Agency Conflicts for Outside Directors During CEO Selection

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This paper shows outside directors have an increased chance of obtaining new positions (CEO, COB, directorships) during a CEO turnover year in firms that hire a CEO externally. The new positions are determined by outside directors' CEO hiring source choice (internal or external), not their performance; the opposite is true for inside directors. Further, outside director representation on a board only predicts an external hire if at least one outside director gains a new position while hiring externally. Finally, only firms with outside directors that gain new positions while hiring externally experience cash flow and stock return losses.

INTRODUCTION

Hiring and firing CEOs, along with monitoring and advising, are the principal functions of the corporate board of directors. Given the pivotal role that CEOs play in generating wealth, understanding board members' incentives during the CEO hiring process may provide knowledge that leads to superior performance outcomes.[1] To date, research has focused on inside directors' incentives during top executive turnovers.[2] In order to potentially uncover a new class of important incentives, we study outside directors' objectives during the CEO hiring process, since owners increasingly rely upon this group to further their interests (Linck, Netter, and Yang, 2009; Hermalin, 2005).

We examine all CEO appointments at Forbes 800-size firms during the period when the rate of external hiring increased: the mid-1980s to 2005.[3] We first focus on outside directors' incentives to obtain positions (CEO, COB, directorships). Securing more and better positions during the CEO hiring year for directors who hire a CEO externally is made more difficult as the firms they direct are often underperforming; their association with these weak firms would normally hinder their attempts to obtain new appointments (See Yermack, 2004). Yet we find that, contrary to expectations, hiring a CEO externally, rather than internally, is associated with outside directors who obtain significantly more new positions. These positions are obtained more quickly (i.e., by the end of the year of hire) than is likely (four years) for positions obtained due to superior ability (See Yermack, 2004). Further, the increased likelihood of new directorships for these directors is only found in the CEO turnover year, not before, not after.

We next account for previous explanations of outside directors' new positions using Yermack's determinants. After accounting for these explanations, our results show that new positions for outside directors during the hiring year are positively associated with their boards' external hire decision but not their prior performance as directors, nor as officers at other firms. This finding is consistent with networking to obtain positions (Harford, 2003) rather than performing. In contrast, new positions for

inside directors during the hiring year are positively related to their prior performance but not the external hire decision.

To explore one of outside directors' means of networking during the CEO turnover year, we obtain a unique sample of hiring firms that are known to employ a search firm. We find more than 80% of the time an external CEO hire is associated with hiring a search firm, which contrasts with the 28% average in our overall database and is consistent with search firms' incentives (approximately a 20% increase in revenues) to recommend an external CEO.[4] The 80% is also consistent with the incentives of outside directors seeking new positions. Specifically, outside directors who employ a search firm and hire a CEO externally are associated, all else equal, with a 400+% greater chance of obtaining new directorships at other firms, relative to outside directors who employ a search firm and promote internally.

Are these new positions linked to a board's decision to hire a CEO externally? To investigate, we characterize a potentially conflicted board. Our definition is motivated by the above findings and by experienced professionals' observations that a single outside director can often gain new positions (directorships) by networking, for example by involving executive search firms - through an appeal to the boards' fiduciary duty. The search firm provides the directors a direct connection to all the positions it is seeking to fill globally, and as noted above, its incentive is to recommend an external CEO hire; to obtain positions a director may provide support. That a single outside director with misaligned incentives can lead their board is known. Hallock (1997) suggests that two CEOs acting as directors on the boards of each other's firms likely lead these boards to raise each other's pay. Further, we extend prior literature by showing that inside directors have a material incentive to support outside directors in hiring externally. Therefore, we characterize a board that hires a CEO externally as potentially conflicted if one or more of its outside directors secures new positions for themselves (as director, external CEO, or COB) during the year they participate in externally hiring a CEO. This characterization biases against finding evidence of potential board conflicts as it includes directors who obtain new positions based on their performance rather than networking.

