirations¹⁰⁵ and political pressure,¹⁰⁶ and institutional structures.¹⁰⁷

A. *Incentives to Investigation and Prosecution: Winning and Career*

According to some scholars, the overriding interest of prosecutors is winning.¹⁰⁸ This desire to win is said to sometimes be so strong that it may trump ethical obligations, concerns over procedural fairness, or prosecutors' own possible concerns regarding the harshness of the federal sentencing guidelines and mandatory minimums.¹⁰⁹ To support the claim that prosecutors care about winning above all else, it has been suggested that prosecutors' desires to maintain high conviction rates explain, in part, the strong resistance of prosecutors to post-conviction claims of innocence.¹¹⁰ The argument is that if prosecutors did not care so much about their conviction rates but instead cared more about justice, there would not be such resistance.¹¹¹ The finding that a prosecutor will frequently offer a generous plea bargain when a case is weak also suggests that prosecutors ultimately care about winning.¹¹²

Several reasons are given purporting to explain the importance of winning cases to prosecutors, mainly regarding the institutional structure prosecutors find themselves in and their ability to advance professionally. First, winning cases puts the prosecutor's office in a good light; conviction rates are used as leverage by offices in budget negotiations.¹¹³ Conviction rates are not the only indication of how well an

105. See, e.g., Edward L. Glaeser et al., *What Do Prosecutors Maximize? An Analysis of the Federalization of Drug Crimes*, 2 AM. L. & ECON. REV. 259, 288 (2000).

106. See, e.g., Daniel S. Medwed, *The Zeal Deal: Prosecutorial Resistance to Post-Conviction Claims of Innocence*, 84 B.U. L. REV. 125, 157–69 (2004) (explaining the political variables affecting prosecutorial decision-making in the post-conviction context).

107. See *id.* at 134–35.

108. See, e.g., Medwed, *supra* note 106, at 111; Abbe Smith, *Can You Be a Good Person and a Good Prosecutor?*, 14 GEO. J. LEGAL ETHICS 355, 388 (2001).

109. See Smith, *supra* note 108, at 389–91.

110. See Medwed, *supra* note 106, at 136–37.

111. See *id.* In some systems, an appellate prosecutor will be assigned to a case after conviction. Professor Medwed suggests several other factors explaining individual and institutional prosecutorial resistance to claims of innocence that would also be relevant in such systems. These factors include: a public service ideology that the system punished the true perpetrator of a crime, the group dynamics of working with a law enforcement agency, a hesitancy to revisit disturbing experiences with the victims of violent crimes, a self-conceived role as a protector of the public, and a pragmatic approach to the abundance of post-conviction motions. *Id.* at 137–49.

112. See Smith, *supra* note 109, at 391.

113. See Medwed, *supra* note 106, at 135.

office is doing; the number of prosecutions matters, too. At the federal level, the perception is that offices that continue to increase the number of cases prosecuted have more resources allocated to them, while offices with declining prosecution rates appear to be penalized.¹¹⁴

Second, winning helps careers. Because it is difficult to measure a prosecutor's job performance, superiors often look to conviction rates.¹¹⁵ Prosecutors with the highest conviction rates tend to have the best performance reputations.¹¹⁶ This in turn means that these prosecutors have the best chances of advancement internally; hence the desire to win cases is strong.¹¹⁷ Even if prosecutors have aspirations other than rising within a prosecutor's office, winning can be important. If prosecutors aspire to run for mayor, governor, or judge—and many do¹¹⁸—then high conviction rates can be used to gain the support of the public.¹¹⁹ Some commentators further suggest that reflecting on past convictions is crucial to the electoral chances of a prosecutor.¹²⁰ Chief prosecutors at the state level have a special interest in obtaining high conviction rates.¹²¹ Because they are elected officials and usually may be reelected any number of times, they may care about conviction rates not merely to advance, but simply to maintain their position.¹²²

It is also worth noting that the desire to win seems to strengthen over time.¹²³ Prosecutors who perceive their primary function to be securing convictions have twice as much experience, on average, as those who see their primary function as achieving justice.¹²⁴ This might mean that prosecutors come into office expecting to do justice, but after a while realize that if they want to advance professionally

114. See Simons, *supra* note 100, at 932–33. Simons, a former Assistant United States Attorney, does not state whether this is actually the practice of the Justice Department. *Id.*

115. See Medwed, *supra* note 106, at 134; see also Steven K. Berenson, *Public Lawyers, Private Values: Can, Should, and Will Government Lawyers Serve the Public Interest?*, 41 B. C. L. REV. 789, 808–09 (2000) (citing Albert Alschuler, *The Prosecutor's Role in Plea Bargaining*, 36 U. CHI. L. REV. 50, 106 (1968–69)) (emphasizing the role of conviction rates as a tangible measurement).

116. See Medwed, *supra* note 106, at 134.

117. See *id.* at 134–35.

118. See, e.g., Richard L. Engstrom, *Political Ambitions and the Prosecutorial Office*, 33 J. POL. 190, 192–93 (1971) (showing that prosecutors view their offices as helpful to their political careers).

119. See Medwed, *supra* note 106, at 153–55.

120. See *id.* at 155.

121. See *id.* at 151.

122. See *id.*

123. See Medwed, *supra* note 106, at 138.

124. *Id.* (citing George T. Felkenes, *The Prosecutor: A Look at Reality*, 7 SW. U. L. REV. 98, 111 (1975)).

(whether internally or externally), their main focus needs to be on conviction rates.¹²⁵ This is an important point if they are primarily seeking to maximize professional gains.¹²⁶

A study analyzing how prosecutors exercise their discretion to prosecute an alleged wrongdoer at either the state or federal level supports the career maximization idea.¹²⁷ The study found that federal prosecutors focus on prosecuting individuals who are older, more successful in their (lawful) careers, more likely to be married, more likely to be Army veterans, and less likely to have a criminal record than the individuals prosecuted by their state counterparts.¹²⁸ In particular, federal prosecutors take on more cases in which the defendants have private attorneys, or are likely to hire private attorneys.¹²⁹

These findings can be interpreted in two ways. The first explanation is that the defendants prosecuted by federal prosecutors are more difficult to prosecute and are more likely to have crossed state lines, resulting in their being charged in federal court. Another plausible explanation is that prosecuting these defendants is more likely to result in high-profile cases. Federal prosecutors would therefore take these cases not because they necessarily belong in federal court, but because these cases are more helpful in advancing the prosecutors' careers.¹³⁰ This latter possibility is further supported by the finding that federal prosecutors based in states where private sector salaries are higher are more likely to bring cases with the potential to advance the prosecutors' private-sector career prospects.¹³¹ Read together with other works,¹³² this study seems to support the claim that prosecutors ulti-

125. See Hoeffel, *supra* note 91, at 1140 (“[T]he typical . . . prosecutor . . . will only be noticed, climb the career ladder, or become a member of elected office . . . if he racks up the convictions.”).

126. See Dunahoe, *supra* note 93, at 60–61.

127. See Glaeser et al., *supra* note 105.

128. *Id.* at 288.

129. *Id.*

130. See *id.*

131. See *id.* at 282–83.

132. See, e.g., Rebecca Hollander-Blumoff, *Getting to “Guilty”: Plea Bargaining as Negotiation*, 2 HARV. NEGOTIATION L. REV. 115, 134 (1997) (arguing the hierarchical structure of prosecutors' offices suggests they are motivated by supervisory as well as institutional incentives related to a particular office, such as achieving higher conviction rates through plea deals); Patricia M. Wald, “*For the United States*”: *Government Lawyers in Court*, 61 LAW & CONTEMP. PROBS. 107, 120 (1998) (explaining that prosecutors must carefully guard internal deliberations while at the same time giving due respect to the court); Kulbir Walha & Edward E. Filusch, *Eliot Spitzer: A Crusader Against Corporate Malfeasance or a Politically Ambitious Spotlight Hound? A Case Study of Eliot Spitzer and Marsh & McLennan*, 18 GEO. J. LEGAL ETHICS 1111, 1127–31 (2005) (analyzing the strategic use of prosecutorial commentary in the public eye).

mately care about their careers and strategize accordingly.¹³³ Thus, it is plausible that both the goal of winning a case and the desire to advance a prosecutor's professional goals play a role in prosecutorial motivation.

