The Economic Consequences of Perk Disclosure*

YANIV GRINSTEIN, *IDC Herzliya and Cornell University*

DAVID WEINBAUM, *Syracuse University*

NIR YEHUDA, *University of Texas at Dallas*[†]

ABSTRACT

In December 2006, the SEC issued new rules requiring enhanced disclosure by public U.S. firms of perquisites granted to their executives. The rules applied to perquisites granted in fiscal year 2006 and thereafter. Because the rules were implemented quickly, the perks disclosed for 2006 reflect the arrangements firms made under prior disclosure rules: firms could not revise perks to reflect the new rules until 2007. For firms that disclose for the first time in 2006, we predict and find that perks decrease in 2007, reflecting both the costs of increased disclosure and enhanced monitoring. This decrease in perks is offset by higher levels of non-perk compensation, however. We also predict and find that the effect of perk disclosure by formerly non-disclosing firms in 2006 leads to higher perks in 2007 for firms that were disclosing perks prior to the rule change.

Les répercussions économiques de l'information à fournir sur les avantages indirects

RÉSUMÉ

En décembre 2006, la SEC instaurait de nouvelles règles exigeant la communication d'information améliorée sur les avantages indirects qu'octroient à leurs dirigeants les sociétés des États-Unis faisant appel public à l'épargne. Ces règles s'appliquaient aux avantages indirects octroyés au cours de l'exercice 2006 et des exercices ultérieurs. Les nouvelles règles ayant été adoptées rapidement, les avantages indirects à l'égard desquels des informations ont été communiquées en 2006 reflétaient les accords que les sociétés avaient conclus sous le régime des règles antérieures : les sociétés étaient dans l'impossibilité de réviser les avantages indirects pour tenir compte des nouvelles règles avant 2007. Dans le cas des sociétés qui présentaient cette information pour la première fois en 2006, les auteurs formulent et confirment l'hypothèse d'une diminution des avantages indirects en 2007, reflétant les coûts tant des obligations d'information accrues que de l'exercice d'une surveillance plus grande. Cette diminution des avantages indirects était toutefois compensée par des niveaux plus

---

élevés de rémunération sous d'autres formes que les avantages indirects. Les auteurs prévoient et constatent également que la communication, en 2006, d'information relative aux avantages indirects par des sociétés qui ne publiaient pas cette information auparavant entraîne à la hausse les avantages indirects en 2007 dans les entreprises qui communiquaient déjà de l'information sur les avantages indirects, avant l'adoption des nouvelles règles.

1. Introduction

In a recent article that surveys the evolution of executive compensation over the past 80 years, Murphy (2012) states that government intervention has been a response to, as well as an important driver of, time trends in managerial compensation, and that political factors are critical to pay practices. In his view, executive compensation is shaped by disclosure regulations, tax policies, accounting rules, legislation, and the general political climate, yet the role of these factors has been largely ignored. Murphy (2012) argues that the effect of disclosure regulation is particularly important, because even though disclosure can lead to better monitoring by shareholders, it can also stir public curiosity that imposes large costs on organizations. In this paper, we focus on the economic consequences of the 2006 Securities and Exchange Commission (SEC) rules requiring enhanced disclosure of executive perquisites (SEC Release No. 33-8732A). In particular, we study how the changes in disclosure regulation affected perk awards, and we investigate possible substitution effects between perks and other compensation components.

We focus on perks for the following reasons. First, perk disclosure is economically important. Yermack (2006) finds that a firm's stock price drops on average by 1.65 percent around the date of the initial disclosure.[1] At the same time, perks are relatively small in magnitude; as a result, management can easily alter perk consumption, either directly or by substituting other forms of compensation. Second, perks receive substantial media attention because they are often perceived as too high. This attention imposes a substantial cost on the organization, since the media only criticize high levels of perks (relative to levels in similar firms) and never levels that may be too low. Finally, the disclosure regulation was legislated relatively quickly, and firms initially did not have time to adjust their perk consumption in response. This allows us to use the year the regulation went into effect as a benchmark year in which firms disclose perks that have not been adjusted as a result of the regulation.[2]

We identify two main economic mechanisms through which disclosure regulation affects perk award practices: changes in the cost of disclosure, and enhanced monitoring of executive pay.

The first main mechanism—changes in the cost of disclosure—encompasses both increases and decreases in cost. Stigler (1971) argues that disclosure regulation is only necessary when a market solution (i.e., voluntary disclosure) fails. The 2006 rule change likely imposes costs on firms that disclose for the first time, as well as their CEOs. Firms may bear political costs from both internal and external forces (e.g., adverse reactions from third parties, including employees, media, labor unions, customers, suppliers, and other

---

1. Yermack (2006) studies the use of company aircraft. The average perk is his sample is $65.2K and the average firm size is $7.70 billion, which demonstrates that even though perks are small in magnitude, their disclosure is economically important. We find a similar drop in our sample: 1.36 percent for the same return window.

2. The rule was proposed on January 27, 2006, followed by a 6-month comment period. Historically, many proposed SEC rules were postponed in implementation or abandoned altogether (e.g., rules related to proxy access were proposed in 2003, 2007, then in 2009, and they still have not been implemented). Given this uncertainty, it is unlikely that firms modified their perk awards in response to the proposed rule in early 2006.

stakeholders). Jensen and Murphy (1990) argue that such political costs result in low pay-performance sensitivity. Murphy (2012) refers to some of these third parties as "uninvited guests" who have no real stake in the organization. Disclosure can also impose costs on CEOs. If CEOs bear non-pecuniary costs when high levels of perk consumption are reported (e.g., Murphy 1996), this may reduce their utility from perks.

In firms that were already reporting perks, however, the disclosure regulation may reduce the cost of disclosure. The increased visibility of perk awards improves investors' and third parties' knowledge of the entire distribution of perks awarded, including awards by firms that did not disclose perks prior to the regulation. If this leads investors and third parties to presume that some perks are norms, then disclosure could reduce political costs for the firms that were already disclosing (Perry and Zenner 2001; Harris and Livingstone 2002). Also, the increased visibility of perks granted in peer firms heightens benchmarking in perk award practices. Such benchmarking may spur firms to offer perks that are competitive with the market, causing perk awards to converge to a higher level. Prior to the 2006 regulation, most of the information on perks came from compensation consultants; it is reasonable to expect that the 2006 regulation has generated new information. Because this information is readily available to all investors and third parties, it renders perks more defensible.

The second main mechanism through which disclosure regulation affects perk award practices is enhanced monitoring of executive pay. Disclosure regulation may increase the ability of shareholders and boards to monitor managers, thereby reducing information asymmetry and agency problems (e.g., Ripley 1926; Berle and Means 1932; Lo 2003; Cai and Walkling 2011). Before the rules, perks could be unreported, or the reporting could be significantly obfuscated, making perks a form of hidden compensation. The SEC has stated that one goal of the 2006 disclosure rules is to make it more difficult for firms to hide perks (e.g., SEC Release 33-8655). If the rules lead to increased transparency and greater investor scrutiny, this should allow for better monitoring. Nonetheless, Hermalin and Weisbach (2012) show that the benefit of improved monitoring does not accrue exclusively to shareholders; CEOs who have bargaining power will be able to capture some of the benefit through higher compensation. The net impact of enhanced monitoring on perk awards is an empirical question.

We focus our tests on the second year of the new disclosure regime (fiscal year 2007), since the rapid passage of the regulation limited the ability of firms to adjust perk awards in the first year (fiscal year 2006). We study the effects of the new rules on firms that did not disclose perks until after the rules went into effect (hereafter "first-time disclosers," about 28 percent of the sample), as well as on firms that were already disclosing their perks (hereafter "existing disclosers," about 72 percent of the sample).[3]

We begin by examining first-time disclosers. We expect these firms to bear disclosure costs, resulting in a reduction in the value of perks awarded in 2007. We also expect these firms to benefit from improved monitoring. Improved monitoring might result in a reduction in the value of perks awarded, if the level of perks in 2006 was suboptimally large or if the level was optimal yet perceived as too high by investors and third parties. Our findings show that these first-time disclosers experience a reduction in the value of perks awarded in 2007, accompanied by what appears to be a substitution between perks and

---

3. Andrews, Linn, and Yi (2009) examine 608 proxy statements filed for fiscal year 2006 for language describing changes to firms' perks programs and find that 97 percent of proxy statements make no mention of this. Empirically, we find that existing disclosers do not adjust perks in 2006 compared to 2005, consistent with the view that firms did not initially have enough time to adjust perk awards. There is also anecdotal evidence that first-time disclosers only made adjustments in the second year of the new regime. For example, after disclosing perks for the first time for fiscal year 2006, Fortune Brands Inc. cut perks on March 31, 2007, see http://www.nbcnews.com/id/17709103/ns/business-us_business/t/ceos-beer-money-other-proxy-tales/#.VOTqFE10xaQ.

salary. We focus on salary, consistent with suggestions in the financial press that firms might reclassify perks as cash compensation to avoid disclosure.[4] We contend that if these firms had had more time to adjust the perk consumption, we would not see such a prominent trend from 2006 to 2007. Consistent with our expectations about the cost of increased visibility, we also find that first-time disclosers experience a negative market reaction when their first perk disclosures are provided.

We then examine the effect of the rule change on existing disclosers. We expect the disclosure regulation to reduce disclosure costs for these firms, leading to an increase in perk awards. Because these firms had been disclosing their perk information prior to the rule change, we do not expect any effect from an increase in monitoring. We find an economically and statistically significant increase in perks in the second year of the new disclosure regime (2007) for these firms, consistent with our expectations.

We also examine firms' benchmarking behavior following the rule change. We do this by comparing the perks awarded in 2007 to the median perks of peer groups of the same industry and size in 2006 (Bizjak, Lemmon, and Naveen 2008). We find that firms that awarded perks that were lower than their peers' in 2006 increased their awards in 2007. In contrast, firms that awarded perks that were higher than their peers' in 2006 made no significant change in 2007. Moreover, we find that firms classified as having weaker corporate governance based on the GIM index (Gompers, Ishii, and Metrick 2003 index of shareholders rights) also have larger increases in perks. This is consistent with the view that when the CEO exercises greater influence over pay arrangements, the compensation peer group is more likely to feature larger perk awards.

Our primary contribution is to the empirical literature on the effect of disclosure regulation on the level and structure of executive pay (Perry and Zenner 2001; Harris and Livingstone 2002; Lo 2003; McGahran 1988). While our study is not the first to examine the effect of the SEC's perk disclosure regulation on the substitution between perks and salary and bonus, we are able to more directly focus on the effect of SEC regulation than earlier studies have (e.g., McGahran 1988).[5] Our work also contributes to the literature on perks. This literature suggests two contrasting views: (i) employees who receive perks do not necessarily expropriate shareholders and might be receiving these perks as part of an optimal compensation arrangement (e.g., Rajan and Wulf 2006), and (ii) perks are a sign of agency conflict and excess, and they decrease shareholder welfare (e.g., Andrews et al. 2009; Yermack 2006). Our findings are generally consistent with the latter view.

