

**When Size Matters:
Implications for Public Policy from the Stock Options Backdating Scandal⁺**

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There are numerous instances in the law where small firms have been granted exemptions from regulatory restrictions.¹ The major justification offered by the proponents for this exemption of 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 [Securities 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 in 2002, the Sarbanes-Oxley legislation (SOX)⁵ has been highly criticized for the level of expense it has imposed upon firms’ efforts to comply with the legislation.⁶

In order to decide if regulation should be lenient towards small firms, we need to first understand what types of firms are likely to be engaged in illicit activity. If we knew that small firms are also likely to violate laws, as a matter of public policy, should we continue to exempt firms from regulatory scrutiny solely due to size? That is, should size matter in regulatory policy decisions? Furthermore, should size be a factor when prosecutors target firms for investigation?

Policy makers, however, face an unavoidable endogeneity problem when addressing the question of optimal regulation. First, if certain groups of firms are not carefully scrutinized, then 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 will lead to socially harmful actions by these firms, yet such actions may not be detected because they are not covered by regulations. Third, regulatory authorities may systematically target large and visible firms either due to their greater perceived deterrent value or 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 deterrent value. Thus policy makers would be advised to exercise caution before relying on prosecutions or investigations to decide which types of firms are engaging in illicit activity and thus worthy of regulation or investigation. While 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 context 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 ever identified as a possible back-dater. In most circumstances, this kind of ex-ante likelihood of engaging in an illicit activity is not available. 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. However, using our complete options grant database,⁷ we can establish the

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likelihood that a firm is engaging in illicit activity independently of whether the firm is ever investigated. We are then able to 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 this 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. This in turn 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.

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 next 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 business. These exemptions take varied forms, from releasing the business entity from the whole or most of the regulatory framework or from just a single regulatory requirement.⁸ Measurements of firm size also vary and include size of assets, number of employees, and number of clients.⁹ In addition, there are also circumstances where although firms are not exempted from regulation due to size, size appears 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 exemption from regulation, either directly or indirectly. Presumably, exemptions are provided to small firms to promote social welfare. That is, 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, i.e., the hardship they would endure, compared to the benefits gained from the regulation.¹⁰ These examples include Regulations D¹¹ of the federal securities laws, the Regulatory Flexibility Act (RFA),¹² the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA),¹³ and certain provisions of the Sarbanes-Oxley legislation.¹⁴ These exemptions are discussed briefly below.

Some firms benefit from direct exemptions from regulation based on size. One such example is Regulation D¹⁵ of the securities regulations. Regulation D 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 RFA¹⁷ and SBREFA¹⁸ require regulatory agencies to consider implementing exemptions for small businesses.¹⁹ Congress passed the RFA in 1980 with a view to spare small businesses the expensive costs associated with government regulation.²⁰ The RFA requires federal agencies to take into account and report on the effects of a proposed or final rule on small businesses.²¹ 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.²² Reg-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 their subcontractors who perform safety-related functions such as aircraft maintenance²³ and the Federal Communication Commission's rule setting forth the conditions under which wired telecommunications carriers must transfer telephone numbers to wireless carriers.²⁴

Congress amended the RFA with the SBREFA in 1996.²⁵ Under Subtitle D, judicial review has been expanded and is now applicable to the substance of a reg-flex analysis, any determination that a reg-flex analysis is unnecessary, and to also an agency's delay in completion of a reg-flex analysis.²⁶ Subtitle D further requires some agencies²⁷ to seek recommendations from the small business community after notifying the Small Business Administration's General Counsel 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.²⁸ Subtitle B establishes the position of a small business ombudsman, which may comment on behalf of anonymous small businesses and promote their interests to federal agencies.²⁹ Subtitle C further allows for the recovery of attorneys' fees when an agency's enforcement requirements have been deemed unreasonable.³⁰

Another example of regulatory exemptions applied to small firms involves certain provisions of the SOX legislation.³¹ Initially, smaller public corporations were temporarily exempted from certain requirements of SOX.³² 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, with responsibility for its accurateness falling on management, 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.³³ On June 20, 2008, the SEC announced a one-year extension of the compliance date for smaller public companies with Section 404(b).³⁴ These companies would, however, still be required to comply with Section 404(a). A year and some months later, the SEC again decided to extend the compliance date for the smallest public reporters, those with a public float of under \$75 million.³⁵ This second extension was reportedly granted so that the SEC's Office of Economic Analysis could complete a study of whether additional guidance provided to company managers and auditors in 2007 was effective in reducing the costs of compliance.³⁶ On October 2, 2009, the SEC announced yet another extension for small public companies. It appeared that small companies with fiscal years ending June 15, 2010 would be the first expected to comply with Section 404(b).³⁷ Although some did not expect small companies to receive further relief from Section 404(b),³⁸ Congress passed the Dodd-Frank Wall Street Reform and Consumer Protection Act, which among other protections, created a permanent exemption for small issuers from Section 404 (b).³⁹ Newly amended subsection 404(c) of SOX states that the requirements of 404(b) do not apply with respect 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.⁴⁰ 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 SEC⁴¹ and another finds size significant in actions taken by the Environmental Protection Agency (EPA).⁴² A further study concludes that small firms are prosecuted more vigorously than large firms.⁴³ Yet, it becomes difficult to draw empirical conclusions regarding the influence of firm size on prosecutions of firms because large firms are often "diverted from the criminal process,"⁴⁴ due to the proliferation of deferred and non-prosecution agreements entered into between companies and the Department of Justice (DOJ). Studies have also indicated that large firms have been entering these agreements more frequently than small firms.⁴⁵ Furthermore, the Organizational Sentencing Guidelines (OSGs) outline some instances where size should matter in sentencing. These studies and OSGs are discussed below.