B. *Politics, Public, and Agents*

Some commentators argue that prosecutors are political.¹³⁴ U.S. Attorneys are political appointees, and their sponsor is usually a United States Senator. The idea of prosecutors as political often means they are interested in seeking higher office.¹³⁵ Those interested in higher office may try to prosecute as many attention-grabbing cases as possible to emphasize their profile with important political figures and the public.¹³⁶ Apart from being motivated by a desire to climb the political ladder, prosecutors may also be motivated by ideology.¹³⁷ These prosecutors may care less about the high-profile nature of the cases and more about cases that fit well with their ideological convictions.¹³⁸ But one wonders how often, and for how long, ideology is the main motivator for prosecutors.¹³⁹

The idea of prosecutors as political not only means they have political aspirations; at its core, it simply means that they may yield to political pressure (even though the reason for such a yield might remain political aspirations).¹⁴⁰ Declination rates—the incidence with which prosecutors choose not to pursue an action—are low when there is public or political pressure for prosecutors to take action.¹⁴¹ For example, when states were calling for stricter enforcement of immigration laws, immigration prosecutions in federal border districts increased more than seven-fold between 1994 and 2000.¹⁴²

133. That this study focused on federal prosecutors does not mean state prosecutors are not motivated by the same concerns. See Glaeser, *supra* note 105, at 264.

134. See Medwed, *supra* note 106, at 152 (asserting all members of a prosecutor's office should be aware of the political consequences of their conduct in handling cases); see also Perry, *supra* note 90, at 143.

135. See Perry, *supra* note 90, at 143.

136. See *id.* at 144.

137. See *id.* at 142.

138. See *id.* at 142. For example, such prosecutors may be motivated by a desire to "protect the public." Medwed, *supra* note 106, at 139.

139. See Medwed, *supra* note 106, at 138 (noting that one study showed that prosecutors who care most about conviction rates have twice as much experience on average as prosecutors who care about justice).

140. See Perry, *supra* note 90, at 142.

141. See Daniel Richman, *Prosecutors and Their Agents, Agents and Their Prosecutors*, 103 COLUM. L. REV. 749, 765 (2003).

142. *Id.* at 766.

Prosecutors may try not only to appease the electorate and their superiors, but also to maintain good relationships with other law enforcement agents. For instance, the high declination rate for civil rights offenses (92.8% in 1999)¹⁴³ may be because many of the suspects are law enforcement officers.¹⁴⁴ A prosecutor who questions the conduct and integrity of law enforcement agents may not be able to expect much cooperation from officers in subsequent cases.¹⁴⁵

It appears that whether the motivation is to please the public, the office, or to advance one's own career (the former two perhaps reinforcing the latter), prosecuting high-profile cases is important to prosecutors. As described by one commentator, high profile cases "hold . . . the promise of institutional and personal glory."¹⁴⁶ Prosecutors may thus focus on high-profile cases because these cases enable them to move on to lucrative jobs, even though such a focus may be seen as an appropriate response to a public outcry, and reflect a preference of the administration.¹⁴⁷ These interests may trump the deterrent or remedial effects of such high-profile prosecutions.¹⁴⁸ The value that high-profile cases represent both to individual prosecutors and to institutions such as the DOJ and the SEC can act as a powerful incentive that pulls prosecutors away from the most socially beneficial uses of their resources and power.

One area where prosecutors may try to make a name for themselves through high-profile prosecutions is white-collar crime.¹⁴⁹ In the 1980s, corporate consolidations led to job losses and the public perceived corporate America as ruthless.¹⁵⁰ Prosecutors responded to this perception by bringing a number of high-profile cases.¹⁵¹ Similarly, prosecutors also brought a number of high-profile cases in the

143. *Id.* at 764.

144. *Id.* at 763–64; *see also* Simons, *supra* note 100, at 933 (explaining how many cases would be more appropriately brought in state court).

145. *See* Smith, *supra* note 108, at 392.

146. Richman, *supra* note 141, at 760.

147. *See* Christine Hurt, *The Undercivilization of Corporate Law*, 33 J. CORP. L. 361, 435 (2008) (noting that the Martha Stewart prosecution "may . . . be a strange way to spend taxpayer money").

148. *See id.*

149. *See id.* at 372. High-profile corporate law prosecutions have been prevalent in post-scandal eras, such as those following the stock market crash in 1929, the stock market crash of 1987, and the recent downturn following the technology bubble bursting in 2001. *See* Seigel & Slobogin, *supra* note 94, at 1130 (explaining that since Enron, the pressure to prosecute white-collar crime has become particularly intense).

150. *See* J. Kelly Strader, *White Collar Crime and Punishment: Reflections on Michael, Martha and Milberg Weiss*, 15 GEO. MASON L. REV. 45, 52 (2007).

151. *See id.*

wake of the Enron collapse.¹⁵² These cases made national headlines and attracted public attention.¹⁵³ Yet, Martha Stewart, for example, was not prosecuted for insider trading (the conduct that prompted and was the focus of the government's investigation), but rather for lying during the investigation.¹⁵⁴ That the case against Martha Stewart proceeded on grounds only tangentially related to the original investigation suggests that the prosecutors were mainly taking action in response to public outcry.

More than U.S. Attorneys and other federal prosecutors, state prosecutors must keep a careful eye to local interests. They may consider the political ramifications of prosecuting firms that are economically important to local communities as well as the need, from the perspective of state government, to limit the public funds expended on investigation and prosecution. It has been found that state prosecutors are somewhat reluctant to exceed their investigative capacity, especially when local costs of enforcement are likely to offset its benefits.¹⁵⁵ For example, state prosecutors may not pursue large-scale corporate fraud because they lack the resources and expertise to do so, in addition to the ancillary costs that accompany local enforcement.¹⁵⁶ In this sense, prosecutors advance local interests and, in doing so, make their own positions more secure. Even federal prosecutors, who are appointed and not elected, are not free from political influences; high conviction rates may be important to secure their positions.¹⁵⁷

III.

EMPIRICAL STUDY—BACKDATING

In this section, we provide an empirical test to examine whether small firms should be exempt from either regulation or regulatory enforcement, and whether policy prescriptions in this matter should be based on observed prosecutions or investigations. As stated earlier, small firms have been granted exemptions from various regulations,

152. See Brickey, *supra* note 48, at 222–23; see also Wray & Hur, *supra* note 48, at 1097, 1100–01.

153. See Strader, *supra* note 150, at 53–54.

154. See Seigel & Slobogin, *supra* note 94, at 1107.

155. See Darryl K. Brown, *The Distribution of Fraud Enforcement*, 28 CARDOZO L. REV. 1593, 1596 (2007).

156. See *id.* (“[W]hen firms are prosecuted, employees may lose jobs and their communities suffer. When doctors, nursing homes, and the like are prosecuted, communities—especially rural ones—may lose much of their access to local health care providers, perhaps the sole providers. . . . [W]e may moderate punishment when we recognize its full social costs, and local officials are going to be more attuned to those local costs.”).

157. See Medwed, *supra* note 106, at 152.

supposedly for social welfare reasons.¹⁵⁸ There is also some evidence, as discussed in Part II.B, that suggests that prosecutors favor pursuing higher profile cases, which generally implies investigations of larger firms.¹⁵⁹

To decide if firm size should be a determinant of the optimal regulation of firms, we need data on the relationship between the firm size and the extent of violations. When researchers attempt to obtain data on violations, they tend to rely on investigations or prosecutions.¹⁶⁰ Investigations or prosecutions, however, are influenced by prosecutorial choices which, as discussed above, may be driven in part by moral hazard or social welfare considerations.¹⁶¹ These considerations are likely to introduce bias in what types of firms are targeted, and more likely than not, result in prosecutors favoring the pursuit of relatively larger firms.¹⁶² Hence, prosecutorial choices might create the false impression that smaller firms are less culpable because of fewer observed violations which, in turn, will result in even fewer investigations of smaller firms. It is preferable, therefore, that any examination of compliance by smaller firms not be based solely on observed investigations. A more rigorous approach to address the question of whether smaller firms should be exempt from particular regulations or whether law enforcement agents should be more lenient toward them should involve an assessment of the relationship between violations and firm size that is not based on actual investigations or prosecutions. Unfortunately, researchers usually cannot observe violations independent of investigations and subsequent prosecutions by regulatory or law enforcement authorities.