The rest of the paper is organized as follows. In section 2, we discuss the new SEC disclosure rules and the prior literature. Section 3 describes our data on managerial perquisites and presents descriptive statistics. Section 4 discusses our main tests and empirical results, and section 5 explores alternative explanations. Section 6 concludes.

2. Disclosure rules and empirical predictions

This section discusses the 2006 changes to the compensation disclosure requirements and develops our main hypotheses.

Background to the compensation disclosure rules

On January 27, 2006, the SEC issued proposed amendments to the rules governing the disclosure of executive compensation and other governance matters in filings under the

---

4. For example, when Fortune Brands Inc. cut perks in 2007, it replaced them with salary.
5. Similar to our study, McGahran (1988) examines the change in the SEC's perk disclosure regulation. In contrast with our study, however, that rule change coincided with a change in Internal Revenue Service enforcement of taxation of these perquisites as income. The findings in McGahran (1988) are mainly driven by changes in the tax treatment of perks and the disclosure role is secondary. Our paper focuses on the direct effect of disclosure regulation on perks.

Securities Exchange Act of 1934.[6] After a comment period, a revised and final version of the rules was issued on August 29, 2006. These enhanced disclosure requirements are the first substantial changes to the 1934 Act since the compensation disclosure amendments of 1992, which required a tabular formatting of the various compensation components to top executives. According to the SEC release, the 2006 amendments to the compensation disclosure rules were intended to increase transparency by providing investors with a "clearer and more complete picture of the compensation earned by a company's principal executive officer, principal financial officer and highest paid executive officers." All firms were required to adhere to these requirements by December 15, 2006.

An important part of the rules is a new disclosure requirement for managerial perquisites. Interestingly, the SEC does not define what constitutes a perk. Rather, the general guidance states that an item is a perquisite or personal benefit if it confers a direct or indirect personal benefit that has a personal aspect, even if provided for some business reason or for the convenience of the firm and even if determined to be an ordinary or necessary business expense for tax or other reasons, unless generally available on a non-discriminatory basis to all employees.[7]

Under the previous disclosure requirements, firms had to disclose the total value of items that were not part of salary, bonus, or incentives in two separate columns of the summary compensation table (see Figure 1). The first column was "other annual compensation," which mainly included annual perks and above-market earnings on deferred compensation; the second column was "all other compensation," which comprised mainly pension contributions and life insurance premiums. However, if the aggregate value of perks did not exceed $50,000, firms did not need to disclose perks at all, and even when the aggregate value did exceed the $50,000 threshold, firms were required to itemize the value of an individual perk, such as personal aircraft use, only if it exceeded 25 percent of the overall perk total.

Evidently, firms found various ways to obfuscate the disclosure of perks under the old rules. For example, Yermack (2006) points out that even when the aggregate value of perks exceeded $50,000, the total value of perks may not have been observed directly, because some companies aggregated this value with other data items reportable in the same column of the table, such as above-market interest on deferred compensation. Yermack (2006) also reports that some firms avoided disclosing individual perks by aggressively classifying certain types of income, such as retirement contributions and split-dollar life insurance policy payments, as "perquisites" and counting them toward the overall threshold. The firms then itemized those income types, obscuring the individual perks. In addition, the SEC noted several other violations of perk disclosure: aggressive treatment of perks as business expenses, categorization of perks as bonuses instead of "other compensation," use of opaque language to describe the perquisites, and failure to identify and quantify significant individual perks.[8] In light of growing concern about these matters, the SEC indicated rather vigorously that it was concentrating on the issue of executive

---

6. See SEC Release No. 33-8655. Other disclosure requirements in the rule involve director compensation, related party transactions, director independence, and beneficial ownership. For a detailed description of the new requirements under the rule, see Levin and Klein (2009).

7. The SEC argues that "it is not appropriate... to define perquisites or personal benefits, given that different forms of these items continue to develop, and thus a definition would become outdated. Further, we are concerned that sole reliance on a bright line definition in our rules might provide an incentive to characterize perquisites or personal benefits in ways that would attempt to circumvent the bright lines" (SEC Release 33-8655).

8. For example, in September 2004 the SEC determined that GE had failed to disclose fully and accurately the various benefits provided to its CEO. In April 2005, the SEC settled an action it had brought against Tyson Foods and its former chairman and CEO for misleading disclosures of perquisites. There have also been several high-profile cases of abuse and misappropriation.

Figure 1 Summary compensation table format change

Panel A: Summary compensation table—Old format

Name and principal position	Annual compensation				Long-term compensation			All other compensation
	Year	Salary	Bonus	Other	RS	Options	LTIP payout	
CEO								
A								
B								
C								
D								

Panel B: Summary compensation table—New format

Name and principal position	Year	Total	Salary	Bonus	Stock awards	Option awards	Non-stock incentive plan compensation	All other compensation
CEO								
CFO								
A								
B								
C								

perquisite disclosure and would not take kindly to these schemes. The threat of prosecution by the SEC increased substantially in response to the scandals.[9]

The new rules take several steps to ensure proper disclosure of perks. First, to reduce the ability of firms to hide perks, the rules lower the threshold from $50,000 to $10,000. Disclosure of all perks is required, unless the aggregate value of perks is less than $10,000. Subject to this aggregate threshold, any individual perk item valued at the greater of $25,000 or 10 percent of total perks must also be separately quantified.

In addition, the new rules explicitly recognize that the previous distinction between "other annual compensation" and "all other compensation" caused confusion; the two columns are now merged into a single column labeled "all other compensation." The new amendments emphasize that any item of compensation not reported in the other columns must be included in this new column, consistent with the view that all compensation must now be disclosed, with the exception of perquisites with an aggregate value lower than $10,000. The new rules also distinguish between (i) "perquisites and other personal benefits" and (ii) "additional all other compensation column items." To ensure that items are not aggregated, the rules mandate that each item of additional compensation that exceeds $10,000 be separately identified and quantified. Compensation items valued at less than that amount must be included in the column but need not be identified by type and amount.

The rules also require changes in how compensation items besides perquisites are disclosed. A new table is added to the proxy statements with information on all option grants, including the timing, strike price, and terms of the awards. Under the old rules, this detailed information was provided in the individual filings of changes in option ownership (file 4). Options are now valued based on FAS 123R in the compensation table. A detailed description of changes in the value of executive pensions must be included, with a new format for pension contributions. The criteria used to compensate the manager, especially with respect to options, must be described.

Perks and the consequences of disclosure regulation

In this section we develop our main hypotheses. We begin by reviewing the contrasting views in the literature about perquisites. We then articulate the two main mechanisms

---

9. See the speech by Alan L. Beller, *Remarks Before Conference of the NASPP, the Corporate Counsel and the Corporate Executive*, available at http://www.sec.gov/news/speech/spch102004alb.htm.

through which disclosure regulation affects perk award practices: (i) changes in the cost of disclosure, and (ii) enhanced monitoring of executive pay. Finally, we examine how each mechanism is expected to affect perk awards following the change in regulation. We analyze first-time disclosers and existing disclosers separately, focusing on the second year following the regulation because the regulation was passed relatively quickly and firms did not initially have enough time to adjust perks in response to the new rules. The year of the regulation can therefore be used as a benchmark year in which firms have to disclose perks that have not been adjusted as a result of the regulation.

The contrasting views of perks

The existing literature presents opposite views of perks. On the one hand, financial economists such as Jensen and Meckling (1976) argue that perks represent a diversion of corporate resources by management at the expense of shareholders. Under this view, even though perks may be small in magnitude, their very existence indicates an agency problem (the tip of the iceberg). On the other hand, researchers such as Fama (1980) argue that perks can motivate executives to work hard. If firms can generate incentives more cheaply by providing perks instead of additional compensation, then perks can be a superior way to align managerial incentives with shareholder value.

Empirically, the evidence is mixed. Rajan and Wulf (2006), who rely on voluntary surveys, find that executives of firms located in geographically remote areas and with geographically dispersed divisions tend to use corporate jets more. They conclude that firms award perks when it is optimal for them to do so. In contrast, Yermack (2006), who uses public disclosures, finds that after firms disclose the private use of corporate jets in their proxy statements, the firms experience negative announcement returns and subsequently underperform. Andrews et al. (2009) find that firms with weak corporate governance are more likely to award perquisites to executives. In addition, they find a negative announcement return for weakly governed firms that disclose perks for the first time. These findings are consistent with the notion that perks are an excess. Our paper differs from theirs in several important respects. We focus on the effect of disclosure regulation, not on whether perks are an excess. Also, Andrews et al. (2009) do not differentiate between new and existing disclosers, and they limit their analysis to fiscal year 2006, the first year of the new disclosure regime. In contrast, we find that the main effects of the disclosure rules happen in fiscal year 2007.

In a recent paper, Murphy (2012) critiques both views of executive pay and argues that neither fully explains the increases in compensation. He maintains that government intervention is paramount, as it is both a major determinant of, and an important response to, trends in executive compensation over time. To understand trends in executive compensation, political factors must thus be considered.

Empirical predictions

We begin by describing the two potential mechanisms through which disclosure regulation affects perk award practices: (i) changes in the cost of disclosure, and (ii) enhanced monitoring of executive pay. We then discuss how these mechanisms could influence the amount of perks awarded by first-time and existing disclosers.

How disclosure regulation affects perk award practices   There is a voluminous literature on the benefits, costs, and consequences (both intended and unintended) of disclosure regulation (see Healy and Palepu 2001; Leuz and Wysocki 2016 for review). Stigler (1971) argues that disclosure regulation is only necessary when a market solution (i.e., voluntary disclosure) fails. He asserts that if more stringent disclosure of perks were beneficial to firms, it would have occurred in the absence of regulation. According to Stigler, it is therefore

reasonable to expect that increasing the regulated minimum level of disclosure imposes direct compliance costs. At the same time, disclosure regulation is designed to create positive externalities, which could ameliorate outcomes in the aggregate.

Disclosure renders perks more visible, and this may lead to adverse reactions by third parties, including employees, the media, labor unions, customers, suppliers and other stakeholders, and by political forces operating inside and outside companies. Jensen and Murphy (1990) argue that political costs are the reason why pay-performance sensitivity is lower than what is implied by formal principal-agent models. Murphy (2012) refers to the media and other third parties as "uninvited guests" to the bargaining table: their stake in the firm is limited, as is their interest in seeing companies managed well, but they affect executive compensation through tax policies, accounting rules, and legislation.[10] For example, greater disclosure of executive pay may lead to higher labor costs if it increases the probability of unions negotiating higher wages (Jensen and Murphy 1990), or if it influences customers' demand for the firm's products (Murphy 1995). Furthermore, because media criticism occurs only when compensation is "too high" (but never when it is "too low") relative to the pay observed in similar firms, the board will typically resist "innovative incentive contracts," which could reduce the effectiveness of executives and boards.[11]

CEOs themselves also face disclosure costs. Managers bear non-pecuniary costs when high levels of perk consumption are reported, and this tends to reduce their utility from perks. This, in turn, leads to a substitution between perks and other compensation components. When Murphy (1996) studies the 1992 disclosure regulation that allowed discretion in the reporting of the value of stock options granted to managers, he finds that managers respond to the regulation by choosing valuation methods that reduce reported compensation. He argues that reporting higher levels of compensation decreases managerial utility: as long as the actual level of compensation is held constant, managers prefer lower perceived compensation to higher perceived compensation.