Our probit results show outside director representation on a board only predicts an external hire if at least one outside director gains a new position while hiring externally (by our definition this board is potentially conflicted). For these directors, hiring externally is unrelated to their or the firm's prior performance. In contrast, for external CEO hire boards with no outside directors that gain new positions, the percentage of outside directors is positively associated with an *internal* CEO hire and with prior performance.

We recognize that new positions for outside directors who hire a CEO externally could result from an efficient labor market's demand for outside directors' expertise or endogenous selection of underperforming directors. However, our tests (Section 7) do not show support for these explanations. Thus, we next investigate whether the new jobs outside directors obtain when hiring externally (we call these potential conflicts) are associated with agency costs (cash flow losses) for shareholders after a board hires a CEO.

Our empirical methodology to measure agency costs incorporates the following features.[5] First, we capture an often neglected but critically important cash flow: all operating cash expenses due to changes in corporate strategies (discontinuing operations, restructuring, and layoffs). These expenses are usually associated with external hires; excluding them could invalidate our conclusions. Second, we analyze the comparison the board must make. Instead of comparing the performance of a sample of CEOs hired from inside to a sample of CEOs hired from outside the firm, we compare the actual board choice (the one hired) to the counterfactual candidate that the board did not hire (selection bias is addressed using empirically-verified theory-based exclusion variables). Finally, our approach builds upon prior research to minimize two material sources of survival bias that can exist when agency conflicts impact boards' CEO hiring source decisions. Our methods follow that of Nagel (2014) who demonstrates that these features can impact empirical conclusions regarding CEO performance.

Using our methodology, we conduct empirical tests for evidence of agency costs when potential conflicts are observed for outside directors. We first consider the group of firms where at least one of a firm's outside directors quickly gains a job for themselves when the board hires a CEO externally. This

group realizes a subsequent cash flow and stock return loss for shareholders. We find that potential incentive conflicts occur among independent director dominated boards that promote CEOs externally, and the potentially conflicted boards realize cash flow losses.[6] Losses are also frequent among our sample's largest firms (similar to S&P 500 firms) when their outside directors have potential conflicts and hire a CEO externally.

When conflicts are absent, agency theory predicts superior results. In accord with this prediction we find superior performance is realized when potential conflicts are absent. First, we consider the group of external hire firms that shows no evidence of potential incentive conflicts; no cash flow or stock return losses are found. Second, no cash flow losses are found for external CEO hires by boards without potential conflict that are independent director dominated or are S&P 500-size firms. Third, since a distressed or near bankrupt firm allows no margin for agency concerns, we would expect their boards to make better hiring decisions. In this case, if the board is able to hire from a high quality firm, a gain is actually realized.

We contribute to the long line of literature on CEO turnover by calling attention to a class of agency issues that had not been studied in the Finance literature: the potential for outside directors to have misaligned incentives during the CEO hiring process. The paper proceeds as follows. Section 2 discussed the hypotheses; 3 discusses the data; 4 investigates potential incentive conflicts; 5 describes our methods; 6 estimates agency costs; 7 addresses robustness and alternative explanations, Section 8 concludes.

MOTIVATION, HYPOTHESIS, AND PREDICTIONS

Fama and Jensen (1983, p. 315) urge researchers to focus on the "serious agency problems" involved in "searching for replacements for top managers." They realize that board directors, who are charged with CEO selection, have incentives to advance their own careers; these incentives may not align with owners' wealth maximization.