1. SEC Investigations and Prosecutions

One of the more exhaustive empirical studies suggests that January 1, 2002, represents a noticeable change in decisions of the SEC⁴⁶ regarding the size of enforcement targets. 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.⁴⁷ Their research uncovered a trend suggesting that the SEC began selecting larger enforcement targets post-January 1, 2002.⁴⁸ Most notably for our purposes, although these firms are relatively small, compared to the pre-Enron period, Cox and Thomas found that 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.⁴⁹ 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.⁵⁰

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 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 but pursues larger defendants civilly.⁵¹ 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. Civil prosecutions provide the agency with a lower evidentiary burden of proof.⁵² Furthermore, the cost savings in ignoring EPA regulations is higher for small businesses with fewer resources than large firms, increasing the likelihood that criminal sanctions will be reserved for small companies.⁵³ Yet, 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."⁵⁴

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 the prosecutors to corporate fraud.⁵⁵ Since 2003, however, rather than prosecute a corporate entity, prosecutors have been frequently entering into Deferred Prosecution Agreements (DPAs) and Non-Prosecution Agreements (NPAs).⁵⁶ Under a DPA, the government indicts a company but does not prosecute the claim. Instead, the government enters into an agreement with the firm and if the company fulfills its obligations under the agreement, the charges are dropped when the agreement expires. In contrast, a company entering an NPA is not indicted, but, similar to a company entering a DPA, the firm must agree to certain conditions. If the company violates the terms of the agreement charges may still be filed.⁵⁷ 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.⁵⁸ DPAs and NPAs had traditionally been used in the sanctioning of juvenile and drug offenders,⁵⁹ but they now are a powerful tool in handling corporate fraud cases.⁶⁰ Before 1993, DPAs and NPAs had not been used to deal with federal criminal charges against a corporation.⁶¹ Between 1993 and 2002 only thirteen such agreement were concluded,⁶² while in the following three years thirty-five were concluded.⁶³

There are several reasons supporting the popularity of DPAs and NPAs. One is that entering into a DPA or NPA avoids the collateral consequences associated with an indictment, such as closing the company which, in turn, may leave thousands of people jobless.⁶⁴ Moreover, the prosecution of companies is complex and firms can afford experienced defense counsel.⁶⁵ By entering into DPAs and NPAs prosecutorial resources are saved.⁶⁶ Prosecutors also claim that they could not obtain broader, or even the same relief through the courts.⁶⁷ In addition, the corporation may be less blameworthy than the individual employees and therefore resources are best spent prosecuting those individuals.⁶⁸

Another explanation for why DPAs and NPAs are frequently used in the corporate context may be the result of the Thompson Memorandum.⁶⁹ Then Deputy Attorney General Larry Thompson issued a Memorandum in 2003, stating that prosecutors will only bring charges against a corporation in a minority of cases; prosecution of individuals should always take precedence over the prosecution of corporate entities.⁷⁰ DPAs and NPAs are claimed to be a useful aid in prosecuting individuals.⁷¹ Yet, even without the Thompson Memorandum and the use of DPAs and NPAs, individuals were more likely to face criminal prosecution than corporations, and the prosecution was rather successful in obtaining convictions.⁷²

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. Since 2003, nearly every major federal case of corporate misconduct has been resolved without filing an indictment against the firm.⁷³ The major indictments were the prosecution of Arthur Anderson in 2002⁷⁴ and Milberg Weiss in 2006.⁷⁵ Generally, it has been only the cases involving small companies that have gone to trial —many of the companies that enter into agreements with the DOJ are Fortune 500 companies.⁷⁶ But there are exceptions. 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 because it could have far-reaching consequences for them as individuals.⁷⁷ This may be what happened in the case of Arthur Andersen and Milberg Weiss, but may more commonly be the case with smaller companies.⁷⁸

It may be that when prosecutors choose to focus their resources on select group of well-known companies after a major scandal, even if in the form of an NPA or DPA, they may be attempting to send a strong message to other companies that the conduct in question may have serious consequences.⁷⁹ Viewed in this light, prosecutors would not only be giving heed to 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.⁸⁰

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.⁸¹ Between 2003 and 2006, the DOJ entered into 35 DPAs and NPAs,⁸² the average amount of compensation paid was \$141 million.⁸³

In the past cases against large companies were almost never pursued.⁸⁴ 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 this statistic 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 preventing indictment.⁸⁵

In the wake of the corporate scandals of the early 2000s, the federal government issued an executive order creating the Corporate Fraud Task Force (Task Force).⁸⁶ The mission of the Task Force is “to strengthen the efforts of the [DOJ] and Federal, State, and local agencies to investigate and prosecute significant financial crimes, recover the proceeds of such crimes, and ensure just and effective punishment of those who perpetrate financial crimes.”⁸⁷ In dealing with the scandals, it appears the government has more heavily focused on prosecuting individuals than corporations.⁸⁸

4. Sentencing

Theoretically, firm size is not a factor to be considered directly when a judge is making sentencing decisions. The U.S. Sentencing Commission (the Sentencing Commission) targeted the issue directly and ultimately decided not to include organizational size as a factor when deciding the amount of corporation liability.⁸⁹ The Sentencing Commission instead opted for the view that firm size alone did not make any offense more or less harmful in terms of loss or detectability.⁹⁰ Firm size is therefore neither favored nor disfavored under federal criminal laws.⁹¹ 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.⁹² First, the OSGs provide that if a firm is so small that a fine would force it to enter bankruptcy proceedings, the fine should be reduced.⁹³ Second, if top officials of a large company are involved in the criminal activity than the resulting fine will be larger than if top officials at a small company are implicated.⁹⁴ Third, sufficiency standards for corporate compliance programs⁹⁵ are lower for smaller firms.⁹⁶ Fourth, if a firm has fewer than 50 employees it is immune from probation sentences incurred for lacking a compliance program.⁹⁷ Finally, fines for closely-held firms can be reduced by the amount of fine imposed on the firm’s owner, although similar concerns do not affect larger firms’ fines.⁹⁸

II. The Moral Hazard: Influences on the Decision 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.⁹⁹ If an individual obtains automobile insurance, he or she may be more likely to forget to lock the car which then increases the probably 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 since their deposits are insured by the federal government. Moral hazard also arises in the context of the principal-agent situations, where the agent makes decisions on behalf of the principal. Because the agent will typically have more information than the principal, the agent will tend to make decisions that he or she prefers even if those decisions are not in the best interests of the principal.

Prosecutors may be viewed as the agents for the general public in enforcing laws and regulations. Prosecutors 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 public interest or also in self-interest.

In this vein, concerns have been voiced about prosecutorial discretion.¹⁰⁰ 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.¹⁰¹ This power, however, is counterbalanced by the doctrine of supervisory powers, the doctrine of separation of powers, professional discipline, and the political process.¹⁰² Further, in the case of white collar crime, it has been said that prosecutors do not play as great of a role in selecting cases as is commonly thought.¹⁰³ This is because most investigations are initiated by regulatory agencies such as the SEC, and not by the Department of Justice.¹⁰⁴

It is generally agreed that notwithstanding these safeguards, prosecutors still have substantial powers.¹⁰⁵ This may be, in part, because many purported safeguards may be inadequate. For example, although federal prosecutors are, in theory, guided by the *Principles of Federal Prosecution of Business Organizations*,¹⁰⁶ by several

other manuals,¹⁰⁷ and by ethical standards,¹⁰⁸ it has been argued these principles, in practice may be too vague and meaningless to provide any real guidance.¹⁰⁹