These forces notwithstanding, there could be contrasting effects that reduce the cost of disclosure. First, the improved visibility of perk awards increases investors' knowledge of the entire distribution of perks, including awards by new disclosers. Because the ability to compare companies enhances the value of these disclosures, the disclosures can be viewed as a collective good (see Gonedes and Dopuch 1974 for a discussion). If more complete information about perks leads investors to conclude that perk use is optimal, this could have a mitigating effect on firms disclosing perks. Prior to the 2006 regulation, compensation consultants may have provided the firms at least some information on the distribution of perks (see Bender 2012 for a review of the role compensation consultants play in setting executive compensation). The regulation makes this information available and transparent to all investors and third parties, which makes perks more defensible. We expect this effect to reduce the implicit contracting costs described above.

Perry and Zenner (2001) and Harris and Livingstone (2002) observe a similar effect when they study the 1992 tax legislation that caps the corporate income tax deduction of non-performance-related compensation at $1 million (IRS tax code 162(m)). The authors note that the law had the perverse effect of raising the compensation of CEOs who earned less than $1 million; in effect, the cap set a target. Harris and Livingstone (2002) demonstrate that their results are consistent with a reduction in the implicit contracting costs: to the

---

10. Murphy (2012) argues that "these important but often ignored costs of disclosure must be weighed against the benefits (better monitoring of directors) in determining the optimal amount of pay disclosure for top managers."

11. In the framework of Jensen and Murphy (1990), such contracts would feature greater pay-performance sensitivity but also more variance in compensation and consequently a longer upper tail in the payoff distribution.

extent that the $1 million threshold set by the regulation influenced third parties' beliefs about what constitutes reasonable compensation, the implicit disclosure cost of CEO compensation fell for firms paying less than $1 million because the rule set a standard for reasonable compensation at a level higher than such firms otherwise would have paid.

Second, the increased visibility of perks heightens benchmarking in perk award practices. As firms strive to offer perks that are competitive with the market, perk awards converge to a higher level. We expect information from compensation consultants to reduce, but not eliminate, this effect. Warren Buffett recently alluded to a similar dynamic during an interview in 2011: "There is this ratcheting up and ironically the proxy rules have made it worse because the proxy rules have been a guideline to every CEO as to what the other guy is getting. Envy is a huge factor. Envy is bigger than greed."[12]

In addition to impacting disclosure costs, the new perk disclosure rules increase the ability of shareholders and boards to monitor managers. Before the rules, perks were often unreported or the reporting was significantly obfuscated, which made the perks a form of hidden compensation. The SEC has stated that one of the goals of the new rules is to make it more difficult for firms to hide perks (e.g., SEC Release 33-8655). Under the new rules, greater transparency should allow for increased investor scrutiny, which would in turn enable better monitoring.

Better monitoring is associated with reductions in information asymmetry and agency problems (e.g., Ripley 1926; Berle and Means 1932; Lo 2003; Cai and Walkling 2011). Lo (2003) argues that enhanced monitoring can ameliorate three types of frictions within the firm: agency costs because of indirect contracting between shareholders and managers; asymmetric information between shareholders and managers regarding executive compensation and other issues that may impede shareholders from monitoring managers and the board; and possible collusion between the board and managers. When Lo (2003) analyzes the revision of executive compensation disclosures rules in 1992, he finds evidence consistent with governance improvement and a reduction in the frictions between shareholders and managers following the regulation.

However, Hermalin and Weisbach (2012) show that the benefits of improved monitoring do not accrue exclusively to shareholders. A CEO who has bargaining power will be able to capture some of the benefit through higher compensation. Executive compensation would also increase as a compensating differential, because improved monitoring tends to have adverse effects on managers. Increased monitoring may also give CEOs incentives to engage in activities that reduce firm value but are intended to make the CEOs appear more capable.

If these costs outweigh the benefits of improved monitoring, then increasing disclosure beyond a certain level would reduce firm value. Consistent with this logic, Cohen, Dey, and Lys (2013) find that the post-SOX period is associated with significant reductions in pay-performance sensitivity and incentives for risk-taking in CEOs' compensation contracts. Cai and Walkling (2011) find that the say-on-pay bill was value-enhancing for firms with inefficient compensation but find evidence consistent with value destruction in other firms. However, Ferri and Maber (2013) examine the effect of say-on-pay regulation in the United Kingdom and document a positive announcement return for firms that have weak penalties for poor performance; this is consistent with the view that shareholders regard say-on-pay as a value-creating mechanism. Furthermore, following a negative say-on-pay

---

12. "Warren Buffett — Absurd CEO Salaries." YouTube, May 22, 2011. In a May 4, 2014, Bloomberg interview, Buffett stated that executives would see their pay decline if compensation data were kept private: "No CEO looks at a proxy statement and comes away saying 'I should be paid less'," Buffett said, adding that "American shareholders are paying a significant price because they get to look at that proxy statement each year."

vote, firms remove CEO pay practices that have been criticized as "rewards for failure" and increase the sensitivity of pay to performance.

Having identified the main economic effects through which the regulation operates, we now examine how we expect it to impact first-time and existing disclosers.

Firms that disclose for the first time Firms that disclose perks for the first time did not bear any of the previously described perk disclosure costs prior to the new regulation. It is reasonable to expect that such firms would alter the amount of perks awarded in an attempt to reduce these costs. Murphy (1995, 730) argues that "compensation committees…will respond to the political pressures by implicitly or explicitly imposing a ceiling on pay."

In addition, we expect that improved monitoring will lead to a decrease in perks for these firms, if their level of perks was suboptimal prior to the regulation.[13] Perk awards could also be reduced if the prior level was optimal but the regulation caused managers and compensation committees to concern themselves with the appearance of the compensation contract rather than its efficiency as an incentive.

At the same time, some of the improvement in firm value as a result of increased monitoring could be captured by managers (depending on their bargaining power), thereby increasing perk awards. This could lead to an increase in other compensation components.[14]

This leads to our first hypothesis (stated in null form):

> Hypothesis 1. *First-time disclosers do not change perk awards as a response to the new rules.*

Firms that were disclosing prior to the regulation For existing disclosers, the new regulation is not associated with an additional cost, as these firms were already disclosing perks prior to the regulation. Therefore, in contrast to first-time disclosers, existing disclosers do not reduce their perk awards under the disclosure cost argument.

An opposite effect may occur instead: The regulation may decrease disclosure costs for existing disclosers, if investors and third parties process the entire distribution of perks and come to view some of the perks as norms. The rule change makes perk information available and transparent to all investors, which makes perks more defensible. For these reasons, perks awarded in existing disclosers should increase.[15]

Under the increased monitoring argument, we would not expect a change in the amount of perks awarded to existing disclosers, as the information about their perks was already available prior to the regulation.

This leads to our second hypothesis (stated in null form):

> Hypothesis 2. *Existing disclosers also do not change perk awards as a response to the rule change.*

3. Sample and summary statistics

Sample

Our data come from a panel of 361 firms for which we hand-collect detailed perquisite information disclosed in proxy statements filed for fiscal years 2004–2007. The proxy

---

13.   In principle, the effect could potentially be an increase in perks, but this would require perks to have been too low prior to the rule.

14.   The exact outcome would depend on the utility of managers from perks compared with other components.

15.   This could be tempered somewhat by the fact that perk disclosure is generally enhanced and more transparent after 2006 for all firms. This makes it more difficult for existing disclosers to obfuscate perks and thus suggests that there may also be compliance costs for some existing disclosers.

statements for 2006–2007 were all filed after January 1, 2007, and are therefore subject to the new disclosure rules, while the proxy statements for 2004–2005 are subject to the prior disclosure regulation. We require that sample firms belong to the S&P 1500 Index, so that they are covered by the Standard & Poor's ExecuComp database. The S&P 1500 Index is composed of firms that belong to the S&P 500 Index, the S&P MidCap 400 Index, and the S&P SmallCap 600 Index; we sample each index separately to ensure that we obtain a sufficient number of observations from each group. This approach should in turn provide a more complete view of perks across both small and large corporations, as little is known from existing studies about perks in small firms. Our sample has 130 large (S&P 500 Index) firms, 131 medium-sized (S&P MidCap 400 Index) firms, and 100 small (S&P SmallCap 600) firms.

We hand-collect information on perks, pension and insurance for CEOs and the top five executive officers from proxy statements (compensation table and footnotes) available through the SEC EDGAR database.[16] We classify a firm as a new discloser if it did not disclose perks in the years 2004–2005. We follow Andrews et al. (2009) and group perks into several main categories.

Since the information disclosed in proxy statements in any given year pertains to compensation arrangements in place during the previous fiscal year, compensation data from the proxy statements filed in 2007 are for fiscal year 2006, and proxy statements filed in 2008 describe compensation arrangements in place in 2007. To minimize the potential for survivorship bias, we do not require that the firms continue to exist in 2008. Out of the 361 firms that filed proxy statements in 2007, 340 firms have data in 2008.[17]

We augment the hand-collected compensation data with additional compensation data from the Standard & Poor's ExecuComp database. We further merge the compensation data with accounting data from Standard & Poor's COMPUSTAT and stock market data from the Center for Research in Security Prices (CRSP). In some of our analyses, we also use board structure data retrieved from the Corporate Library database.

Descriptive statistics

Table 1 reports descriptive information on first-time disclosers and existing disclosers for the year before the regulation went into effect (fiscal year 2005). In our sample, there are 102 first-time disclosers and 259 existing disclosers. The main difference between the groups is size: the first-time disclosers have smaller total assets, market value, and sales. In addition, we compare CEOs' attributes across the two groups and find the differences to be insignificant.

Table 2 reports descriptive information for 2006–2007 on the amount of perks disclosed, the level of company contributions to defined-contribution plans, and the value of life insurance premiums paid by the corporation. While pension contributions and insurance premiums are also disclosed for the first time following the regulation, we exclude them from our definition of perks. Panel A contains information about the entire sample, and panel B compares first-time and existing disclosers. The average CEO in our sample is awarded perks valued at $102,700, while the maximum perk value exceeds $5 million, suggesting a skewed distribution of perks across firms. In comparison, the average pension contributions are $59,300, and the average life insurance premium is $12,700. The coefficient of variation (the ratio of standard deviation to the mean) is 2.56 for perks, 2.08 for pension, and 2.76 for insurance, suggesting that insurance has the highest dispersion in the amount disclosed.