The options backdating practice, in contrast, provides a rare opportunity where researchers can estimate the likelihood of a violation without resorting to data on investigations or prosecutions. By observing the firm's stock price behavior around reported option grant dates and checking the frequency with which options were granted at favorable exercise prices (the exercise price is usually the stock price on the grant date), the likelihood that the company has engaged in options backdating can be estimated. Whether smaller companies are over- or under-represented in the sample of companies estimated to

158. See *supra* Part I.A, notes 1–3, 6, 18, and accompanying text. The efficiency perspective trades off costs of investigation and prosecution against the benefits arising from financial recovery and deterrence.

159. See *supra* notes 147–155 and accompanying text.

160. See, e.g., Jonathan Karpoff, D. Scott Lee, and Gerald S. Martin, *The Consequences to Managers for Financial Misrepresentation*, 88 J. FIN. ECON. 193 (2008).

161. See discussion *supra* Parts II.A, II.B.

162. See discussion of high-profile prosecutions *supra* Part II.B.

have engaged in backdating can then be examined. This sample can be further checked to determine whether the companies that are investigated or prosecuted for backdating are likely to be larger on average than the sample of companies that we estimate to have engaged in backdating. If so, it may be that prosecutors are relatively lenient towards smaller firms, perhaps either for social welfare considerations or due to moral hazard.

If it is found that prosecutors do focus on larger firms, then it will support the view that observed investigations and prosecutions are not the correct measure for formulating regulatory policy, especially when it comes to providing exemptions for small firms. Before describing our empirical analysis in detail, the next Part provides an overview of options backdating.

A. *An Overview of Stock Options Backdating*

This Part provides a brief description of stock options backdating, and the academic evidence consistent with the prevalence of the practice before and after the enactment of SOX. Before describing backdating, it is important to note that backdating stock options is not itself illegal, as long as it is duly authorized by the board, fully disclosed, and reported in keeping with tax rules.¹⁶³ It appears, however, that firms that have engaged in backdating have tended to do so covertly, in violation of reporting requirements and tax laws.

Backdating is best explained using a simple example. Suppose an executive is awarded options by the board of directors on April 15, when the firm's stock price is \$40. As is the practice with almost all awards (and required, in most cases, by corporate charters),¹⁶⁴ these options are awarded "at-the-money," meaning that the exercise price is set equal to the stock price on the grant date, here \$40.¹⁶⁵ If the stock price at the time of exercise exceeds the exercise price of \$40,

163. See Jesse M. Fried, *Option Backdating and Its Implications*, 65 WASH. & LEE L. REV. 853, 858–61 (2008) ("The backdating of stock option grants to lower the exercise price is not per se illegal."); M. P. Narayanan et al., *The Economic Impact of Backdating of Executive Stock Options*, 105 MICH. L. REV. 1597, 1601–02 (2007).

164. See Linda Chatman Thomsen, Dir., Div. of Enforcement, Speech by U.S. Sec. and Exch. Comm'n Staff, *Options Backdating: The Enforcement Perspective* (Oct. 30, 2006) (transcript available at <http://www.sec.gov/news/speech/2006/spch103006lct.htm#foot1>).

165. About 95% of the options are granted at-the-money and the remaining options are granted out-of-the money. Brian J. Hall & Kevin J. Murphy, *Optimal Exercise Prices for Executive Stock Options*, 90 AM. ECON. REV. 209 (2002). The reasons for this practice are explained in Narayanan et al., *supra* note 163, at 1602–05.

the payoff to this executive will be the difference between the stock price prevailing at the time of exercise and the exercise price of \$40.

Suppose the firm's stock price has been rising before the board decision date. The executive sees an opportunity to increase her compensation and declares that she received at-the-money options on March 15, when the stock price was \$30, and files a Form 4 report¹⁶⁶ with the SEC that March 15 is the grant date.¹⁶⁷ This is backdating. This declaration automatically sets the exercise price equal to the stock price on March 15, or \$30. What the board intended was that the executive receive options on April 15 with an exercise price of \$40. What the executive declared was that she received at-the-money options with an exercise price of \$30 on March 15. The payoff to this executive now equals the stock price at the time of exercise, less the exercise price of \$30 if the stock price ends up above \$30 at the time of exercise. By obtaining options at a lower exercise price than the board intended, the executive received more compensation than intended by tampering with corporate documents. Also, because the board decision was really made on April 15, this executive received options that are \$10 in-the-money immediately.

Because the board decision date and the designated grant date are not easily available, researchers have used several indirect methods to detect possible backdating. The only dates available to researchers are the reported grant date and the date of Form 4 filings (report date) with the SEC.¹⁶⁸ If executives are backdating, there is likely to be a

166. U.S. SEC. & EXCH. COMM'N, SEC FORM 1475: FORM 4: STATEMENT OF CHANGES OF BENEFICIAL OWNERSHIP OF SECURITIES (2007), available at <http://www.sec.gov/about/forms/form4data.pdf>.

167. In this example, we implicitly assume that the executive is solely responsible for the backdating. The basic idea remains the same even if the board is complicit in this practice.

168. The disclosure of changes in the equity holdings of beneficial owners (defined as director, officer, or beneficial owner of more than ten percent of any class of equity securities) is governed by Section 16(a) of the Securities and Exchange Act of 1934. Securities and Exchange Act of 1934 § 16(a), 15 U.S.C. § 78p (2006). On August 27, 2002, in line with § 403 of SOX, the SEC amended the disclosure rules for beneficial ownership reports to be filed under § 16(a). 17 C.F.R. § 240.16a-3 (2010). The filing requirements became effective on August 29, 2002. Ownership Reports and Trading by Officers, Directors and Principal Security Holders, 67 Fed. Reg. 56,462 (Sept. 3, 2002) (to be codified at 17 C.F.R. pt. 240, 249, 274). SOX requires that most grants be reported within two business days following the execution date of the transaction. Sarbanes-Oxley Act of 2002 § 403, 15 U.S.C. § 78p(a)(2)(c) (2006). Effective June 30, 2003, Form 4 must be filed electronically within the two-day deadline. Executives can play another game, called forward-dating, to increase their compensation when stock prices are falling. See M. P. Narayanan & H. Nejat Seyhun, *The Dating Game: Do Managers Designate Option Grant Dates to Increase Their Compensation?* 21 REV. OF FIN. STUD. 1907, 1907–08 (2008) [hereinafter Narayanan & Seyhun, *The*

time lag between the reported grant date and the report date: the longer this time lag the more likely they were seeking a lower exercise price.¹⁶⁹ This in turn implies that the extent of stock price rise following the reported grant date will be positively correlated with the reporting lag.¹⁷⁰

As of August 2002, SOX requires that option grants be reported within two business days of the grant date.¹⁷¹ This requirement can severely limit the extent of backdating if executives simultaneously wish to abide by the two-day rule. During the period after SOX and ending in 2005, executives wishing to backdate appear to have flouted this rule.¹⁷² As expected, SOX has reduced the practice, but has not fully eliminated it.¹⁷³

Dating Game]. For a simple example of forward-dating, refer to Narayanan et al., *supra* note 163, at 1601–02. Because, even in the case of forward-dating, executives are still seeking a reported grant date with a lower stock price, the implications for our analysis are similar regardless of the type of dating game involved.

169. Professors Narayanan and Seyhun proposed a test relating reporting lags to stock price patterns around the grant date to uncover backdating. See M. P. Narayanan & H. Nejat Seyhun, *Do Managers Influence Their Pay? Evidence from Stock Price Reversals Around Executive Option Grants*, (Ross Sch. of Bus., Working Paper No. 927, 2005) [hereinafter Narayanan & Seyhun, *Do Managers Influence Their Pay?*], available at <http://ssrn.com/abstract=649804>. Professor Lie had suggested some executives might be backdating by using a method that compared the pattern of raw and market adjusted stock returns around the grant dates. See Erik Lie, *On the Timing of CEO Stock Option Awards*, 51 MGMT. SCI. 801, 804–05 (2005), available at <http://www.biz.uiowa.edu/faculty/elie/Grants-MS.pdf>.