Nevertheless, prosecutors are vested with broad discretionary powers in order to weigh the interests of society when making a decision to charge.¹¹⁰ Yet, the interests of prosecutors are not perfectly aligned with society. For example, according to some scholars the overriding interest of prosecutors is winning.¹¹¹ 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.¹¹² To support the claim that prosecutors care about winning above all else, it has been suggested that prosecutors' desires to maintain high conviction rates, in part explains the strong resistance of prosecutors to post-conviction claims of innocence.¹¹³ The argument is that if prosecutors did not care so much about their conviction rates, i.e. winning, and securing them, but instead cared more about justice, there would not be such resistance.¹¹⁴ The finding that prosecutors frequently make generous plea offers when a case is weak would also show that prosecutors ultimately care about winning.¹¹⁵

Several reasons are given regarding why winning cases is so important to prosecutors. They involve 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.¹¹⁶ But not only are conviction rates an indication of how well an 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.¹¹⁷

Second, winning helps careers. Because it is difficult to measure a prosecutor's job performance, superiors often look at conviction rates for lack of a better measure.¹¹⁸ Prosecutors with the highest conviction rates tend to have the best reputation.¹¹⁹ This in turn means that these prosecutors have the best chances of advancement internally; hence the desire to win cases is strong.¹²⁰ Even if prosecutors do not wish to stay in a prosecutor's office but have other aspirations winning can be important. If prosecutors aspire to run for mayor, governor, or judge, and many of them do, high conviction rates can be used to gain the support of the public.¹²¹ Some commentators further suggest that being able to dwell on past convictions is crucial to the electoral chances of a prosecutor.¹²²

Chief prosecutors at the state level have a special interest in obtaining high conviction rates.¹²³ Because they are elected 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.¹²⁴ Accordingly, state prosecutors must keep a careful eye to local interests. 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.¹²⁵ For example, state prosecutors do not pursue large-scale corporate fraud because they lack the resources and expertise to do so in addition to the ancillary costs which accompany local enforcement.¹²⁶ In this sense, prosecutors advance local interests and advantage their position. 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.¹²⁷

It is also worth noting that the desire to win seems to become stronger over time.¹²⁸ Prosecutors who care most about conviction rates on average have twice as much as experience as prosecutors who seem to also have a great concern for justice.¹²⁹ This might mean that prosecutors may come into office expecting to do justice, but after a while realize that if they want to advance professionally, be it internally or elsewhere, their main focus needs to be on conviction rates.¹³⁰ This is an important point if they are primarily seeking to maximize professional gains.¹³¹

A study analyzing prosecutors' decisions whether to allocate a drug case to the state or federal level supports the career maximization idea.¹³² The main finding of this study is that federal prosecutors focus on prosecuting individuals who are older, more successful in their (legal) careers, more likely married, more likely to be Army veterans, and less likely to have a criminal record than the individuals prosecuted by their state counterparts.¹³³ They in particular take on more cases in which the defendants have private attorneys, or are likely to hire private attorneys.¹³⁴

These findings can be interpreted in two ways. One is that the defendants prosecuted by federal prosecutors are more difficult to prosecute, and more likely to have crossed state lines and are therefore charged in federal court. Another plausible explanation is that these defendants are more likely to be high-profile. Federal prosecutors would therefore take these cases not because they necessarily belong in federal court, but because they are most helpful in advancing their careers.¹³⁵ The latter possibility is further supported by the tendency of federal prosecutors to focus on these types of cases in states where high salaries can be earned in the private sector.¹³⁶ Because prosecutors may care about securing a lucrative job, this career advancement technique is employed most widely in those states. Read together with other studies,¹³⁷ this study seems to support the claim that prosecutors ultimately care about their careers and strategize accordingly.¹³⁸ Thus, it is plausible that both winning and professional goals play a role in prosecutorial motivation.

III. Empirical Study – Backdating

In this section, we provide an empirical test to examine whether small firms should be exempt from either regulation or its enforcement and whether policy prescriptions in this matter should be based on observed prosecutions or investigations. As stated earlier small firms have been granted exemption from various regulations.¹³⁹ There is also some evidence, discussed above, pointing to prosecutors favoring pursuit of higher profile cases, which generally implies investigations of larger firms.¹⁴⁰

To determine whether optimal regulation of and enforcement against firms should take into account firm size data are needed on the relationship between the extent of violations and the size of the firm. When researchers attempt to obtain data on violations, they tend to rely on investigations or prosecutions.¹⁴¹ Investigations or prosecutions, however, are influenced by prosecutorial choices which, as discussed earlier, may be driven, in part, by moral hazard or social welfare considerations. These considerations are likely to introduce biases in what types of firms are targeted, and more likely than not, result in prosecutors favoring the pursuit of relatively larger firms. Hence, prosecutorial choices might create the false impression that smaller firms are less likely to be culpable because of fewer observed violations which, in turn, will result in even fewer investigations of smaller firms. Any examination of compliance by smaller firms, therefore, cannot be based on observed investigations. Therefore, to find an answer to the question of whether smaller firms should be exempt from particular regulations or whether law enforcement agents should be more lenient to them, an assessment of the relationship between violations and firm size that is not based on actual investigations or prosecutions is needed. Unfortunately, researchers usually cannot observe violations independent of investigations by regulatory or law enforcement authorities and subsequent prosecutions.

The options backdating practice, by contrast, provides a rare setting 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 at 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 option backdating can be estimated. Whether smaller companies are over- or under-represented in the sample of companies estimated to have engaged in backdating can then be examined. This sample can be further checked to see 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, 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 by itself is not illegal, as long as it is duly-authorized by the board, fully disclosed, and reported in keeping with tax rules. It appears, however, that firms that have engaged in backdating tend to act covertly, in violation of reporting requirements and tax laws.

Backdating is best explained using a simple example. Suppose an executive is awarded options on April 15 by the board of directors when the firm's stock price is \$40. As is the practice with almost all awards (and required by corporate charters in most cases),¹⁴² these options are awarded at-the-money, meaning that the exercise price is set equal to the stock price on the grant date, here \$40.¹⁴³ If the stock price at the time of exercise exceeds the exercise price of \$40, 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 report¹⁴⁴ with the SEC that March 15 is the grant date.¹⁴⁵ 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 dates and the date of Form 4 filings (report date) with the SEC.¹⁴⁶ If executives are backdating, there is likely to be a 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.¹⁴⁷ This in turn implies that the extent of stock price rise following the reported grant date will be positively correlated with the reporting lag.¹⁴⁸

As of August 2002, SOX requires that option grants must be reported within two business days of the grant date.¹⁴⁹ This requirement can severely limit the extent of backdating if executives simultaneously wish to abide by the two-day rule. It appears during the period after SOX and ending in 2005, executives wishing to backdate were flouting this rule.¹⁵⁰ SOX has reduced the practice as expected but has not fully eliminated it.¹⁵¹

