Center for Economic Institutions

Working Paper Series

CEI Working Paper Series, No. 2005-2

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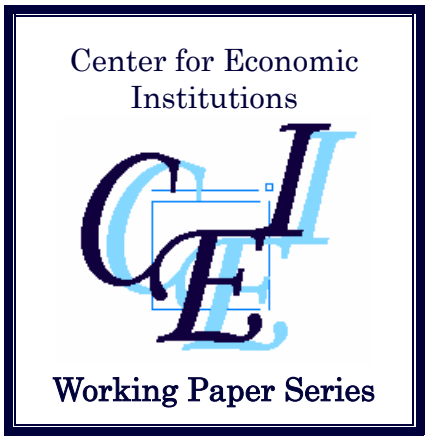

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Do Directors Perform for Pay?

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This Version: April 6, 2004

Abstract

Many corporations reward their outside directors with a modest fee for each board meeting they attend. Using two non-overlapping data sets on director attendance behavior, we provide robust evidence that directors are less likely to have attendance problems at board meetings when board meeting fees are higher. This is suprising since meeting fees, on average roughly $1,200, represent an arguably small fraction of the total wealth of a representative director in our samples. Thus, corporate directors appear to perform for even very small financial rewards. We also find that firms that do not pay meeting fees appear to pay each of their directors approximately $40,000 more than firms that pay meeting fees. This suggests that firms that ignore meeting fees as an incentive device have a tendency to overpay their directors.

JEL classification: G34; J41; M52

Keywords: Directors; Executive Compensation; Incentives; Attendance; Board Meetings.

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1 Introduction

A thousand dollars is a trivial amount for directors of Fortune 500 firms, many of them top executives and CEOs. Nevertheless, that is exactly how much many Fortune 500 firms pay their outside directors to attend board meetings. Since the goal of board meeting fees is to both motivate and compensate directors for attending meetings, a natural question is: How do firms manage to influence director attendance by means of such low meeting fees? Or: Do meeting fees have any effect on attendance at all?

A natural response to these questions is that it should not matter whether monetary rewards are small; a thousand dollars is still better than nothing, thus directors should be more willing to attend meetings when they are paid something. After all, a central tenet of economic theory is the principle that people respond to incentives. However, many psychologists and economists have questioned the effectiveness of monetary rewards as a means of improving performance. Recently, it has been shown that people respond differently to changes in monetary rewards, depending on whether these changes occur on the intensive or the extensive margins: Individuals commonly perform better when paid more rather than less, but they also perform better if they are not paid at all rather than paid only a small amount (Gneezy and Rustichini, 2000b). This "pay-enough-or-don't-pay-at-all" effect implies that the relationship between monetary incentives and performance should be non-monotonic, with a discontinuous drop in performance when one increases rewards from zero to an amount slightly above zero. Thus it is not necessarily clear how effective the relatively small meeting fees corporate directors receive are.

In this paper, we employ two non-overlapping data sets to study outside directors' attendance behavior. Our first data set is a cross-sectional sample of directors from Fortune 500 firms in 1998, excluding regulated financial and utility companies, and the second data set is an unbalanced panel of directors from 35 of the largest bank holding companies (BHC) over the period from 1986 to 1999. Our main finding is the same in both samples: as board meeting fees increase, attendance records improve. Moreover, these results are similar even after we address the potential endogeneity of meeting fees.

Our findings are surprising because meeting fees in both samples are on average roughly $1,200 (in 2002 dollars) for each meeting attended. Thus, board meeting fees might generally be considered to be extremely small relative to the total wealth of a representative director in either of our samples. Given the evidence on the "pay-enough-or-don't-pay-at-all" effect, one might therefore expect that when a firm shifts from not paying meeting fees to paying $1,000 per meeting, attendance would

not change or even decrease. In contrast, we find that $1,000 appears to be "enough" pay: our most conservative estimates suggest that such a change would reduce attendance problems by 35%. We argue that the reason why we don't observe a "pay-enough-or-don't-pay-at-all" effect in our data is because firms are most likely aware of this effect and do not pay only one, ten or even 100 dollars per meeting. However, we find it surprising that directors of Fortune 500 firms find that $1,000 is usually "enough." We discuss potential explanations for this phenomenon in more detail later.

The primary contribution of this paper is to improve our understanding of the effectiveness of director compensation. The proper design of compensation schemes for corporate directors is a central, but unresolved, issue in the current governance debate. For example, Shleifer and Vishny (1988) recommend compensating outside directors with stock, in order to align their interest with those of shareholders. In contrast, Stout (2003) believes that performance-based compensation for corporate directors is not only ineffective, but may actually interfere with other non-pecuniary motives of directors, with unintended adverse consequences for their performance. She mentions the size of the monetary amount paid to directors in support of her view: "If we look at financial rewards alone, whether paid in cash or in shares, directors seem to have little reason to break a sweat in the boardroom" (p. 4). However, recent work by Yermack (2003) disputes this view by providing evidence in a sample of Fortune 500 firms that the incentives outside directors face through compensation, reputation, and retention decisions are sizeable.[1]

None of these studies has analyzed meeting fees as a means of providing incentives to directors. We conjecture that meeting fees were probably viewed as being too small to matter. Since that was also our prior, we were puzzled by two facts: that some firms bother to pay meeting fees at all and that different firms have different practices concerning meeting fees. We believe our results convincingly provide an explanation for the first puzzle: meeting fees exist because they induce directors to skip fewer meetings, which is important if they are to play an effective role in decision-making in the boardroom. Our paper therefore complements the prior literature on director compensation by providing evidence for the first time that directors respond to financial rewards by giving up more of their time to the firm, even when these rewards are relatively small.

Since most of the directors in our sample are themselves top executives of other firms, our findings also contribute more broadly to the literature on executive compensation and executive motivations. Our work is relevant for the debate about whether executive pay-for-performance

[1] Other recent papers studying variation in director compensation are Brick, Palmon and Wald (2002), Ryan and Wiggins (2002), and Becher, Campbell and Frye (2002).

incentives are too small or not (e.g. Jensen and Murphy, 1990; Haubrich, 1994; Hall and Liebman, 1998). In particular, our results suggest that the size of financial rewards provided to executives may not be as important as once thought; executives appear to respond even to relatively small financial incentives.[2] Although our findings may appear surprising, we conjecture that one reason directors and executives respond to even small financial rewards is because these rewards convey information (see Bénabou and Tirole, 2003). For example, a shift towards more performance-based compensation not only serves to align directors' and executives' interests with those of shareholders, but it also tells directors and executives that more attention to shareholder value maximization is being called for. In such a case, the informational content of monetary rewards has an additional incentive effect. In our case, higher meeting fees may signal that firms are demanding more board attendance. Thus, directors respond to higher meeting fees by attending more meetings.[3]

Gneezy and Rustichini (2000a,b) argue convincingly that in many cases it is impossible to analyze the pure effect of monetary rewards holding information and beliefs constant. Depending on the specifics of the situation, changes in the information that agents have may induce an effect on behavior that goes either in the same or in the opposite direction of what was intended by the introduction of monetary rewards. Our evidence that low meeting fees affect attendance in the "right" direction suggests that many firms are able to transmit the "right" type of information to directors by means of meeting fees.[4] Since most of the existing empirical literature on executive compensation implicitly assumes that performance-based compensation will only affect behavior through its effect on executives' wealth, an additional contribution of our results is to highlight that the "incentive multiplier" effect of information may be important.[5]

[2] An interesting example of wealthy individuals responding to very small financial incentives is worth reporting. In 1990 Spy Magazine conducted an experiment (Spy Magazine, 1990) in which 58 of the wealthiest Americans were sent checks for $1.11 to see if they would cash them. To make sure that the checks actually reached the designated person, the checks were sent to their home addresses. Of the 58 people, 26 deposited the checks. The article contains images showing that the checks were personally endorsed by the members of the list of wealthy people. These 26 were then sent checks for $0.64, with the result that 13 people cashed the checks. 2 of the final 13 people then deposited checks for $0.13.

[3] An interesting example of how even symbolic fines can have a substantial impact on behavior is provided by Funk (2003), who shows that the abolishment of very small fines for not showing up to vote significantly decreased voter turnout in Switzerland.

[4] Glaeser (2003) argues that self-interested entrepreneurs and market forces jointly determine the endogenous supply of situational factors that affect individual behaviors (he calls the overweighting of the immediate aspects of the situation *situationalism*). If one follows this reasoning, then our results appear natural: firms that pay meeting fees should also make sure that directors understand what is expected from them.

[5] It is also interesting to note that our findings are compatible with idea that people are more generous with their

While our main focus in this paper is to analyze the effectiveness of meeting fees, we also provide some new results on the heterogeneity of director compensation practices, in particular on the relative efficiency of director compensation practices across firms. First, we show that directors who have recurrent attendance problems do not appear to be punished by being denied reelection to the board. Thus director turnover does not appear to be a substitute for meeting fees in reducing attendance problems. Second, we find that there is no economically significant difference between firms that pay meeting fees and those that do not, with one important exception: the total compensation an average Fortune 500 director receives in a firm that pays no meeting fees is roughly US $40,000 higher than a similar director in a firm that pays meeting fees. Thus, firms that do not pay meeting fees appear to pay significantly *more* for directors who do *less*. In other words, not paying meeting fees is correlated with a tendency to overpay directors. Although the majority of the firms in our samples pay meeting fees, we also document a clear trend towards eliminating meeting fees from directors' compensation packages, as some have proposed. As we argue below, in the light our findings it is difficult to advocate the elimination of meeting fees as a sound governance practice.

The structure of this paper is as follows. In section 2 we discuss the theoretical arguments underlying our empirical analysis. Section 3 describes the data and our main results. In section 4 we consider some alternative hypotheses and perform several robustness checks. We provide a more thorough discussion of the interpretation and consequences of our main findings in section 5. In section 6 we study the variation in director compensation and incentives across firms. We conclude in section 7.

2 Theoretical Arguments

One does not need a sophisticated theory to understand why people respond to monetary incentives. However, when changes in monetary incentives have some informational content, some subtle issues may arise. We provide a brief discussion of these issues in section 2.1.

In spite of the obvious appeal of the idea that directors should attend more meetings when they are paid more for doing so, our findings appear puzzling because directors are generally quite wealthy while meeting fees are indisputably low. In sections 2.2 and 2.3 we briefly discuss some of the reasons why the size of meeting fees should matter.

Finally, in section 2.4 we discuss some alternative explanations for a positive correlation between

time than they are with their money (Ellingsen and Johannesson, 2003).

attendance and meeting fees.

2.1 Monetary Rewards Induce Directors to Attend More Meetings

Every time a director decides whether or not she will attend a scheduled board meeting, she must compare the benefits and costs of doing so. Attending a meeting is clearly costly, the most obvious cost being her opportunity cost of time. Most directors have high-level jobs (they are usually top executives in other firms), other directorships, and other things they devote time to. On the other hand, not attending a meeting may impose many costs on a director as well: she may damage her reputation as a dedicated director, lose an opportunity to influence key decisions, put her reelection in jeopardy, etc. On top of all this, she loses her meeting fee if she does not show up. A higher meeting fee would therefore tilt the balance towards attending the meeting, increasing the likelihood of attendance. In this case, meeting fees provide direct incentives for directors to show up at meetings, but it is not the only, or necessarily the main, reason why they do so.