170. Professors Narayanan and Seyhun used this fact to identify the existence of backdating. Using a data set of over 600,000 grants during the period of 1992–2002 (almost all of them pre-SOX), they found that post-grant returns increased with reporting lags. See Narayanan & Seyhun, *Do Managers Influence Their Pay?*, *supra* note 169. In the follow-up study using post-SOX data of over 638,000 grants, they found a similar positive correlation. See Narayanan & Seyhun, *The Dating Game*, *supra* note 168, at 1909. Bebchuk et al. found further evidence that CEOs and directors obtain option grants at low prices that cannot be explained by just luck. See Lucian A. Bebchuk et al., *Lucky CEOs and Lucky Directors*, 65 J. FIN. 2363 (2010) [hereinafter Bebchuk et al., *Lucky CEOs*].

171. Sarbanes-Oxley Act of 2002, Pub. L. No. 107-204, 116 Stat. 788–89 (Supp. III 2003) (codified in scattered sections 11, 15, 18, 28, and 29 U.S.C.).

172. Professors Narayanan and Seyhun show that more than 20% of the grants after SOX are reported late and that about 10% are reported later than one month (or 22 business days). The paper shows that SOX has clearly reduced the practice as expected, but has not fully eliminated it. See Narayanan & Seyhun, *Do Managers Influence Their Pay?*, *supra* note 169; M. P. Narayanan & H. Nejat Seyhun, *Effect of Sarbanes-Oxley on the Influencing of Executive Compensation* (Nov. 2005) (unpublished working paper) [hereinafter Narayanan & Seyhun, *Effect of Sarbanes-Oxley*] available at <http://ssrn.com/abstract=852964>.

173. See Narayanan & Seyhun, *Effect of Sarbanes-Oxley*, *supra* note 172.

B. Data and Variables

This Part describes the variables used in our empirical test of backdating prosecutions and the various data sources. In order to estimate which firms have engaged in backdating, we obtained option grants data from a compilation by the SEC of the filings to meet Section 16(a) requirements of the Securities and Exchange Act of 1934.¹⁷⁴ Our sample contained all option grants by publicly traded firms reported on Form 4 from January 2002 until December 2005, which resulted in a sample size of 6,297 firms.¹⁷⁵ Our unit of observation was the firm grant date. If multiple grants were made on the same date, we considered these grants as a single observation. The mean number of grant-dates per firm in the sample was 3.4, and the median was 3. We used stock prices around the grant date to identify instances of backdating.¹⁷⁶ For each firm in our sample, we computed the number of times options were granted at one of the three lowest stock prices during a 51-day window centered on reported grant dates. If a grant date stock price was tied for third place, we conservatively considered it to be not among the three lowest stock prices. We then divided this number by the total number of option grant dates by the firm during our sample period. If the resulting ratio was greater than 10%, we classified the firm as having engaged in backdating. For example, if a firm had five option grant dates during our sample period, and on two of those dates, options were granted at favorable exercise prices, then the ratio was 40% and the firm was considered to have engaged in backdating. In our sample, 19.5% of the grant-date stock prices were among the three lowest stock prices during the 51-day window. Among the 5,739 firms for which we had stock price data, 8.55% of the firms met or exceeded the 10% threshold mentioned ear-

174. 15 U.S.C. § 78p (2006). The data is obtained from THOMSON REUTERS FINANCIAL, http://thomsonreuters.com/products_services/financial/ (last visited Mar. 29, 2011).

175. We choose this time period because it is before the backdating practice became widely known through academic papers and newspaper articles. *See, e.g.*, R. Heron & E. Lie, *Does Backdating Explain Stock Price Pattern Around Executive Stock Option Grants?*, 83 J. FIN. ECON. 271 (2007); Charles Forelle & James Bandler, *The Perfect Payday: Some CEOs Reap Millions by Landing Stock Options When They Are Most Valuable; Luck—Or Something Else?*, WALL ST. J., Mar. 18, 2006, at A1; Narayanan & Seyhun, *Do Managers Influence Their Pay?*, *supra* note 169. This enables us to check the fraction of backdating firms that get prosecuted. Once the backdating issue became public, most companies stopped backdating, thereby weakening the link between backdating firms and firms implicated in backdating.

176. This follows the criteria of previous studies. Bebchuk et al., *Lucky CEOs*, *supra* note 170; Narayanan & Seyhun, *The Dating Game*, *supra* note 168; Narayanan & Seyhun, *Do Managers Influence Their Pay?*, *supra* note 169.

lier, resulting in the identification of 490 firms as having engaged in backdating. We call these firms “backdating firms.”

We then compiled a list of companies that have been actually implicated in backdating from a website maintained by the *Wall Street Journal*.¹⁷⁷ Our sample is drawn from the data posted on the website on February 25, 2007. We included all companies that have been reported to have been under investigation or prosecuted of backdating either by the SEC or the DOJ. We excluded companies that conducted an internal investigation on their option granting practices. We found 102 companies implicated in backdating by the SEC or the DOJ and refer to these as “implicated firms”. Among the implicated firms, 48 are also in the backdating sample. Two of the implicated firms are not in our original sample of 6,297 firms.

We used these data sets to perform the following analyses. First, we compared the size of firms in the backdating sample to that of the general firm population to see if small firms are over- or under-represented in the backdating sample. Second, we compared the size of firms in the implicated sample to that of the general firm population to see if small firms are over- or under-represented in the implicated sample. Finally, we directly compared the size of firms in the backdating sample to that of the firms in the implicated sample to check for the effect of prosecutorial choices, that is, whether larger firms are more likely to be implicated.

Unless otherwise stated, all variables were computed on an annual basis from 2002 to 2005 and then averaged over the sample period. This was done to reduce idiosyncratic variability, particularly in board and executive compensation variables.¹⁷⁸ Because our intent is to investigate whether smaller firms are more likely than average to be violators of regulations and whether larger firms are more likely to be investigated or prosecuted, the key variable in our analysis is the firm size. The variable we used for firm size is the natural logarithm of the average calendar year-end market capitalization in millions of dollars

177. WALL ST. J. ONLINE, PERFECT PAYDAY: OPTIONS SCORECARD, <http://online.wsj.com/public/resources/documents/info-optionsscore06-full.html> (last visited Mar. 29, 2011).

178. Because incentive compensation awards take place infrequently, we increased the information content of our variables and avoided unrelated year-to-year variability by averaging over the sample period.

during 2002–2005 (Market Cap).¹⁷⁹ We obtain the Market Cap from the Center for Research in Security Prices US Stock database.¹⁸⁰

In order to isolate the effect of firm size, we used a set of control variables that potentially influenced the likelihood of backdating. We grouped the control variables we used into three categories: governance variables, firm performance variables, and compensation variables. More effective corporate governance would presumably reduce, if not eliminate, the practice of backdating, whether initiated by the board members or the executives. The strength of corporate governance is measured by using several variables. The first set of variables is commonly-used governance indices. The G-Index is a governance index¹⁸¹ that is, primarily, a measure of the number of anti-takeover provisions in a firm's charter and in the legal code of the state in which the firm is incorporated. The index is constructed for every firm by considering twenty-four provisions and by adding one point for every provision that reduces shareholder rights (i.e., the range of the index is 0–24). Therefore, the greater the index value, the lower the strength of governance.¹⁸² The G-Index is commonly used in financial economics research as a proxy for corporate governance.¹⁸³ In the intermediate years in which the index was not updated, we assumed that the index remained unchanged from the previous year. We also provide results using an alternative, proposed index, which is an entrenchment index (E-Index).¹⁸⁴ The second measure of corporate

179. To reduce the impact of extreme observations, we took the natural logarithm of market capitalization variable.

180. For a list of the data sources used by the center, see *Data Sources*, CTR. FOR RESEARCH IN SEC. PRICES, http://www.crsp.com/crsp/resources/data_sources.html (last visited Nov. 17, 2011).

