All The Rage: Are Mandatory Ownership Requirements Mandatory?

Sjoerd Van Bekkum and Danielle Zhang*

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Abstract

This paper studies the requirements executive ownership guidelines (EOGs) requiring managers to hold pre-specified equity ownership levels. Using hand-collected information from the proxy statements of S&P 1500 firms, we find that EOGs have proliferated from 1992-2010 to about two-thirds of all S&P 1500 companies. Remarkably, EOGs are very loosely implemented, do not increase managerial ownership, and do not improve short-term or long-term shareholder performance. We show that the popularity of EOGs is strongly explained by board connections indicating that EOGs are a *management fashion* rather than economic policy: Management fashions are transitory collective beliefs that arise from the desire of managers to technically learn about management techniques that appear in line with social norms. Hence, by spreading corporate practices that have little or no economic consequence, our results suggest that corporate directors fulfill a role of "management fashion setters."

*Van Bekkum (vanbekkum@ese.eur.nl) is at Erasmus University, Rotterdam, Netherlands. Zhang (danielle.zhang@bi.no) is at BI Norwegian Business School, Norway.

1 Introduction

Public companies go through considerable length to convince stockholders that their executive compensation practices are focused on acting in the best interests of stockholders. One way in which this can be done is the adoption of executive ownership guidelines (EOGs), which stipulate a certain level of share ownership for executives. The economic motivation behind this practice, as it is typically found in the proxy statements, is that managerial ownership requirements prevent managers from selling shares after receiving equity compensation, thereby incentivizing managers to increase long-term shareholder value.

Mandatory ownership requirements are typically expressed as a dollar-valued multiple of base salary, and should be met within a certain period after the executive takes office and/or the guidelines are installed. EOGs have become a pervasively used element of compensation practice in listed firms: The percentage of firms with guidelines has increased from less than 10 percent in the early 1990s to 65 percent in 2010. It can be seen from Figure 1 that EOGs have steadily increased in frequency over time. As a result, EOGs have become prevalent in a broad range of industries.

In this paper, we study the nature of these guidelines and their impact of managerial ownership and shareholder performance. We handcollect the EOG paragraph, if available, from all S&P1500 firms between 1992-2010, to determine the nature of these guidelines. Remarkably, EOG terms are not restrictive at all.[1] Furthermore, we find that EOGs do not increase ownership and do not improve shareholder performance, either in the long-term or the short-term. This poses a puzzle: if EOGs do not affect ownership or performance, why did this practice diffuse over two decades to two-thirds of the largest 1500 firms? Given

[1] For example, in many cases, unvested shares implicitly or explicitly count towards meeting the ownership requirements and allow CEOs to sell their vested stock while still meeting the guidelines. Furthermore, EOGs typically do not rule out the use of hedging instruments that protect executives from depreciations in the firm's stock price. Most EOGs also allow executives several years to meet the guidelines, and only few explicitly require action from the executive when the required levels are not met. If they do, the standard consequences for not meeting a stock ownership guideline is that until the required ownership level is met executives are obligated to retain a certain percentage of any newly received equity grant (usually 50%). More generally, EOGs are phrased in such a way that they leave considerable discretion to the board of directors in determining ownership requirements and setting penalties when those levels are not met.

their popularity, it is unlikely that they originated independently in each firm. In this paper, we investigate whether director interlocks play an important role in the spreading of EOGs across firms. Since the board plays a key role in setting the level and structure of executive compensation, board connections potentially represent an important channel through which knowledge, information, and experience regarding EOGs could have been shared across firms.

We find strong evidence that EOGs have spread to other corporations through board connections. The probability that a firm adopts EOGs increases when for any given year, the firm has at least one "interlocking" director who is also a board member of a firm that adopted EOGs previously. To alleviate endogeneity concerns, we use the timing of directors' arrival to and departure from boards, coupled with the timing of EOG adoption at interlocking firms (cf. Stuart and Yim, 2010). The link between EOGs and board interlocks result is both statistically and economically significant: from all the overlapping directorships, about two thirds has the same EOG adoption status as the interlocking firm. This is substantially more than the 50/50 split expected under random allocation.

Our results complement the existing empirical and theoretical literature on this topic. Empirically, the first major study on EOGs is Core and Larcker (2002) who examine the EOGs of all 195 firms who have adopted the plans from 1992-1995. They find that firms who adopt EOGs have low managerial ownership and low firm performance before adoption, but significantly increase ownership and improve performance after adoption. Our results indicate that while the early adopters of EOGs may have had a good economic reason to do so, this reason no longer exists. Theoretically, recent studies argue that optimal compensation dynamically rebalances incentive portfolios, and stock ownership requirements expressed as a multiple of salary are one way to do this when it involves giving additional stock after the price has fallen to maintain a constant multiple (Edmans, Gabaix, Sadzik and Sannikov; 2012). Our findings imply that this particular form of dynamic rebalancing does not work in practice.

This paper is in line with recent work by Shilon (2013) who presents anecdotal evidence

that EOGs are largely ineffective amongst the S&P 250 firms. We complement his work by expanding the sample, a more general empirical approach, and by investigating why these guidelines exist nonetheless. More broadly, our study is related to studies finding that board interlocks and board connections have important links with corporate governance and compensation practices including, amongst others, CEO pay (e.g., Hallock 1997; Core, Holthausen, and Larcker, 1999), poison pills (Davis, 1991), golden parachutes (Davis and Greve, 1997), the searching and vetting of potential CEO candidates (Khurana, 2002), and option backdating (Bizjak, Lemmon, and Whitby; 2009).

Our paper is different from these studies in that our findings suggests that EOGs are a "check the box" mechanism in a firm's overall governance framework that is of little economic importance. Prior work on interlocking boards, discussed just above, has focused on the corporate governance implications of board networks. Only few studies examine a different perspective on the role of directors' social networks, i.e., the board network as a means for information transmission (Bizjak et al., 2009; Stuart and Yim, 2010). These papers emphasize the board network as the transmission route for the diffusion of a financial practice.[2] We propose a third perspective on the role of board networks, i.e., corporate directors who disseminate management fashions. Management fashions are defined as transitory collective beliefs that certain management techniques are at the forefront of management progress (Abrahamson, 1996). Management scientists have long argued that demand for management fashion is shaped partially by sociopsychological forces[3], but also arises from a desire for learning how to respond to organizational performance gaps opened up by real changes in the economic environment. The increase in public attention for corporate governance in the 1990s may have been such a change (Dyck and Zingales, 2002; Dyck, Volchkova, and Zingales, 2008). Hence, one interpretation of our results is that interlocked directors fulfill

[2]Bizjak et al. (2009) find that board interlocks explain about one-third of the unconditional probability of option backdating. Stuart and Yim (2010) find that the likelihood of being targeted by a private equity firm increases with directors who previously were targeted at interlocking firms.

[3]For instance, Mintzberg (1979) observed that swings between organizational centralization and decentralization resemble the movements of women's hemlines.

a role of "management fashion setters" that arises from a desire of managers to technically learn about management techniques (Abrahamson, 1996).

This paper is structured as follows. Section 2 describes our data collection procedures and describes the key features of EOGs that make them rather nonrestrictive. Section 3 discusses the impact of EOGs on ownership and performance, showing that EOGs affect neither. Section 4 demonstrates that despite having no effect on ownership and performance, firms are likely to adopt EOGs when board members have previously adopted EOGs at interlocking firms. Section 5 concludes.

2 Executive ownership guidelines

2.1 Data collection

We collect information on EOGs from the proxy statements filed with the Securities and Exchange Commission (SEC) and housed on the Electronic Data Gathering, Analysis, and Retrieval (EDGAR) database. We download the 1992-2010 proxy statements from the SEC website for all firms S&P 1500 firms. However, since coverage is bad in the early years and information on interlocks is only available from 1996 onwards, we report results on the 1996-2010 period. Because firms vary in how they describe EOGs in these filings, we search for paragraphs in the proxy containing the word strings "stock ownership," "share ownership," "requirements," or "guidelines," and then read these paragraphs to see whether they are about ownership guidelines.