Another explanation involves signaling. Some firms may have a higher demand for attendance than other firms. These firms might signal that they value attendance more by offering higher meeting fees than others. Directors, who are concerned about what the firm thinks about them, attend more not because they care about the fee, but because they learn from the signal that their firm cares about attendance. This explanation suffers from all the usual problems of signaling stories. For example, it is not necessarily clear why firms should choose meeting fees as a signal. However, it is consistent with a positive correlation between meeting fees and attendance.[6]

We do not attempt to empirically differentiate between the direct incentives and the signaling explanations. The main reason is that it is unlikely that these two effects can be disentangled. In situations in which contracts are incomplete, changes in contractual arrangements will not only affect agents' choice sets, but will also convey new information (see Bénabou and Tirole, 2003). If the informational content of changes in monetary rewards induce individuals to change their beliefs, it is not possible to estimate the pure effect of monetary rewards holding beliefs constant. Gneezy and Rustichini (2000a,b) argue convincingly that such considerations may explain some of their empirical findings that monetary rewards can have perverse effects. However, while these two explanations are observationally equivalent in our sample, we do not see this as a problem, because both of them have the same practical implication: once one raises meeting fees, attendance will increase. Therefore, in both cases, firms get what they pay for. Attendance responds to variable

[6] Signaling can also be driven by other considerations, such as fairness, reciprocity or gift-exchange.

pay, regardless of the specific mechanism through which it operates.

2.2 Can *Low* Monetary Rewards Induce Directors to Attend More Meetings?

Although most people would agree that corporate directors care about money, one may still have doubts about the extent to which they respond to financial incentives that may represent only a small fraction of their total wealth. It may be that, once they reach the top, directors are motivated mainly by concerns about power and prestige, reputation and career concerns, implicit incentives, and the like. If this were true, the whole discussion about optimal financial incentives for directors would be a moot point (see Stout, 2003).

A formal justification for the belief that small monetary rewards can only have a trivial effect on behavior can be based on the traditional notion of diminishing marginal utility of income, which suggests that richer people should not respond to relatively small financial incentives. A concave utility function defined over wealth implies that individuals (in a sense) "care less" about wealth increments as they get richer.[7] However, while the assumption of diminishing marginal utility is not unreasonable, it only implies that the same individual will respond less to financial incentives as he gets richer. Because people have different preferences, it does not then necessarily follow that rich people should not respond to small financial incentives while poor people should. An equally plausible hypothesis is that some people become rich precisely because they are very responsive to financial incentives. This selection argument may undermine the attenuation effect of wealth on incentive responsiveness.

2.3 Can *Low* Monetary Rewards Induce Directors to Attend *Fewer* Meetings?

Monetary rewards can also have adverse effects on performance. For example, the introduction of monetary rewards may reduce the provision of effort by agents because it breaks a reciprocity norm (Fehr, Gatcher, and Kirchsteiger, 1996) or because it substitutes extrinsic for intrinsic motivation (Deci, 1971). There are numerous examples in both the psychology and the economics literature of cases in which the introduction of monetary rewards worsened individual performance.[8] Two recent studies are worth mentioning.

[7] This argument is used, for example, as the basis for setting traffic fines in Finland. Fines are set proportional to offenders' incomes, because it is believed that equal fines would act less as a deterrent for rich people than for poor people. On these grounds the Finnish Parliament also rejected a motion to cap the speeding fines at $7825 (e.g. Wall Street Journal, 2002 and 2001).

[8] See Frey and Jegen (2001) for a survey of the empirical literature on the crowding effects of monetary rewards.

Gneezy and Rustichini (2000a) find that the introduction of a monetary fine for parents who arrived late to pick up their children at day-care centers led to a significant increase in the number of late-coming parents. They interpret their findings as being consistent with the idea that parents view the fine as a price: by putting a monetary price on late-arrivals, parents could more easily justify their behavior. In our context, it is not hard to imagine that similar considerations could affect the behavior of directors with respect to attendance at board meetings. In firms that do not pay meeting fees, directors might be compelled to attend out of a sense of duty. In firms that do pay meeting fees, however, directors can assign a monetary price to missing a meeting, which is the value of the meeting fee. Thus, attendance might be lower in firms that pay meeting fees because directors perceive the price of skipping a meeting as being low.

Gneezy and Rustichini (2000b) provide experimental evidence that although individuals commonly perform better when paid more rather than less, they also perform better if not paid at all rather than paid only a small amount. Thus, monetary rewards are only effective when they are large "enough." In our context, meetings fees appear to be very small relative to directors' wealth. Thus, it is plausible that firms that pay such low meeting fees might end up having worse attendance records than the ones that do not pay fees.

Of course, how much of a payment will be considered "enough" will vary across contexts, and is, in the end, an empirical question. Perhaps surprisingly, our results suggest that the size of director meeting fees is sufficiently high to induce the desired behavior: more attendance at board meetings.

2.4 Alternative Explanations for a Positive Correlation between Meeting Fees and Attendance

A totally different story can also explain a positive correlation between meeting fees and attendance. Suppose that directors anticipate whether they will have attendance problems or not. Since directors, to some extent, set their own compensation, the boards that expect few or no attendance problems may choose to pay higher meeting fees. Meeting fees may be justified to outsiders as a means of providing subsidies for attendance, but since no attendance problem is expected, meeting fees may really just represent a disguised increase in director pay.

If causation runs from attendance to meetings fees, and not the other way around, directors do not perform for pay; rather, they get paid because they expect to perform. We attempt to control for this possibility with instrumental variables methods. As we document in the empirical section of the paper, we find that stories that predict a causal relationship running from meeting fees to

attendance still look reasonable after we control for the possibility of reverse causation.

A related but different explanation for our findings concerns the selection of directors. Suppose again that directors know whether they are likely to experience attendance problems in the future or not. The ones who anticipate not having attendance problems will prefer to work for companies that pay high meeting fees, everything else constant. The ones who anticipate having attendance problems will choose to work for companies that pay no or low meeting fees and more fixed pay. Therefore, heterogeneity in meeting fees across firms will provide incentives for directors to select the firms they will work for. This sorting argument is similar to the direct incentives argument, except that it operates on a different margin: direct incentives affect behavior on the intensive margin while sorting affects behavior on the extensive margin. We attempt to test the sorting explanation in section 4.2.

3 Empirical Results

We use two different data sets in this paper. The first one is a cross-sectional sample of 358 unregulated Fortune 500 firms in 1998. The second sample consists of data on 35 bank holding companies from 1986 to 1999. For both samples we collected data at the director level, thus we can estimate the relationship between directors' attendance problems and firm and director characteristics. To make the results from our two sample comparable, we convert all director compensation variables into 2002 dollars using the CPI-U.

We choose to work with two completely different data sets for several reasons. First, by documenting similar results in non-overlapping data sets we can minimize concerns about the robustness of the results. Second, the different characteristics of the two samples allow us to investigate issues we could not investigate for each sample alone. The cross-sectional data set includes a large number of firms, but the time-series dimension induces more variation in the panel data set. The different sources of variation in the two samples allow us to perform additional tests that otherwise would not have been possible. A third advantage concerns the trade-off between single- versus multiple-industry studies. Single-industry studies are better able to identify effects that may be obscured by industry effects in multiple industry studies. Even when significant results are found in cross-industry studies, their interpretation may be compromised. A partial solution is to use industry dummy variables, but they do not fully capture industry effects. On the other hand, there is always the question of whether findings from single-industry studies can be generalized. Clearly, empirical findings in cross-industry studies have broader application.

Finally, the systematic differences between the two samples help us better understand some of our empirical findings. For example, probably due to the unusually large size of boards in bank holding companies, the number of attendance problems in the BHC sample is almost three times larger than in the Fortune 500 firms. Not surprisingly, we find that the effect of meeting fees on attendance problems appears to be larger in the BHC sample.

In the remainder of this section, we describe both of our data sets in detail and report our main results. Additional robustness checks and tests of alternative hypotheses are left to the subsequent sections.

3.1 Fortune 500 Sample: Data Description

We collected data on director attendance, director characteristics and director compensation for fiscal year 1998 for all publicly traded Fortune 500 companies for which we could obtain proxy statements or 10-Ks filed by each firm at the beginning of the 1999 proxy year. We exclude regulated financial and utility companies. We also exclude directors, such as executive or inside directors, from our sample who were not explicitly paid director compensation for their board service. Because directors are often appointed in the middle of the proxy year, we further restrict our sample to directors who were appointed to the board prior to 1998. This ensures that we consider only directors who are not artificially constrained from attending board meetings in our regressions.[9] Our final sample consists of data on 2826 directors in 358 firms.

The Securities Exchange Act of 1934 requires corporations to list in their proxy statements the name of each incumbent director who during the previous fiscal year attended fewer than 75 percent of the aggregate of the total number of meetings of the board and the total number of meetings held by all board committees on which he served while a director. Thus, for each director in our sample we collected information on whether he was named in the proxy as having attendance problems.[10] From the proxies we also obtained data on the number of other directorships of each director, the director's tenure as director, sex, age and retirement status.

[9] Proxies will often report that directors who were just appointed missed board meetings because they took place before the commencement of their terms. Consistent with the idea that directors who were appointed in 1998 may have missed meetings for such technical reasons is the fact that 4.45% of directors appointed in 1998 had attendance problems, as opposed to 3.29% of all other directors.

[10] Although the SEC has a 75% threshold, the way in which attendance problems are reported across firms varies. Some firms may have a different threshold or they may report only attendance problems for board meetings. Regardless of the threshold (even if it is greater than 75%), we assume that if a firm reports the name of a director in the proxy, from the point of view of the firm, that director has an attendance problem.

For each firm we collected the following data on director compensation: board meeting fees, the value or number of shares and options granted directors on an annual basis, and the size of the annual retainer. Finally, we collected the number of regular board meetings during 1998. We obtained financial data for our sample firms from Compustat and CRSP.

In order to control for director compensation that is not related to meeting fees in our regressions, we need to estimate the value of the shares and options granted to directors whenever this is not provided in the proxy.[11] These shares and options almost always come with restrictions. Although restrictions vary across firms, a typical restriction is that directors cannot sell their shares until they leave the firm. Options usually come with vesting requirements and they may or may not be exercisable if the director leaves the firm. Although restricted shares should not have the same value as ordinary shares and options with different vesting requirements should be valued differently, restrictions vary too much across firms to justify any simple adjustment procedure. Thus we follow the conventional practice (e.g. Jensen and Murphy, 1990; Aggarwal and Samwick; 1999) and ignore all restrictions and vesting requirements and assume that options and shares are priced as if they had no restrictions.[12]

We choose to value director options using a procedure that is as close as possible to ExecuComp's procedure for valuing options for the top 5 executives in each firm. To price the options we use the Black-Scholes formula, assuming continuously paid dividends. Estimates of firm volatility, dividend-yield and the risk-free rate are from ExecuComp. Expiration of director options usually occurs in ten years; we use seven years to be consistent with ExecuComp.

In most firms the exercise price of an option is the stock price on the date of the grant. Since directors are generally elected at the annual meeting of the shareholders, the majority of firms grant directors shares and options at the annual meetings. Thus we use the market price of shares at the end of the month of each firm's annual meeting at the beginning of the 1998 fiscal year as the exercise price of the options as well as the price of the stock.

Table 1 shows descriptive statistics for selected firm, board and director characteristics. 79.89% of firms pay their directors to attend board meetings. The average meeting fee for regular board

[11] 313 of the sample firms also pay their directors for work they do on committees. We do not include committee compensation in our estimates of director's compensation since this portion may vary across directors depending on their committee memberships. The amount of data necessary to calculate this additional amount is thus substantial.