181. See Paul Gompers et al., *Corporate Governance and Equity Prices*, 118 Q.J. ECON. 107, 114–15 (2003).

182. Using this index, Gompers et al. show that firms with better governance provide greater shareholder returns. See *id.* at 117.

183. See Lucian A. Bebchuk et al., *What Matters in Corporate Governance?*, 22 REV. FIN. STUD. 783 (2009) [hereinafter Bebchuk et al., *What Matters?*]. The index is constructed and reported about every two years by the Investor Responsibility Research Center and we obtained it from Andrew Metrick's web site. Andrew Metrick, *Data: Governance Index Data by Firm*, YALE SCH. OF MGMT., <http://www.som.yale.edu/faculty/am859/data.html> (last visited Apr. 3, 2011).

184. This index has been proposed by Bebchuk et al. The authors argue that only six of the twenty-four provisions of the G-Index that constitute the *E-Index* are relevant for measuring the strength of governance. Four of these provisions (staggered boards, limits to shareholder amendments of the bylaws, supermajority requirements for mergers, and supermajority requirements for charter amendments) limit the extent to which a majority of shareholders can impose their will on management. The other two provisions are takeover defenses: poison pills and golden parachutes. Bebchuk et al., *What Matters?*, *supra* note 183, at 785. We obtain the E-Index data from Professor Bebchuk's website. See Lucian A. Bebchuk, *Data on the Entrenchment Index 1990-*

governance used is board composition—in particular, board independence.¹⁸⁵ We used director independence and CEO-Chairman duality as proxies for board independence. Independent directors are defined by the database as those who are not executives of the firm or affiliated with the firm's executives.¹⁸⁶ Our measure of director independence is the average proportion of board members for a firm during 2002–2005 that is considered independent (Ind. Directors). The motivation for the second measure of board independence, CEO-Chairman duality, is the evidence that if the same individual holds both positions (CEO and chairman of the board of directors), corporate governance is generally weaker.¹⁸⁷ To measure the CEO-Chairman duality, we constructed a dummy variable for each year for each firm that takes on a value of one if the CEO is also the chairman of the board of the firm in that year.¹⁸⁸ If there were multiple CEOs in a firm in a given year, if any of the CEOs within that year is also the chairman, then the dummy variable takes on the value of 1 for that year. We then averaged these dummy variable values for each firm over the 2002–2005 time period (ChmCEO). All director and board information comes

2008, HARV. L. SCH., <http://www.law.harvard.edu/faculty/bebchuk/data.shtml> (last visited Apr. 3, 2011).

185. For an excellent survey on the role of boards of directors in corporate governance, see Renée B. Adams et al., *The Role of Boards of Directors in Corporate Governance: A Conceptual Framework & Survey*, 48 J. ECON. LIT. 58 (2010).

186. There is a large body of empirical work that suggests that the greater the proportion of independent directors on the board and on the board committees, the better the corporate governance of the firm. For example, Michael Weisbach finds that when boards are dominated by outside directors, CEO turnover is more sensitive to firm performance than it is in firms with insider-dominated boards. Michael Weisbach, *Outside Directors and CEO Turnover*, 20 J. FIN. ECON. 431 (1988). Dahya et al. find that CEO turnover is more sensitive to performance in United Kingdom firms that adopted the Cadbury Commission's recommendations that corporations include at least three outside directors and that the positions of Chairman and CEO be held by different individuals than non-adopting firms. See Jay Dahya et al., *The Cadbury Committee, Corporate Performance, and Top Management Turnover*, 57 J. FIN. 461 (2002). April Klein finds that the number of insiders on the finance and investment committees is positively associated with better performance. See April Klein, *Firm Performance and Board Committee Structure*, 41 J. LAW & ECON. 275, 277 (1998).

187. See Vidhan K. Goyal & Chul W. Park, *Board Leadership Structure and CEO Turnover*, 8 J. CORP. FIN. 49 (2002). Goyal & Park find that when there is duality, the CEO has increased power over the board reflected in lower sensitivity of CEO turnover to performance. See *id.*

188. We used other metrics of board independence, such as audit and compensation committee independence, but the results were similar.

from RiskMetrics¹⁸⁹ through their ISS Governance Risk Indicators service.¹⁹⁰

The final measure of corporate governance we used was CEO power. It has been suggested that powerful CEOs influence or co-opt boards of directors and therefore capture the pay-setting process.¹⁹¹ One of the ways powerful CEOs corrupt the pay-setting process is to engage in questionable practices like backdating. We used CEO's tenure as a proxy for CEO power.¹⁹² We measured CEO tenure by the number of years the CEO has held her current position at a given firm (CEO Tenure).

A stock market performance variable is included to control for the possibility that backdating incentives increase when the stock performs better, as the benefits of backdating are directly related to stock returns. It is also likely that better performing CEOs are more visible and more likely targets for prosecutors and regulators. We used the risk-adjusted average monthly stock return from January 1998 to December 2005 (Excess Stock Return) as a proxy for firm performance. Risk-adjusted returns were calculated for each firm by subtracting from its monthly stock return a portfolio return matched to each firm's book-to-market, size, and momentum characteristics.¹⁹³ Stock returns and other data were obtained from the CRSP database.

189. *RiskMetrics Products*, MSCI, <http://www.msci.com/products/riskmetrics.html> (last visited Nov. 17, 2011).

190. ISS GOVERNANCE SERVS. DATABASE, <http://www.issgovernance.com/grid-info> (last visited Nov. 23, 2011). The data is obtained from WHARTON RES. DATA SERVS., <http://wrds-web.wharton.upenn.edu/wrds/> (last visited Nov. 23, 2011), which aggregates director and governance data provided by RiskMetrics.

191. See LUCIAN BEBCHUCK & JESSE FRIED, *PAY WITHOUT PERFORMANCE: THE UNFULFILLED PROMISE OF EXECUTIVE COMPENSATION* (2004) (discussing the CEO power hypothesis, how CEOs influence the board, and the various ways in which CEOs corrupt the pay-setting process).

192. Our use of CEO tenure as a proxy for CEO power reflects an idea frequently expressed in organizational behavior research. Much of this research is informed by the supposition that the longer a CEO's tenure, the greater her influence in the organization, and the greater her influence over her compensation. For example, employing this hypothesis, Hill & Phan found that longer CEO tenure correlates with poorer relationships between CEO compensation and stock returns: "As tenure grows the relationship between pay and firm size and between pay and firm risk becomes stronger and the relationship between pay and stock returns becomes weaker." Charles W.L. Hill & Phillip Phan, *CEO Tenure as a Determinant of CEO Pay*, *ACAD. MGMT. J.* 707, 715 (1991).

193. See Kent Daniel et al., *Measuring Mutual Fund Performance with Characteristic-Based Benchmarks*, 52 *J. FIN.* 1035 (1997). We also used accounting performance metrics such as return on assets, net income growth, sales growth, and operating income growth, but generally there were no significant differences in these variables between the backdating firms and Implicated Firms.

Because the incentive to backdate is likely related to the amount of compensation, and in particular to the amount of compensation in the form of option grants, we included three compensation variables: total compensation, option compensation, and the portion of total compensation in the form of options. Total compensation was computed as the natural logarithm of the average annual total CEO compensation over the 2002–2005 period, which included salary, bonus, value of restricted stock granted, Black-Scholes value of stock options granted,¹⁹⁴ and long-term incentive payouts (Total Compensation).¹⁹⁵ Option compensation was computed as the natural logarithm of the average annual Black-Scholes value of the options granted to the CEO during 2002–2005 (Option Compensation). Both Total Compensation and Option Compensation were measured in thousands of dollars. The proportion of option compensation is the natural logarithm of the fraction of the value of total compensation an executive received in the form of option grants, based on its Black-Scholes value (Option Proportion). Information on executive compensation was obtained from COMPUSTAT's Executive Compensation database.¹⁹⁶

C. Results

Table I provides the summary statistics of the explanatory variables used in this study. Panel A provides the mean values of the explanatory variables for the sample of all firms. Panel B provides the mean values of the explanatory variables for the sample of backdating firms, the difference in the mean of each of the variables between the backdating firms sample and the all firms sample, and the significance of the differences (based on t-statistics). Panel C provides similar information as Panel B but for Implicated Firms.