---

16.   Although we collect data on pension and insurance contributions, we do not classify them as perks.

17.   The rest of the firms were merged with other companies or went bankrupt.

TABLE 1
Summary statistics for first-time and existing disclosers

	Existing disclosers n = 259		First-time disclosers n = 102		
	Mean	Median	Mean	Median	t-stat
Market value	13,719	3,827	5,183	2,315	3.30
Total assets	26,351	3,696	7,959	2,441	2.14
Sales	7,615	2,676	4,026	1,458	2.62
Earnings	784.131	183.127	263.035	143.585	3.20
ROA	0.0660	0.0555	0.0579	0.0527	0.88
Free cash flow	0.0434	0.0448	0.0415	0.0431	0.43
Sales growth	0.1369	0.1074	0.1117	0.1009	1.22
CEO age	56.0	57.0	56.8	57.0	−0.99
CEO tenure	6.7	5.0	8.0	6.0	−1.46

Notes: This table reports descriptive statistics for firms that disclose perks the first time and for existing disclosers. The sample includes 361 firms. *Market value*, *Total assets*, *Sales*, and *Earnings* are reported in $ millions. *Market value* and *Total assets* are measured as of the end of the fiscal year prior to rule change (fiscal year 2005). *Sales*, *Earnings*, *ROA*, *Free cash flow*, and *Sales growth* are all measured for the fiscal year prior to the rule change (fiscal year 2005). *Sales* is total revenue for the year. *Total assets* is the total value of assets reported on the balance sheet. *Market value* is the full market capitalization of the firm (monthly close price multiplied by common shares outstanding). *Earnings* is income before extraordinary items. *ROA* is income before extraordinary items scaled by total assets at the beginning of the fiscal year. *Free cash flow* is operating income before depreciation minus the sum of interest, taxes paid, and capital expenditures deflated by total assets at the beginning of the year. *Sales growth* is the percentage change in sales between the current year and the previous year. *CEO age* is the age of the CEO. *CEO tenure* is the number of years since the appointment of the CEO. The *t*-statistics in the last column are for the difference in means.

The average value of perks to the top five executives is about $266,800, indicating that executives other than the CEO also receive substantial perks. The maximum perk total for a firm's top five executives is $5.07 million.

We also provide, in panel A, detailed information on the categories of perks disclosed.[18] The largest categories of CEO perks are air and long-distance travel (with a mean of $34,700) and legal, financial, and tax services (with a mean of $23,500).[19] The coefficient of variation is largest for financial perks and administrative privileges, suggesting that these perk categories exhibit the largest dispersion in the amount disclosed. The largest perk categories for the top five executives are the same (legal, financial, and tax services, with a mean of $72,400, and air and long-distance travel, with a mean of $49,800). The top two categories with the highest dispersion in the amount disclosed are also the same.

Panel B in Table 2 describes the disclosed perks separately for first-time and existing disclosers and for the first and the second year following the new rules. We consider the

18.   We obtain the categories by aggregating across the various perk types. For example, the air and long-distance travel category includes several types of perks: personal use of a company-owned or leased airplane, commercial air travel, hotels and lodging, as well as travel expenses associated with a spouse or family member accompanying the executive. In untabulated tests, we find evidence that the average number of perk types employed by firms has gone down between fiscal years 2006 and 2007. However, we do not find any evidence that this reduction differs across first-time and existing disclosers.
19.   These data are somewhat subject to censoring, as individual perquisites need not be quantified unless their value exceeds $25,000 or 10 percent of the aggregate value of all perks.

TABLE 2

Perquisites and other "all other compensation" components

Panel A: Descriptive statistics for perks, pension, and insurance for CEOs and top five executives

	CEOs only				Top five			
	Mean	Std	CV	Max	Mean	Std	CV	Max
Perks versus other items								
Perks	102.7	263.1	2.56	5,007.7	266.8	467.2	1.75	5,074.8
Pension	59.3	123.2	2.08	1,184.1	172.8	322.9	1.87	3,674.0
Insurance	12.7	35.0	2.76	338.9	31.0	85.6	2.76	1,117.3
Main perk categories								
Air and long-distance travel expenses	34.7	94.7	2.73	776.7	49.8	121.5	2.44	784.2
Company car and local transportation	7.5	19.3	2.57	228.4	26.1	56.0	2.15	704.4
Entertainment and other extra-curricular activities	3.5	14.9	4.26	243.3	16.3	70.7	4.34	1,142.7
Personal and family-related perquisites	15.6	91.3	5.85	1,200.0	49.3	155.5	3.15	1,708.0
Legal, financial, and tax services	23.5	194.8	8.29	544.7	72.4	308.8	4.27	4,523.7
Medical and health benefits	0.7	3.2	4.57	38.7	2.8	11.3	4.04	110.2
Financial perquisites	0.2	2.7	13.50	50.0	0.2	2.7	13.50	50.0
Administrative privileges	0.3	6.9	23.00	181.8	0.9	10.7	11.89	246.3
Other	16.6	83.1	5.01	686.4	48.9	148.7	3.04	1,540.3

Panel B: Perks for 1 and 2 years following the regulation for CEOs and the top five executives

	CEOs only				Top five			
	Existing disclosers		First-time disclosers		Existing disclosers		First-time disclosers	
Type	2006	2007	2006	2007	2006	2007	2006	2007
Perks versus other items								
Perks	109.72	145.35	46.83	37.21	242.28	303.04	145.72	146.63
Pension	58.12	50.97	63.70	78.48	152.45	138.82	162.39	181.05
Insurance	15.70	13.09	8.13	8.61	33.10	22.72	17.87	20.33
Main perk categories								
Air and long-distance travel expenses	43.55	44.36	11.77	11.40	55.20	55.36	16.27	15.97
Company car and local transportation	7.54	8.00	7.62	6.37	20.63	23.63	24.47	23.19
Entertainment and other extra-curricular activities	2.83	3.68	4.00	4.51	12.23	11.23	10.24	9.28

TABLE 2 (continued)

Panel B: Perks for 1 and 2 years following the regulation for CEOs and the top five executives

| | CEOs only | | | | Top five | | | |
| | Existing disclosers | | First-time disclosers | | Existing disclosers | | First-time disclosers | |
Type	2006	2007	2006	2007	2006	2007	2006	2007
Personal and family-related perquisites	18.29	22.88	4.49	2.34	35.57	52.98	26.63	25.27
Legal, financial, and tax services	21.97	38.84	7.44	6.68	46.61	62.09	31.09	41.79
Medical and health benefits	0.61	0.82	0.92	0.49	2.13	1.93	2.19	2.27
Financial perquisites	0.22	0.21	0.00	0.00	0.01	0.00	0.00	0.00
Administrative privileges	0.73	0.06	0.03	0.03	0.07	0.53	0.00	0.20
Other	13.98	26.50	10.57	5.39	39.01	49.00	32.82	23.17

Notes: This table reports descriptive statistics for perks, pension, and insurance contributions. The data are hand-collected from proxy statements filed in the year the regulation went into effect (fiscal year 2006) and the following year (fiscal year 2007) for a sample of 701 firm-year observations. Panel A shows the aggregate amounts of perks, pension, insurance, and the main perk categories for all firms for both 2006 and 2007. For each item, panel A reports means and standard deviations (Std), coefficient of variation (CV), and the maximum. Pension and insurance are not included as part of perks. Panel B shows the means in each of the years 2006 and 2007 for first-time and existing disclosers. All amounts are in $ thousands. The data are presented for both CEOs only and the top five executives.

year of the regulation to be a benchmark year in our analysis because firms did not have enough time to adjust perk consumption before the passage of the new rules. Overall, the level of perks disclosed by the first-timers is lower. This is to be expected, since perk levels in these firms in past years fell below the cutoff for disclosure. The average amount of perks awarded in 2006 (the year of the regulation) is $109,720 for existing disclosers and $46,830 for first-time disclosers. Importantly, we find that the overall amount of perks increases in 2007 (the year following the regulation) for existing disclosers and decreases for first-time disclosers. We do not find a similar trend in pension and insurance. First-time disclosers reduce perk awards across most categories, and existing disclosers increase perk awards in most categories.

This pattern brings preliminary evidence to bear on Hypotheses 1 and 2: First-time disclosers reduce perk awards in response to the new rules, while existing disclosers increase them. In section 4, we investigate whether this finding is robust to the inclusion of controls for other variables that change between 2006 and 2007 and that may be associated with perks.

Market response to the new disclosures

Prior research (Yermack 2006) finds negative announcement returns for firms that disclose perks for the first time. We investigate whether this finding holds in our sample. Table 3, panel A contains evidence based on three different windows surrounding the filing date of

the proxy statement.[20] Because proxy filing dates are likely to overlap across some of the firms, we cluster the standard errors by the proxy filing date. We find an overall negative market reaction to the disclosure of executive compensation arrangements in proxy statements filed in 2007.

For first-time disclosers, the abnormal return in the $(-4,+1)$ window surrounding the proxy statement filing date is -1.36 percent (t-statistic -2.54). Our return for first-time disclosers is slightly lower than the one reported in Yermack (2006) for firms that disclose aircraft use and that did not disclose any perks before: -1.65 percent for the same $(-4,+1)$ window. For existing disclosers, the cumulative abnormal return is not different from zero. Thus, the negative overall abnormal return is driven by those firms that disclose perk awards for the first time.[21] The finding of a negative return for first-time disclosers confirms our conjecture that the disclosure carries an implicit cost.

In panel B of Table 3 we regress the $(-4,+1)$ cumulative abnormal return on the change in perks and a dummy variable that equals one for first-time disclosers. We also repeat the regression, controlling for the change in total compensation from the previous year (including perks), as in Yermack (2006). We measure CEO total compensation using the ExecuComp variable TDC1. Because the new disclosure rules also modified the way in which option grants are disclosed, we control for the change in the disclosure of options by including, in the regression, the difference between the fair value and the Black-Scholes option value (using the ExecuComp methodology).[22] We include a battery of controls from the Corporate Library database for additional information disclosed in the proxy statement, including ones for proposals to modify antitakeover provisions and other governance changes. Finally, we cluster the standard errors by the filing date, as in panel A.

The results are presented in panel B. The first regression includes the first-time dummy and the change in perks. The coefficients on the first-time dummy and the change in perks for first-time disclosers are negative and significant. In the second regression, we control for the change in total compensation (including perks) and also include the controls from the Corporate Library data set. The coefficient on the first-time dummy remains negative and significant. Similar to Yermack (2006), we find that the overall change in compensation is valued negatively for firms that disclose perks for the first time, which suggests that the market reaction to new perk disclosure is mitigated if the CEO compensation is decreased. The third regression decomposes the change in total compensation into the change in compensation other than perks and the change in the amount of perks awarded. The coefficient on the first-time dummy and the coefficient on the change in perks are both negative and significant. However, the coefficient on the interaction between the change in perks and first-time dummy is insignificant, consistent with a level effect rather than a slope effect of first-time disclosers.

---

20. Firms often file preliminary proxy statements (form PRE 14A) ahead of the final proxy statements (form 14A). These preliminary statements sometimes contain executive compensation disclosures. We manually check each form PRE 14A to determine whether it contains executive compensation data. Thus, our dates are the dates on which the executive compensation arrangements are first disclosed in official SEC filings. Because firms often print and mail out hard copies of proxy statements during the week before they post the documents with the SEC (e.g., Yermack 2006), we allow a large enough window around the announcement date and, as a robustness check, also report abnormal returns using other windows. We only consider proxies for fiscal year 2006 (which are filed in 2007) because a prior perk award implies a higher likelihood of continued awards.