Outside Directors' Incentives and Means to Obtain New Positions During CEO Turnovers

A long literature establishes that outside directors can desire new directorships, and that some are motivated by a desire to enhance their careers by obtaining top officer positions. New directorships, CEO, and COB positions provide monetary and nonmonetary motivation, especially if they are at more prestigious firms. Prestige may bolster the director's pay at other firms, increase consulting income, or help secure top jobs at other firms. The literature has shown these incentives can align outside directors' interest with owners or result in conflicts.[7]

During the CEO turnover year, outside directors have increased opportunities to use networking, rather than performance, to obtain new positions for themselves. One of the many ways networking can be accomplished is through employment of an executive search firm to identify CEO candidates. At the four largest U.S. search firms, a single search professional often serves as the contact for boards requesting a CEO search and for other boards requesting director or executive searches.[8] Further, search firms seek to fill positions with talent identified by their search professionals, which links the professional to all the directorship and executive searches being carried out globally by the professional's search firm. Thus, employing a search firm to aid in identifying CEO candidates directly links outside directors to a large number of desired CEO and COB positions and directorships – through one person – the lead search professional.

A potential advantage of networking is that desired positions may be obtained quickly. Demonstrating ability takes time. Yermack (2004) shows that outside directors are not likely to obtain new positions until they have demonstrated superior ability for approximately four years. Thus, even outside directors with superior ability could choose to use networking to quickly obtain desired positions rather than wait.

Outside Directors' Potential Agency Conflicts During a CEO Turnover

Outside directors can potentially increase their chances of obtaining positions they desire by using common means of networking. We describe one possibility involving directors' use of search firms. The

four largest U.S. search firms are paid a percentage (typically 30%) of a CEO's first full year cash pay.[9] All else equal, external CEO hires are paid 20% more than internal hires, and search firms usually obtain more search jobs at a firm after an external CEO placement than after an internal CEO placement.[10,11] As a result, directors wishing to be viewed favorably by the search firm can advocate for an external CEO hire.[12]

Agency Hypothesis and Predictions

The above discussion suggests that incentive conflicts could influence some outside directors to hire a new CEO externally to obtain private benefits from networking, to the detriment of owners.[13] Therefore, we seek to determine whether the outcomes predicted by agency theory for these potential conflicts occur. Our hypothesis is:

> *Agency hypothesis*: Outside directors' chance of obtaining new positions during the CEO turnover year depends on their CEO hiring source (internal or external), not their performance.

This hypothesis yields two empirically testable predictions. First, relative to outside directors of internal hire firms, outside directors of firms that hire a CEO externally realize personal benefits. They have a greater probability of obtaining new position (external CEO, COB, directorships) by the end of the year of hire, and new positions for these outside directors are predicted by the CEO hiring source, not these directors' prior performance. Second, the consequence for boards having outside directors with incentive conflicts that leads them to hire a CEO externally is an inferior choice. Therefore, we predict a cash flow loss for shareholders relative to what they would have gained from the internal CEO candidate.

Alternative Hypothesis

The alternative to the agency hypothesis is that outside directors' incentives align with shareholders when selecting an external CEO. In this case, following Demsetz and Lehn (1985), boards are guided by the goal of value maximization. Our alternative hypothesis follows:

> *Alternative hypothesis:* Outside directors' chance of obtaining new positions depends on their performance, not their CEO hiring source.

The alternative hypothesis predicts that new positions for outside directors depend on their performance and that boards realize greater cash flow from the selected external CEO than would have been obtained from the passed over internal candidate.

DATA AND CASH FLOW MEASURES

Data

Stock market data is obtained from the University of Chicago's Center for Research in Security Prices (CRSP). Accounting data is obtained from Compustat's legacy database. Firms are identified by Compustat's "gvkey" variable. Governance variables and director information are obtained from Compact Disclosure. Merger, acquisition, and spin-off data are obtained from Security Data Corporation. Forced turnovers are identified by the algorithm of Parrino (1997) and are obtained from the datasets of Jenter and Kanaan (2014) and from Peters and Wagner (2013). Data on executive search firms is obtained from these firms' websites and the Executive Search Information Exchange.