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 are engaged in backdating we obtain 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 1934.¹⁵² The data are obtained from Thompson Financial.¹⁵³ Our sample contains all option grants by publicly traded firms reported on Form 4 from January 2002 to December 2005, which resulted in a sample size of 6297 firms.¹⁵⁴ Our unit of observation is the firm grant date. If multiple grants are made on the same date, we consider these grants as a single observation. The mean number of grant-dates per firm in the sample is 3.4 and the median is 3. We use stock prices around the grant date to identify instances of backdating.¹⁵⁵ For each firm in our sample, we compute 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 is tied for the third place, we conservatively consider it to be not among the three lowest stock prices. We then divide this number by the total number of option grant dates by the firm during our sample period. If the resulting ratio is greater than 10% we classify the firm as having engaged in backdating. For example, if a firm had five option grant dates during our sample period, and in two of those dates options were granted at favorable exercise prices as defined above, then the ratio is 40% and the firm is considered to have engaged in backdating. In our sample, 19.5% of the grant-date stock prices were among three lowest stock prices during the 51-day window. Among the 5739 firms for which we had stock price data, 8.55% of the firms met or exceeded the 10% threshold mentioned earlier, resulting in 490 firms being identified 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 that was maintained by the *Wall Street Journal*.¹⁵⁶ Our sample was drawn from the data posted on the website on February 25, 2007. We include all companies that have been reported to be under investigation or have been 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. We will refer to the sample of firms that has been investigated 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 6297 firms.

We use these data sets to perform the following analyses. First, we compare 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 compare 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 compare 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 are computed on an annual basis from 2002 to 2005 and then averaged over the sample period. This is done to reduce idiosyncratic variability, particularly in board and executive compensation variables.¹⁵⁷ 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 use for firm size is the natural logarithm of the average calendar

year-end market capitalization in millions of dollars during 2002-05 (Market Cap).¹⁵⁸ We obtain the Market Cap from the Center for Research in Security Prices (CRSP) database.¹⁵⁹

In order to isolate the effect of firm size, we use a set of control variables that potentially influence the likelihood of backdating. We group the control variables we use into three categories: governance variables, firm performance variables, and compensation variables. More effective corporate governance will 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 index¹⁶⁰ which 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 the lower is the strength of governance.¹⁶¹ The G-Index is commonly used in financial economics research as a proxy for corporate governance.¹⁶² In the intermediate years in which the index is not updated we assume that the index remains unchanged from the previous year. We also provide results using an alternative index proposed which is an entrenchment index (E-Index).¹⁶³ The second measure of corporate governance used is board composition, in particular, board independence.¹⁶⁴ We use director independence and CEO-Chairman duality to proxy board independence. Independent directors are defined by the database as those that are not executives of the firm or affiliated with the firm's executives.¹⁶⁵ Our measure of director independence is the average proportion of board members for a firm during 2002-05 that is considered independent (Ind Directors). The motivation for the second measure of board independence, CEO-Chairman duality, is based on the evidence that if the same individual holds both positions (chief executive officer and chairman of the board of directors), corporate governance is weaker.¹⁶⁶ To measure the CEO-Chairman duality, we construct 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.¹⁶⁷ If there were multiple CEOs in a firm in a given year, if any one of the CEOs within that year is also the Chairman, then the dummy variable takes on value of 1 for that year. We then average this dummy variable values for each firm over the 2002-2005 time period (ChmCEO). All director and board information comes from RiskMetrics¹⁶⁸ through their ISS Governance Services database.¹⁶⁹

Finally, we also use CEO tenure as a metric of CEO power. We hypothesize that more powerful CEOs are more likely to engage in questionable practices as they face no or very little opposition within the organization. We measure 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 proxy firm performance by the risk-adjusted average monthly stock return from January 1998 to December 2005 (Excess Stock Return). 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.¹⁷⁰ Stock returns and other data are obtained from the CRSP data base.

Because the incentive to backdate is likely to be related to the amount of compensation, and in particular to the amount of compensation in the form of option grants, we include three compensation variables: total compensation, option compensation, and the proportion of total compensation in the form of options. Total compensation is computed as the natural logarithm of the average annual total CEO compensation over the 2002-05 period which includes salary, bonus, value of restricted stock granted, Black-Scholes value of stock options granted,¹⁷¹ and long-term incentive payouts (Total Compensation).¹⁷² Option compensation is computed as the natural logarithm of the average annual Black-Scholes value of the options granted to the CEO during 2002-05 (Option Compensation). Both Total Compensation and Option Compensation are 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 is obtained from COMPUSTAT's Executive Compensation database.¹⁷³

C. Results

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 1% level.¹⁷⁴ 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 (\$1826 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 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. The Ind. Directors and CEO Tenure variables are significantly different 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. The ChmCEO dummy is not significantly different between backdating firms and the all firms sample; it is significantly lower (10% level) between implicated firms and the all firms sample indicating that there are fewer implicated firms where there is duality.

The performance of the backdating firms, as measured by the variable Excess Stock Return, is better than the sample of all firms on average (at the 10% level). By contrast, the performance of the implicated firms is significantly (1% level) better on average. These results are not surprising. 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 compensation variables provide an interesting contrast between backdating firms and implicated firms relative to firms on average. The total compensation of backdating CEOs is not significantly different from the general CEO population in the all firms sample while that of implicated CEOs is significantly (1% level) greater than the general CEO population. By contrast, 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 proportion of compensation in the form of option grants is significantly (at the 1% level) higher for backdating and implicated firm CEOs relative to CEOs in the all firm sample. These results are consistent with the notion that CEOs with greater proportion of option compensation are more likely to engage in backdating and are more likely to be investigated and prosecuted.

The mean size, as measured by Market Cap, is significantly (at the 1% level) greater 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 of the violating firms. The only governance variables that are significantly different between the two samples are the G-Index and the E-Index. They are significantly lower (at the 5% and 1% level, respectively) in the implicated group, implying that this group has better governance (at least as measured by these indices). 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 in the implicated firms when compared to the backdating sample (significant at the 1% level). The mean value of the Total Compensation variable for CEOs in the implicated sample is \$4.9 million while it is \$2.9 million for CEOs of backdating firms.¹⁷⁵ The mean option compensation for CEOs in the implicated sample is \$3.0 million while it is \$1.4 million for CEOs of backdating firms. For backdating firms, 40% of the value of total compensation is in the form of option grants whereas the same figure is 60% for implicated firms. 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.¹⁷⁶

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 1226 firms for Model 1 (126 of which are backdating firms) and 1147 firms for Model 2 (120 of which are backdating firms). In these regressions we scale total compensation by market capitalization as these two variables are highly correlated. Specifically, we use 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 Market 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 be violators of regulations. The governance index variables, G-Index and E-Index, are both significantly negative at 10% and 5% levels, respectively. These results imply that firms may ensure that they are perceived favorably in measurable governance metrics while simultaneously engaging in illicit behavior. 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 greater proportion of option compensation both result in increased backdating.