21. There are 42 firms that announce earnings in the $(-5,+5)$ window around the proxy statement filing date. Omitting these firms from the analysis does not alter the results.

22. Until 2005, ExecuComp's TDC1 variable estimates the value of options based on the Black-Scholes model. Starting in 2006, ExecuComp reports the value provided by the firm. We calculate the 2006 executive stock option value using the ExecuComp methodology.

TABLE 3
Abnormal stock returns around proxy statement filing dates

Panel A: CAR for first-time and existing disclosers

	N	(−4,+1)	(−5,+5)	(−5,+10)
All firms	361	−0.388	−0.595*	−0.693*
		(−1.36)	(−1.91)	(−1.72)
First-time disclosers	102	−1.361***	−1.841***	−1.983***
		(−2.54)	(−3.14)	(−3.06)
Existing disclosers	259	−0.005	−0.104	−0.185
		(0.11)	(0.20)	(−0.04)

Panel B: CAR and other information included in the proxy filings

	Cumulative abnormal return		
	(1)	(2)	(3)
First-Time	−0.012***	−0.015***	−0.008***
	(−2.38)	(−2.82)	(−2.87)
ΔPerks	−0.012		−0.027***
	(−0.46)		(−3.40)
First-Time×ΔPerks	−0.082**		0.006
	(−1.96)		(0.51)
ΔTotal compensation (inclusive)		0.002	
		(1.53)	
First-Time×ΔTotal compensation (inclusive)		−0.005*	
		(−1.77)	
ΔTotal compensation (exclusive)			0.002**
			(2.04)
First-Time×ΔTotal compensation (exclusive)			−0.002
			(−0.72)
Options		−0.002	−0.000
		(−0.27)	(−0.05)
First-Time×Options		−0.005	−0.015
		(−0.23)	(−1.54)
ΔSuper		−0.010	−0.009*
		(−0.23)	(−1.91)
ΔWritten		0.002	0.000
		(0.05)	(0.07)
ΔVacancies		0.001	−0.000
		(0.04)	(−0.04)
Director Problem		−0.002	0.002
		(−0.32)	(0.51)
Fixed effects	Industry	Industry	Industry
R^2	0.052	0.056	0.087

Notes: Panel A presents average cumulative abnormal returns, in percent, for a sample of 361 S&P 1500 firms that file their proxy statements with the SEC in the year the regulation went into effect (fiscal year 2006). The event date, day 0, is the electronic filing date in 2007 for the 2006 proxy statement. Cumulative abnormal returns in column (−i,+j) are calculated over the interval beginning i days prior to the event day and continuing until j days after. Panel A reports results for the entire sample and separately for firms that disclose perks for the first time and other firms. Panel B reports results of cross-sectional regressions of abnormal returns around

proxy statement filing dates on the change in compensation amounts and dummy variables that capture other information contained in the proxy statements. The dependent variable is the cumulative abnormal return in the window (−4,+1). The change in compensation is the difference between the amounts reported in fiscal 2006 and fiscal 2005. *First-Time* equals one if the firm disclosed perks for the first time in 2006 following the new regulation. Δ*Perks* is the change in reported perks. Δ*Total compensation (inclusive)* is the change in TDC1, including the change in the amount of perks. Δ*Total compensation (exclusive)* is the change in TDC1, excluding the amount of perks. *Options* is the difference in the value of options using the fair value disclosed in the compensation table (FAS 123R) and the Black-Scholes value, using ExecuComp methodology. Δ*Super* equals one if during the fiscal year the board proposed to increase the supermajority requirement for takeovers. Δ*Written* equals one if the board proposed to take away the shareholders' right to call for a meeting through written consent. Δ*Vacancies* equals one if the board decided to take from shareholders the power to fill vacancies on the board that arise between regular annual meetings. *Director Problem* equals one if in the 2006 proxy at least one of the directors on the board (i.e., to be elected) was "problematic," defined by the Corporate Library as an individual who has been involved in a corporate bankruptcy, major litigation or regulatory infractions, major accounting restatements or other corporate scandals, or who has served on compensation committees that have approved particularly egregious CEO-compensation packages. All variables, except for indicator variables, are deflated by market value of equity. All governance variables are taken from the Corporate Library database. *t*-statistics are reported in parentheses beneath the estimated coefficients. Standard errors are clustered by the proxy filing date in both panels. Here, ***, **, and * represent statistical significance at the 1 percent, 5 percent, and 10 percent levels.

Collectively, our findings suggest that the abnormal returns are as a result of the first-time disclosure of perks.

4. Tests and results

Impact of the new disclosure regulation on perk award practices

The results in Table 2 bring preliminary evidence to bear on Hypotheses 1 and 2 in that they suggest that the level of perks increases in the year following the regulation for existing disclosers and decreases for first-time disclosers. In this section we examine the statistical and economic significance of this effect and investigate whether it is robust to the inclusion of controls for other variables that change over time and that may be associated with perks. We regress the amount of perks awarded on year dummies and CEO fixed effects (to capture CEO characteristics), controlling for size and performance:

$$
\begin{aligned}
\ln(1 + Perks_{it}) = {} & \alpha_i + \beta_1 YR_{2005} + \beta_2 YR_{2006} + \beta_3 YR_{2007} + \beta_4 YR_{2006} \times First\text{-}Time \\
& + \beta_5 YR_{2007} \times First\text{-}Time + \beta_6 Sales_{it} + \beta_7 ROE_{it} + \beta_8 RET_{it} + \beta_9 MV_{it} \\
& + \beta_{10} Sales_{it} \times First\text{-}Time + \beta_{11} ROE_{it} \times First\text{-}Time \\
& + \beta_{12} RET_{it} \times First\text{-}Time + \beta_{13} MV_{it} \times First\text{-}Time + \varepsilon_{it},
\end{aligned} \tag{1}
$$

where *First-Time* is a dummy variable that equals one if the firm disclosed perks for the first time in 2006 following the new regulation, YR_t is a dummy variable that equals one in year t and $Sales_{it}$ is the natural log of the sales of firm i in year t, ROE_{it} is the return on equity of firm i in year t, RET_{it} is the stock return of firm i in year t, and MV_{it} is the natural log of the market capitalization of firm i in year t.[23] Our time period covers

---

23.   The results are insensitive to also controlling for growth and free cash flow and to excluding YR_{2004}.

2004–2007. We double cluster the standard errors by CEO and year following Petersen (2009).[24]

In the first column of Table 4, we begin by estimating the regression without the *First-Time* dummy to confirm that the rules had a bite. If the amount disclosed has indeed increased, then the coefficients β_2 and β_3 should be significantly larger than the coefficient β_1. In addition, since the dependent variable is in logs, the coefficients β_2 and β_3 represent the (log) gross percentage increase in disclosed perks in 2006 and 2007 compared to 2004. The results in the first column imply that, controlling for size and performance, CEO perks are 53 percent higher in 2005, 268 percent higher in 2006, and 294 percent higher in 2007, than they were in 2004. The rules have an economically and statistically significant impact on perk disclosure, which cannot be explained by changes in the firms' size and performance.

In the second column of Table 4, we estimate the regression with the *First-Time* dummy to separate first-time and existing disclosers. Of course, we expect first-time disclosers to show an increase in perks in 2006, compared to 2005 (when they did not report). We do not expect a change in perks among existing disclosers, because these firms did not have enough time to adjust perks in response to the rules. Consistent with these expectations, we find that the increase in perks in 2006 is as a result of first-time disclosers. Existing disclosers do not increase perks in 2006, compared to 2005: the difference in the coefficients on YR_{2005} and YR_{2006} is economically small and statistically insignificant.

The disclosure in the second year of the regulation allows us to assess the regulation's impact on perk awards and thus to test Hypotheses 1 and 2. For existing disclosers, the coefficient on the 2006 dummy is 0.460, and the coefficient on the 2007 dummy is 0.656. An *F*-test rejects the null hypothesis that the coefficients are equal ($F(1,1007) = 4.47$, *p*-value 0.03), implying that the increase in perks is significant statistically. To gauge the economic significance of the effect, recall that the coefficients represent the log gross percentage increase in disclosed perks. Thus, the interpretation is that, controlling for CEO fixed effects and other variables that change over time and that may affect perks, CEO perks overall are 22 percent higher in 2007 than in 2006. For first-time disclosers, perks are 28 percent lower in 2007 than in 2006; again, the difference is large and statistically significant. Specifically, an *F*-test for the equality of the sum of the coefficients $\beta_2 + \beta_4$ compared with $\beta_3 + \beta_5$ (i.e., the sum of the coefficients on YR_{2006} and $YR_{2006} \times First\text{-}Time$ compared with the sum of the coefficients on YR_{2007} and $YR_{2007} \times First\text{-}Time$) is highly statistically significant ($F(1,1007) = 9.37$, *p*-value 0.00).

The remaining two columns in Table 4 show similar results for the top five executives. Collectively, the results imply that the level of perks increases in the year following the regulation for existing disclosers and decreases for first-time disclosers. This effect is economically large, statistically significant, and robust to the inclusion of controls for variables that change over time and that may affect perks.

Even under the new disclosure regulation, firms have discretion in the amount of information they provide. An underlying assumption in Table 4 is that, for existing disclosers, the entire increase in perks awarded in 2007 is as a result of an actual increase in perks and not to increased disclosure that goes beyond the requirement of the regulation. We believe this is a reasonable assumption, because otherwise firms would have provided more information about perks in the first place. In untabulated results, we corroborate this conjecture with an additional test: we construct a disclosure index that captures the increase in the transparency of perk disclosure between 2006 and 2007 as in, for example,

---

24.   We are grateful to Mitchell Petersen for providing the code to estimate the standard errors.

TABLE 4
Perquisites disclosure over time

	CEOs only		Top five	
	(1)	(2)	(3)	(4)
YR_{2005}	0.424***	0.387***	0.365***	0.362***
	(5.90)	(4.90)	(9.39)	(5.96)
YR_{2006}	1.304***	0.460***	1.528***	0.692***
	(9.92)	(3.88)	(12.35)	(6.22)
YR_{2007}	1.371***	0.656***	1.845***	1.151***
	(8.32)	(3.97)	(11.69)	(8.38)
$YR_{2006} \times First\text{-}Time$		3.003***		3.188***
		(12.79)		(16.34)
$YR_{2007} \times First\text{-}Time$		2.481***		2.696***
		(7.59)		(11.68)
Sales	−0.122	0.106	−0.273	−0.031
	(0.34)	(0.33)	(0.64)	(0.08)
ROE	−0.215	−0.280*	−0.444	−0.723**
	(0.69)	(1.70)	(1.50)	(2.35)
RET	−0.358*	−0.322**	−0.308**	−0.213
	(1.80)	(1.71)	(2.07)	(1.38)
MV	0.186	0.210	0.141	0.191
	(0.64)	(1.01)	(0.49)	(0.61)
Sales × First-Time		−0.680		−0.872
		(1.48)		(1.60)
ROE × First-Time		−0.970**		1.190
		(2.43)		(0.85)
RET × First-Time		0.082		0.001
		(0.27)		(0.00)
MV × First-Time		0.067		−0.447
		(0.27)		(1.36)
Fixed effects	CEO	CEO	Firm	Firm
R^2	0.782	0.846	0.665	0.729
F-tests				
$YR_{2006} = YR_{2007}$	1.24	4.47	28.64	22.55
	(0.27)	(0.03)	(0.00)	(0.00)
$YR_{2006} + YR_{2006} \times$ First-Time $= YR_{2007}$ $+ YR_{2007} \times First\text{-}Time$		9.37 (0.00)		6.73 (0.00)

Notes: The table presents results of fixed-effects panel regressions of perks for a sample of 1,372 observations from fiscal year 2004 to fiscal year 2007. The dependent variable is the natural logarithm of one plus the amount of perks. YR_{2005}, YR_{2006}, and YR_{2007} are year dummies. *First-Time* equals one if the firm disclosed perks for the first time in 2006 following the new regulation. *Sales* is the natural logarithm of total revenue. *ROE* is the natural logarithm of one plus the return on equity. *ROE* is defined as income before extraordinary items deflated by the beginning of the year equity. *RET* is the natural logarithm of one plus the stock market return, measured from the beginning of the fourth month of the fiscal year to the end of the third month after its ending date. *MV* is the natural logarithm of the market value of the firm at the end of the year. *t*-statistics are reported in parentheses beneath the estimated coefficients. *p*-values are reported in parentheses beneath the *F*-statistics. Here, ***, **, and * represent statistical significance at the 1 percent, 5 percent, and 10 percent levels.