[12] Hall and Murphy (2002) show how undiversified executives will value their stock options and restricted shares less than the value implied by usual option-pricing formulas (such as Black-Scholes). Thus, one should keep in mind that the estimates of director's compensation are biased upwards, or that they can be best interpreted as an upper bound on actual compensation.

meetings is $1,214 in 2002 dollars, with a maximum board meeting fee of $5,518. The average fixed compensation each director receives, the sum of the cash annual retainer and the value of annual share and option grants, is $101,192. Similar to the number reported for Vafeas' (1999) sample (7.45), the boards of our sample firms hold on average 7.61 regular board meetings.

In 92 (25.84%) sample firms directors had attendance problems, however in general directors had good attendance records: out of the 2826 directors for which we have data on characteristics only 93 (3.3%) were listed in proxies as having attendance problems.[13] 13.1% of directors in our sample are women and 21.7% are retired. Finally, on average all directors held 2.23 directorships in other firms.[14]

3.2 Fortune 500 Sample: Empirical Results

In this section, we use data at the director level to study the relationship between board meeting fees and director attendance problems. Our dependent variable is a dummy variable that is equal to 1 if the proxy reports that the director had attendance problems and is zero otherwise. In order to correctly interpret the results, one should keep in mind that the attendance problem dummy indicates those directors who experienced considerable attendance problems, i.e. they generally missed more than 25% of the meetings they were supposed to attend. Only when directors reach this threshold are firms required to disclose their names in the following year's proxy. Clearly, reputational concerns will cause directors to avoid crossing the threshold. As a consequence, it is not surprising that the proportion of directors reported as having substantial attendance problems is small: 3.3%. However, this does not mean that directors never skip meetings. Between both of our samples, there are only two firms that report actual attendance data at the director level, both of them in the BHC sample. Consistent with the idea that attendance problems are likely to be much more severe than our numbers suggest, the average proportion of directors of Bank of America who missed board meetings during the period 1986 to 1999 is 35.7%, while the same statistic for directors of First Security is 25.5%. Nevertheless, even using our more conservative measure of extreme attendance problems, as we show below, the effects of meeting fees on attendance are statistically and economically significant. If we had actual attendance data for the entire sample we would expect to find even stronger effects of meeting fees on attendance at individual meetings.

We estimate a Probit model of the probability that a director experiences attendance problems

[13] The total number of directors with attendance problems is 99. However, in some cases firms did not disclose the names of the directors with attendance problems, thus we have no director specific characteristics for these directors.

[14] The director with 19 directorships in other companies is Henry Kravis of KKR.

as a function of the meeting fee paid by the firm and other controls. We use three sets of controls. Because a directors' attendance will plausibly be affected by board characteristics, such as the total compensation he receives, as well as the number of board meetings and board size, our first set of controls are total director compensation (excluding meeting fees), the number of board meetings and board size.[15] Total compensation could have an effect on attendance if, as in efficiency wage theories, directors who are paid more attend more meetings because they care more about keeping their jobs.

It is also plausible that, for example, as directors accumulate more directorships in other firms, their opportunity costs of attending meetings increases (see also Ferris, Jagannathan and Pritchard, 2003). Thus one might expect a positive relationship between the number of directorships a director has and his attendance problems. Thus our second set of controls consists of director characteristics that may affect a director's attendance, such as the number of other directorships, director tenure, whether the director is a woman, the director's age, and whether the director has retired from his/her main occupation. Finally, because of reputational concerns, directors may care more about attending meetings in bigger, more well-known firms. Their incentives for attendance might also increase in more unpredictable and complex environments because board decisions may be more important. Thus we also include firm level controls such as the log of the total value of assets, to proxy for firm size, and stock return volatility, to proxy for uncertainty and complexity.[16] In all specifications we adjust our standard errors for potential heteroskedasticity and group correlation within firms.

Column I in Table 2 reports our estimates when we use the number of other directorships, total director compensation, the number of board meetings, and board size as our controls. We find that higher meeting fees reduce the likelihood that a director will experience attendance problems. Consistent with the idea that the number of directorships raises a director's opportunity cost of time, the coefficient on the number of other directorships is positive, although not statistically significant (the p-value is 15.5%). As expected, we find that compensation is negatively related to attendance problems, but this effect is also not statistically significant (the p-value is 10.7%).[17] More board meetings appear to decrease the likelihood that a director experiences attendance

[15] While these variables plausibly affect director attendance, it is also possible that they are jointly determined with attendance. To the extent that this is true, the results should be viewed with care. However, excluding controls for board characteristics only marginally affects the results that follow.

[16] Other firm level controls used in previous versions of this paper, such as firm age and capital expenditures over sales, have virtually no effect on the results. We therefore exclude them for the sake of brevity.

[17] All results are virtually unchanged when we include pay for attending meetings in our total compensation control.

problems. This effect may be attributed to the fact that the threshold for attendance problems is measured in percentages. Thus it may be easier to cross the attendance threshold in a firm with fewer meetings. However, the statistical significance of board meetings is also low (the p-value is 10.8%). Finally, board size does not appear to have any effect on attendance.

In the specifications in columns II and III we include the remaining director characteristics and firm level controls. In column III we also include 2-digit SIC industry dummies. We find that the effect of meeting fees on attendance problems is robust to the inclusion of these variables. Furthermore, this effect is always statistically significant at the 1% level. The number of other directorships now has a statistically significant positive effect on attendance problems. The effect of director compensation (excluding meeting fees) is negative and statistically significant in both columns. The only other robust effect we find in columns II and III is the effect of the female dummy: women appear to have fewer attendance problems than men. None of the other director and firm characteristics have effects that are robust across these specifications. Thus the effect of board meeting fees is the only one that is robust across all three specifications.

In square brackets beneath the z-statistics on board meeting fees, we report the marginal effect of a change in meeting fees on the probability that a director experiences attendance problems, evaluated at the means of the data. These effects help us assess the economic significance of the role of meeting fees. They indicate that an increase in meeting fees by 1,000 dollars in 2002 would decrease the probability that an average director has attendance problems by approximately 0.011-0.013. Given that the fraction of directors with attendance problems in the entire sample is 0.033, this amounts to a decrease in attendance problems by roughly 35%. Thus, it seems that even moderate meeting fees are effective at decreasing attendance problems.

The pattern of board meeting fees also exhibits several features worth noting. 20.1% of the firms in our sample do not pay any meeting fee, while 34.4% of the firms pay \$1,103 dollars (exactly \$1,000 in 1998 dollars) per meeting. Of the remaining firms, only 2.5% of the firms pay fees that are lower than \$1,103. Thus, conditional on paying meeting fees, most of the variation in meeting fees occurs in the 43% of the firms that pay more than \$1,103. It appears, therefore, that firms face two different decisions: whether to pay meeting fees at all and how much to pay. Consistent with the hypothesis that firms are aware of the existence of *pay-enough-or-don't-pay-at-all* effects, firms that choose to pay almost never choose a fee that is less than 1,000 in 1998 dollars.

To further test this hypothesis, we replicate our previous Probits by replacing the value of meeting fees with a dummy variable indicating whether the firm pays meeting fees as our main explanatory variable. We find the same results as before: the dummy variable enters positively in

all specifications and is highly statistically significant. Thus, our conclusion is that firms really pay "enough": most of the effect we encounter is due to the difference in attendance behavior between firms that pay enough and firms that don't pay at all.

When we exclude the firms that do not pay meeting fees from the sample, we still find a negative effect of meeting fees on attendance problems, but the effects are no longer significant.[18] Because most of the variation in meeting fees in our sample comes from firms that pay 0 with respect to firms that pay 1,103, it is not surprising that the precision of our estimates should fall dramatically when we exclude the zeros from the sample. As we will show below, the same does not happen in our BHC sample, implying that we can get very precise estimates even if we exclude the firms that do not pay meeting fees at all.

3.3 BHC Sample: Data Description

Our sample of data on BHC directors builds upon the sample used in Adams and Mehran (2003). This sample consists of financial data and board characteristics for a random sample of 35 publicly traded BHCs that were amongst the 200 largest (in terms of book value of assets) top tier bank holding companies for each of the years 1986-1996. Data are available on these firms until fiscal year 1999, however the number of firms drops from 35 to 32 after 1996 due to M&A activity. We extended this sample by collecting data on director attendance, director characteristics and director compensation from all available proxy statements filed during 1987-2000. Our data collection process accounts for the fact that proxies disclose some governance characteristics for the current fiscal year and others for the previous fiscal year. Thus we obtain data on board membership and director characteristics for a given fiscal year from the proxy statement filed at the beginning of that fiscal year, whereas data on director compensation and director attendance are obtained from the proxy filed at the beginning of the following fiscal year.[19] Consistent with the Fortune 500 sample we exclude directors from our BHC sample who were not explicitly paid director compensation for their board service. To ensure that we consider only directors who are not artificially constrained from attending board meetings in our regressions we also exclude directors whose year of appointment to the board corresponds to the current fiscal year. Our final sample consists of data on 5707 directors in 35 BHCs over the years 1986-1999. This sample is therefore much deeper but not as broad as

[18] We do not report the results of these two procedures here for the sake of brevity. Tables are available upon request.

[19] In all 14 proxies were missing. Board membership and director characteristics for fiscal 1986 were inferred from the 1987 proxy.

the Fortune 500 sample. However, while the number of BHCs in the sample is relatively small, it can still be considered to be representative. In 1990, for example, the assets of our sample BHCs constituted a large fraction of total industry assets, namely 32.3% of total top-tiered BHC assets. Reflecting increasing consolidation in the industry, this number rose to 50.75% in 1998.

Consistent with the Fortune 500 data we identified directors that the proxies indicated had attendance problems in each year. From the proxies we also obtained data on the number of other directorships of each director, the director's tenure as director, sex, age and retirement status. For each firm-fiscal year we collected board meeting fees, the value or number of shares and options granted directors on an annual basis, the size of the annual retainer and the number of regular board meetings during the fiscal year. All balance sheet data are from the fourth quarter Consolidated Financial Statements for Bank Holding Companies (Form FR Y-9C) from the Federal Reserve Board and stock price and return data are from CRSP.

We value director options as we did for the Fortune 500 sample. However, we do not obtain our estimates of firm volatility and the dividend-yield from ExecuComp because our sample begins in 1986, whereas ExecuComp begins in 1992. Instead we use data from CRSP to calculate the dividend-yield and the standard deviation of the prior 60-month stock returns, our estimate of volatility, for the entire BHC sample.[20] As in the Fortune 500 sample, we use the market price of shares at the end of the month of each firm's annual meeting at the beginning of the fiscal year, the meeting at which directors are elected, as the exercise price of the options as well as the price of the stock.

As we did for the Fortune 500 sample we convert all meeting fees and director compensation into 2002 dollars using the CPI-U.