In our next test, 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 (firm is in the implicated sample). The sample includes the 6297 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 1228 firms for Model 1 (55 of which are implicated firms) and 1147 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 above result in that firms engaged in backdating are smaller than average. Taken together, the results 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.

The ChmCEO variable is significant at the 10% level in both models, but the sign is opposite of what was expected. The Ind Directors variable is significantly negative in Model 2 at the 10% level, indicating that implicated firms have fewer independent directors. CEO Tenure is significantly positive at the 1% level in both models, which implies that longer serving CEOs are more likely to be implicated in backdating, a finding that is consistent with CEO power. Excess Stock Return is significantly positive at the 5% level as expected; the incentive for backdating is significantly greater when stock returns are higher which increases the likelihood of investigation. Scaled Total Compensation is significantly positive at the 5% level in both models indicating that CEOs who earn more relative to their firm's market capitalization are more likely to be implicated. Not surprisingly, the Option Proportion is very significant (1% level) implying that CEOs who receive most of their compensation in option grants are more likely to be subjects of investigation.

Finally, we show a logit regression to directly compare backdating firms to implicated firms to check whether the implicated firms are larger in size when compared to backdating firms. The 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. The sample includes only firms that are represented 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.

These results are broadly consistent with the univariate results. The size variable Market Cap is significantly positive at the 5% level in both models lending support to 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 in turn implies that observed investigations 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.

The other significant variables in are generally in line with our expectations. The result that the Option Proportion is significantly positive at the 1% level in both models is not surprising as we expect greater likelihood of investigation when more of the compensation is in the form of options. Similarly, the result that Excess Stock Return is significantly positive at the 10% level (in Model 2) is expected as greater stock returns increase the potential benefit from backdating and hence attract more regulatory and prosecutorial attention. Among the governance variables, the ChmCEO dummy variable is significantly negative in both models (at the 1% level in Model 1 and 5% level in Model 2), implying that the Chairman-CEO duality is less prevalent among implicated firms compared to backdating firms. This is the only counterintuitive result in this table. Ind Directors is significantly negative in Model 2 at the 10% level which implies that firms with fewer independent directors among the backdating firms are more likely to be implicated. These results generally imply that governance is poorer in implicated firms relative to backdating firms, a result which is to be expected. These results are thus consistent with the hypothesis that, of the firms that have engaged in backdating, larger firms are more likely to be investigated by the SEC and DOJ.

Conclusion

The problem with obtaining 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 to engaging in backdating. By empirically analyzing this

practice, this paper presents a data point relevant to policy makers on whether small firms should necessarily be exempted from financial regulations or their enforcement on the basis of observed violations.

Collectively, our results indicate, at least in the context of backdating, that smaller firms are more likely to engage in illicit behavior and that prosecutorial motives make the observed investigations and prosecutions unreliable indicators for the purpose 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, 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 regulation 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. Although it is possible that targeting larger firms may be optimal from a social welfare perspective, prosecutorial moral hazard cannot be ruled out as a potential explanation for our results.

Footnotes

¹ See Part IA, *infra*, discussing the Regulation D of the federal securities laws, 17 CFR 230.504; the 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. (Supp. III 2003)).

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) (explaining 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 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. However, these companies 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.").

⁷ The database is constructed from changes in insider ownership reports as required by Section 16(a) of Securities and Exchange Act of 1934. 15 U.S.C § 78p. The data are reported on Forms 3, 4 and 5 to the Securities and Exchange Commission (SEC) and contain the name and relation of the officer, the date of grant, exercise price, number of shares, signature date, and report date, among others.

⁸ See Bradford, *supra* note 3 at 3, nn.8-9 (discussing full Americans with Disabilities Act exemption for employers with fewer than 15 employees and ERISA continuation coverage requirements exemptions for group plans where all employers have fewer than 20 employees).

⁹ See *id.* 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 15 employees, and from the Investment Advisers Act for advisers with fewer than 15 clients).

¹⁰ See the Regulatory Flexibility Act (RFA), *infra* note 12, the Small Business Regulatory Enforcement Fairness Act (SBREFA), *infra* note 13; see 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 the regulation will apply, projected reporting, recordkeeping, and other compliance requirements of the proposed rule, as well as any significant alternatives which 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.

¹¹ 17 C.F.R § 230.504.

¹² 5 U.S.C. §§ 601-612 (1994).

¹³ 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.).

¹⁴ 15 U.S.C. § 7262.

¹⁵ 17 C.F.R § 230.504

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 § 230.241 *et seq.* See generally, Campbell Jr., *supra* note 2. This regulation, however, has proven ineffective and is rarely utilized. *Id.*

¹⁷ 5 U.S.C. §§ 601-612 (1994).

¹⁸ Pub. L. No. 104-121, 1996 U.S.C.C.A.N. (110 Stat.) 857.

¹⁹ See Bradford, *supra* note 3, at 3.

²⁰ See Sargentich, *supra* note 10, at 125.

²¹ 5 U.S.C. § 604.

²² *Id.*

²³ *Aeronautical Repair Station Ass'n, Inc., et al. v. FAA*, 494 F.3d 161 (D.C. Cir. 2007).

²⁴ *U.S. Telecom Ass'n v. FCC*, 400 F.3d 29 (D.C. Cir. 2005).

²⁵ Pub. L. No. 104-121, 1996 U.S.C.C.A.N. (110 Stat.) 857.

²⁶ See Sargentich, *supra* note 10, at 127.

²⁷ Most noticeably, the Environmental Protection Agency and Occupational Safety and Health Administration.

²⁸ See Sargentich, *supra* note 10, at 130.

²⁹ *Id.* at 131.

³⁰ *Id.* at 133. 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. *Id.* at 137. The numerous procedural requirements applied to federal agencies under SBREFA pose an undue hardship on these institutions, which already struggle to meet minimum performance requirements. *Id.*

³¹ 15 U.S.C. § 7262.

³² See e.g., *SEC Approves One-Year Extension for Small Businesses From Auditor Attestation Requirement in Sarbanes-Oxley Act*, June 20, 2008, <http://www.sec.gov/news/press/2008/2008-116.htm> (last visited April 3, 2011); *Small Public Companies to Begin Providing Audited Assessment of Internal Controls Over Financial Reporting in Nine Months*, Oct. 2, 2009, <http://www.sec.gov/news/press/2009/2009-213.htm> (last visited April 3, 2011).