Botosan (1997). If firms increase the level of perks in 2007 because of discretionary disclosure, then we should see a correlation between the change in perks and the change in the disclosure index. The disclosure index is an ordinal variable (0, 1, 2) that measures the level of detail in the disclosure of perks in the 2006 and 2007 proxy statements.[25] We do not find evidence supporting an increase as a result of discretionary disclosure. This suggests that the increase in perks is consistent with an increase in perk consumption rather than perk disclosure.[26]

Further interpretation and discussion

Benchmarking effects

The previous section establishes that the level of perks decreases in the year following the regulation for first-time disclosers, and that it increases for existing disclosers. We further examine these patterns in this section. Specifically, we expect the decrease in perks in 2007 to be more pronounced for firms whose initially disclosed perks were large relative to their peers', as larger perks have greater visibility. This effect is consistent with increased disclosure costs and enhanced monitoring. Similarly, we expect the increase to occur primarily in firms whose originally disclosed perks were low relative to those of peer firms. This effect is consistent with shareholders and third parties learning about the entire distribution of perks and/or heightened competition among firms to offer perks that are market competitive.[27]

To examine whether the post-regulation changes in perks among first-time and existing disclosers are consistent with benchmarking, we follow the methodology of Bizjak et al. (2008). Specifically, we create a measure of a firm's relative level of perks compared to its peers. We calculate the median log perk by industry and size (two groups). We then calculate the distance between the firm's perks in 2006 and the median perk for its industry and size group. This distance captures relative perks that year: it indicates the magnitude of a CEO's perks relative to those in peer firms, with a positive distance indicating perks that are above the median. We then regress the change in log perks between 2006 and 2007 on this distance, controlling for changes in size and performance, to assess the extent of benchmarking effects in post-regulation perks, first for all firms jointly, and then separating first-time and existing disclosers to test the differential effect hypothesized in Hypothesis 2.

Table 5 contains the evidence. Panel A establishes significant benchmarking effects: the post-regulation change in perks is negatively correlated with the level of relative perks (distance) in the benchmark year 2006. This suggests that firms with low perks relative to their peers' subsequently increase perks, and that firms with high perks relative to their peers' subsequently reduce them. In the second column, we separately consider positive and negative relative perks. The coefficient on both variables is negative, but only the coefficient on negative relative perks is significant. This suggests that, overall,

---

25. This ordinal variable equals 0 if the company does not provide a breakdown of "all other compensation" (which consists mainly of perks) in tabular form, 1 if the company provides a partial breakdown in tabular form and the rest in paragraph form, and 2 if the firm provides nearly the entire breakdown in a table. We base our measure on the tabular structure of disclosure, which was an important component of the 1992 rule and is considered a transparent way of summarizing compensation information.

26. Furthermore, as we show below, the increase in perks for existing disclosers in the second year is concentrated in firms with weaker governance. This further suggests that disclosure is unlikely to be the underlying cause for the increase in perks for existing disclosers, because disclosure (specifically voluntary disclosure) is likely to increase as agency conflicts are reduced (e.g., Brown and Hillegeist 2007; Efendi, Srivastava, and Swanson 2007; Hope and Thomas 2008; Lambert, Leuz, and Verrecchia 2007).

27. Prior research finds benchmarking consistent with competitive compensation (Holmstrom and Kaplan 2003; Bizjak et al. 2008); others argue it is a way for CEOs to increase their compensation by benchmarking themselves to highly paid CEOs (e.g., Faulkender and Yang 2009).

TABLE 5

Competitive benchmarking for first-time and existing disclosers

Panel A: Benchmarking across all firms

	All	Above and below the mean
Distance	−0.183***	
	(−5.23)	
POS_D		−0.084
		(−1.15)
NEG_D		−0.259***
		(−4.96)
Sales	0.019	0.022
	(0.47)	(0.53)
ROE	0.022	−0.139
	(0.07)	(−0.56)
Δ*Sales*	−0.292	−0.295
	(−0.78)	(−0.79)
Δ*MV*	−0.007	0.022
	(−0.05)	(0.15)
CDF Relative Performance	0.001	−0.001
	(0.06)	(−0.12)
Number of Perk Types	−0.004	0.003
	(−0.11)	(0.07)
Fixed effects	Industry	Industry
R^2	0.164	0.190

Panel B: Benchmarking for first-time and existing disclosers

	All	Above and below the mean
First-Time	−0.370***	−0.150
	(−3.29)	(−0.81)
Distance×*First-Time*	−0.216***	
	(−2.78)	
Distance×*Existing*	−0.177***	
	(−4.52)	
POS_D×*First-Time*		−0.304*
		(−1.92)
NEG_D×*First-Time*		−0.172
		(−1.29)
POS_D×*Existing*		−0.052
		(−0.55)
NEG_D×*Existing*		−0.248***
		(−4.16)
Sales	−0.020	−0.031
	(−0.46)	(−0.74)
ROE	0.051	0.040
	(0.20)	(0.16)
Δ*Sales*	−0.268	−0.550
	(−0.71)	(−1.48)
Δ*MV*	0.041	0.013
	(0.27)	(0.09)

(The table is continued on the next page.)

TABLE 5 (continued)

Panel B: Benchmarking for first-time and existing disclosers

	All	Above and below the mean
CDF Relative Performance	0.005	0.005
	(0.51)	(0.57)
Number of Perk Types	0.001	0.019
	(0.02)	(0.46)
Fixed effects	Industry	Industry
R^2	0.186	0.202

Notes: The table presents the results of benchmarking among firms following the disclosure of perks for a sample of 335 observations. The dependent variable is the natural logarithm of the change in perks between the first year the regulation went into effect (fiscal year 2006) and the following year (fiscal year 2007). *Distance* measures a firm's relative level of perks compared to its peers. We calculate the median log perk by industry and size (two groups). We then calculate the distance between the firm's perks in 2006 and the median perk for its industry and size group. *POS_D* are positive relative perks, equal to *Distance* if *Distance* > 0 and zero otherwise. *NEG_D* are negative relative perks, equal to *Distance* if *Distance* < 0 and zero otherwise. *First-Time* is a dummy variable that equals one if the firm disclosed perks for the first time in 2006 following the new regulation. *Sales* is the natural logarithm of total revenue. *ROE* is the natural logarithm of one plus the return on equity. *ROE* is defined as income before extraordinary items deflated by the beginning of the year equity. *MV* is market value. *CDF Relative Performance* is the cumulative distribution function of relative performance defined as the rank of relative performance, measured as annual return minus the median annual return for the peer group. *Number of Perk Types* is the number of types of perks the firm reports in its proxy statement. The sample includes both new and existing disclosers. *t*-statistics are reported in parentheses beneath the estimated coefficients. Here, *** and * represent statistical significance at the 1 percent and 10 percent levels.

firms that paid low amounts of perks in 2006 *increase* their level of perks in 2007 to a greater extent than firms that paid high amounts of perks in 2006 *decrease* their level of perks in 2007.

Panel B distinguishes between first-time and existing disclosers to investigate asymmetric benchmarking effects. The first regression confirms the presence of benchmarking in both first-time and existing disclosers, as we would expect. More importantly, the second regression provides evidence for the predicted differential benchmarking effects by separately considering positive and negative relative perks for first-time and existing disclosers. Two important findings emerge from this analysis.

For existing disclosers, we only find evidence of benchmarking among firms that have negative relative perks in 2006. Thus, existing disclosers whose disclosed perks in 2006 are small relative to their peers' subsequently increase their perks, but existing disclosers whose disclosed perks in 2006 are large relative to their peers' do not reduce their perks.

In contrast, for first-time disclosers, we find the presence of benchmarking only among firms that have positive relative perks (distance measure) in 2006. Thus, first-time disclosers whose disclosed perks in 2006 are large relative to their peers' decrease their perks in 2007, consistent with the view that the overall post-regulation decrease in perks among first-time disclosers is as a result of the sudden jump in the visibility of previously undisclosed perks. Perks that are abnormally large relative to peers' are naturally more visible, and are thus more likely to be reduced. In untabulated analysis, we investigate whether enhanced monitoring by investors drives the reduction in perks. Specifically, we ask

whether first-time disclosers who experience more negative CARs subsequently decrease perks to a larger extent. A regression of the change in perks on the abnormal announcement return indicates a positive but statistically insignificant relationship.

Overall, the results in Table 5, panel B provide evidence that benchmarking practices systematically differ across first-time and existing disclosers.

Benchmarking and governance attributes

We have shown that existing disclosers increase perks in 2007 and that existing disclosers whose disclosed perks in 2006 were small relative to peers' subsequently increase their perks in 2007 to a greater extent than firms whose perks were large relative to peers' reduce theirs. We now examine whether the change in perks is related to the governance attributes of the firm. In particular, we assess whether, when governance attributes are weaker, it is more likely that the CEO will exert her power and that the higher amount of perks in the compensation peer group will be used as the compensation benchmark.

To proxy for governance attributes we use the governance index (GIM index) of Gompers et al. (2003). Specifically, we follow Bizjak et al. (2008) in classifying a firm as having weak (strong) governance if its GIM index is in the top (bottom) quintile, as such firms have a large (small) number of antitakeover provisions. In Table 6, we run regressions of the change in log perks between 2006 and 2007 on the level of 2006 relative perks (distance measure), controls, and the two governance dummies and interactions between the governance dummies and relative perks. The first column presents the results for weak governance and the second presents the results for strong governance. The interaction term in the first set of results is negative and significant, suggesting that weak governance is associated with increased benchmarking. On the other hand, we do not find evidence that better-governed firms reduce perks in response to the regulation.[28]

These findings suggest that the post-regulation increase in perks among existing disclosers is greater when the governance attributes of the firm are weaker.[29] At the same time, we do not find evidence that the reduction in perks is driven by the firm's governance attributes.