Table I shows that the mean size of backdating firms as measured by the variable Market Cap is smaller than that of all firms (\$284 million versus \$213 million), and the difference is significant at the

194. The Black-Scholes option pricing model provides the value of the European-style call option on a non-dividend paying stock as a function of the current stock price, exercise price, remaining time to maturity, risk-free rate, and stock return volatility, assuming that capital markets are perfect and stock prices follow a geometric Brownian motion with constant drift and volatility. See Fischer Black & Myron Scholes, *The Pricing of Options and Corporate Liabilities*, 81 J. POL. ECON. 637 (1973).

195. Taking natural logarithms reduces the sensitivity of our results to extreme observations.

196. *ExecuComp*, CAPITAL IQ COMPUSTAT, <http://www.compustat.com/myProductDetail.aspx?id=305> (last visited Nov. 17 2011).

1% level.¹⁹⁷ This statistic implies that small firms are less likely to comply with regulation, at least in the context of backdating, raising doubts about the wisdom of exempting small firms from regulations or their enforcement. The mean size of Implicated Firms (\$1,826 million), on the other hand, is significantly greater than that of all firms (at the 1% level), which suggests that prosecutors and regulators are more likely to pursue larger firms on average (more than *eight times larger* on average). The result that Implicated Firms are larger than average while backdating firms are smaller is consistent with the view that prosecutorial choice plays a role in the selection of firms for investigation, and cautions against policy prescriptions based on observed investigations or prosecutions.

The Ind. Directors and CEO Tenure variables differ significantly between Implicated Firms and firms on average (at 1% level): Implicated Firms have fewer independent directors and their CEOs have longer tenure when compared to firms on average, indicating that corporate governance in implicated firms is not as strong as the average firm.¹⁹⁸

Not surprisingly, the performance of both backdating firms and Implicated Firms, as measured by the variable Excess Stock Return, is better than the sample of all firms on average. Backdating is profitable only when stock returns are positive, and the firms that are targeted are likely to be those with very high stock returns and, concomitantly, very high potential benefits to its executives from backdating.

The option compensation of both backdating and implicated CEOs is significantly greater than that of the general CEO population (at the 10% and 1% level, respectively). The portion of compensation in the form of option grants is significantly higher (at the 1% level) for backdating and implicated firm CEOs relative to CEOs in the all-firm sample. These results are consistent with the notion that CEOs with a greater proportion of option compensation are more likely to engage in backdating and are more likely to be investigated and prosecuted.

197. The means reported here are geometric means of market capitalizations. Because the figures in Table 1 are averages of the logarithm of market capitalizations, we obtain the geometric means by computing the exponentials of these figures.

198. The G-Index is significantly lower (at the 1% significance level) for both backdating and implicated firms which implies that backdating and implicated firms have better corporate governance than firms on average as measured by the G-Index. A similar pattern is obtained for the E-index as well. These results suggest that firms are likely to ensure that they rank well on observable metrics such as G-Index and E-Index even as they engage in legally and ethically questionable practices.

Table II provides the univariate¹⁹⁹ differences in the explanatory variables between the backdating and implicated samples. The mean size, as measured by Market Cap, is significantly greater (at the 1% level) for the implicated sample, more than eight times that of the backdating sample, a result that is consistent with the hypothesis that prosecutors pursue the larger violating firms. The Excess Stock Return variable is significantly higher (at the 1% level) in the implicated sample, implying that CEOs of firms with greater positive returns are more likely to be the egregious backdaters, and therefore are more likely to be targets of investigation.

All three of the compensation variables are greater for the Implicated Firms when compared to the backdating sample (significant at the 1% level). This implies that firms that pay substantially higher amounts in compensation (and more of it in the form of option grants) are those likely to be targets of investigation.²⁰⁰

Next, we provide more formal regression analyses to check the robustness of the univariate results presented in Tables I and II. Table III reports the results from a logit regression where the dependent variable is a dummy variable that takes on a value of 1 if we assume the firm has engaged in backdating (i.e., the firm is in the backdating sample).²⁰¹ We report results for two models, the only difference being that Model 1 uses the G-Index as a proxy for governance, while Model 2 uses the E-Index. The sample includes all firms in our original sample for which data variables are available, which results in a sample size of 1,226 firms for Model 1 (126 of which are backdating firms) and 1,147 firms for Model 2 (120 of which are backdating firms). In these regressions, we scaled total compensation by market capitalization, as these two variables are highly correlated. Specifically, we used the natural logarithm of the ratio of total compensation to market capitalization where both variables are as defined before. We call this variable Scaled Total Compensation.

The results from Table III are generally consistent with the univariate results. The important result from the table is that the Mar-

199. Univariate refers to a single variable. In a univariate regression there is a single explanatory variable.

200. In addition to checking the significance of the differences in means, we also conducted Kolmogorov–Smirnov tests to verify if the firm level characteristics for the backdating and implicated samples come from different distributions. Consistent with the differences in means reported in Table II, *Market Cap*, *Excess Stock Return*, as well as compensation variables, do come from significantly different distributions for the two groups of companies.

201. For more information about logit regressions, also known as logistic regressions, see WILLIAM GREEN, *ECONOMETRIC ANALYSIS* (5th ed. 2002).

ket Cap variable is significantly negative in both models at the 5% level, confirming the univariate result that smaller firms are over-represented in the backdating sample (all statistical significances are based on p-values). This result is consistent with the notion that smaller firms are more likely to violate regulations. The other significant variables are CEO Tenure and Option Proportion (both positive at the 1% level) indicating, perhaps not surprisingly, that longer CEO tenure and a greater proportion of option compensation are both associated with increased likelihood of backdating.

Table IV is similar to Table III, except that the dependent variable is a dummy variable that takes on a value of 1 if the firm is investigated by the SEC or the DOJ (i.e., the firm is in the implicated sample). The sample includes the 6,297 firms in our original sample and the implicated firms that were not in the original sample. Data availability for the variables reduces the sample size to 1,228 firms for Model 1 (55 of which are Implicated Firms) and 1,147 firms for Model 2 (49 of which are Implicated Firms). The results are again generally consistent with the univariate results. The key result is that the Market Cap variable is now significantly positive in both models (at the 5% level), indicating that prosecutors favor targeting larger-than-average firms. This result contrasts with the result in Table III that firms engaged in backdating are generally smaller than average. Taken together, the results of Tables III and IV show that although firms that engage in options backdating are smaller than average in size, the investigated ones are larger than average. Thus, any exemption policy for smaller firms for options backdating should not be based on observed investigations or prosecutions, because investigators and prosecutors have pursued larger firms despite smaller firms being the more likely violators.

Consistent with the notion that firms with poorer corporate governance are more likely to be implicated, the results show that Implicated Firms have fewer independent directors, and that longer serving CEOs are more likely to be implicated in backdating. The results also show that CEOs who earn more and who receive most of their compensation in option grants are more likely to be subjects of investigation.

In Table V we show a logit regression to directly compare backdating firms to Implicated Firms in order to check whether the Implicated Firms are larger than backdating firms. The table reports the results from a logit regression where the dependent variable is a dummy variable that takes on a value of 1 if the firm is investigated by the SEC or the DOJ. The sample includes only firms that are repre-

sented in the backdating and implicated samples. As before, Model 1 uses the G-Index as a proxy for governance, while Model 2 uses the E-Index as a proxy for entrenchment. For Model 1, we had 101 backdated firms and 55 Implicated Firms for which all the data variables were available; the corresponding numbers for Model 2 were 96 and 49, respectively.

Once again the results are broadly consistent with the univariate results in Table II. The size variable Market Cap is significantly positive at the 5% level in both models, lending support for the notion that implicated firms are larger in size than backdating firms. This result suggests that despite smaller firms being over-represented in the backdating sample relative to the all firms sample, backdating firms that are investigated or prosecuted are the relatively larger ones. This implies that observed investigations therefore cannot be relied on to conclude that smaller firms are less likely to violate regulations, or to make policy prescriptions about exempting small firms from regulations.