Our CEO dataset covers all U.S. public firms from 1986 through 2005. The database is created by merging CEO information from the Forbes 800 annual list of CEOs, Compact Disclosure, and ExecuComp. In the process of merging these databases and tracking CEOs through time, CEOs are identified by their last name, first name, middle name, surname, and age. These procedures enable

tracking of all public-firm CEOs over the 1986-2005 period, from the first time they are listed as an officer to the last time they appear in the dataset as an officer.

Two types of CEO appointments are identified: internal and external hires. Internal hires are defined as CEOs who were listed as an officer of the hiring firm in the year prior to their appointment, and any history as an officer at another firm occurred more than one year prior to appointment. In addition, once promoted to CEO, internal hires have officer responsibilities only at one firm. External hires are CEOs who a) have no history as an officer at the hiring firm, b) have a prior history as an officer at another public firm, and c) after their first two years as CEO have officer responsibilities at only one firm.

TABLE 1
SAMPLE DESCRIPTION

Panel A: CEOs appointed to Forbes 800-size firms

	Internal CEO hires	External CEO hires
# of CEOs	1,493	409
Observed years of tenure (average)	4.2	3.5
# of firms	1,159	363
Firm age in year (average)	22.1	18.6
# of firm-year observation	6,304	1,425

Panel B: Boards of Forbes 800-size firms with at least one outside director

	Internal CEO hires		External CEO hires	
Data source	Compaq Disclosure	IRRC	Compaq Disclosure	IRRC
# of boards (equals number of firms)	1,351	548	387	169
# of outside directors	10,005	4,115	2,783	1,269
Average # of boards seats held by outside directors	2.15	2.18	2.17	2.13

Panel C: Directors, officers, and appointments of CEOs at all public firms

# of director-year observations (Compaq Disclosure data)	842,985
# of director-year observations using IRRC data	152,837
# of officer-year observations (Compaq Disclosure data)	888,788
# of identified CEO appointments at all public firms	10,371

The sample in Panel A is drawn from CEO appointments at public U.S. firms from 1989 to 2005. *CEOs appointed to Forbes 800-size firms* is all appointments of CEOs whose type (internal CEO hire or external hire) is identified, whose firms have all the variables used in Table 7, and have total assets > $350 million in the year prior to the CEO appointment. *Internal CEO hires* are CEOs who were an officer of the hiring firm for more than one year prior to their appointment, and any history as an officer at another public firm was two or more years prior to appointment. Once promoted to CEO, internal hires only have officer responsibilities at their firm. Officers are identified by using Compaq Disclosure's list of officers for all public firms or by using the Forbes 800 yearly list of CEOs starting in 1970. *External CEO hires* a) have a prior history as an officer at another public firm, b) have at most one year as an officer at the hiring firm, and c) after their first two years as CEO, only have officer responsibilities at that firm. *Observed years of tenure* is the observed number of years that a CEO serves at a firm. *Firm age* is defined in the Appendix. The sample in Panel B is the *Boards of Forbes 800-size firms with at least one outside director* where Compaq Disclosure provides the information needed to identify each of the firms' outside directors (defined in the Appendix). Identifying information is the last name, first initial, middle initial, and the director's age (if age is available). Risk Metrics' Investor Responsibility Research Center (abbreviated *IRRC*) data is provided for comparison to our *Compaq Disclosure* data for both *Internal CEO hires* and *External CEO hires*. We show the IRRC information that is available for Forbes 800-size firms after 1996 because the number of other board seats held (PROXYBSC) is often missing in 1996 and not available before 1996. Directors in the IRRC dataset are identified by their director id number; boards seats held is computed as PROXYBSC+1; and outside directors are those who are not identified as an employee by IRRC. In Panel C, we show the data used to identify incentive conflicts for outside directors of the hiring firms. Some observations in Compaq Disclosure are for directors and officers of private firms that subsequently become public. All monetary variables are in 2005 U.S. dollars.