If available, the paragraph containing the EOGs typically states that stock ownership is important for the long-term profitability of the firm, followed by the actual EOG terms. For each verified paragraph, we extract and code the available information on EOG characteristics for the CEO. For example, the 2010 EOGs for General Electric (GE) are as follows:

> *"We require our senior executive officers to own significant amounts of GE stock. The number of shares of GE stock that must be held is set at a multiple*

of the officer's base salary rate as of September 2002, when the board of directors adopted this requirement. For senior executive officers elected after September 2002, the number of shares depends upon their base salary effective with their promotion to a senior executive officer position, as follows:

Role	*Multiple*	*Time to Attain*
CEO	*10x base pay*	3 years
Vice Chair	*5x base pay*	4 years
Senior VPs	*3x base pay*	5 years

Individual and joint holdings of GE stock with immediate family members as specified by the committee, including those shares held in the Company's 401(k) plan and any deferred compensation accounts, count toward the guidelines."

Once we determine that the firm has actually adopted EOGs, we encode the paragraph based on what the multiple refers to (salary, shares, both, or other), the time that newly appointed executives have to achieve the requirement (the grace period), and when the EOGs were first adopted.[4] If the actual date of implementation is not explicitly mentioned, we assume that they are installed in the year preceding the proxy statement that is the first to contain an EOGs paragraph.

2.2 Structure of ownership guidelines

While almost all firms report the minimum ownership requirement for the CEO[5], only few describe what securities count towards the firm's guidelines. For instance, it is unclear whether GE requires the shares to be vested, and whether it counts unexercised options

[4]For the years 2006-2010, we also handcollect and code information on whether unexercised exercisable options and unvested shares count towards the guidelines, the penalty in case the requirements are not met, and whether hedging is explicitly ruled out. Since only a small fraction of the firms report this infomation and recent guidelines are more detailed than older ones, we did not handcollect this information for earlier years.

[5]Guidelines do not always provide a per-executive breakdown as in the example above. If they do, the highest multiple is always for the CEO. If they don't, they typically provide a range (e.g., 5-10 times salary). Hence, we can easily infer the multiple for the CEO but not for the other executives.

towards these guidelines. Furthermore, only a small minority of firms discloses the consequences of non-compliance.[6]

Table 1 provides insight into various aspects of executive ownership guidelines. Panel A shows that, from our sample of S&P 1500 firms, about 14 percent of the firms has adopted EOGs in 1996, a percentage that has increased gradually over our sample period to 60 percent in 2010. A small fraction of firms does not disclose a proxy statement due to events such as bankrupcty, takeovers, etc.

In Panel B, we partition the sample into 12 major sectors of the economy, based on the Fama-French 12-industry classification. We observe that EOGs have become prevalent in a broad range of industries. The strongest concentration of EOGs occurs in utilities and chemical industries, where guidelines have been adopted by 87 percent and 79 percent of the firms, respectively.

Panel C indicates that about 4 in 5 EOG plans require CEOs to own a target value of stock that is expressed as a multiple of salary. This is remarkable from a governance perspective, since share-based EOGs do not have the opportunity to time the market, and the incentives stay the same when stock prices rise or fall. In the remainder of this paper, we will focus on salary multiples and present statistics for share-based EOGs in the Appendix.

Panel D shows that the salary multiple for the CEO is typically around 5. Multiples as high as 44 are required in some firms, but such multiples vary from year to year. Closer inspection reveals that 5.6 percent of firms have decreased the multiple at least once during our sample period. This suggests that firms are free to lower the guidelines when CEOs fall out of compliance. Firms where executive officers fail to meet the requirements may also lower the required salary multiple, increase the grace period, or switch to EOGs based on the number of shares held. Others abandon their guidelines altogether. For instance, General Motors states the following in its 2009 corprate governance statement on ownership

[6]When disclosed, the standard consequences for not meeting a stock ownership guideline is that executives are to retain a certain percentage of any equity grant they receive (usually 50%) until the required ownership level is met.

guidelines:

> *"Prior to 2008, all of our Named Executive Officers at that time had met their ownership guidelines or were on track to meet them within the timeframe required. With the onset of severe economic and market conditions in 2008, stock ownership guidelines were suspended."*

Panel E shows that most firms allow their executives about 5 years to meet the guidelines. This number was reported by half of the firm in the mid-1990s, and by about 75 percent of the firms at the end of our sample in 2010. The typical grace period lies around 5 years and varies between 1 and 10 years, although the latter firm has increased their grace period in 2010 to 12 years.

2.3 Compliance to ownership guidelines

We match the hand-collected EOGs guidelines with Execucomp to determine the extent to which CEOs comply to the guidelines. Compliance is determined in terms of salary multiples defined as the actual amount of shares owned times the year-end share price, divided over the salary multiple times salary.[7] Including or excluding option awards and/or unvested shares has a substantial impact on these salary multiples, but only a minority of firms reports whether options are counted towards the EOGs. Therefore, we conservatively measure compliance by assuming that options and unvested stock should be excluded *for all firms* when calculating the salary multiples.[8]

Table 2 summarizes these salary multiples for CEOs that are not in their grace period. While the grace period is not always reported, results are quite similar when we simply

[7] The previous literature on EOGs uses year-end share prices, and we follow this approach for comparability. However, as the proxies rarely state at what point in time the stock price is used to calculate EOG compliance, we experiment in unreported results with an upper bound (a lower bound) on the share price by taking the highest (lowest) share price during the fiscal year. The choice between fiscal year-end prices, the fiscal year high, or the fiscal year low does not materially impact any of our results (especially when compares to in/excluding options and/or restricted stock).

[8] To put this in perspective: Shilon (2013) finds that from the S&P 250 firms with guidelines that explicitly state whether vested stock counts towards the guidelines, about 58% allow the counting of unvested stock.

exclude all CEOs with a short tenure, say, 3 years or less. Our conservatively estimated salary multiples average around 60, or twelve times the most commonly used requirement of 5 times salary.[9] When looking at the median salary multiples, CEOs still own about 15 times salary, which corresponds to about three times as much stock as required.

Finally, we find that about 80 percent of all CEOs complies with their firm's guideline requirements. This percentage is high for a lower bound. This number drops to 70 percent during the mortgage crisis of 2008, but bounces back up in 2009 and 2010. This indicates that general economic conditions hardly affect compliance, and suggests that managers are awarded more stock in order to increase compliance, in line with Edmans et al. (2012).

2.4 Consequences of noncompliance

Only very few guidelines explicitly mention any consequences when executives fail to achieve their stock ownership target. In the minority of cases that the guidelines do mention consequences, most executives with low ownership are obligated to retain a certain percentage of any equity grant (typically 50 percent). However, since the guidelines only rarely specify whether unvested stock may be counted towards the guidelines, "penalized" executives may still sell their unrestricted stock even when they fail to meet the guidelines (Shilon, 2013).

To examine whether or not meeting the EOGs has any meaningful consequences for CEOs, we examine to what extent non-complying CEOs actually buy their company's shares in the open market. We link the firms in our sample to changes in ownership position as reported on SEC form 4, provided by Thomson Reuters' insider filings data. We examine all purchases of common stock that cause a change in the CEO's ownership position, after adjustment for stock splits. To increase the probability of finding a CEO that has fallen out of compliance, we focus on the 2006-2010 period which contains the financial crisis and subsequent recession that provide a large, discrete, and unexpected drop in share prices. As can be seen from Table 2, depressed equity market values have decreased salary multiples so that fewer firms

[9] This number hardly changes when we winsorize salary multiples at the 99 pecent level.

comply with their EOGs.

As it turns out, we find only *one CEO* who was not in compliance with the company's EOGs and had meaningfully increased his ownership levels. Specifically, the CEO of Employers Holdings Inc. did not comply to the company' EOGs in 2010 after serving longer than the grace period of 5 years. He purchased 20,000 shares, equivalent to about 11% of his reported ownership, through an open-market purchase of shares. The proxy stament of Employers Holdings Inc. states the following in the year of the CEO's share purchase:

> *"... Given our short time as a publicly-traded company, as of December 31, 2010, our NEOs are still working to attain the applicable levels of share ownership set forth in the stock ownership guidelines. However, several NEOs purchased Company stock in 2010, in addition to receiving the equity grants provided by the Company."*

Hence, there is only a single S&P 1500 CEO who fell out of compliance in a recession period and subsequently bought shares. But this manager did so primarily because his company recently went public. From this, we conclude that managers do not experience any meaningful consequences from EOGs. This suggests that EOGs do not incentivize managers to maintain a certain level of stock ownership.