Table 3 shows descriptive statistics for selected firm, board and director characteristics. The sample BHCs pay their directors to attend board meetings in 89.66% of firms-years. The number of board meetings in the BHC sample, 8.33, is only slightly larger than in the Fortune 500 sample, 7.61, while the average meeting fee for regular board meetings is only slightly lower, $1,179 in 2002 dollars, with a maximum board meeting fee of $4,751. On the other hand, the average fixed compensation each director receives, the sum of the cash annual retainer and the value of annual share and option grants, appears much lower, $31,860 as opposed to $101,192. There are many possible explanations for this difference, but we believe that part of it may be due to the fact that the board of the BHC often overlaps with the board of the BHC's lead bank, as well as with

[20] Our variables are thus defined the same way as in ExecuComp, however they are not adjusted for outliers using the universe of S&P firms as in ExecuComp.

other subsidiaries. If directors are compensated for their work by both the lead bank and the BHC, the amount of compensation disclosed in the BHCs' proxy will tend to understate the total compensation they receive from the BHC. The case of City National provides an extreme example of how such understatement can occur. During fiscal 1992-1996 *all* cash fees paid to the board of the BHC, which was identical to the board of the lead bank, City National Bank, and whose meetings were generally held jointly with those of the bank, were paid by the bank not the BHC. In 1999 the directors of Pacific Century, who were all also directors of Pacific Century's lead bank, the Bank of Hawaii, received the same annual retainer, $8638.66, from the bank as they did from the BHC. Since our sample BHCs disclose that they pay some compensation to BHC directors for sitting on lead or subsidiary bank boards in 58% of firm-years, it is possible that the understatement in BHC director compensation is significant.[21]

What is also noticeable in the BHC sample is that directors have many more attendance problems than in the Fortune 500 sample. Directors were named as having attendance problems in 267 (56.57%) of firm-years and 652 (9.42%) of director-years. Part of this poor attendance record may be attributable to the fact that BHC boards are much larger than in non-financial firms, as is also evident here, so that it is less important for any given director to attend a meeting. We investigate this possibility in more depth later. The BHC directors also differ in other ways from the Fortune 500 directors. They have fewer other directorships, 1.56, fewer of them are women (6.32%), fewer of them are retired (13.27%) and they are slightly younger (59.76 as opposed to 61.15 years) than the Fortune 500 directors.[22]

3.4 BHC Sample: Empirical Results

Table 4 replicates the results of the Probit regressions in Table 2 for the BHC sample. It only includes two columns, because we no longer need to include industry dummies. In all specifications we include year dummies and adjust our standard errors for potential heteroskedasticity and group correlation within firms. We do not use firm fixed-effects because our main explanatory variable (meeting fees) varies little over time for a given firm.[23]

[21] Adams and Mehran (2003) show that BHC boards have significantly more committees than the boards of a comparison sample of non-financial firms. Thus it is also possible that total BHC director and total Fortune 500 director compensation look more similar once committee fees are included.

[22] Part of the differences between the two samples may also be explained by the fact that the BHC sample includes data beginning in 1986.

[23] In the context of the ownership literature, Himmelberg, Hubbard and Palia (1999) argue for the use of firm fixed effects in regressions which relate ownership to firm performance. However, Zhou (2001) points out that if

Consistent with our results for the Fortune 500 sample, Table 4 shows that higher meeting fees also reduce the likelihood that a director will experience attendance problems in the BHC sample. This effect is robust, statistically significant, and, most importantly, economically significant. As before, we report the marginal effect of a change in meeting fees on the probability that a director experiences attendance problems, evaluated at the means of the data, in square brackets beneath the z-statistics on board meeting fees. They indicate that an increase in meeting fees by \$1,000 will decrease the probability that an average director has attendance problems by approximately 0.046 in column I and 0.052 in column II. It appears, therefore, that the effect of meeting fees on attendance behavior in the BHC sample is roughly four times greater than in the Fortune 500 sample. While this suggests that bank directors are more sensitive to monetary rewards than non-bank directors, there is a simpler explanation for this difference. The proportion of attendance problems is much higher in the BHC sample (9.42%), implying that there is more room for improving attendance by means of meeting fees. Thus, a \$1,000 increase in meeting fees reduces attendance problems by roughly 48%-55%.

Since not all explanatory variables display robust effects across the two samples, as is to be expected given the differences between the two samples, it is remarkable how similar the effect of meeting fees on attendance across samples is. For example, board size has a positive and significant effect on the probability of attendance problems in the BHC sample, while it appears to have no effect in the Fortune 500 sample. In contrast, the number of other directorships has no effect in the BHC sample while it has a positive and somewhat significant effect in the Fortune 500 sample. Since it is also a robust finding across samples, it is interesting to note that women have a tendency to miss fewer meetings.

In the BHC sample, directors are paid no meeting fees in only 10.34% of firm-years. In addition, because we follow the BHCs over a long period of time, there is considerable more variation in meeting fees in firm-years in which meeting fees are positive than in the Fortune 500 sample. Also unlike in the Fortune 500 sample, there is no tendency for meeting fees to cluster at a single number. This is because firms do not adjust fees every year, thus their *real* value varies over time due to inflation, i.e. inflation induces *exogenous* variation in real meeting fees. This source of variation not only reduces our concerns about endogeneity problems, but it also allows us to estimate the effect of meeting fees on attendance problems conditional on the fact that the firm pays positive fees more precisely. Thus we find that the effect of meeting fees is highly significant and negative

the explanatory variable changes slowly over time (as do ownership and, in our case, *meeting fees*), firm fixed-effect regressions may fail to detect relationships in the data even when they exist.

even after restricting our sample to firm-years in which BHCs pay positive meeting fees. Thus, unlike in the Fortune 500 sample, we find that most of the action is driven not by the distinction between firms that pay and the ones that do not pay meetings, but by variation in meeting fees among firms that pay positive meeting fees.[24] From the combined evidence from both samples, therefore, we conclude that meeting fees are negatively correlated with attendance problems both on the extensive as well as on the intensive margin.

4 Alternative Hypotheses and Robustness Checks

So far we have shown that the relationship between meeting fees and attendance problems is negative and economically large. This effect is robust across samples and across different specifications. It does not appear to depend on the inclusion or exclusion of other plausible explanatory variables. It is also not driven only by the difference between firms that pay and firms that do not pay, or by differences in meeting fees once one restricts the sample to firms that pay positive meeting fees.

In this section, we analyze this result further to try to identify the mechanism driving the result and also to ensure that the result is robust at the firm level. In section 4.1 we examine whether our results are driven primarily by some mechanism inducing causation from attendance problems to meeting fees. In section 4.2 we test some implications of the sorting hypotheses discussed in section 2. Finally, in section 4.3 we check whether our results hold at the firm level.

4.1 Addressing the Possibility of Reverse Causation

In this subsection, we address the possibility that our previous findings are driven by the *disguised extra pay* hypothesis, i.e. that directors increase meeting fees when they anticipate that they will have fewer attendance problems. To do this in the Fortune 500 sample, we restrict our sample to directors appointed in 1997. These directors are the least likely to have had any influence on determining meeting fees in 1998. In addition, we can use meeting fees in 1996 as an instrument for the meeting fee in 1998 in this restricted sample to estimate a causal effect of meeting fees on attendance.[25] The reasoning is the following. Meeting fees are likely to be autocorrelated over time because changes in compensation structure occur infrequently. However, directors who were appointed in 1997 could not have played any role in determining the 1996 meeting fee. Therefore,

[24] As before, we do not report the tables for the sake of brevity, but they are available upon request.

[25] We obtain the instrument from ExecuComp for all but 29 firms. For these firms we obtained the instrument from proxies for all but 9 firms for which we could not find data on meeting fees in 1996.

the 1996 meeting fee should be a valid instrument for meeting fees in this restricted sample, i.e. it should be correlated with the 1998 meeting fee but uncorrelated with attendance problems of directors appointed in 1997 during fiscal 1998. Of course, our instrument is not valid if there is an omitted variable correlated both with meeting fees in 1996 and with the strategy for the selection of new directors in 1997, which is also related to the expected attendance patterns of these directors. Therefore, our identifying assumption requires that no such omitted variable exists. This is true if the selection of directors depends only on their observable characteristics included on the right-hand side of our regressions. We are thus assuming away the possibility of *selection on unobservables*, where unobservable (to the econometrician) characteristics of prospective directors correlated with attendance problems are observed by the board and used in the hiring decision.

When we restrict the sample in this manner, the number of usable observation drops dramatically (almost ten times). This makes it more difficult to document a result, however we believe that the results are nevertheless suggestive.

In Table 5 we report the first-stage of our two-stage procedure when we use the 1996 fee as an instrument for the 1998 meeting fee. As expected, the 1996 fee is highly correlated with the 1998 fee.[26] In Table 6 we compare OLS with IV estimates in the restricted sample. From the OLS results in columns I and III, it is clear that restricting our sample to directors appointed in 1997 does not reduce the significance of our findings, despite the resulting dramatic reduction in the degrees of freedom.[27] Because new directors are less likely to have an influence on setting meeting fees, this suggests that the *disguised extra pay hypothesis* does not completely explain the negative correlation between attendance problems and meeting fees.

Columns II and IV report our IV estimates. The effect of meeting fees on attendance problems is negative, but barely significant in column II (the p-value is 0.107). However, this drop in significance is to be expected because IV is less efficient than OLS. Perhaps more importantly, the point estimates of the marginal effects of meeting fees on attendance problems are much higher in this restricted sample than in the full sample. The IV estimates, for example, predict an effect that is roughly three times larger than the marginal effect (between -0.012 and -0.014) computed using the full sample.

Under the maintained assumption that the instruments are valid, we also used Hausman's (1978) specification test to examine whether the difference between our OLS and IV estimates of the effect of meetings fees is different from zero. We find that the differences are not statistically different

[26] We do not use industry dummies in these specifications because our sample is so small.

[27] The tenure variable is omitted because it becomes a vector of constants by our sample construction.

from zero at any reasonable significance level.[28] This suggests that endogeneity problems, if they exist at all, are not severe enough to have a substantial effect on the estimated coefficients.

Our conclusion is that a good deal of the effect of meeting fees on attendance in the Fortune 500 sample operates through the attendance behavior of newly appointed directors. Although our results do not completely rule out reverse causation, they do suggest that a major part of the correlation between meeting fees and attendance problems can be explained by a causal relation running from meeting fees to attendance behavior.

We replicate the same procedure for the BHC sample in Tables 7 and 8. As we did for the Fortune 500 sample, we restrict the sample to directors whose tenure on the board in a given fiscal year is exactly one year. The instrument for meeting fees in a given fiscal year is the meeting fee two years prior. The interesting difference between Table 8 and Table 6 is that now the IV results are statistically significant while the OLS results are not. In addition, Hausman's (1978) specification test shows that the difference between the IV and OLS estimates in the first specification is statistically significant (the t-statistic is 3.57). These results and the fact that the absolute values of the IV estimates are larger than those of the OLS estimates suggests that endogeneity problems might actually be operating in the opposite direction in the BHC sample, making it harder to detect a negative effect of meeting fees on attendance problems.

4.2 Sorting

In section 2 we discussed the possibility of director self-selection or sorting as a possible explanation for our results. An additional implication of the sorting hypothesis is that director turnover should be positively correlated with changes in meeting fees. If some directors prefer to work for firms that pay high meeting fees while others prefer to work for firms that pay low meeting fees, when a firm changes its director compensation structure, one should expect to see some directors leaving while new ones join the board. In this section we provide a direct test of this implication using the BHC sample, by examining whether past changes in meetings fees predict director turnover.[29]

We use two measures of director turnover at the firm level. The first one is the number of directors who were paid for board service who joined the board in the current fiscal year, while the second one is the number of directors who were paid for board service that left the board in the following fiscal year. These two variables are highly correlated, since in many cases the net change in board size is zero.

[28] Test statistics and other relevant details are available upon request.

[29] We cannot perform the same test in the Fortune 500 sample because we do not have data for different years.

We construct our main explanatory variable as follows. For each firm-year, we calculate the change in *nominal* meeting fees from its level in the previous year. Because both positive and negative changes in meeting fees should increase director turnover if the sorting hypothesis is true, we focus on the absolute value of these changes. Our main independent variable is the first lag of the absolute value of changes in meeting fees.