CONCLUSION

The usual problem with obtaining this kind of relevant data is that violations of regulations are not usually observable independent of investigations. The options backdating practice provides a unique setting in which we were able to statistically predict, by using stock price data, which firms were likely engaging in backdating. By empirically analyzing this practice, this paper presents a data point relevant to policymakers regarding whether small firms should necessarily be exempted from financial regulations or their enforcement on the basis of observed violations.

In the context of backdating, our results collectively indicate that smaller firms are more likely to engage in illicit behavior than larger firms, and that prosecutorial motives make the observed investigations and prosecutions unreliable indicators for the purpose of making policy recommendations regarding exemptions of small firms from regulation. It is important to note that what drives the prosecutorial motive to target larger firms is not important to our conclusions. Regardless of whether it is moral hazard, considerations of social welfare, or some other reason that lies behind motives for investigations, the fact that larger firms are more likely to be targeted is sufficient to caution against using the data on investigations and prosecutions for policy prescriptions.

Our results indicate smaller firms are overly represented in the backdating sample and firm size, size of compensation, and financial

performance are significant determinants of whether a firm will be investigated or prosecuted. These results show that small firms, although not exempted from regulations prohibiting undisclosed backdating, and although not less culpable than large firms, have been spared the bulk of enforcement. The results also provide evidence that the regulations have been enforced against larger firms disproportionately to their relative culpability. Our study has not proven that prosecutorial attention is misallocated with respect to small and large backdating firms, but by showing that small firms are simultaneously more likely to engage in backdating but less likely to be investigated or prosecuted, it has provided some of the data needed to prove this hypothesis. In our view, inquiry into the economic harm caused by small firms' backdating practices, inquiry into the harm caused by large firms' backdating practices,²⁰² and inquiry into the costs of prosecution of small and large firms, respectively, might be undertaken to complete the picture and to help determine whether, as a matter of policy, prosecutorial attention should be shifted from large firms to small firms. In addition, the organizational incentives for prosecutors to prosecute large firms suggest that, prosecutorial attention is likely currently misallocated. In effecting an increased focus on small firms, these misaligned incentives will pose a substantial obstacle.

With respect to regulatory exemptions for small firms as well as the reporting requirements of the Sarbanes-Oxley Act, our findings have immediate policy implications. First, given that small firms have engaged in illegal backdating to a greater extent than larger firms, the wisdom of providing smaller firms various exemptions from legal reporting requirements should be questioned. We suggest a case-by-case approach, rather than granting blanket exemptions to all small firms. We recommend that all small firms be required to comply with all reporting provisions of SOX, unless they can demonstrate why they should be exempted by detailing all costs and benefits of reporting. We expect, however, that any firms who have restated their financial statements, have backdated, timed, or not reported their option grants in a timely fashion, or have not complied with any existing regulations, will not be granted an exemption.

Second, although the Sarbanes-Oxley Act has brought greater transparency to executive compensation by requiring a maximum two-

202. See Narayanan et al., *supra* note 163 (measuring the average loss to shareholder value caused by backdating for a previous version of one of the samples of firms used in this article (the implicated firms identified by the "options scorecard" compiled by the Wall Street Journal), but not isolating the effect of firm size on the average loss to shareholder value); see also WALL ST. J. ONLINE, *supra* note 177.

day reporting delay, it is important that this requirement be strictly enforced. Administrative penalties for late reporting are appropriate policy tools here. Escalating penalties for repeat offenders can further help identify and appropriately sanction systematic violators.

Finally, we suggest that, given the reluctance of prosecutors to investigate smaller firms, all regulatory legislation needs to be written in a self-enforcing manner. There are a variety of policy tools to achieve this objective. More detailed and more timely disclosures enabling greater transparency are important dimensions of self-enforcement. An example of such disclosure is whether the firm has been subjected to any administrative penalties for late reporting or other violations, or whether it has been granted an exemption from reporting requirements. A second policy tool is the private right of action. Greater disclosure combined with a private right of action will provide competition to prosecutors by allowing injured third parties to bring civil complaints. Finally, a bounty program that shares the administrative penalties with private parties for identifying potential violations could provide an additional self-enforcement mechanism.

TABLE I: DIFFERENCES IN CHARACTERISTICS BETWEEN ALL, BACKDATING, AND IMPLICATED FIRMS²⁰³

This table reports univariate results from comparing differences in various firm level characteristics between backdating and Implicated Firm relative to all firms. Panel A provides the variable means for all firms. Panel B provides the variables for backdating firms and the difference in the variable means between backdating firms and all firms, and their significances; Panel C does the same for Implicated Firms. *G-Index* is the average corporate governance index and *E-Index* is the average entrenchment index with a higher number indicating poorer governance or entrenchment. *ChmCEO* is the average of a dummy variable that takes on a value of one if the CEO is also the chairman of the board of the firm. *Ind. Directors* is the average proportion of board members who are considered independent (non-affiliated). *CEO Tenure* is the number of years the CEO has held her current position at a given firm. *Market Cap* is the natural logarithm of average calendar year end market capitalization in millions of dollars during 2002–2005. *Excess Stock Return* is the risk-adjusted average monthly stock return from January 1998 to December 2005. The risk-adjusted returns are calculated for each firm by subtracting from its monthly stock return, a portfolio return matched to each firm's book-to-market, size and momentum characteristics as in Daniel et al. (1997). *Total Compensation* is the natural logarithm of the average annual total CEO compensation and *Option Compensation* is the natural logarithm of the average Black-Scholes value of the outstanding options granted to the CEO, both in thousands of dollars. *Option Proportion* is the natural logarithm of the percentage of the value of total compensation an executive received in the form of option grants, based on its Black-Scholes value. The t-statistics are computed assuming unequal variances for the two groups of companies. The superscripts ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	<i>Panel A: All Firms</i>		<i>Panel B: Backdating Firms</i>			<i>Panel C: Implicated Firms</i>		
	Mean	Obs	Mean	Obs	Difference	Mean	Obs	Difference
Market Cap	5.65	4,651	5.36	775	-0.34***	7.51	92	1.89***
G-Index	9.08	1,916	8.53	245	-0.64***	7.86	79	-1.27***
E-Index	2.53	1,771	2.33	217	-0.22**	1.89	69	-0.66***
ChmCEO Dummy	0.65	1,543	0.63	174	-0.02	0.53	64	-0.12*
Ind Directors	0.69	1,543	0.68	174	-0.02	0.65	64	0.05***
CEO Tenure	8.54	1,655	9.51	195	1.10	11.17	69	2.75***
Excess Stock Return	0.00	4,058	0.01	531	-0.00*	0.02	92	0.01***
Total Compensation	8.07	1,708	7.98	206	-0.10	8.49	69	0.44***
Option Compensation	7.03	1,542	7.23	172	0.22*	8.02	67	1.03***
Option Proportion	-1.13	1,542	-0.92	172	-0.23***	-0.51	67	0.65***

Source: *Market Cap, Stock Returns: CRSP; G-Index: Metrick; E-Index: Bebchuk; ChmCEO Dummy, Ind Directors, CEO Tenure: RiskMetrics; Compensation variables: ExecuComp; Option grant dates: Thomson Reuters Financial; Implicated firms: Wall Street Journal.*