³³ 15 U.S.C. § 7262.

³⁴ *SEC Approves One-Year Extension for Small Businesses from Auditor Attestation Requirement in Sarbanes-Oxley Act*, June 20, 2008, <http://www.sec.gov/news/press/2008/2008-116.htm> (last visited April 3, 2011).

³⁵ *Small Public Companies to Begin Providing Audited Assessment of Internal Controls Over Financial Reporting in Nine Months*, Oct. 2, 2009, <http://www.sec.gov/news/press/2009/2009-213.htm> (last visited April 3, 2011).

³⁶ *Id.*

³⁷ *Id.*

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- ³⁸ Craig V. Butler, *Smaller Reporting Companies and 404(b): Where are We?*, The Lebrecht Group (March 7, 2010), <http://www.thelebrechtgroup.com/index.php/publications/tlg-publications/184-smaller-reporting-companies-and-section-404b-where-are-we> (last visited March 29, 2011).
- ³⁹ Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. Pub. L. No. 111, 124. Stat. 1376 (codified as amended in scattered sections of 15 U.S.C.).
- ⁴⁰ 17 C.F.R. § 240.12b-2.
- ⁴¹ 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.”)
- ⁴² 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, small firms remain more likely than large firms to face criminal sanctions. Indeed, after taking into account 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.”)
- ⁴³ William S. Laufer & Alan Strudler, *Symposium: Corporate Criminality: Legal, Ethical, and Managerial Implication: Why Punish?: Corporate Crime and Making Amends*, 44 AM. CRIM. L. REV. 1307, 1315 (2007).
- ⁴⁴ Laufer and Strudler explain that large firms, which have invested in compliance programs, are “simply diverted from the criminal process, whether by plea agreements, through civil or administrative sanctions, or by individual prosecutions of white collar offenders.” *Id.*
- ⁴⁵ Brandon L. Garrett, *Structural Reform Prosecution*, 93 VA. L. REV. 853, 884 (2007); *see also* Kathleen F. Brickey, *The Changing Face of White-Collar Crime*, 96 J. Crim. L. & Criminology 397, 402 (2006); *but see* Leonard Orland, *The Transformation of Corporate Criminal Law*, 1 BROOK. J. CORP. FIN. & COM. L. 45, 75 (2006) (indictment of executives is only reflected in 17 out of 44 DPAs and NPAs between 1993 and 2006).
- ⁴⁶ Cox & Thomas, *supra* note 41.
- ⁴⁷ *Id.* at 895.
- ⁴⁸ *Id.* at 901-902.
- ⁴⁹ *Id.* at 905. 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.
- ⁵⁰ *Id.* at 905.
- ⁵¹ Firestone *supra* note 42.
- ⁵² *Id.*
- ⁵³ *Id.*
- ⁵⁴ James E. Meason, *Environmental Audits, Privileges from Disclosure, and Small Business Penalty Policies*, 18 N. ILL. U. L. REV. 497, 502 (1998).
- ⁵⁵ *See* Brickey, *supra* note 45; *see also* Kathleen F. Brickey, *Enron’s Legacy*, 8 BUFF. CRIM. L. REV. 221 245 (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, 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).
- ⁵⁶ Orland *supra* note 45, at 57. *See also* Cindy A. Schipani, *The Future of the Attorney-Client Privilege in Corporate Criminal Investigations*, 34 Del. J. Corp. L. 921, 954-60 (discussing examples of Deferred and Non-Prosecution Agreements).
- ⁵⁷ Orland, *supra* note 45, at 56.

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- ⁵⁸ 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 filing a charging instrument and sending a less stringent message to the market).
- ⁵⁹ See, e.g., Wray & Hur, *supra* note 55, at 1104.
- ⁶⁰ Orland, *supra* note 45, at 45.
- ⁶¹ *Id.* at 57.
- ⁶² *Id.*
- ⁶³ Garrett, *supra* note 45, at 894.
- ⁶⁴ *Id.* at 901.
- ⁶⁵ *Id.*
- ⁶⁶ *Id.*
- ⁶⁷ *Id.*
- ⁶⁸ *Id.*
- ⁶⁹ Memorandum from Larry D. Thompson, Deputy Attorney General, to Heads of Department Components and United States Attorneys (Jan. 20, 2003), available at http://www.usdoj.gov/dag/cftf/corporate_guidelines.htm.
- ⁷⁰ Wray & Hur, *supra* note 55, at 1098.
- ⁷¹ Brickey, *supra* note 45, at 402; see also Garrett, *supra* note 45, at 884; but see Orland, *supra* note 45, at 75 (indictment of executives is only reflected in 17 out of 44 DPAs and NPAs between 1993 and 2006).
- ⁷² Jonathan M. Karpoff et al., *The Legal Penalties of Financial Misrepresentation* 9, 32 (May 1, 2007), <http://ssrn.com/abstract=933333>.
- ⁷³ Orland, *supra* note 45, at 45.
- ⁷⁴ U.S. v. Arthur Andersen, LLP, Indictment, available at: <http://news.findlaw.com/hdocs/docs/enron/usandersen030702ind.html> (last visited April 3, 2011).
- ⁷⁵ U.S. v. Milberg Weiss Bershad & Schulman, LLP, Indictment, available at: <http://f11.findlaw.com/news.findlaw.com/wp/docs/clssactns/usmlbrg51806ind.pdf> (last visited April 3, 2011).
- ⁷⁶ Garrett, *supra* note 45, at 888-90.
- ⁷⁷ *Id.* at 902.
- ⁷⁸ *Id.*
- ⁷⁹ Ashwini Jayaratnam, *Prosecuting Stock-Option Backdating: The Ethics of Enforcement Techniques*, 20 GEO. J. LEGAL ETHICS 755, 760 (2007) (sending a signal to other companies that illegal backdating could result in criminal sanctions).
- ⁸⁰ *Id.* at 761.
- ⁸¹ Garrett, *supra* note 45, at 900.
- ⁸² *Id.* at 894.
- ⁸³ *Id.* at 900.
- ⁸⁴ *Id.* at 883.
- ⁸⁵ *Id.* at 888-889.
- ⁸⁶ Executive Order Establishment of the Corporate Fraud Task Force, July 9, 2002, available at <http://www.justice.gov/archive/dag/cftf/execorder.htm>.
- ⁸⁷ *Id.*
- ⁸⁸ Lisa Kern Griffin, *Compelled Cooperation and the New Corporate Criminal Procedure*, 82 N.Y.U. L. REV. 311, 312 (2007).
- ⁸⁹ Richard S. Gruner, *Towards and Organizational Jurisprudence: Transforming Corporate Criminal Law through Federal Sentencing Reform*, 36 ARIZ. L. REV. 407, 411-412 (1994).
- ⁹⁰ *Id.*
- ⁹¹ *Id.* at 411 n.29.
- ⁹² See generally U.S.S.G. § 8; 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 (1993).
- ⁹³ U.S.S.G. § 8C3.3(b).
- ⁹⁴ U.S.S.G. § 8C2.5.
- ⁹⁵ See U.S.S.G. § 8B2.1.
- ⁹⁶ See Comment 2(C) to U.S.S.G. § 8B2.1.
- ⁹⁷ U.S.S.G. § 8D1.1(a)(3).
- ⁹⁸ U.S.S.G. § 8C3.4.