Table 9 displays the results of Poisson regressions of our measures of director turnover on our measure of meeting fee changes. We include some board and firm characteristics as controls, such as total director compensation, number of board meetings, board size, firm size, and stock return volatility. We also include two measures of past performance, lagged Tobin's Q and lagged return on assets (ROA), because it is plausible that past firm performance may affect director turnover.[30]

The results suggest that the main determinant of director turnover is board size, which appears reasonable. Changes in meeting fees are not good predictors of turnover. Thus, even if there is some sorting based on meeting fees, it is unlikely that it is the main mechanism driving the correlation between meeting fees and director attendance that we document in this paper.

4.3 Firm Level Results

In this section we perform some additional tests to check the robustness of our findings. We first replicate our Probit regressions at the firm level and then we use the number of attendance problems at the firm level as an alternative dependent variable.

In Table 10, columns I and II, we replicate the regressions in Table 2 using a firm level dummy for attendance problems as our dependent variable, i.e. this variable takes the value of 1 if there is at least one director in the firm that had attendance problems. This enables us to take advantage of additional data on directors who had attendance problems but whose names were not reported in proxies. All director characteristics are included as firm-level averages and all standard errors are adjusted for potential heteroskedasticity.

As is clear from the table, the negative correlation between meeting fees and attendance problems is economically and statistically significant. An increase of 1,000 dollars in meeting fees reduces the likelihood of a firm experiencing director attendance problems by 0.125 or 0.132, depending on the specification. The fraction of firms experiencing attendance problems in the Fortune 500 sample is 0.258. Thus, an increase in 1,000 dollars reduces attendance problems at the firm level by roughly 50%.

[30] Tobin's Q is defined as the ratio of the book value of assets minus the book value of equity plus the market value of equity to the book value of assets. Return on assets is defined as net income divided by the book value of assets.

To check whether our results are sensitive to how we measure attendance, we use the number of attendance problems a firm reported in its proxy as an alternative dependent variable. On average firms have 0.28 attendance problems with a standard deviation of 0.55 and a maximum of 3. Columns III and IV in Table 10 show the results of Poisson regressions using Number of Attendance Problems as our dependent variable. All specifications include 2-digit SIC code dummies and the standard errors are corrected for potential heteroskedasticity. As one can see from Columns III and IV, the results are robust to the use of this alternative dependent variable.

In Table 11 we replicate the same procedures for the BHC sample. An increase in meeting fees by $1,000 reduces the likelihood that a BHC experiences director attendance problems by 0.126 or 0.129, depending on the specification. The fraction of BHCs experiencing attendance problems is 0.565. Thus, an increase in meeting fees by 1,000 dollars reduces attendance problems at the firm level by roughly 23%. The number of attendance problems per BHC in our sample is much higher than in the Fortune 500 sample. On average BHCs have 1.55 attendance problems with a standard deviation of 2.34 and a maximum of 15. Consistent with our previous results, the Poisson regressions of Number of Attendance Problems on meeting fees in columns III and IV show that our results are not sensitive to how we measure attendance problems.

5 What Does the Evidence Mean?

At this point it is useful to summarize the results of our data analysis. First, the finding that attendance problems are negatively correlated with meeting fees is robust across different samples, different specifications, and different econometric procedures. Thus we find it very unlikely that this correlation is spurious. Second, although we cannot unambiguously discard sorting or reverse causation as possible explanations for our findings, the additional evidence we have provided in the previous section gives little support to these hypotheses and favors a more direct, causal effect of meeting fees on directors' attendance behavior.

The evidence is certainly consistent with the conventional view that contingent rewards increase effort. Although many strong believers in the power of monetary incentives will find our evidence reassuring, we conjecture that even those will be somewhat surprised by such a large and robust effect induced by a relatively small reward.

The evidence is not consistent with the idea that small meeting fees crowd out directors' intrinsic motives for attending meetings. However, the cross-sectional distribution of meeting fees suggests that firms may be aware of potential crowding out effects of *extremely* low meeting fees: firms that

pay meetings fees almost always pay at least a thousand dollars. This is an interesting example of how suppliers of incentives in the real world are not naive; they take possible behavioral responses of agents into account when designing reward structures (see Glaeser, 2003, for arguments along this line).

Although possible, we find that considerations such as gift-exchange or reciprocity norms are not leading candidates to explain our findings. One may argue that by offering meeting fees a firm may enhance directors' goodwill. This may increase directors' willingness to give more of their time to the firm. However, most firms that do not pay meeting fees pay higher cash annual retainers, which are usually enough to keep cash payments to directors roughly the same across firms that pay and the ones that do not pay meeting fees. Thus, it is not clear why directors should perceive meeting fees as a "gift." The gift-exchange hypothesis has more bite to explain the correlation between total director compensation and attendance problems. As in efficiency wage theories, directors should provide more effort if paid more. The relationship between total compensation (not including meeting fees) and attendance problems is indeed negative in most of our specifications, but this effect is not always statistically significant.

Reciprocity norms would also imply that directors may want to "punish" firms that do not pay fees. Since their total cash pay is roughly the same in firms that pay and those that do not pay meeting fees, it seems unlikely that directors should be revengeful towards firms that are not paying them any less than others. As we will show in the next section, firms that do not pay meeting fees actually pay their directors significantly *more*. Thus, if anything, it appears that meeting fees are *negatively* correlated with "gifts" offered to directors.

We believe that a more reasonable explanation for the robust effect of meeting fees on attendance is that, on top of the direct incentive effect of meeting fees, meeting fees also convey information to directors. This is important because there is a lot of heterogeneity in the criteria used by boards to evaluate the individual performance of directors (Conger, Finegold, and Lawler, 2000). For the sake of the argument, assume that there are only two types of boards: "tough" boards value director attendance, while "soft" boards do not care if directors attend at all. When a newly appointed director joins a new board, at first he or she does not know the exact type of the board. Thus, when facing a compensation schedule that provides pay for attendance, the director rationally assumes that he or she is sitting at a tough board. Boards that pay low or no meeting fees signal that they are soft, i.e. they do not care about attendance.[31]

[31] Recent papers that stress the informational content of external rewards (Gneezy and Rustichini, 2000a,b; Benabou and Tirole, 2003) emphasize the negative effects of external rewards on motivation. In the models of Benabou and

An additional implication of this signaling argument is that the behavior of newly appointed directors should be more sensitive to meeting fees, because new directors have the least information about the board's internal practices concerning the evaluation of directors. The evidence in section 4.1 is consistent with this hypothesis. In addition, if boards vary in their intensities in monitoring directors, one should expect to see firms that do not pay meeting fees adopt other "soft" practices towards directors. In the next section, we show that firms that do not pay meeting fees pay higher total compensation to directors, a finding that is consistent with the idea that some firms are more generous to directors than others.

Regardless of whether directors attend meetings in order to earn money or to respond to firms' signals, the practical implications of our findings concerning the ability of compensation structures to motivate directors are basically the same. If directors only care about money, our evidence suggests that modest financial rewards can motivate even high net-worth individuals. Thus, proposals to align shareholders' and directors' incentives by means of stock-based compensation have merit even when the amounts involved are small.[32] On the other hand, if directors respond to meeting fees because of their informational content, then it is reasonable to expect that boards can use the structure of director compensation to send other signals as well. For example, if directors are unsure about how much focus they should put on shareholder value maximization, firms with more external pressures that place more weight on shareholder value may signal their type with more stock-based compensation to directors. If directors interpret the signals correctly, even small grants of shares and options may change the mindset of directors.

6 Firm Behavior

Our findings raise many interesting questions. Are there ways of inducing director attendance other than meeting fees? Are directors punished for not attending meetings? Does attendance matter at all? What are the differences between firms that pay and the ones that do not pay meeting fees? Are some firms just missing the boat? In this section we provide some evidence concerning all of the above these questions.

Tirole (2003), it is possible that the informational effect of monetary rewards reinforces the direct incentive effect, but this point plays only a secondary role in their paper.

[32] Yermack (2003) provides evidence that the financial incentives directors face actually appear quite large. Our results complement his by suggesting that these incentives also appear to be effective.

6.1 Attendance and Director Turnover

We first look at whether problem directors are less likely to be retained. It might be that retention decisions are more than sufficient to discipline directors who have recurrent attendance problems, thus firms using this form of sanctioning would not need to pay meeting fees. Consistent with this view, Conger, Finegold, and Lawler (2000) advise boards to use the number of meetings a director has attended as one of the main objective criteria in evaluating individual directors.

To test this hypothesis, we first construct a measure of "problem directors." Using the BHC sample, we construct the variable Number of Past Attendance Problems, which is the number of times a director was named as having attendance problems up to and including the current fiscal year. Because we want to focus on retention decisions at the director level, we also want to use a variable that measures the relative importance of each director on the board. Some directors play a more active role in the boardroom, thus they are less likely to have attendance problems and to be replaced. We use a dummy variable indicating whether a given director is the chairman of a board committee as a proxy for his/her relative importance on the board.

In Table 12 we report the Probit estimates of the probability that a director departs from the board in the following fiscal year as a function of the number of past attendance problems and other director, board, and firm characteristics. It is clear from the table that the main predictors of director departures are directors' importance (proxied by the committee chairman variable), age, retirement status, and board size, all of which enter with the expected signs. Past attendance problems do not appear to have any significant effect on the likelihood of director departures, suggesting that retention decisions are not a means of disciplining directors with poor attendance records.

These last results are consistent with the conventional wisdom that evaluations of individual directors are extremely rare (Conger, Finegold, and Lawler, 2000). Because the promise to punish directors when they have many attendance problems may be hard to enforce ex post, committing to pay meeting fees ex ante may be a more effective and impersonal way of credibly punishing directors for poor attendance records.

6.2 Meeting Fees and Firm Characteristics

In the Fortune 500 sample, roughly 20% of the firms never pay meeting fees. This is surprising since meeting fees appear to be an inexpensive and credible means of improving outside director

attendance at meetings. In Table 13 we therefore analyze whether there are any systematic differences between firms that pay meeting fees and firms that do not. In panel A of Table 13 we provide summary statistics for the two subsamples of our Fortune 500 data set: the firms that pay a positive meeting fee and the firms that do not. To facilitate the comparison we restrict our sample to the set of firms for which we have complete data. The results are striking. There appears to be no economically significant difference in mean firm characteristics between firms that pay and the ones that do not. On average they are of roughly the same size, they display very similar stock return volatilities, and are almost identically distributed across industries (industry dummies are not shown in the table for the sake of brevity). There are also no significant differences in firm performance across the two subsamples: while return on assets appears to be slightly higher in firms that pay meeting fees, Tobin's Q appears to be slightly higher in firms that do not pay. However, neither of these differences appears economically important.

One could conjecture that the types of directors who work for each type of firm may differ systematically. However, this does not appear to be the case. Directors in both groups of firms are similar in all observable aspects we study: number of other directorships, tenure, age, gender, and retirement status. Mean board size and the number of board meetings are also virtually the same. Thus, there appears to be no difference between the means of the two samples, with two exceptions. First, as we have shown before, attendance records are considerably worse in the sample of firms that do not pay meetings fees. Among those firms, 42.4% experienced attendance problems, while only 22.0% of the firms that paid meeting fees had directors with severe attendance problems.[33] Second, total director compensation is substantially larger in the sample of firms that do not pay meeting fees: Firms that do not pay meeting fees pay their directors on average $143,612.00, while firms that pay meeting fees pay their directors $104.085,00 (assuming that directors attend all meetings), a difference of $39,527.00.