3 Do EOGs increase ownership and performance?

The previous section demonstrates that executive ownership guidelines are not very restrictive. Aside from the observable features discussed just above, only a fraction of the firms actually reports these details. Furthermore, the formulation of the guidelines leave considerable discretion to the board of directors in determining ownership requirements and setting penalties. Hence, we proceed to empirically examine the argument behind EOGs as typically stated in the proxy statements, i.e., the increase in managerial ownership to enhance shareholder value.

3.1 Data and summary statistics

To do this, we match the EOGs data with Compustat price and accounting data to construct measures for ownership and performance, as well as several control variables described shortly. SEC requirements stipulate that proxy statements disclose the adoption of EOGs for the period from the previous proxy statement (typically about 4 months after fiscal year-end) until the recent proxy statement. Hence, we measure these variables relative to the fiscal year in which the plan is adopted, i.e., one year before the year that the proxy statement announces the plan adoption.

The included variables include CEO stock ownership characteristics measured in terms of (log) number of shares and salary multiples[10]; firm characteristics such as firm size (log total assets), performance (ROA) measured as net income scaled by total assets, and firm risk (past 36-month stock volatility); corporate governance characteristics such as free cash flow (relative to total assets), Bebchuk, Cohen, and Ferrell's E-index, board size, and indicator variables related to CEO chairmanship and an independent compensation committee; and measures aimed to capture the information environment such as the private information measure by Durnev, Morck, Yeung, and Zarowin (2003)[11] and "expected analyst coverage" similar to Das, Guo, and Zhang (2006)).[12]

We also obtain the names of individual board directors from RiskMetrics' Directors Data[13], to track directors across firms and over time. We construct measures of director

[10]We also include square terms of actual ownership levels since the impact of actual share ownership on EOGs may be U-shaped. For instance, guidelines are more valuable from the perspective of the firm when CEOs have low ownership levels, and less costly from the perspective of the CEO when she has high ownership levels.

[11]Durnev, Morck, Yeung, and Zarowin (2003) run a regression of each stock's excess return on the excess returns of the market index and the index for industry j to which stock i belongs; $r_{i,t} - r_t^f = \alpha_i + \beta_{i,t}(r_\tau^M - r_\tau^f) + \gamma_{i,t}(r_{j,\tau} - r_\tau^f) + \varepsilon_{i,t}$. Private information is measured as $1 - R^2$ obtained from this regression. The regression are run on weekly data over the past year up to time t using the the CRSP value-weighted market index, the value-weighted industry index based on a firm's two-digit SIC industry classification, and r_t^f from Ibbotson.

[12]Expected analyst coverage consists of the fitted values of regressing the number of analysts on firm size and industry fixed effects (this filters out coverage due to future analyst expectations about the profitability of a stock,

[13]This data is collected and updated annually since 1996, and roughly covers the S&P 1500 companies covered by Execucomp.

experience and of "board interlocks." A focal firm j is said to be interlocked with firm k at time t if there exists a director x on firm j's board at time t who serves on the board of k at time t. We are particularly interested in whether a firm that has EOGs is interlocked through a shared director with another firm that also has adopted EOGs in the past. Hence, we define a EOG interlock variable that equals one if one of directors the serves on the board of a second firm that had previously adopted EOGs, and zero otherwise.[14]

Table 3 provides summary statistics for the variables described above, and tests for equality of means and medians using t-tests and ranksum tests, respectively. CEOs of firms that have EOGs only marginally differ from firms that don't, with differences in means highly significant but differences in median weakly significant or not significant at all. EOG adopters are larger, have higher ROA, and have lower volatility, but do not have different shareholder returns. Firms with EOGs have lower private information and higher expected analyst coverage, but this could also be due to a size effect. Firms with EOG have less free cash flows but a higher entrenchment index, larger board size, a higher probability to have a CEO who also chairs the board of directors.

Interestingly, these firms have a larger probability of having an independent compensation committee, and more than four times as many interlocks with firms that also have adopted EOGs. This suggests that boards play an important role in the adoption of EOGs, an idea that we will further explore in Section 4.

3.2 Porfolio and regression approaches

A natural starting point of this analysis is Core and Larcker (2002; henceforth CL), who are the first to examine EOGs and document that firms who adopt EOGs have low managerial ownership and low firm performance before adoption, but significantly increase ownership and improve performance after adoption. They examine this by identifying (through Lexis Nexis) all 195 firms who have adopted EOGs between 1992-1995. Hence, we first replicate

[14] Results are very similar when we count the number of interlocking EOG directors.

the key CL result (their Table 5) using *their* matching methodology on our sample of firms.[15] Panel A of Table 4 re-prints the original table for convenience. Panel B shows that we find similar results when we tabulate EOG adoption for their 1992-1995 sample period, but only for S&P 1500 firms. But once we calculate these numbers for the 1996-2005 sample period, we no longer find that EOGs significantly increase performance. This suggests that while the first generation of guidelines indeed improved performance, this effect disappears in more recent years.

For their relative short sample period, CL do not match on the year that guidelines are adopted. Although by-year matching is more appropriate for our sample, it is difficult to find a good non-adopting match for recent years because of the popularity of EOGs: After 2006, firms with EOGs outnumber firms without EOGs. Therefore, we also measure two-year post-adoption stock performance using a long-short portfolio rebalancing strategy. Each calendar year we identify EOG adopters and non-adopters, and then form adopters buy and non-adopters sell portfolios containing these stocks. We then hold these stocks until the end of the year following the adoption of these plans; at the end of the year, we rebalance the portfolios based on new plan adoptions. Panel B of Table 4 presents the results. Surprisingly, we find that the portfolio of EOG adopters significantly *under*performs the portfolio of non-adopters by 4-5 percent on an annual basis.

Underperformance for EOG adopters does not necessarily mean that incentives are aligned worse since EOGs may correlate with other firm characteristics. For example, the results in Table 3 show that EOG adopters have significantly lower total volatility,[16] so that shareholders of such firms may require a lower return to hold the stock. Furthermore, EOGs may still

[15] CL examine whether plan adoption improves firm performance relative to a matched firm that has not adopted any plans. Specifically, CL match firms on based on two-digit SIC codes, and select the firm without guidelines with an ROA closest to the sample firm in Year 0. They require that the control firm's ROA is within 90% and 110% of the sample firm's ROA. CL do not compute excess ROA if an adopting firm has missing data in Year 1 or 2, and use the 2nd best match if a matching firm has missing data for Year 1 or 2, CL 6. When we can't find a matching firm in the same industry, we follow CL by selecting firms with the closest ROA regardless of its SIC code.

[16] Unreported results show that volatility is significantly lower for the EOG adopters in Table 4.B. This difference is more significant for the 1996-2010 period than for the 1992-1995 period.

serve their purpose of increasing managerial ownership levels. For these reasons, we proceed with OLS regressions of ROA, stock performance, and managerial ownership at $t+1$ on an indicator variable, equal to one if the firm adopts EOGs in year t and zero otherwise, and a wide range of control variables. The results presented in Panel C of Table 4 suggest that EOG adoption no longer predicts negative stock returns. However, we also observe that the link between EOG adoption and subsequent ROA, stock performance, and managerial ownership is indistinguishable from zero.