Substitution between perks and other compensation components

We have shown that first-time disclosers decrease their perks following the new regulation and that the decrease appears to be driven by the sudden increase in the visibility of heretofore undisclosed perks. This section investigates whether first-time disclosers substitute salary in lieu of the reduced perks.

Prior research documents a substitution effect between compensation components (e.g., Perry and Zenner 2001; Harris and Livingstone 2002), and we can generally expect a similar effect in the case of perks. Because some perks are not monetary (e.g., the use of the corporate jet), the full amount may not be substituted. However, we expect at least some of the post-regulation reduction in perks to be reflected in an increase in other compensation components.

---

28. We find no evidence that benchmarking is related to governance attributes in new disclosers. Smaller firms typically have lower governance mechanisms in place. They also attract less attention by financial intermediaries such as analysts and institutional investors. It may be the case that the cross-sectional variation in governance attributes is not considerable enough, which lowers the power of our test.

29. The fact that the post-regulation increase in perks for existing disclosers is associated with weaker governance also supports our conjecture that the increase in perks for these firms represents a real effect rather than an increase in the disclosed amounts. This is because disclosure (specifically voluntary disclosure) is likely to increase as agency conflicts are reduced (e.g., Brown and Hillegeist 2007; Efendi et al. 2007; Hope and Thomas 2008; Lambert et al. 2007) and not as they increase.

TABLE 6

Competitive benchmarking and governance attributes for existing disclosers

	Weak governance	Strong governance
Distance	−0.122***	−0.270***
	(−2.73)	(−3.59)
WEAKGOV	0.499***	
	(2.97)	
STRONGGOV		−0.500
		(−1.46)
Distance×WEAKGOV	−0.398***	
	(−4.66)	
Distance×STRONGGOV		0.047
		(0.35)
Sales	0.034	0.086
	(0.63)	(1.01)
ROE	−0.084	−0.177
	(−0.29)	(−0.41)
ΔSales	0.082	−0.138
	(0.17)	(−0.18)
ΔMV	0.172	0.255
	(0.96)	(0.86)
CDF Relative Performance	−0.013	0.005
	(−1.14)	(0.29)
Number of Perk Types	−0.041	−0.160*
	(−0.80)	(−1.89)
Fixed effects	Industry	Industry
R^2	0.271	0.283

Notes: The table presents the association between benchmarking and governance attributes for existing disclosers for a sample of 233 observations. The dependent variable is the change in the natural logarithm of perks between the first year the regulation went into effect (fiscal year 2006) and the following year (fiscal year 2007). We calculate the median log perk by industry and size (two groups). We then calculate the distance between the firm's perks in 2006 and the median perk for its industry and size group. *WEAKGOV* is an indicator variable equal to one if the governance index (GIM index) of Gompers et al. (2003) is in the top two deciles. *STRONGGOV* is an indicator variable equal to one if the GIM index is in the bottom two deciles. See notes to Table 5 for other variable definitions. *t*-statistics are reported in parentheses beneath the estimated coefficients. Here, *** and * represent statistical significance at the 1 percent and 10 percent levels.

To test this empirically, we begin by running regressions of the amount of salary and bonus in the years 2006–2007 on a year dummy, and CEO fixed effects, controlling for size and performance:

$$\ln(1 + Salary + Bonus_{it}) = \alpha_i + \beta_1 YR_{2007} + \beta_2 YR_{2007} \times First\text{-}Time + \beta_3 Sales_{it} + \beta_4 ROE_{it}$$
$$+ \beta_5 RET_{it} + \beta_6 MV_{it} + \beta_7 Sales_{it} \times First\text{-}Time$$
$$+ \beta_8 ROE_{it} \times First\text{-}Time + \beta_9 RET_{it} \times First\text{-}Time$$
$$+ \beta_{10} MV_{it} \times First\text{-}Time + \varepsilon_{it}, \tag{2}$$

where *First-Time* is a dummy variable that equals one if the firm disclosed perks for the first time in 2006, YR_{2007} is a dummy variable that equals one in year 2007, $Sales_{it}$ is the natural log of the sales of firm *i* in year *t*, ROE_{it} is the return on equity of firm *i* in year *t*,

RET_{it} is the stock return of firm i in year t, and MV_{it} is the natural log of the market capitalization of firm i in year t.

For CEOs, the results in panel A of Table 7, column (1), imply that, controlling for size and performance, firms increase salary and bonus in 2007 relative to 2006. Because the dependent variable is in logs, the results imply an increase in salary and bonus of 5.2 percent between 2006 and 2007. Column (2) compares the increase in salary and bonus for first-time and existing disclosers. The increase in salary and bonus for existing disclosers is small and statistically insignificant, while the increase for first-time disclosers is 10.8 percent, which is economically large and statistically significant at the 10 percent level. The results for the top five executives conform to this pattern.

Next, we regress the post-regulation change in salary and bonus on the contemporaneous change in perks to see whether the reduction in perks has resulted in an increase in these components, controlling for size and performance. The results in panel B of Table 7 establish that there is substitution between perks and other compensation components, particularly salary: the substitution effect between perks and salary is significant.

5. Alternative explanations

In this section, we consider several alternative explanations for our results.

Firm size

The descriptive statistics in Table 1 indicate that existing disclosers are, on average, larger than first-time disclosers: relative to new disclosers, the median market capitalization of existing disclosers is 65 percent larger; median total assets are 51 percent larger; and median sales are 84 percent larger. This size difference reflects the tightening of the cutoff for perk disclosure, from $50,000 to $10,000. While we control for size in our empirical analysis, we perform the following robustness test in order to further investigate whether size per se is driving our results.[30]

We construct a matched sample of existing disclosers, whereby each existing discloser is required to be within 10 percent of the market value of, and in the same industry as, a first-time discloser. The resulting sample has 776 observations. The market values of the first-time disclosers and existing disclosers are $3.536 billion and $4.883 billion, respectively, and are not statistically different from one another.

We then repeat our main analysis using this matched sample: we regress the amount of CEO perks on year dummies and CEO fixed effects, controlling for size and performance, as in equation (1). Table 8 presents the evidence. In column (1), we again begin by estimating the regression without the first-time dummy. Controlling for size and performance, perks are significantly larger in 2006 than in 2005, consistent with our expectation that the rules had an impact.

The regression in column (2) of Table 8 separates first-time and existing disclosers, using the first-time dummy. For existing disclosers, the coefficient on the 2006 dummy is 0.412, and the coefficient on the 2007 dummy is 0.668. An F-test rejects the hypothesis that the coefficients are equal ($F(1,558) = 4.57$, p-value 0.03), implying that the increase in perks is statistically significant. The magnitude of the coefficients suggests that, controlling for size, CEO fixed effects, and other variables that change over time and that may affect perks, perks are 29 percent higher in 2007 than in 2006. Similarly, for first-time disclosers, this test reveals that perks in 2007 are 28 percent lower than in 2006; the difference is again large and statistically significant. Both the magnitude and the statistical significance

---

30.   We thank an anonymous referee for suggesting this analysis.

TABLE 7
Substitution between perks and cash compensation

Panel A: Change in cash compensation, excluding perks, following the regulation

	CEOs only		Top five	
	(1)	(2)	(3)	(4)
YR_{2007}	0.051**	0.019	0.052***	0.033*
	(2.18)	(0.63)	(2.67)	(1.87)
$YR_{2007} \times First\text{-}Time$		0.084*		0.070**
		(1.80)		(2.52)*
Sales	0.009	0.034	0.163***	0.200
	(0.06)	(0.17)	(3.45)	(3.83)**
ROE	0.209**	0.124	0.092*	0.099*
	(2.11)	(1.08)	(1.87)	(1.73)
RET	0.081	0.062	0.148***	0.164***
	(1.26)	(0.71)	(3.53)	(4.95)
MV	0.312***	0.338***	0.236***	0.248***
	(4.42)	(3.38)	(5.37)	(6.26)
Sales$\times$First-Time		0.033		−0.132*
		(0.09)		(1.73)
ROE$\times$First-Time		0.395***		0.185
		(2.75)		(1.11)
RET$\times$First-Time		0.004		−0.043
		(0.03)		(0.89)
MV$\times$First-Time		−0.082		−0.048
		(0.68)		(0.72)
Fixed effects	CEO	CEO	Firm	Firm
R^2	0.981	0.982	0.930	0.930

Panel B: Regression of cash compensation on perks for first-time disclosers

	$\Delta Cash\ compensation$	$\Delta Salary$
$\Delta Perks$	−0.026	−0.034**
	(−0.90)	(−2.22)
Sales	−0.042	0.003
	(−0.74)	(0.11)
ROE	−1.200***	−0.165
	(−3.65)	(−0.95)
RET	0.596***	0.332***
	(2.88)	(3.02)
MV	0.044	−0.025
	(0.70)	(−0.75)
Fixed effects	Industry	Industry
R^2	0.405	0.176

Notes: This table analyzes substitution effects between perks and other compensation components. Panel A presents the results of regressions of salary and bonus in fiscal years 2006 and 2007 on the 2007 year indicator and CEO fixed effects, controlling for size and performance, for a sample of 701 observations. YR_{2007} is a dummy variable that equals one in year 2007 and *Sales* is the natural log of one plus sales. Panel B presents cross-sectional regressions of the change in compensation on the change in perks for a sample of 102 observations. *ΔSalary* is the change in the log of salary. *ΔCash Compensation* is the change in the sum of salary and bonus. All changes are measured between fiscal

years 2006 and 2007. *RET* is the natural logarithm of one plus the stock market return, measured from the beginning of the fourth month of the fiscal year to the end of the third month after its ending date. *MV* is the natural logarithm of the market value of the firm at the end of the year. See notes to Table 5 for other variable definitions. *t*-statistics are reported in parentheses beneath the estimated coefficients. Here, ***, **, and * represent statistical significance at the 1 percent, 5 percent, and 10 percent levels.