If we perform the same comparison in the BHC sample (Panel B), we see the same pattern: most variables appear to be very similar across the two samples, while attendance problems are again higher in the sample of firms that do not pay meeting fees. The difference is that now total director compensation looks very similar in the two samples, with firms that pay meeting fees paying $6,818.00 *more* than the ones that don't pay fees. However, as we have discussed in the data description section, due to the special nature of bank holding companies' boards, we can

[33] Our analysis here illustrates further that our main results do not depend on the specific econometric procedures or control variables we use: the results are evident even from simple comparisons of means between a sample of firms that pay meeting fees and a sample of firms that do not pay meeting fees.

be much less confident about the accuracy of these numbers, since most BHC directors will also be compensated for sitting on subsidiaries' boards. With this caveat in mind, our best estimate suggests that there is at most a small premium for directors who sit on BHC boards that pay meeting fees. This small premium could be easily rationalized as compensation for the fact that those directors have fewer attendance problems.

But it is difficult to rationalize an almost 40,000 dollar premium per director in Fortune 500 firms that do not pay meeting fees. These directors have the same observable characteristics and work for the same types of firms. In addition the firms in the two samples pay roughly the same amount of cash compensation (annual retainer plus meeting fees, if any), thus the larger total values received by directors in firms that do not pay meeting fees cannot be justified as compensation for larger risk exposure. Finally, and most importantly, they do not appear to noticeably improve the performance of their firms.

One possible explanation for the difference in pay across subsamples is that firms that do not pay meeting fees appear to be slightly larger than the ones that do not (around 15% larger when size is measured in the dollar value of assets), and it is well known that larger firms pay higher salaries. Thus, although the difference in firm sizes between the two samples does not appear large, it could be that the pay-size sensitivities are so large that small size differences would be sufficient to explain most of the 40,000 dollar difference in director pay between the two samples. To test this hypothesis, we estimate pay-size sensitivities in our data using many different specifications. We find that differences in firm size between the two samples can explain differences in director compensation of at most 3,000 dollars.[34]

It appears, therefore, that directors of firms that do not pay meeting fees are paid *more* for doing *less*. A benign explanation for this fact is that directors of firms that do not pay meeting fees have better *unobservable* characteristics. However, it is hard to understand why these better qualities are not reflected in firm valuations and why they should be correlated with meeting fees.

We believe that a more reasonable explanation is as follows. The relative discretion boards have with respect to their own compensation structures is likely to vary across firms. In boards in which directors are less constrained by external forces, directors are likely to pay themselves more. Everything else constant, directors also prefer fixed annual retainers over meetings fees, because annual retainers come with no strings attached and give directors more flexibility in deciding which meetings to attend. Therefore, in firms with fewer checks on directors, director pay is higher and meetings fees are not used.

[34] Again, we do not report the tables for the sake of brevity. They are available upon request.

Why doesn't excessive director compensation appear to reduce firm value? One explanation could be that director compensation is such a small fraction of firms' overall costs that overpaying directors is an almost negligible inefficiency. However, this should not be an excuse for some firms to overpay directors that appear to be doing less than their counterparts in firms in which director pay is lower. In general, we cannot provide a clear answer to the question of whether director compensation or board attendance affect firm value because we cannot observe the relevant counterfactuals. It is reasonable to expect that in firms that are performing well, directors are less likely to face opposition to raises in their own compensation. Thus, we cannot rule out the possibility that firms that overpay their directors perform worse than they would have if they had the same type of compensation structures as other firms.

6.3 Trends in Director Compensation

In our Fortune 500 sample, roughly 20% of the firms did not pay any meeting fees in 1998. In 1992, the earliest year we can obtain data for from ExecuComp, only 13.79% of the firms for which we have data for both 1992 and 1998 did not pay meeting fees. Thus, many more firms chose to eliminate meeting fees than to introduce them between 1992 and 1998.[35] A similar pattern is present in the BHC sample. From 1986 to 1999, five firms chose to eliminate meeting fees, while there was no change in the opposite direction.

What happens when firms eliminate meeting fees? Although it is difficult to generalize from the five BHCs for which we have detailed data on compensation structure changes, we believe that the evidence we present here is still suggestive. One BHC, Bank One, eliminated meeting fees as the result of a change in compensation structure induced by a merger. The other four eliminated meeting fees for no specific reason. In all four of these cases there was a substantial increase in directors' total compensation levels. Among these four banks, two (Regions Financial and Wachovia) increased total cash compensation of directors substantially at the same time that they eliminated meeting fees. In both of these banks, there was no stock-based compensation for directors, neither before nor after the change. Northern Trust increased both cash and stock-based compensation at the same time as it eliminated meeting fees. Finally, Comerica reduced cash compensation by $2,671 but increased stock-based compensation by $32,023.

We find these results particularly illuminating because in the BHC sample we found no evidence that firms that do not pay meeting fees pay more total compensation. If we look only at the BHCs

[35] Between 1992 and 1998, 27 firms eliminated meeting fees, while 11 introduced them.

that shift from paying to not paying meeting fees, we find the same pattern we observed in the Fortune 500 sample, namely that the absence of meeting fees is associated with an increase in total director compensation. This suggests that as the environment becomes more friendly to directors in some firms, boards choose both to eliminate meeting fees and to increase total director pay.

7 Final Remarks

Virtually all practical recommendations one encounters in normative analyses of corporate governance issues are based on implicit assumptions about how directors and executives will respond to certain types of incentive structures. In many cases, these assumptions are not based on empirical evidence. Instead, they are either justified as common sense or have their origins in the analyst's introspection. For example, Austin (1989) suggests that "directors should be paid by the year, not by the meeting" (p. 129). He argues that meeting fees have detrimental effects on director behavior, such as, for example, inducing the board to schedule more meetings than necessary. He also suggests that incentives for attendance are more properly provided by retention decisions. The evidence in this paper provides no support for any of his claims. Firms that pay meeting fees do not schedule more board meetings than ones that do not pay meeting fees. Directors who have attendance problems are not denied renomination. Most importantly, meeting fees appear to be correlated with good governance: directors appear to perform the same duties for less pay. Given the evidence in this paper, it is hard to justify the elimination of meeting fees as a sound governance practice.

We believe that the empirical regularity we document in this paper, that directors have fewer attendance problems when board meeting fees are higher, is important for several reasons. First, to our knowledge this is the first *direct* evidence that corporate directors respond to compensation contracts in the way that they are assumed to. Second, since the magnitudes of board meeting fees are arguably small relative to the wealth of most Fortune 500 directors, many of them top executives in other firms, our results suggest that members of top management teams may be sufficiently responsive to financial incentives to justify the attention the debate on governance gives to executive compensation. Thus our results may be useful for understanding executive compensation contracts in general.

To date little has been written on the motivations of directors and top executives. One reason for this is that it is difficult to measure their responses to contracts. In order to examine whether contracts provide the incentives they are assumed to, one needs data on contracts and agents'

actions or inputs, preferably at the individual level. Because directors' and managers' actions are usually not directly observable by empiricists, studies that focus on the provision of variable pay and its effects on firm *outcomes*, such as financial or accounting measures of performance, or firm *policies*, such as investment and capital structure, provide at best a very indirect test of whether directors' and managers' behaviors are affected by variable pay. Our data provide us with a unique opportunity to directly link part of the amount of variable pay directors receive (meeting fees) to directors' choices of inputs (attendance at meetings).

Finally, our results also add to the literature testing whether incentives matter. Our paper complements previous studies that have found that the provision of financial incentives in firms affect performance (e.g. Lazear, 2000; Knez and Simester, 2001; see Prendergast, 1999, for a survey) in several ways. First, most papers in this literature have examined this issue for workers at lower levels in corporate hierarchies for whom financial incentives might be expected to be stronger. Second, most of these papers have examined changes in *output* in response to performance pay.[36] In contrast, we are able to document that *inputs* change in response to variable pay, i.e. that directors attend more meetings as board meeting fees increase.

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Table 1: Summary Statistics for the Fortune 500 Sample

The sample consists of data for fiscal 1998 on Fortune 500 firms (excluding financial firms and utilities) for which proxy statements or 10-Ks for the 1999 proxy season could be obtained. Financial data are from Compustat and CRSP. Volatility is the standard deviation of monthly stock returns from 1993-1998. All director compensation and director characteristics were collected from proxies. We excluded directors from our sample who were not paid director compensation for their board service as well as all directors appointed to the board in 1998. Director Compensation (Excl. Meeting Fees) is the sum of the cash annual retainer plus the value of annual share and option grants. Total Director Compensation is the sum of Director Compensation (Excl. Meeting Fees) and # Board Meetings times Board Meeting Fee. Options were priced following the method in ExecuComp. We used the stock price at the end of the month of the firm's annual meeting in 1997 for the exercise price of the options, as well as to value stock grants. All compensation numbers have been converted to 2002 dollars using the CPI-U. Attendance Problem Dummy is a dummy variable that is equal to one if the director was named in the proxy as having attendance problems. We excluded board seats on charitable organizations from our calculation of # Other Directorships. Retired Dummy is equal to 1 if the proxy indicated that the director had Retired Dummy from his primary occupation. The number of observations varies because of missing data.

Variable	Obs	Mean	Std. Dev.	Min	Max
Firm Characteristics					
Ln(Assets) (assets in millions)	353	8.783	1.025	6.576	12.783
Volatility	355	0.272	0.110	0.393	0.795
Board Characteristics					
Board Meeting Fee in 2002 dollars (in thousands)	358	1.214	0.855	0	5.518
Director Compensation (Excl. Meeting Fees) in 2002 dollars (in thousands)	356	101.192	109.253	0	713.852
Total Director Compensation in 2002 dollars (in thousands)	349	111.094	110.139	0	713.852
# Board Meetings	351	7.610	3.079	2	22
Board Size	358	11.296	2.781	4	22
Director Characteristics					
Attendance Problem Dummy	2826	0.033	0.178	0	1
# Other Directorships	2801	2.234	2.081	0	19
Tenure as Director in years	2826	8.398	7.376	1	58
Female Dummy	2815	0.131	0.337	0	1
Director Age in years	2806	61.147	7.889	31	93
Retired Dummy	2825	0.217	0.413	0	1

Table 2: Probit Regressions of Attendance Problem Dummy on Board Meeting Fees in the Fortune 500 Director Sample

The sample consists of data on directors who were on the boards of those Fortune 500 firms (excluding financial firms and utilities) for which proxy statements or 10-Ks for the 1999 proxy season could be obtained in fiscal 1998. We excluded directors from our sample who were not paid director compensation for their board service as well as all directors appointed to the board in 1998. The dependent variable is a dummy variable that is equal to one if the director was named in the proxy as having attendance problems. Board Meeting Fee and Director Compensation (Excl. Meeting Fees) are measured in 2002 dollars. Remaining sample characteristics are as in Table 1. The specification in Column III includes 2-digit SIC industry dummies. Standard errors are adjusted for potential heteroskedasticity and for group correlation within firms. Robust z-statistics are in parentheses. Marginal effects for Board Meeting Fee are reported in square brackets. The effect of the constant term is omitted. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

	Dependent Variable: Attendance Problem Dummy		
	I	II	III
Board Meeting Fee	-0.160**	-0.182***	-0.197***
	(-2.56)	(-2.72)	(-2.77)
	[-0.011]	[-0.012]	[-0.013]
# Other Directorships	0.030	0.041*	0.036*
	(1.42)	(1.94)	(1.72)
Director Compensation	-0.001	-0.001**	-0.001**
(Excl. Meeting Fees)	(-1.61)	(-2.01)	(-2.32)
# Board Meetings	-0.031	-0.030	-0.018
	(-1.60)	(-1.56)	(-1.00)
Board Size	-0.014	0.006	4.977E-04
	(-0.80)	(0.28)	(0.02)
Tenure as Director		-0.008	-0.010
		(-0.75)	(-0.95)
Female Dummy		-0.296*	-0.288*
		(-1.89)	(-1.81)
Director Age		-0.002	-0.001
		(-0.31)	(-0.07)
Retired Dummy		-0.218	-0.249*
		(-1.58)	(-1.78)
Ln(Assets)		-0.015	-0.002
		(-0.28)	(-0.04)
Volatility		1.145**	0.734
		(2.37)	(1.30)
Number of obs	2727	2683	2332
Industry Dummies	No	No	Yes