Finally, even if EOGs do not meaningfully increase managerial ownership or firm performance in subsequent years, it may still be wise to adopt EOGs if doing so prevents a fight with shareholders who appreciate them as a governance mechanism. Since EOGs are more common among large firms and our analysis focuses on the S&P 1500, many of these shareholders are large institutional investors and it seems unlikely that such parties erroneoulsy believe that EOGs have substantial impact. However, shareholders may require EOGs as a matter of principle, consider EOGs a first step in a long battle towards better shareholder-based governance, or may appreciate that EOGs to have a certain symbolic impact (Kahan and Rock, 2014). To examine this, we measure the short-term price reaction of 1,349 firms, all of which have adopted EOGs, around the filing date of the proxy statement in which EOG adoption is announced. Our event study consists of calculating abnormal returns relative to the four-factor model, for four different event windows. We report compound abnormal returns and precision-weighted cumulative abnormal returns, and test for their signficance using a Patell test and a rank test. In Panel D of Table 4, we observe that abnormal returns are not statistically different from zero. While proxy statements are not a perfectly clean measure as they contain much more information than on EOGs alone, this result indicates that shareholders do not respond positively (or negatively) to EOG adoption.

We conclude that executive ownership guidelines do not affect future managerial ownership nor future firm performance, and thus have little economic relevance for either the management or the shareholders.

4 Why do firms adopt EOGs?

Ownership guidelines increased performance over the 1992-1995 period, but not afterwards. This suggests that the initial motivation for EOGs as documented in CL has disappeared over time. Yet, if recent ownership guidelines do not increase managerial ownerhip, and do not improve future performance either, then why have they proliferated to about two-thirds of all S&P 1500 firms over recent years? In this section, we demonstrate that board connections play a significant role in explaining the popularity of EOGs.

The board of directors plays a key role in business decisions, which requires extensive business, political, and/or legal expertise. As a consequence, many board members are often executives and/or board members of other firms. For example, about half of our sample of S&P 1500 firms are connected to at least one other S&P 1500 firm through a board interlock, with the average director sitting on 1.93 S&P 1500 boards. Board connections have been shown to increase the likelihood of corporate governance and compensation practices such as CEO pay (e.g., Hallock 1997; Core, Holthausen, and Larcker, 1999), poison pills (Davis, 1991), golden parachutes (Davis and Greve, 1997), the searching and vetting of potential CEO candidates (Khurana, 2002), option backdating (Bizjak, Lemmon, and Whitby; 2009), and change-of-control transactions (Stuart and Yim, 2010).

It is useful to compare our setting to these previous studies. Poison pills, golden parachutes, attracting new executives, and option backdating are all corporate practices that are valuable to the management and/or the firm. On the one hand, poison pills and golden parachutes entrench the executive and thus improve her bargaining position, whereas golden parachutes and option backdating increase the executive's compensation. On the other hand, shareholders may benefit from implementing these practices, which are arguably optimal in a certain way. As a result, it is difficult to distinguish whether these practices spread because of board connections or because the focal companies attract board members who have previously shown that they approve such practices. Since the adoption of EOGs is does not benefit

management or the shareholders, we do not have this problem.[17]

4.1 EOGs and management fashions

Since adopting EOGs has no economic consequences or any meaningful financial outcome, it offers a unique and interesting setting to examine the role that boards play in the dissemination of management fashions and their adoption into corporate practice. Management fashions are defined as transitory collective beliefs that certain management techniques are at the forefront of management progress. Managers may adopt these techniques in order to appear to be using efficient means toward important ends (Abrahamson, 1996). Empirical evidence shows management fashions are economically important, with most of the managerial interventions introduced into organizations resembling transient fads more than true programs of social change (Zucker, 1988).

Carson, Lanier, Carson, and Guidry (2000) survey the extensive literature on management fashions, and identify several features that all are consistent with the evidence on EOGs described above. Specifically, management fashions are:

1. subject to social contagion (Zeitz et al., 1999) because they are and perceived to be progressive, or preferable to preexisting fashions (Abrahamson, 1991). However, one management fashion may be more transitory than another (Abrahamson, 1996).

2. perceived to be innovative, rational, and functional (Abrahamson & Fairchild, 1999).

3. aimed at encouraging better organizational performance either materially or symbolically, through image enhancement (Nystrom and Starbuck, 1984).

4. motivated by a desire either to remedy some existing operational deficiency or to prospectively capitalize on opportunities for improvement (Abrahamson, 1991).

[17] In fact, the following statement against a proposal by the American Federation of State, County and Municipal Employees ("AFSCME") to install guidelines at Autodesk, Inc., found in the proxy statement from June 17, 2004, indicates the opposite: *"If the stock ownership guidelines suggested by the proponent were adopted, we believe that it would seriously undermine our ability to recruit and retain talented executives, which would be detrimental to the long-term interests of our stockholders."*

5. not legitimized by systematic and comprehensive research legitimizing their prolonged utility or generalizability emerges (Dunnette, 1966; Zucker, 1991).

Management fashions may arise from a desire to learn how to respond to changes in the economic environment (Abrahamson, 1991). One of the such changes is possibly the public attention for corporate governance in the 1990s. Dyck and Zingales (2002) and Dyck et al. (2008) show that media exert pressure on executives and directors to behave in ways that are 'socially acceptable'. However, corporate governance does not have many deeply entrenched principles on which executives and directors can rely, and managers may resort to adopting management fashions to appear to be conforming to 'socially resonsible' norms.

We empirically examine this idea in Panel A of Table 6, which presents estimation results from a pooled[18] probit regression, with the dependent variable equal to one if firms adopt ownership guidelines and zero otherwise. We include all control variables from Table 4.C but the variable of interest is "EOG Interlocks", a dummy equal to one if one of the board members also sits on the board of an interlocking firm that had previously adopted EOGs.[19] In all models the dummy is highly significant at better than the 1 percent level, indicating that board connections play a significant role in adopting EOGs.

4.2 Endogeneity

While the impact of "EOG Interlocks" is highly significant, several stories can be imagined that offer alternative explanations for this effect. Therefore, we proceed by using the timing of board interlocks to increase the likelihood that board members' past experience with EOGs indeed travels with them to other current and future directorships. We follow Stuart and Yim (2010) and use the timing of directors' arrival to and departure from boards, coupled with the timing of EOG adoption at interlocking firms, to alleviate these endogeneity issues.

[18] While previous studies such as CL use a matched-firm approach, this is not possible for recent years when more than half of the firms have their guidelines installed.

[19] Results are similar when we measure board connections by the number of EOG interlocks.

4.2.1 Alternative channels

It could be argued that EOGs may spread across firms through social networks other than interlocking boards. For instance, board members may seek the same outside council, and the adoption of EOGs may also be encouraged by compensation consultants that are shared between firms.[20]

Furthermore, EOGs may be triggered proxy advisory firms: For instance, as of 2008, Institutional Shareholder Services (ISS) has formally incorporated EOGs in its proxy voting guidelines.[21] We address these concerns in columns 1-3 of Table 6.B.

First, Bizjak et al. (2009) present some evidence that corporate outside counsel tends to cluster both on industry and on location, and control for this by including state and industry dummies. While state dummies somewhat reduce our sample size, Column 1 shows that "EOG interlocks" is robust to adding these industry and location fixed effects.

Second, we include a "Big-five consultant" dummy related to whether a firm consults with one of the five large compensation firms. While data on compensation consultants has only become available from 2006 onwards, Column 2 shows that the "EOG interlocks" is also robust to adding compensation consultants as a variable.

Third, the general rise in importance of proxy advisory firms, as well as other developments such as Sarbanes-Oxley and "Say on Pay," are captured by the year fixed effects we include in all our regressions. However, since ISS is the leading proxy firm, board members may be more inclined to share their experience with adopting EOGs from 2008 onwards. Hence, we interact "EOG Interlocks" with a dummy equal to one for the years after 2007. The interaction term is significant indicating that the impact of "EOG interlock" on EOG adoption increases significantly after 2007. At the same time, the "EOG interlock" *level* vari-

[20]Some anecdotal evidence for this can be found in the proxy statement of Bowne & Co, Inc., filed on May 22, 2008, which states that *"In March 2008, the Committee adopted the independent consultant's recommendation to provide the ownership guidelines as a multiple of base salary instead of a fixed number of shares."*

[21]See RiskMetrics Group, "2008 U.S. Proxy Voting Guidelines Summary," ISS Governance Services, December 17, 2007.

able remains significant: Post-2007 interlocks do not explain the impact of EOG interlocks during the 1996-2010 sample period.