⁹⁹ See Bengt Holmstrom, *Moral hazard and observability*, BELL J. ECON., 74-91 (1979); see also PAUL KRUGMAN, THE RETURN OF DEPRESSION ECONOMICS AND THE CRISIS OF 2008 (W.W. Norton Company Limited 2009).

¹⁰⁰ 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.”).

¹⁰¹ Tracy 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.”).

¹⁰² 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 oversee 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.

¹⁰³ 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).

¹⁰⁴ *Id.*

¹⁰⁵ See e.g., Dunahoe, *supra* note 102, at 46.

¹⁰⁶ Larry Thompson, *Principles of Federal Prosecution of Business Organizations*, (Jan. 20, 2003) available at http://www.usdoj.gov/dag/ctf/corporate_guidelines.htm

¹⁰⁷ UNITED STATES ATTORNEYS’ MANUAL (1997) available at http://www.usdoj.gov/usao/eousa/foia_reading_room/usam/ (last visited April 3, 2011).

¹⁰⁸ RULE 3.8 MODEL RULES OF PROFESSIONAL CONDUCT available at http://www.abanet.org/cpr/mrpc/rule_3_8.html (last visited April 3, 2011); see also ABA Standards on Prosecutorial Investigations), available at http://www.americanbar.org/publications/criminal_justice_section_archive/crimjust_standards_pinvestigate.html (last visited April 3, 2011).

¹⁰⁹ Michael A. Simons, *Prosecutorial Discretion and Prosecution Guidelines: A Case Study in Controlling Federalization*, 75 N.Y.U.L. REV. 893, 934 (2000).

¹¹⁰ A legislative constraint on prosecutorial discretion would likely result in over-prosecution, as legislatures also tend to over-criminalize behavior.

¹¹¹ See e.g., Abbe Smith, *Can You Be a Good Person and a Good Prosecutor?*, 14 GEO. J. LEGAL ETHICS 355, 388 (2001); Daniel S. Medwed, *The Zeal Deal: Prosecutorial Resistance to Post-Conviction Claims of Innocence*, 84 B.U. L. REV. 125 (2004).

¹¹² Smith, *supra* note 111, at 389-90.

¹¹³ Medwed, *supra* note 111, at 136-37.

¹¹⁴ 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 137-149.

¹¹⁵ Smith, *supra* note 111, at 390.

¹¹⁶ Medwed, *supra* note 111, at 135.

¹¹⁷ Simons, *supra* note 109, at 932-33. Simons does not state whether this is actually the practice of the Justice Department. *Id.*

¹¹⁸ Medwed, *supra* note 111, at 134.

¹¹⁹ *Id.*

¹²⁰ *Id.* at 134-35.

¹²¹ *Id.* at 154-55.

¹²² *Id.* at 155.

¹²³ *Id.*

¹²⁴ *Id.* at 151.

¹²⁵ Darryl K. Brown, *Symposium: Fraud and Federalism: Overlapping Jurisdictions, Overlapping Crimes: The Distribution of Fraud Enforcement*, 28 CARDOZO L. REV. 1593, 1596 (2007).

¹²⁶ *Id.* Brown explains, “when firms are prosecuted, employees may lose their 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...we may moderate punishment when we recognize its full social costs, and local officials are going to be more attuned to those local costs.

¹²⁷ *Id.* at 152; see H. W. Perry, Jr., *Government Lawyering: United States Attorneys- Whom Shall They Serve?*, 61 LAW & CONTEMP. PROB. 129, 138 (1998).

¹²⁸ Medwed, *supra* note 111, at 138.

¹²⁹ *Id.*

¹³⁰ See Hoeffel, *supra* note 100, at 1140 (the typical...prosecutor...will only be noticed, climb the career ladder, or become a member of elected office...if he racks up the convictions).

¹³¹ Dunahoe, *supra* note 102, at 60.

¹³² Edward L. Glaeser et al., *What do Prosecutors Maximize? An Analysis of the Federalization of Drug Crimes*, 2 AM. L. & ECON. REV. 259 (2000).

¹³³ *Id.* at 288.

¹³⁴ *Id.*

¹³⁵ *Id.*

¹³⁶ *Id.* at 283.

¹³⁷ See, e.g., Rebecca Hollander-Blumoff, *Getting to “Guilty”: The Please Bargain 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. PROB. 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, 1127-1131 (2005) (analyzing the strategic use of prosecutorial commentary in the public eye).

¹³⁸ That this study focused on federal prosecutors does not mean state prosecutors are not motivated by the same concerns. See Glaeser *supra* note 132, at 264.

¹³⁹ See, e.g., Campbell Jr. *supra* note 2; Bradford *supra* note 2; Bradford *supra* note 3; Ferola *supra* note 6; Huffman *supra* note 2; Rose *supra* note 6; Sargentich *supra* note 20. The efficiency perspective trades off costs of investigation and prosecution against the benefits arising from financial recovery and deterrence.

¹⁴⁰ See notes 99-138, *supra* and accompanying text.

¹⁴¹ 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), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1012730

¹⁴² See Speech by Linda Chatman Thomsen, *Options backdating: The enforcement perspective* (Oct. 30, 2006) (Speech by SEC Staff), available at: <http://www.sec.gov/news/speech/2006/spch103006lct.htm#foot1>.

¹⁴³ 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 M. P. Narayanan, Cindy A. Schipani, and H. Nejat Seyhun, *The Economic Impact of Backdating of Executive Stock Options*, 105 MICH. L. REV. 1597, 1602-1605 (2007).

¹⁴⁴ SEC Form 4 Report, available at <http://www.sec.gov/about/forms/form4data.pdf>.

¹⁴⁵ 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.