Panel A of Table 1 shows descriptive statistics for the Forbes 800-size firms, which are defined as having total assets greater than $350 million (in 2005 dollars) in the year prior to the CEO's appointment. This is the primary sample used in the analysis; all the variables required for analysis are available for these firms. The sample of CEO appointments spans the 1989-2005 period. 1986 to 1988 are used for construction of a variable required for the structural self-selection model discussed and for replication of prior work. Our focus on Forbes 800-size firms ensures that the results are driven by economically important companies. This sample has 1,493 internally promoted CEOs at 1,159 firms and 409 externally hired CEOs at 363 firms.[14]

Panel B describes our director dataset. It is obtained from Compact Disclosure's list of all public and some private firms' directors and officers from 1986 to 2005. Outside directors are those not listed as officers. There are 842,985 director-year observations. Directors are tracked through time and across firms by their last name, initials, and age (if available). We compare our dataset to the smaller Risk Metrics' Investor Responsibility Research Center (hereafter IRRC) database (152,837 director-year observations). In the year prior to the CEO hire, the average number of directorships held by outside directors of boards that promote internally in our dataset is 2.15; in the IRRC database, the corresponding value is 2.18.

Panel C provides basic statistics on our database of officer and director positions. This dataset is used to identify potential incentive conflicts involving director, officer, and CEO appointments for outside directors involved in hiring a CEO externally. In addition to the director observations mentioned previously, the database contains 888,788 officer observations and identifies 10,371 CEO appointments.

The Cash Flow Measure and Minimization of Survival Bias in Its Measurement

To assess the impact of directors' hiring source decision on firm value, we require a performance measure that captures all of the firm value-relevant cash flows impacted by the appointed CEO's decisions. These cash flow impacts begin with the CEO's management of *ongoing* operations, where performance is measured by operating income (Barber and Lyon, 1996). Operating income is value relevant (Barton, Hansen, and Pownhall, 2010); it captures both current period cash flows from ongoing operations as well as related commitments to future cash flows recorded in accruals, such as future cash payment to suppliers for goods received now. However, there are additional value-relevant current-period operating cash flows and current-period commitments to future cash flows not captured by operating income.[15] Pan and Wang (2012) show that discontinuing operations, reorganizing, and laying off employees are strategies principally employed by externally hired CEOs. Further, making acquisitions is a strategy for remaking a company (Williams and Perez, 2014). Compustat's data definitions show cash flows for these strategies are not captured by operating income, yet they should be captured as they result from CEOs' conscious decisions. External CEOs' future cash flow commitments are particularly important to capture. Allgood and Farrell (2003) find they exit firms earlier than inside CEOs; Weisbach (1995) and Pan and Wang (2012) show restructuring decisions occur early in CEOs' tenures. Thus, one cannot know the impact of CEOs who restructure and quickly leave by only measuring their current period cash flow.

To arrive at a cash flow measure also requires exclusion of accounting entries known as allocations; by definition allocations have no impact on future or current period cash flows. Examples include depreciation, amortization, and marking assets to their market value. Beaver, Kennelly, and Voss (1968) (BKV) were the first to exclude depreciation and amortization from the computation of value relevant cash flows, based on their financial distress criterion. Thomas (1974) expands upon BKV by recommending the exclusion of all allocations while retaining all current period operating cash flows and all commitments to future cash flow (i.e., accruals).

Importantly, a long and active literature in accounting establishes that balance sheet and income statements cannot be used to accurately identify cash flows 75% of the time, due in part to the strategies commonly used by external CEOs.[16] Instead operating cash flows and commitments to future cash flows are most accurately obtained from the cash flow statement. Thus, to capture all of the value-relevant cash flows resulting from the hiring source decision, we measure cash flow with the Thomas measure using the

cash flow statement. Following Barber and Lyon (1996), cash flows are then scaled by total assets to enable cross-sectional comparison of firm performance and estimation of the CEO's ability to efficiently use all assets. Therefore, our primary measure of cash flow (CF) is:

CF = "Income Before Extraordinary Items" (Compustat item 123)
+ "Depreciation and Amortization" (item 125)
+ "Extraordinary Items and Discontinued Operation" (item 124)
+ "Deferred Taxes" (item 126)
+ "Equity in Net Loss (Earnings)" (item 106)
+ "Sale of Property, … Investments – Loss (Gain)" (item 213) [17]

To show continuity with prior research, we additionally provide results using a variety of cash flow measures, including operating income; overall, conclusions are the same. Regardless of the specific cash flow measure used, cash flow return on assets is:

$$CFROA_t = CF_t / Average\ total\ assets_t \quad (1)$$

Where average total $assets_t$ = (Total $assets_t$ + Total $asets_{t-1}$) / 2.

To minimize firm and CEO survival bias, remove firm fixed effects, and capture only the appointed CEO's impact, our primary measure of CEO performance, ΔCFperf (the change in CFROA since the year prior to appointment), is computed as:

$$\Delta\ CFperf = Average(CFROA)_{\text{over a CEO's tenure}} - CFROA_{\text{one year prior to appointment}} \quad (2)$$

Averaging CFROA enables us to include all CEOs, which includes short term CEOs (tenure of one year or less) and minimizes CEO survival bias.[18] The potential for survival bias from excluding short tenure CEOs is outlined by Allgood and Farrell (2003). They show that bad matches between CEOs and firms are often broken early. Supporting their research, we find 27% of forced turnovers occur within 12 months of a CEO's appointment.[19] Further, Pan and Wang (2012) and Weisbach (1995) show that CEOs focus restructuring efforts in the first year. Thus, eliminating CEOs with short tenure potentially eliminates external hires culled by boards for poor performance and underreports costs and benefits of restructuring efforts. Consequently, to minimize survival bias in our performance estimates, we include short tenure CEOs.

Further, we only use performance from the tenure of the appointed CEO when calculating cash flow over a CEO's tenure. This approach contrasts with that of Huson, Malatesta, and Parrino (2004) (HMP). They assume the efficient market hypothesis (EMH) to address survival bias associate with CEO tenure. As a result HMP (page 264) use the performance of the firm three years after an external CEO's appointment "regardless of the tenure of the CEO." Firms are often led by an internal CEO when external CEOs exit before the third year. This implementation of the EMH cannot be used when agency conflicts potentially affect hiring decisions. The selected type of hire may perform poorly due to the conflicts and leave after a year, while the subsequent internally appointed CEO (81% of the time) improves performance by the third year.

OUTSIDE DIRECTORS' POTENTIAL INCENTIVE CONFLICTS

To study potential conflicts involving outside directors, we analyze firms that have at least one outside director on their board in the year before the CEO turnover. Firm performance prior to CEO turnover is investigated first, as we assume (following Fama, 1980) the director/executive labor market uses this as one of the measures of an outside directors' ability. We then quantify potential incentive conflicts for outside directors that involve new positions at other firms and at the firm where they

participate in hiring the CEO; positions include director, CEO, COB, and officer. Probit analysis is used to investigate the extent to which directors' performance and hiring source decision determines these new positions. Search firm evidence is then investigated to understand whether networking for jobs could occur through search firms. Finally, we investigate whether inside directors have an incentive to support a boards' effort to hire a CEO externally. These analyses motivate our subsequent investigation of agency costs.

Outside Directors' Performance before a CEO Turnover

Table 2 shows firm performance before a CEO turnover event for boards with at least one outside director. Outside directors' firm performance before promoting a CEO internally is compared with outside directors' firm performance before externally hiring. As has been previously documented, boards that will hire a CEO externally have significantly (p-value < 0.01) underperformed by both accounting and market measures.[20] For instance, in the year before the CEO turnover, firms with outside directors that will hire a CEO externally underperform the stock performance of firms with outside directors that will promote a CEO internally by a median of 14.4 percentage points. Further, firms with outside directors that will hire externally have higher risk (p-value < 0.01). These facts motivate our initial expectation that outside directors who hire a CEO externally are likely to receive fewer new jobs in the turnover year than those that promote internally.