TABLE 8

Perquisites disclosure over time using a matched sample

	CEOs only		Top Five	
	(1)	(2)	(3)	(4)
YR_{2005}	0.423***	0.301***	0.428***	0.399***
	(7.73)	(4.71)	(16.99)	(4.96)
YR_{2006}	2.006***	0.412	2.272***	0.633***
	(11.54)	(1.60)	(12.61)	(3.05)
YR_{2007}	2.045***	0.668**	2.594***	1.253***
	(9.89)	(1.99)	(11.20)	(4.93)
$YR_{2006} \times First\text{-}Time$		2.997***		3.354***
		(8.46)		(11.59)
$YR_{2007} \times First\text{-}Time$		2.414***		2.679***
		(5.06)		(8.36)
Sales	−0.667	−0.022	−0.439	0.354
	(1.25)	(0.04)	(0.77)	(0.57)
ROE	−0.111	0.458	0.466	0.060
	(0.09)	(0.66)	(0.60)	(0.19)
RET	−0.270	−0.186	−0.255	−0.066
	(1.17)	(0.91)	(1.29)	(0.34)
MV	0.262	0.279	−0.105	−0.129
	(0.83)	(1.02)	(0.32)	(0.33)
Sales × *First-Time*		−0.480		−1.050
		(0.73)		(1.50)
ROE × *First-Time*		−1.726**		0.805
		(1.99)		(0.75)
RET × *First-Time*		−0.030		−0.198
		(0.08)		(0.66)
MV × *First-Time*		−0.011		−0.211
		(0.03)		(0.55)
Fixed effects	CEO	CEO	Firm	Firm
R^2	0.785	0.876	0.646	0.737
F-tests				
$YR_{2006} = YR_{2007}$	0.43	4.52	35.22	21.92
	(0.51)	(0.03)	(0.00)	(0.00)
$YR_{2006} + YR_{2006} \times First\text{-}Time$		9.25		4.67
$\quad = YR_{2007} + YR_{2007} \times First\text{-}Time$		(0.00)		(0.03)

Notes: The table presents results of fixed-effects panel regressions of perks for a sample of 776 observations from fiscal year 2004 to fiscal year 2007. The sample is constructed by matching firms that disclose for the first time following the regulation with existing disclosers matched by market capitalization and industry. The dependent variable is the natural logarithm of one plus the amount of perks. $YR_{2005,}$ YR_{2006} and YR_{2007} are year indicators. *RET* is the natural logarithm of one plus

the stock market return, measured from the beginning of the fourth month of the fiscal year to the end of the third month after its ending date. MV is the natural logarithm of the market value of the firm at the end of the year. See notes to Table 5 for other variable definitions. t-statistics are reported in parentheses beneath the estimated coefficients. p-values are reported in parentheses beneath the F-statistics. Here, *** and ** represent statistical significance at the 1 percent and 5 percent levels.

TABLE 9
CEO characteristics as an alternative explanation

	CEOs
Sales	0.086
	(0.30)
ROE	−0.427**
	(2.10)
RET	−0.373*
	(1.93)
MV	0.225
	(1.06)
CEO age	0.316**
	(2.14)
CEO tenure	−0.050
	(0.64)
Sales×First-Time	−0.510
	(1.15)
ROE×First-Time	−1.365***
	(4.17)
RET×First-Time	−0.375
	(0.83)
MV×First-Time	0.658
	(1.52)
CEO age×First-Time	0.660
	(0.61)
CEO tenure×First-Time	0.418
	(0.57)
Fixed effects	CEO
R^2	0.815

Notes: The table presents results of fixed-effects, panel regressions of perks for a sample of 1,372 observations from fiscal year 2004 to fiscal year 2007. The dependent variable is the natural logarithm of one plus the amount of perks. *RET* is the natural logarithm of one plus the stock market return, measured from the beginning of the fourth month of the fiscal year to the end of the third month after its ending date. *MV* is the natural logarithm of the market value of the firm at the end of the year. *CEO age* is the age of the CEO. *CEO tenure* is the number of years since the appointment of the CEO. See notes to Table 5 for other variable definitions. *t*-statistics are reported in parentheses beneath the estimated coefficients. Here, ***, **, and * represent statistical significance at the 1 percent, 5 percent, and 10 percent levels.

of the effect are therefore similar to our estimates based on the full sample in Table 4 (a 22 percent increase for existing disclosers and a 28 percent decrease for first-time disclosers).

Columns (3) and (4) in Table 8 show similar results for the top five executives. Over-all, the results imply that size per se is unlikely to drive our results: we continue to find that the level of perks increases in the year following the regulation for existing disclosers and decreases for first-time disclosers.

CEO characteristics

One would expect CEO attributes to affect the amount of perks a CEO receives; we control for this by employing CEO fixed effects in our main analysis. To directly examine whether CEOs might be awarded more perks as a result of aging, and whether this might affect our results, we focus on CEO age and tenure as additional (non-time-invariant) variables.[31] We begin by comparing CEO age and tenure across first-time and existing disclosers. The descriptive statistics in Table 1 suggest that first-time and existing disclosers are not significantly different along these dimensions. Second, Table 9 presents the results of a regression of CEO perks in the years 2004–2007 on CEO attributes interacted with an indicator variable for first-time disclosers. While perk levels do not appear related to CEO tenure, they are significantly and positively associated with CEO age. However, the interactions between age and the dummy for first-time disclosers, and between CEO tenure and the dummy for first-time disclosers, are both insignificant. This suggests that the link between CEO age and the level of perks is not affected by a whether a firm is a first-time or existing discloser.

6. Summary and conclusion

In December 2006, the new SEC rules requiring enhanced disclosure of perquisites to managers in public U.S. firms went into effect. This paper examines the real consequences of this regulation. Specifically, we study how perk award practices were altered by this regulatory intervention. Because the regulation was passed quickly, the year of the regulation can be used as a benchmark year in which firms have to disclose perks as is, without making adjustments as a result of the regulation.

We focus on the second year of the new disclosure regime and analyze the effect of the regulation on two groups of firms: firms that disclose perks for the first time and firms that were already disclosing perks prior to the regulation.

We focus on two main economic effects when analyzing the impact of disclosure regulation on perquisites: changes in the cost of disclosure and enhanced monitoring of executive pay. Overall, our findings indicate that first-time disclosers reduce perk awards and existing disclosers increase them. The reduction in perks for new disclosers is consistent with an increased disclosure cost and enhanced monitoring. The reduction in perks is more pronounced for firms whose initial disclosed perks are large relative to their peers', possibly because larger perks are more visible to third parties and investors. Moreover, we find evidence of substitution between perks and other compensation components, suggesting that some of the reduction in perks is offset by higher levels of non-perk pay. We also find that the disclosure of perks by other firms in 2006 leads to higher perks for the existing disclosers in 2007.

References

Andrews, A., S. C. Linn, and H. Yi. 2009. Corporate Governance and Executive Perquisites: Evidence from the New SEC Disclosure Rules. Working Paper, Wayne State University and the University of Oklahoma.

Bender, R. 2012. Executive compensation consultants. In *The Research Handbook on Executive Pay*, eds. J. Hill, and R. S. Thomas, 320–40. Cheltenham, UK: Edward Elgar.

---

31.   We are grateful to an anonymous referee for suggesting this analysis.

Berle, A., and G. Means. 1932. *The modern corporation and private property*. New York: Harcourt, Brace & World.

Bizjak, J., M. Lemmon, and L. Naveen. 2008. Does the use of peer groups contribute to higher pay and less efficient compensation? *Journal of Financial Economics* 90 (2): 152–68.

Botosan, C. 1997. Disclosure level and the cost of equity capital. *The Accounting Review* 72 (3): 323–49.

Brown, S., and S. Hillegeist. 2007. How disclosure quality affects the level of information asymmetry. *Review of Accounting Studies* 12 (2–3): 443–77.

Cai, J., and R. Walkling. 2011. Shareholders' say on pay: Does it create value? *Journal of Financial and Quantitative Analysis* 46 (2): 229–339.

Cohen, D., A. Dey, and T. Lys. 2013. Corporate governance reform and executive incentives: Implications for investments and risk-taking. *Contemporary Accounting Research* 30 (4): 1296–332.

Efendi, J., A. Srivastava, and E. Swanson. 2007. Why do corporate managers misstate financial statements? The role of in-the-money options and other incentives. *Journal of Financial Economics* 85 (4): 667–708.

Fama, E. F. 1980. Agency problems and the theory of the firm. *Journal of Political Economy* 88 (2): 288–307.

Faulkender, M., and J. Yang. 2009. Inside the black box: The role and composition of compensation peer groups. *Journal of Financial Economics* 96 (2): 257–70.

Ferri, F., and D. Maber. 2013. Say on pay votes and CEO compensation: Evidence from the UK. *Review of Finance* 17 (2): 527–63.

Gompers, P., J. Ishii, and A. Metrick. 2003. Corporate governance and equity prices. *Quarterly Journal of Economics* 118 (1): 107–55.

Gonedes, N., and N. Dopuch. 1974. Capital market equilibrium, information production, and selecting accounting techniques: theoretical framework and review of empirical work. *Journal of Accounting Research* 12: 48–129.

Harris, D., and J. Livingstone. 2002. Federal tax legislation as an implicit contracting cost benchmark: The definition of excessive executive compensation. *The Accounting Review* 77 (4): 997–1018.

Healy, P. M., and K. G. Palepu. 2001. Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics* 31 (1–3): 405–40.

Hermalin, B., and M. Weisbach. 2012. Information disclosure and corporate governance. *The Journal of Finance* 67 (1): 195–234.

Holmstrom, B., and S. Kaplan. 2003. The state of U.S. corporate governance. *Journal of Applied Corporate Finance* 15 (3): 8–20.

Hope, O., and W. Thomas. 2008. Managerial empire building and firm disclosure. *Journal of Accounting Research* 46 (3): 591–626.

Jensen, M., and K. Murphy. 1990. Performance pay and top-management incentives. *Journal of Political Economy* 98 (2): 225–264.

Lambert, R., C. Leuz, and R. Verrecchia. 2007. Accounting information, disclosure, and the cost of capital. *Journal of Accounting Research* 45 (2): 385–420.

Leuz, C., and P. Wysocki. 2016. Economic consequences of financial reporting and disclosure regulation: A review and suggestions for future research. *Journal of Accounting Research* 54 (2): 525–622.

Levin, L. D., and A. R. Klein. 2009. *Handbook for preparing SEC annual reports and proxy statements*. New York: Kluwer Law International.

Lo, K. 2003. Economic consequences of regulated changes in disclosure: The case of executive compensation. *Journal of Accounting and Economics* 35 (3): 285–314.

McGahran, K. 1988. SEC disclosure regulation and management perquisites. *The Accounting Review* 63 (1): 23–41.

Murphy, K. J. 1995. Politics, economics, and executive compensation. *University of Cincinnati Law Review* 63: 713–48.

Murphy, K. 1996. Reporting choice and the 1992 proxy disclosure rules. *Journal of Accounting Auditing and Finance* 11 (3): 497–515.

Murphy, K. 2012. Executive Compensation—Where we are, and how we got there. In *Handbook of the Economics of Finance*, eds. G. M. Constantinides, M. Harris, and R. M. Stulz, 211–356. Amsterdam: Elsevier.

Perry, T., and M. Zenner. 2001. Pay for performance? Government regulation and the structure of compensation contracts. *Journal of Financial Economics* 62 (3): 453–88.

Petersen, M. 2009. Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies* 22 (1): 435–80.

Rajan, R., and J. Wulf. 2006. Are perks purely managerial excess? *Journal of Financial Economics* 79 (1): 1–33.

Ripley, W. 1926. *Main street and Wall street*. Boston: Little, Brown.

Stigler, G. 1971. The theory of economic regulation. *Bell Journal of Economics and Management Science* 2 (1): 3–21.

Yermack, D. 2006. Flights of fancy: Corporate jets, CEO perquisites and inferior shareholder returns. *Journal of Financial Economics* 80: 211–42.