Table 3: Summary Statistics for the BHC Sample

This table shows summary statistics for select financial variables, director compensation, board and director characteristics for our sample of BHCs for fiscal years 1986-1999. This sample extends the sample used in Adams and Mehran (2002, 2003), from which we obtain financial variables, board size and the number of board meetings. Financial variables are from the fourth quarter *Consolidated Financial Statements for Bank Holding Companies* (Form FR Y-9C) from the Federal Reserve Board and CRSP. Sample data are not available for all firms for all years because of missing data (primarily due to missing proxy statements) and because of acquisitions of sample banks in 1997-1999. Volatility of stock price is measured as the standard deviation of the monthly returns on the stock price for the given year. For a given fiscal year we collected data on directors from proxy statements filed at the beginning of the fiscal year and data on director compensation from proxy statements filed at the beginning of the following fiscal year. We excluded directors from our sample who were not paid director compensation for their board service as well as all directors appointed to the board in the current fiscal year, i.e. all directors whose Tenure as Director on the board in a given year is one year or less. Director Compensation (Excl. Meeting Fees) is the sum of the cash annual retainer plus the value of annual share and option grants. Total Director Compensation is the sum of Director Compensation (Excl. Meeting Fees) and # Board Meetings times Board Meeting Fee. Options were priced following the method in ExecuComp. We used the stock price at the end of the month of the firm's annual meeting at the beginning of each fiscal year to value stock and option grants during that fiscal year. All compensation numbers have been converted to 2002 dollars using the CPI-U. Attendance Problem Dummy is a dummy variable that is equal to one if the director was named in the proxy as having attendance problems. We excluded board seats on charitable organizations from our calculation of # Other Directorships. Retired Dummy is equal to 1 if the proxy indicated that the director had Retired Dummy from his primary occupation. The number of observations varies because of missing data.

Variable	Obs	Mean	Std. Dev.	Min	Max
Firm Characteristics					
Ln(Assets) (assets in millions)	480	16.945	1.056	14.916	20.265
Volatility	484	0.077	0.030	0.012	0.223
Board Characteristics					
Board Meeting Fee in 2002 dollars (in thousands)	474	1.179	0.610	0	4.751
Director Compensation (Excl. Meeting Fees) in 2002 dollars (in thousands)	463	31.860	23.525	0	170.191
Total Director Compensation in 2002 dollars (in thousands)	463	41.652	25.805	0	184.759
# Board Meetings	475	8.331	3.263	4	24
Board Size	482	17.5	5.440	8	38
Director Characteristics					
Attendance Problem Dummy	6920	0.094	0.292	0	1
# Other Directorships	6270	1.526	1.653	0	14
Tenure as Director in years	6882	8.417	6.529	1	51
Female Dummy	6895	0.063	0.243	0	1
Director Age in years	6878	59.757	7.213	26	91
Retired Dummy	6883	0.133	0.339	0	1

Table 4: Probit Regressions of Attendance Problem Dummy on Board Meeting Fees in the BHC Director Sample

The sample consists of data on directors who were on the boards of our sample BHCs for fiscal years 1986-1999. We excluded directors from our sample who were not paid director compensation for their board service as well as all directors appointed to the board in the current fiscal year. The dependent variable is a dummy variable that is equal to one if the director was named in the proxy as having attendance problems. Board Meeting Fee and Director Compensation (Excl. Meeting Fees) are measured in 2002 dollars. Remaining sample characteristics are as in Table X. All specifications include year dummies. Standard errors are adjusted for potential heteroskedasticity and for group correlation within firms. Robust z-statistics are in parentheses. Marginal effects for Board Meeting Fee are reported in square brackets. The effect of the constant term is omitted. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

	Dependent Variable: Attendance Problem Dummy	
	I	II
Board Meeting Fee	-0.301***	-0.349***
	(-3.24)	(-2.61)
	[-0.046]	[-0.053]
# Other Directorships	0.016	0.008
	(0.82)	(0.45)
Director Compensation	-0.004	-0.007**
(Excl. Meeting Fees)	(-1.37)	(-2.24)
# Board Meetings	-0.020	-0.025
	(-1.36)	(-1.56)
Board Size	0.053***	0.050***
	(3.05)	(3.91)
Tenure as Director		0.002
		(0.25)
Female Dummy		-0.266*
		(-1.76)
Director Age		-0.007
		(-1.02)
Retired Dummy		-0.373***
		(-3.69)
Ln(Assets)		0.099
		(0.84)
Volatility		2.042
		(1.14)
Number of obs	5707	5679

Table 5: First Stage Instrumental Variables Regressions in the Fortune 500 Director Sample

The table shows the first stage of the instrumental variable regressions in which our sample of Fortune 500 directors (described in Table 1) is restricted to those directors who were appointed to the board in fiscal year 1997. The instrument for Board Meeting Fee in fiscal 1998 (measured in 2002 dollars) is the board meeting fee in 1996 (measured in 2002 dollars). Remaining sample characteristics are as in Table 1. Standard errors are adjusted for potential heteroskedasticity and for group correlation within firms. Robust t-statistics are in parentheses. The effect of the constant term is omitted. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

	Dependent Variable: Board Meeting Fee in 1998	
	I	II
Board Meeting Fee in 1996	0.792***	0.783***
	(16.00)	(15.63)
# Other Directorships	0.010	0.014
	(0.54)	(0.72)
Director Compensation (Excl. Meeting Fees)	1.382E-04	4.587E-04
	(0.44)	(1.34)
# Board Meetings	-0.010	-0.005
	(-0.91)	(-0.46)
Board Size	0.039***	0.041***
	(3.63)	(3.16)
Female Dummy		0.027
		(0.29)
Director Age		-4.760E-05
		(-0.01)
Retired Dummy		0.040
		(0.38)
Ln(Assets)		-0.049
		(-1.24)
Volatility		-0.694**
		(-2.20)
Number of obs	281	280
F-statistic	59.70	29.94
Adj R-squared	0.5118	0.5091

Table 6: OLS and Second Stage Instrumental Variables Regressions in the Fortune 500 Director Sample

The table shows OLS and second stage instrumental variable regressions in which our sample of Fortune 500 directors (described in Table 1) is restricted to those directors who were appointed to the board in fiscal year 1997. The instrument for Board Meeting Fee in fiscal 1998 measured in 2002 dollars is Board Meeting Fee in 1996 measured in 2002 dollars. Remaining sample characteristics are as in Table 1. Columns I and III report OLS estimates, Columns II and IV report the corresponding instrumental variable estimates. Standard errors are adjusted for potential heteroskedasticity and for group correlation within firms. Robust t-statistics are in parentheses. The effect of the constant term is omitted. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

	Dependent Variable: Attendance Problem Dummy			
	I	II	III	IV
Board Meeting Fee	-0.053***	-0.034	-0.052***	-0.033
	(-3.32)	(-1.62)	(-3.21)	(-1.54)
# Other Directorships	0.002	0.002	0.001	0.001
	(0.49)	(0.35)	(0.24)	(0.11)
Director Compensation	-1.965E-04***	-1.800E-04***	-2.113E-04***	-2.046E-04***
(Excl. Meeting Fees)	(-3.51)	(-3.25)	(-3.02)	(-2.85)
# Board Meetings	-0.003	-0.002	-0.003	-0.003
	(-0.78)	(-0.64)	(-0.85)	(-0.74)
Board Size	-0.003	-0.004	-0.004	-0.005
	(-0.68)	(-0.88)	(-0.83)	(-1.03)
Female Dummy			-0.005	-0.008
			(-0.15)	(-0.25)
Director Age			0.001	0.001
			(0.45)	(0.44)
Retired Dummy			-0.065***	-0.066***
			(-2.91)	(-3.05)
Ln(Assets)			0.005	0.006
			(0.41)	(0.55)
Volatility			0.018	0.034
			(0.15)	(0.29)
Estimation method	OLS	IV	OLS	IV
Number of obs	281	281	280	280
F-Statistic	3.40	2.25	1.98	1.68
R-squared	0.0493	0.0447	0.0595	0.0550

Table 7: First Stage Instrumental Variables Regressions in the BHC Director Sample

The table shows the first stage of the instrumental variable regressions in which our sample of BHC directors (described in Table X) is restricted to those directors in fiscal year t who were appointed to the board in the previous fiscal year, fiscal year t-1. The instrument for Board Meeting Fee in fiscal year t measured in 2002 dollars is the board meeting fee in fiscal year t-2 (measured in 2002 dollars). Remaining sample characteristics are as in Table X. Standard errors are adjusted for potential heteroskedasticity and for group correlation within firms. Robust t-statistics are in parentheses. The effect of the constant term is omitted. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

	Dependent Variable: Board Meeting Fee in Year t	
	I	II
Board Meeting Fee in Year t-2	0.723***	0.687***
	(19.09)	(16.46)
# Other Directorships	0.008	0.007
	(0.68)	(0.55)
Director Compensation (Excl.	-0.005***	-0.006***
Meeting Fees)	(-5.37)	(-5.10)
# Board Meetings	-0.003	0.001
	(-0.44)	(0.12)
Board Size	0.011***	0.010***
	(2.95)	(2.57)
Female Dummy		-0.053
		(-0.85)
Director Age		-0.003
		(-0.87)
Retired Dummy		0.116
		(1.25)
Ln(Assets)		0.053*
		(1.90)
Volatility		-1.738**
		(-2.54)
Number of obs	469	468
F-Statistic	89.56	46.55
Adj R-squared	0.4862	0.4938

Table 8: OLS and Second Stage Instrumental Variables Regressions in the BHC Director Sample

The table shows OLS and second stage instrumental variable regressions in which our sample of BHC directors (described in Table X) is restricted to those directors who were appointed to the board in fiscal year t-1. The instrument for board meeting fees in fiscal year t is the board meeting fee in fiscal year t-2. Remaining sample characteristics are as in Table X. Columns I and III report OLS estimates, Columns II and IV report the corresponding instrumental variable estimates. Standard errors are adjusted for potential heteroskedasticity and for group correlation within firms. Robust t-statistics are in parentheses. The effect of the constant term is omitted. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

	Dependent Variable: Attendance Problem Dummy			
	I	II	III	IV
Board Meeting Fee	-0.021	-0.059***	-0.022	-0.067*
	(-1.17)	(-2.81)	(-0.99)	(-1.71)
# Other Directorships	0.001	0.002	0.003	0.003
	(0.11)	(0.20)	(0.23)	(0.27)
Director Compensation	-0.001**	-0.001**	-0.001	-0.001
(Excl. Meeting Fees)	(-2.40)	(-2.52)	(-0.89)	(-1.11)
# Board Meetings	-0.006	-0.006	-0.005	-0.005
	(-1.37)	(-1.23)	(-1.29)	(-1.10)
Board Size	0.010***	0.011***	0.010***	0.011***
	(5.53)	(6.14)	(5.50)	(5.90)
Female Dummy			-0.056	-0.059
			(-1.51)	(-1.65)
Director Age			-0.004*	-0.004**
			(-1.96)	(-2.04)
Retired Dummy			-0.056**	-0.047*
			(-2.47)	(-1.97)
Ln(Assets)			-0.001	0.011
			(-0.02)	(0.32)
Volatility			-0.273	-0.339
			(-0.51)	(-0.58)
Estimation Method	OLS	IV	OLS	IV
Number of obs	469	469	468	468
F-Statistic	10.04	11.25	10.53	10.04
R-squared	0.0420	0.0373	0.0560	0.0500