4.2.2 Coinciding patterns

Another argument against our claim that EOGs spread through board connections is that EOGs themselves are irrelevant, but patterns in their adoption follow the same patterns as board interlocks. In this case, the link between EOGs and board interlocks would be spurious. We approach this concern as follows.

First, we interact "EOG Interlocks" with a "Compensation Committee" dummy equal to one if a board member sits on the compensation committee (either as chair or as member). These individuals are more likely to focus on compensation-related issues. The coefficient on the interaction term is highly significant. Hence, if the patterns to board interlocks follow a similar pattern as EOGs, then this pattern is likely to be compensation-related.

Second, we interact "EOG Interlocks" with a "EOG carrier" dummy variable equal to one if an interlocking director joins the focal firm in the years after the interlocking firm has adopted EOGs. These directors are more likely to transmit the adoption of EOGs from one firm to the next. The coefficient on the interaction is highly significant, indicating that directors who migrated *after* they previously adopted EOGs are significantly more likely to again adopt EOGs. This transmission effect is significant above and beyond the unconditional effect of "EOG Interlocks" on the probability of adopting guidelines.

4.2.3 Unobserved heterogeneity

As mentioned previously, since the guidelines have little economic consequences for both executives and shareholders, EOG adoption is unlikely to be driven by executives who select EOG-experienced directors. Nevertheless, it could be that directors are optimally matched to firms based on an unobserved characteristic that is unrelated to EOG adoption, but nevertheless increases the probability that both firms adopt EOGs. We take two approaches

to tackle this concern.

First, boards with low tenure are more likely to consist of directors who were, based on any criterion, strategically placed. Therefore, we directly control for the average tenure of board members, but we find that EOGs are more likely adopted in companies with long-seated directors. Although the average tenure of board members may also capture other uncontrolled firm attributes including company age or executive turnover, it appears that strategically placed directors actually *decrease* the probability of adopting EOGs.

Conversely, we create a "Left Early" dummy variable that equals one if a firm has a director on the board who left an interlocking firm before it would adopt EOGs. Hence, the director did not stay long enough to experience the adoption at the interlocking firm. If an unobservable characteristic is responsible for matching directors to firms, then the fact that these directors once matched to firms that adopted EOGs should also increase the likelihood of EOG adoption at subsequent firms. However, these directors do not bring any experience on adopting guidelines because they left the interlocking firm before adoption. We find that "Left Early" *decreases* the EOG adoption to an extent that it effectively brings down the sum of coefficients on "EOG Interlocks" and "Left Early" to less than one standard error. Hence, when a director leaves before EOGs are adopted at the interlocking firm, the probability of EOG adoption at the focal firm becomes indistinguishable from zero.

5 Conclusion

Stock ownership requirements have become a standard element of firms' proxy statements, and two-thirds of the S&P 1500 firms have adopted such guidelines. The argument in favor of such requirements is that managers are more likely to pursue long-term firm value when they have sufficient skin in the game. This paper examines the nature, cause, and consequence of these guidelines.[22]

[22]Future directions for further research may include calculating the marginal effects board interlocks on EOG adoption, and a search for factors that determine the required salary multiples and duration of the

Contrary to this line of thought, we find that the "requirements" are of a non-binding nature, to the extent that they are essentially meaningless. Not surprisingly, our results do not indicate that ownership levels increase after formal executive ownership guidelines (EOGs) have been adopted, nor that performance is meaningfully improved after adoption. We find that corporate directors disseminate these guidelines, even though they are of little economic importance, through overlapping board positions. Given that the guidelines are of little economic importance, their proliferations suggests that boards are important in the spreading of "management fashion" practices that arise from managers' desire to learn how to deal with changes in their economic environment.

allowed grace period. Furthermore, since unvested shares serve a purpose similar to EOGs, we may also examine to what extent the two are substitutes.

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Figure 1: Count of firms disclosing executive ownership guidelines
This figure shows the number of firms disclosing executive ownership guidelines (EOGs) amongst all S&P 1500 firms from 1996-2010.

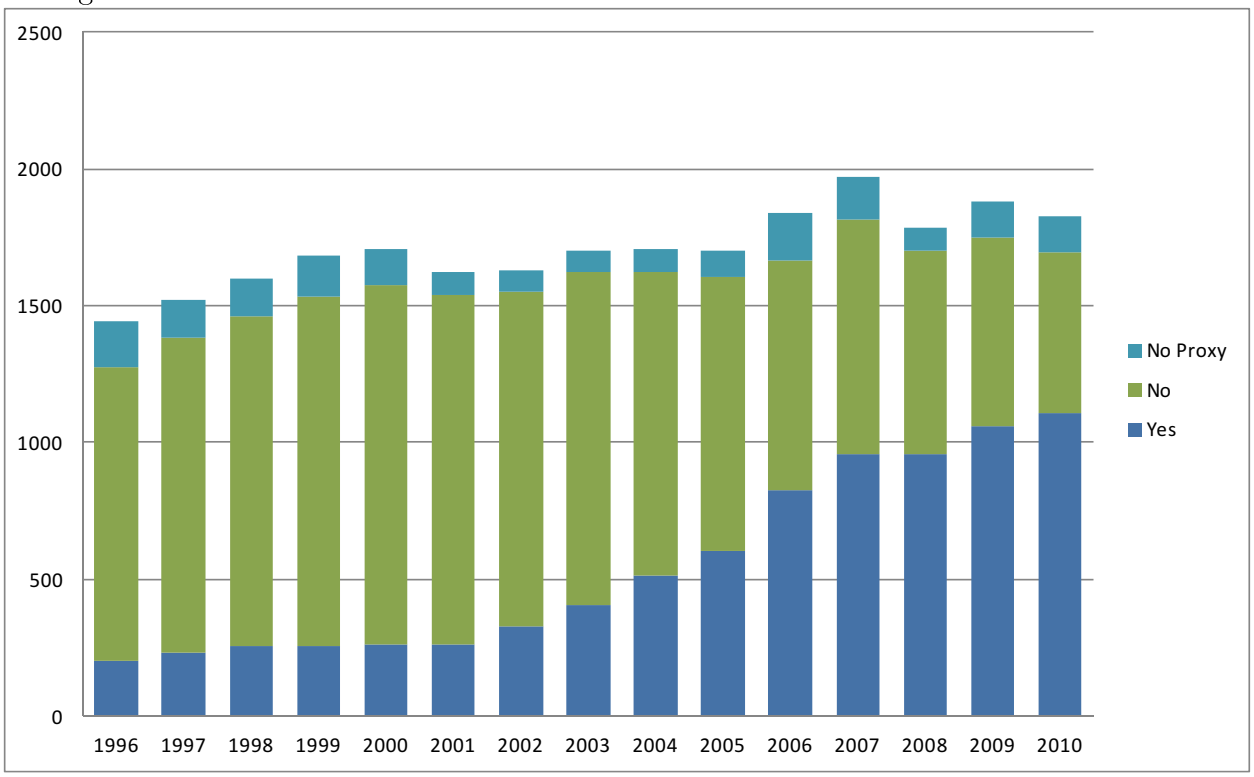

Table 1: Descriptive statistics of EOGs requirements

This table present summary statistics on paragraphs in the proxy statement describing executive ownership guidelines (EOGs). All characteristics are taken directly from the proxy statement except for the industry definitions from Ken French's website. Panel A reports the number of firms for which we find EOGs ("Yes"), do not find EOGs ("No"), or don't find a proxy at all ("No Proxy"). Panel B reports the number and percentage of firms that have EOGs across 12 industries based on Kenneth French's industry definitions. Panel C reports the number ("#") and percentage ("%") of firms that design the EOGs based on salary, shares, both, other criteria ("Other"), or do not specify their design ("Not Specified"). Panel D reports summary statistics on the required level of CEO stock ownership as stipulated by the EOGs, expressed as a multiple of salary. Panel E reports summary statistics on the grace period allowed for CEOs to attain the required ownership levels as stipulated by the EOGs, expressed in years.