TABLE 2
FIRM PERFORMANCE PRIOR TO HIRING A NEW CEO AT FIRMS THAT HAVE AT LEAST ONE OUTSIDE DIRECTOR

Source of hire	Test statistic	Firms	Average $CFROA_{t-1\ to\ t-3}$	$CFROA_{t-1}$	Risk (Std. dev. Of stock $returns_{t-1}$)	ΔOIROA (over years -1 to -3)	Excess return over the market return
External	Mean	387	0.0750	0.0625	0.1353	-0.0167	-11.22
	Median		0.0776	0.0725	0.1136	-0.0145	-19.25
Internal	Mean	1,351	0.0910***	0.0865***	0.1130***	-0.0081	0.31***
	Median		0.0932***	0.0913***	0.0942***	-0.0050***	-4.84***
Difference (External - internal)	Mean		-0.0160***	-0.0240***	0.0223***	-0.0086	-11.52***
	Median		-0.0156***	-0.0188***	0.0194***	-0.0095***	-14.40***

The sample is boards of Forbes 800-size firms with at least one outside director (described in Table 1). The types of hire (*external* CEO hire or *internal* CEO hire**)** are defined in Table 1. *Average* $CFROA_{t-1\ to\ t-3}$ is the average of CFROA over the three years prior to CEO *i*'s appointment. CFROA is defined in the Appendix and in equation (1). $CFROA_{t-1}$ is the CFROA in the year prior to CEO *i*'s appointment. *Std. dev. Of stock* $returns_{t-1}$ is the standard deviation of monthly stock return over the year prior to the CEO hire. Δ*OIROA (over years -1 to -3)* is the change in operating income return on total assets (OIROA) in the year before hire minus OIROA three years before hire; this variable is further defined in the Appendix. *Excess return over the market return* is the percentage stock return of the firm over the year prior to the CEO hire less that year's value weighted percentage return for all stocks in CRSP. The *t*-test (signed rank test) is used to detect a significant difference in the average (median) value of a variable for internal and external hires. * p-value < 0.1, ** p-value < 0.05; *** p-value < 0.01.

Potential Incentive Conflicts: New Positions for Outside Directors

The left hand side of Table 3, Panel A considers CEO positions obtained by outside directors at the firm where they are involved in the CEO hiring process. The results show that 12.9% (50) of the external CEO positions are obtained by one of the firm's outside directors (these directors do not have current officer experience at the firm they direct, thus we identify them as outside hires). Outside directors personally gain by obtaining the CEO position; most (39) leave a junior officer position to become the external CEO.[21]

TABLE 3
NEW POSITIONS (DIRECTOR, CEO, OR COB) GAINED BY OUTSIDE DIRECTORS BY THE END OF THE THEIR FIRM'S CEO TURNOVER YEAR

Panel A: New positions obtained at the hiring firm by outside directors involved in that firm's CEO hire

		One of the hiring firm's ODs becomes the external CEO		Hiring firm's OD becomes COB	
Source of hire	Firms (t-1)	% of firms where an OD becomes the CEO	% of these ODs who personally gain by becoming CEO	% of firms where an OD becomes the COB	% of these ODs who personally gain by becoming COB
External	387	12.9	100	15.2	97^
Internal	1,351	0.0***	-	5.0***	-
Difference (%)		Infinity		207.0***	

Panel B: New positions elsewhere for a firm's outside directors by the end of the year in which they hire a CEO

				% of ODs who obtain at least one new position at other firm as:		
Source of hire	Firms at t-1	Number of ODs at t-1	% of ODs who leave the hiring firm for a new position	Director	External CEO	Director or officer
External	387	2,783	4.78	17.0	0.7	18.0
Internal	1,351	10,005	2.78***	14.5***	0.4*	15.3***
Difference (%) (External vs. internal)			71.99***	16.9***	67.2*	17.6***