Table 9: Turnover in the BHC Sample

The sample consists of an unbalanced panel of data on 35 BHCs from fiscal 1986-1999. Columns I and II show the results of poisson regressions of director turnover measures on Abs(Lagged Change in Board Meeting Fee). This variable is defined to be the absolute value of the lagged change in Board Meeting Fees. The dependent variable in column I, Number of Director Arrivals, is the number of directors who were paid for board service that joined the board in the current fiscal year. The dependent variable in column II, Number of Director Departures, is the number of directors who were paid for board service that left the board in the following fiscal year. Tobin's Q is defined as the ratio of the Book Value of Assets –Book Value of Equity+Market Value of Equity to the Book Value of Assets. Return on Assets is defined as Net Income divided by the Book Value of Assets. Remaining sample characteristics are as in Table X. All director characteristics in these specifications are averaged over all directors who were paid for board service and who were not appointed in the current fiscal year. All specifications include year dummies. Standard errors are adjusted for potential heteroskedasticity and for group correlation within firms. Robust z-statistics are in parentheses. The effect of the constant term is omitted. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

	Dependent Variable: Number of Directors Joined	**Dependent Variable: Number of Director Departures**
	I	II
Abs(Lagged Change in	-0.432	0.149
Board Meeting Fee)	(-0.84)	(0.49)
Total Director	-0.002	-0.006
Compensation	(-0.42)	(-1.38)
# Board Meetings	-0.030	0.032
	(-0.88)	(1.24)
Board Size	0.091***	0.088***
	(5.42)	(7.32)
Ln(Assets)	0.005	0.061
	(0.04)	(0.58)
Volatility	-3.128	2.536
	(-0.50)	(0.64)
Lagged ROA	-12.301	21.160
	(-0.48)	(1.32)
Lagged Tobin's Q	-3.292	-1.888
	(-1.57)	(-1.57)
Number of obs	393	393

Table 10: Firm Level Regressions in the Fortune 500 Sample

The sample consists of data on 358 Fortune 500 firms (excluding financial firms and utilities) for which proxy statements or 10-Ks for the 1999 proxy season could be obtained in fiscal 1998. Columns I and II show the results of probit regressions of Firm Level Attendance Problem Dummy on Board Meeting Fee. The dependent variable is a dummy variable that is equal to one if the firm reported that any director who received compensation for board service and who was not appointed in 1998 had attendance problems during fiscal 1998. Columns III and IV show the results of poisson regressions of Number of Attendance Problems on Board Meeting Fee. The dependent variable is the number of directors who were paid for service but not appointed in 1998 that a firm reported as having attendance problems during 1998. Remaining sample characteristics are as in Table 1. All director characteristics in these specifications are averaged over all directors who were paid for board service and who were not appointed in 1998. All specifications include 2-digit SIC industry dummies. Standard errors are adjusted for potential heteroskedasticity. Robust z-statistics are in parentheses. Marginal effects are reported for Board Meeting Fee in square brackets. The effect of the constant term is omitted. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

	Dependent Variable: Firm Level Attendance Problem Dummy		**Dependent Variable: Number of Attendance Problems**	
	I	II	III	IV
Board Meeting Fee	-0.388***	-0.406***	-0.504***	-0.524***
	(-3.24)	(-3.36)	(-3.22)	(-3.25)
	[-0.125]	[-0.132]	[-0.014]	[-0.015]
# Other Directorships	0.076	0.086	0.079	0.129
	(0.89)	(0.94)	(0.92)	(1.43)
Director Compensation	-0.002**	-0.002**	-0.002**	-0.003**
(Excl. Meeting Fees)	(-2.32)	(-2.26)	(-2.01)	(-2.42)
# Board Meetings	0.020	0.019	-0.026	-0.028
	(0.71)	(0.66)	(-0.69)	(-0.71)
Board Size	0.016	0.008	0.057	0.062
	(0.48)	(0.21)	(1.47)	(1.47)
Tenure as Director		0.031		0.047*
		(1.23)		(1.77)
Female Dummy		-0.621		0.001
		(-0.63)		(0.00)
Director Agen		0.020		0.001
		(0.77)		(0.02)
Retired Dummy		-0.786		-0.556
		(-1.32)		(-0.91)
Ln(Assets)		0.030		-0.023
		(0.28)		(-0.19)
Volatility		0.297		1.508
		(0.33)		(1.35)
Estimation method	Probit	Probit	Poisson	Poisson
Number of obs	301	296	345	339

Table 11: Firm Level Regressions in the BHC Sample

The sample consists of an unbalanced panel of data on 35 BHCs from fiscal 1986-1999. Columns I and II show the results of probit regressions of Firm Level Attendance Problem Dummy, on Board Meeting Fee. The dependent variable is a dummy variable that is equal to one if the firm reported that any director who received compensation for board service and who was not appointed in the current fiscal year had attendance problems during that fiscal year. Columns III and IV show the results of poisson regressions of Number of Attendance Problems on Board Meeting Fee. The dependent variable is the number of directors who were paid for service but not appointed in the current fiscal year that a firm reported as having attendance problems during that fiscal year. Remaining sample characteristics are as in Table X. All director characteristics in these specifications are averaged over all directors who were paid for board service and who were not appointed in the current fiscal year. All specifications include year dummies. Standard errors are adjusted for potential heteroskedasticity and for group correlation within firms. Robust z-statistics are in parentheses. Marginal effects are reported for Board Meeting Fee in square brackets. The effect of the constant term is omitted. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

	Dependent Variable: Firm Level Attendance Problem Dummy		**Dependent Variable: Number of Attendance Problems**	
	I	II	III	IV
Board Meeting Fee	-0.325*	-0.333*	-0.497***	-0.592***
	(-1.90)	(-1.90)	(-3.74)	(-3.99)
	[-0.127]	[-0.129]	[-0.52]	[-0.60]
# Other Directorships	0.081	0.162	0.138	0.072
	(0.61)	(1.08)	(1.03)	(0.53)
Director Compensation	-0.007	-0.007	-0.008*	-0.011**
(Excl. Meeting Fees)	(-1.31)	(-1.19)	(-1.74)	(-2.03)
# Board Meetings	-0.007	-0.003	-0.035	-0.048**
	(-0.19)	(-0.07)	(-1.61)	(-2.28)
Board Size	0.112***	0.129***	0.140***	0.136***
	(4.76)	(5.16)	(6.51)	(9.65)
Tenure as Director		0.026		0.091**
		(0.61)		(2.15)
Female Dummy		-2.455		-2.927**
		(-1.37)		(-2.12)
Director Age		-0.072		-0.052
		(-1.52)		(-1.19)
Retired Dummy		0.343		-0.453
		(0.29)		(-0.51)
Ln(Assets)		-0.089		0.213
		(-0.61)		(1.52)
Volatility		-0.225		1.333
		(-0.07)		(0.48)
Estimation Method	Probit	Probit	Poisson	Poisson
Number of obs	434	434	434	434

Table 12: Probit of The Effect of Past Attendance Problems on Director Departure in the BHC Director Sample

The sample consists of data on directors who were on the boards of our sample BHCs for fiscal years 1986-1999. We excluded directors from our sample who were not paid director compensation for their board service as well as all directors appointed to the board in the current fiscal year. The table shows a probit regression of Director Departure on Number of Past Attendance Problems, which is the number of times a director was named as having attendance problems up to and including the current fiscal year. The dependent variable, Director Departure, is a dummy variable that is equal to one if the director left the board in the following fiscal year. Committee Chair is a dummy variable indicating whether a director was the chair of a committee in the current fiscal year. Remaining sample characteristics are as in Table X. The specification includes year dummies. Standard errors are adjusted for potential heteroskedasticity and for group correlation within firms. Robust z-statistics are in parentheses. The marginal effect for Number of Past Attendance Problems is reported in square brackets. The effect of the constant term is omitted. Asterisks indicate significance at 0.01 (***), 0.05 (**), and 0.10 (*) levels.

	Dependent Variable: Director Departure
Number of Past Attendance Problems	0.014 (0.52) [0.002]
Committee Chair	-0.597*** (-5.58)
# Other Directorships	-4.560E-04 (-0.03)
Board Meeting Fee	-0.094 (-1.04)
Director Compensation (Excl. Meeting Fees)	0.002 (0.73)
# Board Meetings	0.008 (0.43)
Board Size	0.023*** (2.57)
Tenure as Director	-1.744E-04 (-0.03)
Female Dummy	0.094 (0.87)
Director Age	0.043*** (4.64)
Retired Dummy	0.273*** (3.81)
Ln(Assets)	0.010 (0.14)
Volatility	-1.116 (-0.67)
Number of obs	4970

Table 13: Comparison of Firms That Pay Board Meeting Fees to Firms That Do Not Pay Board Meeting Fees in the Fortune 500 and the BHC Sample

This table shows the means of financial, director compensation, board and director characteristics for firms who pay their directors board meeting fees and firm who do not pay their directors board meeting. All emans are calaculated using only the observations for which data on all variables are available. Panel A shows the comparison for the Fortune 500 sample. All director characteristics at the firm level are averaged over all directors who were paid for board service and who were not appointed in 1998. Panel B of this table shows the comparison for the BHC sample. All director characteristics at the firm level are averaged over all directors who were paid for board service and who were not appointed in the current fiscal year. Tobin's Q in both panels is defined as the ratio of the Book Value of Assets –Book Value of Equity+Market Value of Equity to the Book Value of Assets. Return on Assets is defined as Net Income divided by the Book Value of Assets.

Panel A: Fortune 500 Sample

	F500 pay		**F500 not pay**	
	Obs	Mean	Obs	Mean
Ln(Assets)	273	8.692	66	9.166
Volatility	273	0.269	66	0.289
Board Meeting Fee	273	1.518	66	0.000
Director Compensation (Excl. Meeting Fees)	273	92.629	66	143.612
Total Director Compensation	273	104.085	66	143.612
Annual Retainer	273	24.499	66	33.626
# Board Meetings	273	7.597	66	7.863
Board Size	273	11.340	66	11.106
Attendance Problem Dummy	273	0.220	66	0.424
# Other Directorships	273	2.134	66	2.307
Tenure as Director	273	7.913	66	7.667
Female Dummy	273	0.130	66	0.117
Director Age	273	60.602	66	59.999
Retired Dummy	273	0.195	66	0.176
ROA	273	4.689	66	4.324
Tobin's Q	273	2.304	66	2.434

Panel B: BHC sample

	BHC pay		**BHC not pay**	
	Obs	Mean	Obs	Mean
Ln(Assets)	388	17.039	46	16.362
Volatility	388	0.076	46	0.087
Board Meeting Fee	388	1.329	46	0.000
Director Compensation (Excl. Meeting Fees)	388	32.423	46	36.682
Total Director Compensation	388	43.500	46	36.682
Annual Retainer	388	16.841	46	22.380
# Board Meetings	388	8.407	46	8.478
Board Size	388	17.923	46	14.652
Attendance Problem Dummy	388	0.557	46	0.652
# Other Directorships	388	1.541	46	1.250
Tenure as Director	388	8.766	46	7.759
Female Dummy	388	0.061	46	0.070
Director Age	388	59.720	46	59.685
Retired Dummy	388	0.148	46	0.041
ROA	388	0.009	46	0.008
Tobin's Q	388	1.051	46	1.077