Panel A: Disclosure of executive ownership guidelines

	Yes	No	No Proxy	Total
1996	202	1072	171	1445
1997	233	1152	139	1524
1998	256	1204	142	1602
1999	257	1278	150	1685
2000	262	1316	127	1705
2001	261	1278	84	1623
2002	328	1222	81	1631
2003	404	1221	74	1699
2004	512	1114	81	1707
2005	603	1005	96	1704
2006	826	837	175	1838
2007	958	860	153	1971
2008	960	740	83	1783
2009	1058	691	131	1880
2010	1106	591	132	1829

Table 1: Descriptive statistics of EOGs requirements (Continued)

Panel B: Ownership guidelines across industry

	NonDur		Durables		Manufact		Energy		Chemicals		BusEq		Telecom		Utilities		Shops		Healthcare		Finance		Others	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1996	107	11%	51	18%	208	21%	65	15%	63	21%	183	10%	40	20%	107	11%	188	10%	113	11%	164	17%	155	10%
1997	111	13%	54	22%	217	24%	66	15%	62	29%	214	11%	35	20%	104	13%	204	10%	117	11%	178	17%	162	10%
1998	112	13%	56	21%	222	24%	65	12%	61	30%	247	10%	37	22%	105	18%	209	11%	121	13%	191	18%	176	14%
1999	113	13%	55	16%	223	26%	67	13%	60	33%	304	8%	39	10%	99	21%	214	10%	122	14%	198	17%	191	14%
2000	110	13%	49	16%	222	26%	68	15%	59	32%	322	9%	38	11%	95	25%	212	9%	122	14%	213	16%	195	13%
2001	96	18%	48	21%	213	24%	60	12%	55	36%	312	9%	33	12%	90	30%	200	11%	117	14%	209	18%	190	12%
2002	97	25%	47	23%	213	30%	61	20%	55	36%	312	12%	33	12%	88	36%	195	12%	118	15%	222	24%	190	16%
2003	95	32%	47	26%	209	30%	68	22%	53	42%	323	16%	35	17%	87	47%	208	16%	133	17%	246	29%	195	18%
2004	99	37%	51	31%	210	37%	70	26%	50	48%	318	21%	35	23%	86	59%	208	24%	137	22%	244	35%	199	24%
2005	100	43%	48	38%	209	41%	67	37%	50	50%	317	26%	35	29%	86	71%	203	30%	127	26%	258	40%	204	29%
2006	103	47%	50	52%	213	50%	76	45%	51	65%	325	36%	42	31%	83	81%	212	42%	146	35%	321	46%	216	43%
2007	112	48%	54	57%	217	59%	82	51%	58	71%	364	40%	51	33%	83	84%	217	47%	153	37%	358	49%	222	44%
2008	103	50%	46	65%	199	64%	81	57%	52	73%	332	45%	47	34%	78	94%	197	53%	130	46%	318	52%	200	49%
2009	109	53%	47	66%	207	66%	83	57%	54	76%	344	48%	48	38%	82	91%	218	55%	139	48%	334	55%	215	53%
2010	106	58%	47	64%	204	67%	79	70%	53	79%	328	55%	47	38%	82	87%	214	57%	130	55%	329	58%	210	60%

Table 1: Descriptive statistics of EOGs requirements (Continued)

Panel C: Ownership guidelines design

	Salary		Shares		Mix		Others		Not Specified		Total
	#	%	#	%	#	%	#	%	#	%	
1996	152	(75%)	12	(6%)	1	(0%)	6	(3%)	31	(15%)	202
1997	184	(79%)	12	(5%)	1	(0%)	5	(2%)	31	(13%)	233
1998	204	(80%)	15	(6%)	1	(0%)	8	(3%)	28	(11%)	256
1999	204	(79%)	13	(5%)	1	(0%)	8	(3%)	31	(12%)	257
2000	209	(80%)	14	(5%)	1	(0%)	9	(3%)	29	(11%)	262
2001	208	(80%)	11	(4%)	1	(0%)	9	(3%)	32	(12%)	261
2002	251	(77%)	21	(6%)	2	(1%)	11	(3%)	43	(13%)	328
2003	310	(77%)	27	(7%)	4	(1%)	14	(3%)	49	(12%)	404
2004	403	(79%)	42	(8%)	7	(1%)	18	(4%)	42	(8%)	512
2005	475	(79%)	58	(10%)	12	(2%)	19	(3%)	39	(6%)	603
2006	648	(78%)	110	(13%)	27	(3%)	34	(4%)	7	(1%)	826
2007	763	(80%)	124	(13%)	31	(3%)	34	(4%)	6	(1%)	958
2008	768	(80%)	126	(13%)	33	(3%)	29	(3%)	4	(0%)	960
2009	830	(78%)	148	(14%)	45	(4%)	30	(3%)	5	(0%)	1058
2010	880	(80%)	132	(12%)	52	(5%)	35	(3%)	7	(1%)	1106

Table 1: Descriptive statistics of EOGs requirements (Continued)

Panel D: Required Ownership

	Mean	Median	Max	Min	Std Dev	%Not Specified
1996	4.4	4	15	0.5	2.0	10%
1997	4.5	4	15	0.5	1.9	11%
1998	4.6	4	15	0.5	1.9	9%
1999	4.6	5	20	0.5	2.2	7%
2000	4.6	5	20	0.5	2.0	7%
2001	4.6	5	20	0.5	2.0	7%
2002	4.8	5	25	0.75	2.3	8%
2003	4.9	5	32	0.75	2.6	6%
2004	5.1	5	44	0.75	3.1	6%
2005	5.0	5	51	0.75	3.1	4%
2006	4.6	5	25	0.25	2.2	1%
2007	4.6	5	25	0.5	2.1	0%
2008	4.6	5	25	0.5	1.8	0%
2009	4.6	5	15	0.5	1.6	0%
2010	4.6	5	15	0.5	1.6	0%

Table 1: Descriptive statistics of EOGs requirements (Continued)

Panel E: Time to achieve the target level (years)

	Mean	Median	Max	Min	Std Dev	%Not specified	Total
1996	4.9	5	10	2	1.5	53%	202
1997	5.0	5	10	3	1.3	54%	233
1998	5.0	5	10	2	1.4	53%	256
1999	4.9	5	10	2	1.3	52%	257
2000	4.9	5	10	3	1.2	48%	262
2001	4.9	5	10	3	1.2	49%	261
2002	4.7	5	10	2	1.0	47%	328
2003	4.8	5	10	2	0.9	46%	404
2004	4.7	5	10	2	0.9	42%	512
2005	4.7	5	10	2	0.9	39%	603
2006	4.7	5	10	1	1.0	28%	826
2007	4.7	5	10	1	0.9	27%	958
2008	4.8	5	10	1	0.8	28%	960
2009	4.8	5	10	1	0.8	27%	1058
2010	4.8	5	12	1	0.9	31%	1106

Table 2: Descriptive statistics of EOGs compliance

This table presents summary statistics on actually held ownership expressed in salary multiples, and the fraction of CEOs who comply to their firm's ownership guidelines. We calculate salary multiples by multiplying CEO stock ownership with the share price, and dividing the result by the CEO's salary. It is assumed that companies do not count unexercised options and unvested stock towards their guidelines. In the rightmost colum, we divide this "realized" salary multiple ratio by the required multiples in the proxies so that a ratio of 1 (i.e., 100%) signifies exact compliance, and a larger (smaller) ratio indicates over (under) compliance.