203. See *supra* notes 197–198, and accompanying text.

TABLE II: DIFFERENCES IN CHARACTERISTICS BETWEEN BACKDATING AND IMPLICATED FIRMS²⁰⁴

This table reports differences in various firm level characteristics between *implicated* and *backdating* firms. *G-Index* is the average corporate governance index and *E-Index* is the average entrenchment index with a higher number indicating poorer governance or entrenchment. *ChmCEO* is the average of a dummy variable that takes on a value of one if the CEO is also the chairman of the board of the firm. *Ind. Directors* is the average proportion of board members who are considered independent (non-affiliated). *CEO Tenure* is the number of years the CEO has held her current position at a given firm. *Market Cap* is the natural logarithm of average calendar year end market capitalization in millions of dollars during 2002–2005. *Excess Stock Return* is the risk-adjusted average monthly stock return from January 1998 to December 2005. The risk-adjusted returns are calculated for each firm by subtracting from its monthly stock return a portfolio return matched to each firm's book-to-market, size, and momentum characteristics as in Daniel et al. (1997). *Total Compensation* is the natural logarithm of the average annual total CEO compensation and *Option Compensation* is the natural logarithm of the average Black-Scholes value of the outstanding options granted to the CEO, both in thousands of dollars. *Option Proportion* is the natural logarithm of the percentage of the value of total compensation an executive received in the form of option grants, based on its Black-Scholes value. The t-statistics are computed assuming unequal variances for the two groups of companies. The superscripts ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Backdating	Implicated	Diff
Market Cap	5.36	7.51	2.15***
G-Index	8.53	7.86	-0.67**
E-Index	2.33	1.89	-0.44***
ChmCEO Dummy	0.63	0.53	-0.10
Ind Directors	0.68	0.65	-0.03
CEO Tenure	9.51	11.17	1.66
Excess Stock Return	0.01	0.02	0.01***
Total Compensation	7.98	8.49	0.51***
Option Compensation	7.22	8.02	0.80***
Option Proportion	-0.92	-0.51	0.42***

Source: *Market Cap, Stock Returns: CRSP; G-Index: Metrick; E-Index: Bebchuk; ChmCEO Dummy, Ind Directors, CEO Tenure: RiskMetrics; Compensation variables: ExecuComp; Option grant dates: Thomson Reuters Financial; Implicated firms: Wall Street Journal.*

204. See *supra* notes 199–200, and accompanying text.

TABLE III: REGRESSION RESULTS: CHARACTERISTICS OF
BACKDATING FIRMS²⁰⁵

This table reports results from a logit regression where the dependent variable is a dummy variable that takes on a value of one if the firm is in the backdating sample. *G-Index* is the average corporate governance index and *E-Index* is the average entrenchment index with a higher number indicating poorer governance or entrenchment. *ChmCEO* is the average of a dummy variable that takes on a value of one if the CEO is also the chairman of the board of the firm. *Ind. Directors* is the average proportion of board members who are considered independent (non-affiliated). *CEO Tenure* is the number of years the CEO has held her current position at a given firm. *Market Cap* is the natural logarithm of average calendar year end market capitalization in millions of dollars during 2002–2005. *Excess Stock Return* is the risk-adjusted average monthly stock return from January 1998 to December 2005. The risk-adjusted returns are calculated for each firm by subtracting from its monthly stock return, a portfolio return matched to each firm's book-to-market, size, and momentum characteristics as in Daniel et al. (1997). *Scaled Total Compensation* is ratio of Total compensation to *Market Cap*. *Total Compensation* is the natural logarithm of the average annual total CEO compensation and *Option Compensation* is the natural logarithm of the average Black-Scholes value of the outstanding options granted to the CEO, both in thousands of dollars. *Option Proportion* is the natural logarithm of the percentage of the value of total compensation an executive received in the form of option grants, based on its Black-Scholes value. The superscripts ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively, based on p-values.

	Model 1	Model 2
Number of Observations	1226	1147
Intercept	-1.113	-1.746
Market Cap	-0.221**	-0.259**
G-Index	-0.082*	
E-Index		-0.174**
ChmCEO	-0.132	-0.124
Ind Directors	-0.116	0.236
CEO Tenure	0.045***	0.055***
Excess Stock Return	1.435	2.799
Scaled Total Compensation	0.205	0.238
Option Proportion	0.590***	0.588***

Source: *Market Cap, Stock Returns: CRSP; G-Index: Metrick; E-Index: Bebchuk; ChmCEO Dummy, Ind Directors, CEO Tenure: RiskMetrics; Compensation variables: ExecuComp; Option grant dates: Thomson Reuters Financial.*

205. See *supra* note pp. 35–36 and accompanying text.

TABLE IV: REGRESSION RESULTS: CHARACTERISTICS OF
IMPLICATED FIRMS²⁰⁶

This table reports results from a logit regression where the dependent variable is a dummy variable that takes on a value of one if the firm is in the implicated sample. *G-Index* is the average corporate governance index and *E-Index* is the average entrenchment index with a higher number indicating poorer governance or entrenchment. *ChmCEO* is the average of a dummy variable that takes on a value of one if the CEO is also the chairman of the board of the firm. *Ind. Directors* is the average proportion of board members who are considered independent (non-affiliated). *CEO Tenure* is the number of years the CEO has held her current position at a given firm. *Market Cap* is the natural logarithm of average calendar year end market capitalization in millions of dollars during 2002–2005. *Excess Stock Return* is the risk-adjusted average monthly stock return from January 1998 to December 2005. The risk-adjusted returns are calculated for each firm by subtracting from its monthly stock return, a portfolio return matched to each firm's book-to-market, size, and momentum characteristics as in Daniel et al. (1997). *Scaled Total Compensation* is ratio of Total compensation to *Market Cap*. *Total Compensation* is the natural logarithm of the average annual total CEO compensation and *Option Compensation* is the natural logarithm of the average Black-Scholes value of the outstanding options granted to the CEO, both in thousands of dollars. *Option Proportion* is the natural logarithm of the percentage of the value of total compensation an executive received in the form of option grants, based on its Black-Scholes value. The superscripts ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively, based on p-values.

	Model 1	Model 2
Number of Observations	1228	1147
Intercept	-3.092*	-4.115**
Market Cap	0.388**	0.399**
G-Index	-0.134	
E-Index		-0.176
ChmCEO	-0.689*	-0.672*
Ind Directors	-1.608	-1.931*
CEO Tenure	0.055***	0.063***
Excess Stock Return	16.762	23.219**
Scaled Total Compensation	0.577**	0.641**
Option Proportion	1.798***	1.557***

Market Cap, Stock Returns: CRSP; G-Index: Metrick; E-Index: Bebchuk; ChmCEO Dummy, Ind Directors, CEO Tenure: RiskMetrics; Compensation variables: ExecuComp; Implicated firms: Wall Street Journal.

206. See *supra* note p. 36.

TABLE V: REGRESSION RESULTS: CHARACTERISTICS OF IMPLICATED
VERSUS BACKDATING FIRMS²⁰⁷

This table reports results from a logit regression where the dependent variable is a dummy variable that takes on a value of one if the firm is investigated by the SEC or the DOJ. We restrict the sample only to firms that we have identified as engaged in backdating. *G-Index* is the average corporate governance index and *E-Index* is the average entrenchment index with a higher number indicating poorer governance or entrenchment. *ChmCEO* is the average of a dummy variable that takes on a value of one if the CEO is also the chairman of the board of the firm. *Ind. Directors* is the average proportion of board members who are considered independent (non-affiliated). *CEO Tenure* is the number of years the CEO has held her current position at a given firm. *Market Cap* is the natural logarithm of average calendar year end market capitalization in millions of dollars during 2002–2005. *Excess Stock Return* is the risk-adjusted average monthly stock return from January 1998 to December 2005. The risk-adjusted returns are calculated for each firm by subtracting from its monthly stock return, a portfolio return matched to each firm's book-to-market, size, and momentum characteristics as in Daniel et al. (1997). *Scaled Total Compensation* is ratio of Total compensation to *Market Cap*. *Total Compensation* is the natural logarithm of the average annual total CEO compensation and *Option Compensation* is the natural logarithm of the average Black-Scholes value of the outstanding options granted to the CEO, both in thousands of dollars. *Option Proportion* is the natural logarithm of the percentage of the value of total compensation an executive received in the form of option grants, based on its Black-Scholes value. The superscripts ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively, based on p-values.

	Model 1	Model 2
Number of Observations	156	145
Intercept	-1.748	-2.357
Market Cap	0.543**	0.567**
G-Index	-0.096	
E-Index		-0.021
ChmCEO	-1.533***	-1.340**
Ind Directors	-2.036	-3.209*
CEO Tenure	0.053*	0.0470
Excess Stock Return	25.575	35.468*
Scaled Total Compensation	0.545	0.601*
Option Proportion	1.629***	1.339***

207. See *supra* note p. 36–37.