¹⁴⁶ 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 (“Exchange Act”). 15 U.S.C.A. § 78p (2006). On August 27, 2002, in line with Section 403 of SOX, the SEC amended the disclosure rules for beneficial ownership reports to be filed under Section 16(a) of the Securities and Exchange Act of 1934 (“Exchange Act”). 17 C.F.R. § 240.16a-3 (2006). The filing requirements became effective on August 29, 2002. 67 F.R. 56462 (Sept. 3, 2002). SOX requires that most grants be reported within two business days following the execution date of the transaction. SOX § 403, 116 Stat. at 788-89. 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. M. P. Narayanan and H. Nejat Seyhun, *The Dating Game: Do Managers Designate Option Grant Dates to Increase their Compensation?* 21 REV. OF FIN. STUD. 1907 (2008).

¹⁴⁷ 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 Series No. 927, 2005), available at <http://ssrn.com/abstract=649804>. Professor Lie had suggested some executives might be backdating by using a method that compared the patten 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, 804-805 (2005), available at <http://www.biz.uiowa.edu/faculty/elie/Grants-MS.pdf>

¹⁴⁸ Professors Narayanan and Seyhun used this fact to indentify the existence of backdating. Using a dataset 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. Narayanan & Seyhun (2005), *supra* note 147. In the follow-up study using post-SOX data of over 638,000 grants, they found a similar positive correlation. Narayanan & Seyhun (2008), *supra* note 146. Bebchuk, Grinstein, and Peyer find further evidence that CEOs and directors obtain option grants at low prices that cannot be explained by just luck. Lucian A. Bebchuk, Yaniv Grinstein, and Urs Peyer, *Lucky CEOs and Lucky Directors*, 65 J. FIN. 2361 (2010).

¹⁴⁹ SOX § 403, 116 Stat. at 788-89.

¹⁵⁰ See Narayanan & Seyhun 2008, *supra* note 147; M. P. Narayanan & H. Nejat Seyhun, *Effect of Sarbanes –Oxley on the Influencing of Executive Compensation*, (Working paper), available at SSRN: <http://ssrn.com/abstract=852964>, 2006.

¹⁵¹ *Id.*

¹⁵² 15 U.S.C. § 78p (2006).

¹⁵³ Thomson Financial, http://thomsonreuters.com/products_services/financial/.

¹⁵⁴ We choose this time period because it is before the backdating practice became widely known through academic papers, R. Heron & E. Lie, *Does Backdating Explain Stock Price Pattern Around Executive Stock Option Grants?*, 83 J. Fin. Econ. 271 (2007); Narayanan & Seyhun (2005), *supra* note 147, and newspaper articles, 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 Street J., Mar.18, 2006. 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.

¹⁵⁵ This follows Narayanan and Seyhun (2005), *supra* note 147; Narayanan & Seyhun (2008), *supra* note 146; Bebchuk, Grinstein, & Peyer, *supra* note 148.

¹⁵⁶ The Wall Street Journal Online, Perfect Payday: Options Scorecard, <http://online.wsj.com/public/resources/documents/info-optionsscore06-full.html> (last visited March 29, 2011).

¹⁵⁷ Because incentive compensation awards take place infrequently, we increase the information content of our variables and avoid unrelated year-to-year variability by averaging over the sample period.

¹⁵⁸ To reduce the impact of extreme observations, we take the natural logarithm of market capitalization variable.

¹⁵⁹ Center for Research in Security Prices (CRSP) database, available at <http://www.crsp.com/> (last visited April 3, 2011).

¹⁶⁰ See Gompers, Paul, Joy Ishii, & Andrew Metrick, *Corporate Governance and Equity Prices*, 118 QUART. J ECON. 107 (2003).

¹⁶¹ Using this index Gompers, Ishii, and Metrick show that firms with better governance provide greater shareholder returns. *Id.* at 117.

¹⁶² See Lucian A. Bebchuk, Alma Cohen, & Colin Ferrell, *What Matters in Corporate Governance*, 22 REV. FIN. STUD. 783 (2009), available at <http://rfs.oxfordjournals.org/content/22/2/783.full>. The index is constructed and reported about every two years by the Investor Responsibility Research Center (IRRC) and we obtain it from Andrew Metrick's web site at <http://www.som.yale.edu/faculty/am859/data.html> (last visited April 3, 2011).

¹⁶³ This index has been proposed by Bebchuk, Cohen and Ferrell, *supra*, note 187. We obtain the E-Index data from Professor Bebchuk's website at http://www.law.harvard.edu/faculty/bebchuk/data/E_Index_1990-2008.zip (last visited April 3, 2011).

¹⁶⁴ See Renée B. Adams, Benjamin E. Hermaelin, & Michael S. Weisbach, *The Role of Boards of Directors in Corporate Governance: A Conceptual Framework & Survey* 48 J. ECON. LIT. 4858 (2010); see also Vidhan K. Goyal & Chul W. Park, *Board Leadership Structure and CEO Turnover*, 8 J. Corp. Fin. 49 (2002); Jay Dahya &

Nickolaos G. Travlos, *The Cadbury Committee, Corporate Performance, and Top Management Turnover*, 57 J. FIN. 461 (2002).

¹⁶⁵ See Michael Weisbach, *Outside Directors and CEO Turnover*, 20 J. FIN. ECON. 431(1988); Jay Dahya & Nickolaos G. Travlos, *The Cadbury Committee, Corporate Performance, and Top Management Turnover*, 57 J. FIN. 461 (2002); April Klein, *Firm Performance and Board Committee Structure*, 41 J. LAW & ECON. 115, 137 (1998).

¹⁶⁶ See Goyal and Park, *supra*, note 164.

¹⁶⁷ We used other metrics of board independence, such as audit and compensation committee independence but the results were similar.

¹⁶⁸ Risk Metrics, see <http://www.msci.com/> (last visited April 3, 2011).

¹⁶⁹ ISS Governance Services Database, available at <http://www.issgovernance.com/scas> (last visited April 3, 2011).

¹⁷⁰ Kent Daniel, Mark Grinblatt, Sheridan Titman, & Russ Wermers, *Measuring Mutual Fund Performance with Characteristic-based Benchmarks*, 52 J. FIN. 1035 (1997).

¹⁷¹ See Black, Fischer & Myron Scholes, *The Pricing of Options and Corporate Liabilities*, 81 J. POLITICAL ECON. 637 (1973).

¹⁷² Taking natural logarithms reduces the sensitivity of our results to extreme observations.

¹⁷³ COMPUSTAT Executive Compensation database, available at <http://www.compustat.com/myproducts.aspx> (last visited April 3, 2011).

¹⁷⁴ The means reported here are geometric means of market capitalizations.

¹⁷⁵ As in the case of market capitalizations, the reported means for compensation variables are geometric means.

¹⁷⁶ We also conducted Kolmogorov–Smirnov tests to verify if the firm level characteristics for the backdating and implicated samples come from different distributions.