	#Obs.	Mean	Median	Std Dev	10th Pct	90th Pct	Compliance %
1996	74	27	8	95	2	38	78%
1997	102	37	9	146	2	63	81%
1998	119	46	10	156	2	59	74%
1999	121	35	9	120	2	59	75%
2000	121	38	9	126	2	66	80%
2001	116	36	9	109	3	56	79%
2002	144	30	8	87	2	38	74%
2003	167	40	10	174	2	67	78%
2004	212	94	12	659	2	82	75%
2005	239	67	13	276	3	79	77%
2006	268	121	16	1004	3	91	81%
2007	310	119	14	1136	3	81	85%
2008	349	87	8	960	1	47	70%
2009	403	74	10	755	2	41	78%
2010	504	69	11	660	2	46	78%

Table 3: Comparison between EOG firms and non-EOG firms

This table presents comparisons in means and medians between firms that adopt executive ownership guidelines (EOG) over our 1996-2010 sample period and those which do not implement EOGs. All variables are lagged one year. CEO stock ownership (ln $share/$salary) is natural logarithm of the number of shares held by a CEO times the stock price at the fiscal year end divided by the annual salary. Ownership (ln #shares) is natual logarithm of the number of shares held by a CEO at the fiscal year end. Firm size is measured as the natural logarithm of total assets. Return on assets is net income divided by total assets. Past 60-month stock volatility is the standard deviation of the past 60-month stock returns. Free cash flow is operating income before depreciation minus capital expenditures. Entrenchment index is a measure of corporate governance, following the denition of Bebchuk, Grinstein, and Peyer (2010). Board size is total number of directors that compound the board. CEO-chairman equals to one if the CEO also holds the position as the chairman of the board and zero otherwise. Independent comp. committee is a dummy variable that equals one if all the compensation committee members are independent; and zero otherwise. Private information is a measure of information environment, as measure by Durnev, Morck, Yeung, and Zarowin (2003). Expected analyst coverage the fitted values of regressing the number of analysts on firm size and industry fixed effects as suggested by Das, Guo, and Zhang (2006)).The last two columns show p-values for t-test and Wilcoxon rank sum test from the tests of equality of means and medians, respectively. *** represents statistical significance at 1% level.

	EOG firms				Non-EOG firms				Comparison (p-value)			
	Obs.	Mean	Median	Std.Dev.	Obs.	Mean	Median	Std.Dev.	t-test		Ranksum	
CEO ownership												
Ownership (ln $share/$salary)	8492	0.24	0.21	0.18	17812	0.28	0.21	0.30	0.00	***	0.07	*
Ownership (ln #shares)	8492	5.3	5.4	1.8	17812	5.2	5.4	2.5	0.00	***	0.59	
Firm characteristics												
Firm size (ln total assets)	8487	8.39	8.26	1.60	17802	7.10	6.90	1.61	0.00	***	0.00	***
Return on assets	8487	0.04	0.04	0.08	17797	0.03	0.04	0.12	0.00	***	0.00	***
Stock return	8406	0.14	0.11	0.45	17535	0.18	0.09	0.58	0.00		0.45	
3-year stock volatility	8255	0.30	0.26	0.16	16727	0.37	0.32	0.20	0.00	***	0.00	***
Information environment												
Private information	8210	0.62	0.62	0.19	15539	0.76	0.79	0.18	0.00	***	0.00	***
Expected analyst coverage	6749	2.37	2.33	0.49	11494	2.07	2.02	0.45	0.00	***	0.00	***
Corporate governance												
Free cash flow/Total assets	8487	0.17	0.16	0.11	17802	0.18	0.17	0.14	0.00	***	0.00	***
Entrenchment index	7761	2.83	3.00	1.35	13616	2.19	2.00	1.35	0.00	***	0.00	***
Board size	7327	10.25	10.00	2.39	12012	9.07	9.00	2.72	0.00	***	0.00	***
CEO-chairman	8402	0.62	1.00	0.49	17519	0.59	1.00	0.49	0.00	***	0.00	***
Independent comp. committee	7323	0.85	1.00	0.36	11995	0.65	1.00	0.48	0.00	***	0.00	***
Institutional ownership	7679	0.73	0.76	0.19	15368	0.62	0.64	0.23	0.00	***	0.00	***
#Interlocks with EOG firms	6692	9.22	9.00	3.46	10725	1.23	0.00	2.00	0.00	***	0.00	***

Table 4: Executive ownership guidelines and stock performance

This table presents different approaches to linking executive ownership guidelines (EOGs) to firm performance. Panel A replicates the 1992-1995 results in Core and Larcker (2002) for 2006-2010. Core and Larcker calculate excess ROA by using the matched-firm approach of Barber and Lyon (1996), where the matching firm is the firm in the same industry with the closest prior operating performance, and by using both operating income after depreciation and operating income before depreciation. They calculate excess stock returns using the matched-firm approach of Barber and Lyon (1997), where each sample firm is matched to the non-sample firm with the closest book-tomarket ratio within that subset of firms whose market value lies between 70% and 130% of the sample firm market value. Panel B presents value-weighted monthly return to a trading porfolio that is long EOG firms and short non-EOG firms. To construct portfolios, we identify EOGs plan adopters and non-adopters, and then form adopters buy and non-adopters sell portfolios containing these stocks. Firms enter the buy portfolio after the proxy filing. Panel C presents two daily abnormal return (AR) measures and z-statistics after an event study for several common event windows. We use a standard market model based on the CRSP value-weighted market index and the Fama-French-Carhart factors. The estimation period ends 46 days before the event, and has a length of at least 3 days and at most 255. *, **, and *** indicate significance at better than the 10%, 5%, and 1% level, respectively.

Panel A: Reprint of Core and Larcker (2002)'s main result

Core and Larcker (2002)'s results (All EOGs, 1992-1995)					
	#firms	Mean	p-value	Median	p-value
Panel A Operating performance					
Excess ROA computed using operating income after depreciation:					
Year 0	190	0.0%	0.552	-0.0%	0.321
Year 1	190	1.2%	0.028	0.5%	0.024
Year 1 and 2	181	1.8%	0.017	0.8%	0.002
Excess ROA computed using operating income before depreciation:					
Year 0	181	0.0%	0.843	-0.0%	0.462
Year 1	181	1.2%	0.049	0.6%	0.017
Year 1 and 2	173	1.4%	0.068	0.7%	0.025
Panel B Stock price performance					
Excess returns:					
First six month of year 1	190	3.8%	0.086	2.9%	0.041
Year 1	190	5.7%	0.161	5.7%	0.160
Year 1 and 2	190	5.3%	0.442	7.9%	0.171

Table 5: Executive ownership guidelines and stock performance (Continued)

Panel B: Replication of Core and Larcker (2002)'s main result in our sample

Core and Larcker (2002)'s results (S&P 1500 EOGs)						**Updated results (S&P 1500 EOGs, 1996-2010)**					
	#firms	Mean	p-value	Median	p-value		#firms	Mean	p-value	Median	p-value
Panel A Operating performance						*Panel A Operating performance*					
Excess ROA computed using operating income after depreciation:						Excess ROA computed using operating income after depreciation:					
Year 0	138	0.0%	0.463	0.0%	0.268	Year 0	1292	0.0%	0.084	0.0%	0.303
Year 1	138	0.5%	0.201	0.2%	0.551	Year 1	1273	0.4%	0.033	0.0%	0.779
Year 1 and 2	137	1.4%	0.178	0.5%	0.494	Year 1 and 2	1217	1.1%	0.010	0.1%	0.422
Excess ROA computed using operating income before depreciation:						Excess ROA computed using operating income before depreciation:					
Year 0	135	-0.1%	0.061	0.0%	0.085	Year 0	1246	0.1%	0.003	0.0%	0.630
Year 1	135	1.2%	0.011	0.7%	0.010	Year 1	1226	0.4%	0.084	0.0%	1.000
Year 1 and 2	134	2.5%	0.029	1.6%	0.020	Year 1 and 2	1171	0.8%	0.081	0.1%	0.815
Panel B Stock price performance						*Panel B Stock price performance*					
Excess returns:						Excess returns:					
First six month of year 1	139	2.2%	0.374	1.4%	0.865	First six month of year 1	1268	-0.5%	0.598	0.4%	0.800
Year 1	139	5.4%	0.163	7.3%	0.042	Year 1	1271	-0.7%	0.650	0.9%	0.654
Year 1 and 2	139	12.3%	0.017	10.0%	0.042	Year 1 and 2	1253	-4.0%	0.028	-3.5%	0.114

Table 4: Executive ownership guidelines and stock performance (Continued)

Panel B: Annual returns on EOG-based long-short portfolio rebalancing strategy

	Market Model			Fama-French 3-Factor Model			Fama-French 4-Factor Model		
	1 year	2 years	3 years	1 year	2 years	3 years	1 year	2 years	3 years
alpha	0.000	-0.004 **	-0.003 **	0.000	-0.004 **	-0.003 **	-0.001	-0.004 **	-0.002 *
	(0.14)	(-2.13)	(-1.73)	(-0.06)	(-2.19)	(-1.74)	(-0.34)	(-2.26)	(-1.61)
mktrf	-0.024	0.038	-0.001	0.000	0.062	0.007	0.032	0.072	-0.004
	(-0.54)	(1.02)	(-0.02)	(0.00)	(1.61)	(0.21)	(0.67)	(1.73)	(-0.11)
smb				-0.007	-0.069 *	-0.020	-0.017	-0.073 *	-0.016
				(-0.11)	(-1.34)	(-0.46)	(-0.28)	(-1.40)	(-0.36)
hml				0.118	0.061	0.021	0.144	0.068	0.013
				(1.85)	(1.12)	(0.46)	(2.23)	(1.22)	(0.29)
umd							0.076	0.022	-0.024
							(1.97)	(0.67)	(-0.88)
Observations	204	204	204	204	204	204	204	204	204
Adj. R-squared	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.01	0.01

Table 4: Executive ownership guidelines and stock performance (Continued)

Panel C: Regressions

	Firm Performance_t+1				CEO ownership_t+1			
	ROA		Stock Return		ln $share/$salary		ln #shares	
EOG dummy	0.299		0.357		-0.035		-0.032	
	(0.216)		(1.341)		(0.038)		(0.035)	
ROA	0.276	***	-0.348	***	0.007	***	0.005	***
	(0.011)		(0.067)		(0.002)		(0.002)	
Stock return	0.030	***	-0.071	***	0.001	***	0.002	***
	(0.002)		(0.010)		(0.000)		(0.000)	
Stock volatility	-5.937	***	15.708	***	-0.269	***	-0.030	
	(0.524)		(3.259)		(0.093)		(0.084)	
Ownership (ln $share/$salary)	0.458	***	-5.919	***	0.604	***	-0.237	***
	(0.124)		(0.771)		(0.022)		(0.020)	
Ownership2 (ln $share/$salary)	-0.021	**	0.394	***	0.012	***	0.016	***
	(0.010)		(0.064)		(0.002)		(0.002)	
Ownership (ln #shares)	-0.905	***	4.872	**	-0.294	***	0.614	***
	(0.333)		(2.070)		(0.059)		(0.054)	
Ownership2 (ln #shares)	0.026	**	-0.068		0.014	***	0.010	***
	(0.012)		(0.077)		(0.002)		(0.002)	
Firm size (ln total assets)	-1.362	***	0.706		-0.027		-0.006	
	(0.101)		(0.626)		(0.018)		(0.016)	
Free cash flow/Total assets	0.280	***	0.500	***	-0.001		-0.005	***
	(0.011)		(0.066)		(0.002)		(0.002)	
Entrenchment index	-0.033		-0.097		0.005		0.007	
	(0.048)		(0.302)		(0.009)		(0.008)	
Board size	-0.039		-0.597	***	-0.028	***	-0.017	***
	(0.032)		(0.199)		(0.006)		(0.005)	
CEO-chairman	-0.039		-0.597	***	-0.028	***	-0.017	***
	(0.032)		(0.199)		(0.006)		(0.005)	
Independent compensation	-0.331	***	0.232		-0.013		-0.020	
committee	(0.124)		(0.771)		(0.022)		(0.020)	
ln #interlock with EOG firms	-0.094		0.355		-0.005		-0.007	
	(0.121)		(0.755)		(0.022)		(0.020)	
Institutional ownership	-0.086		0.394		-0.030		-0.059	**
	(0.168)		(1.048)		(0.030)		(0.027)	
Private information	-0.906	**	-6.387	***	-0.111	*	-0.044	
	(0.376)		(2.338)		(0.067)		(0.060)	
Expected analyst coverage	-0.783	*	-2.959		-0.038		0.030	
	(0.475)		(2.959)		(0.085)		(0.077)	
Intercept	4.641	***	-4.318	**	0.384	***	0.321	***
	(0.325)		(2.026)		(0.058)		(0.052)	
Industry dummies	Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes	
Number of observations	12032		12032		12032		12032	
Adjusted R-squared	0.461		0.196		0.654		0.653	

Table 4: Executive ownership guidelines and stock performance (Continued)

Panel D: Daily returns on EOG-based long-short portfolio rebalancing strategy

Days	N	Compound AR	CumulativeAAR	Patell Z-score	p-value	Rank Z-score	p-value
(-1,+1)	1349	0.04%	0.02%	0.165	0.4344	0.1	0.4603
(-3,+3)	1349	-0.05%	-0.03%	-0.217	0.414	-0.523	0.3006
(-5,+5)	1349	-0.14%	-0.12%	-0.823	0.2052	-0.886	0.1882
(-10,+10)	1349	-0.01%	0.06%	0.276	0.3913	-0.286	0.3873

Table 6: Why do firms adopt guidelines?

This table presents probit regressions with the dependent variable equal to one for each firm-year in which stock ownership guidelines are adopted, and zero otherwise. The independent variables are as described in Section 3.1 and measured at time $t-1$. Panel A presents baseline regressions. Panel B presents several robustness and identification checks. Standard errors are clustered at firm level. *, **, and *** indicate significance at better than the 10%, 5%, and 1% level, respectively.

Panel A: Baseline regressions

	(1)		(2)		(3)	
EOG interlocks	1.435	***	1.429	***	1.454	***
	(0.049)		(0.050)		(0.054)	
Firm size (ln total assets)	0.204	***	0.223	***	0.229	***
	(0.024)		(0.025)		(0.046)	
Free cash flow/Total assets	0.014	***	0.012	***	0.012	***
	(0.003)		(0.004)		(0.004)	
Entrenchment index	0.161	***	0.140	***	0.138	***
	(0.021)		(0.022)		(0.023)	
Board size	0.036	***	0.022		0.018	
	(0.013)		(0.013)		(0.015)	
CEO-chairman	0.045		0.075	*	0.084	*
	(0.044)		(0.044)		(0.047)	
Independent compensation	0.169	***	0.160	**	0.171	**
committee	(0.062)		(0.064)		(0.068)	
Institutional ownership	0.188		0.011		-0.076	
	(0.149)		(0.156)		(0.177)	
Return on assets			0.002		0.002	
			(0.003)		(0.004)	
Stock return			0.001		0.000	
			(0.000)		(0.000)	
Stock volatility			-0.881	***	-0.989	***
			(0.220)		(0.229)	
Private information					0.060	
					(0.178)	
Expected analyst coverage					0.028	
					(0.139)	
Intercept	-4.413	***	-5.966	***	-4.491	***
	(0.234)		(1.200)		(0.787)	
Ownership variables from Table 4C	Yes		Yes		Yes	
Industry dummies	Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes	
Number of observations	12994		12614		11084	
Pseudo R-squared	0.341		0.352		0.357	

Table 6: Why do firms adopt guidelines? (Continued)

Panel B: Robustness and identification checks

	(4)		(7)		(11)		(5)		(8)		(9)		(10)	
EOG interlocks	1.510	***	1.107	***	1.577	***	1.182	***	1.205	***	1.436	***	1.419	***
	(0.064)		(0.055)		(0.074)		(0.052)		(0.054)		(0.054)		(0.063)	
EOG * Year 08-10			1.019	***										
			(0.060)											
Big-five consultant					0.188	***								
					(0.068)									
EOG * EOG Carrier							0.300	***						
							(0.023)							
EOG * Compensation committee									(0.437)	***				
									(0.028)					
Average board tenure											0.002	**		
											(0.001)			
Left director													-1.359	***
													(0.062)	
Intercept	-7.547	***	-5.348	***	-6.478	***	-4.927	***	-5.470	***	-6.141	***	-6.765	***
	(1.697)		(1.344)		(2.035)		(1.245)		(1.299)		(1.408)		(1.430)	
Controls from panel A	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Industry dummies	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
State dummies	Yes		No		No		No		No		No		No	
Number of observations	9082		11084		5086		11084		11084		11084		11084	
Pseudo R-squared	0.382		0.404		0.308		0.456		0.402		0.358		0.444	