Panel C: All new positions obtained at any public firm and outside directors' performance before the CEO turnover

	All ODs (firms) prior to CEO turnover				ODs (firms) that outperformed prior to CEO turnover			ODs (firms) that underperformed prior to CEO turnover		
Source of hire	Firms at t-1	# of ODs at t-1	# of ODs become external CEO by t_0 / # of ODs at t-1	# of ODs with at least one new position by t_0 / # of ODs at t-1	Firms at t-1	# of ODs at t-1	# of ODs with at least one new position by t_0 / # of ODs at t-1	Firms at t-1	# of ODs at t-1	# of ODs with at least one new position by t_0 / # of ODs at t-1
External	387	2,783	0.0252	0.204	78	565	0.244	309	2,218	0.193
Internal	1,351	10,005	0.0043***	0.159***	447	3,438	0.163***	904	6,567	0.157***
Difference (%)			485.2***	28.2***			49.7***			23.4***

The sample is outside directors on boards of Forbes 800-size firms with at least one outside director (described in Table 1). The types of hire (*External* CEO hire or *Internal* CEO hire**)** are defined in Table 1. *OD* stands for outside director, which includes any director of a firm who is not listed as an officer of that firm by Compaq Disclosure. The end of the year just before hire is indicated by t-1; the end of the year of hire is indicated by t_0. *New directorships* are obtained by the end of the year of hire. New positions are not counted at other firms if the OD is an officer or director there in the year prior to hire. In Panel A, an OD's *personal gain* is indicated by: leaving a junior officer position at the OD's prior firm to become the externally hired CEO, an inactive CEO who becomes the firm's externally hired CEO (the hiring firm is an average of 30% larger that this CEO's prior firm), an active CEO who becomes the firm's externally hired CEO (this hiring firm is an average of 70% larger), a COB position is added to the ODs' current duties, or the COB position is obtained in addition to becoming CEO of the firm. In Panel C, *# of ODs who become external CEO by t_0* is the number of ODs who become external CEOs at any public firm. *Underperformanc*e is said to occur if Δ*OIROA (over years -1 to -3)* (see Appendix) is less than the median for firms with ODs, or if *excess return over the market return* (see Appendix) is less than the median for firms with ODs. *Outperformance* is said to occur if the firm has not had underperformance. The proportions test (Kruskal-Wallis test) is used to detect a significant difference in the percentage value (median) of a variable for internal and external hires. * *p*-value < 0.1, ** *p*-value < 0.05; *** *p*-value < 0.01. ^ In 18 of 59 instances where the hiring firm's ODs become COB, data to determine personal gain is not available.

The right hand side of Table 3, Panel A investigates COB positions obtained by outside directors. Outside directors are 207% more likely (p-value < 0.01) to obtain the COB position at their firm (the hiring firm) if they are involved in an external CEO hiring process, rather than an internal one. 97% of the COB positions represent a personal gain (more income, promotion, prestige) for the outside directors who obtain them.

Table 3, Panel B investigates new positions gained by outside directors at firms other than the firm at which they are involved in the CEO hiring process. First, compared to outside directors who promote internally, outside directors of a firm that hires externally are 72% more likely (p-value < 0.01) to leave that firm by the end of the CEO turnover year for a new position. We note (on request) that these outside directors' departure rate is also 97% greater (p-value < 0.01) than that of outside directors of underperforming firms that promote a CEO internally, which suggests that outside directors on boards that hire a CEO externally choose to leave, rather than being forced out. We continue the investigation. Outside directors on a board that hires a CEO externally are 16.9% (p-value < 0.01) more likely to gain at least one new directorship by the end of the turnover year. They are also 67.2% more likely (p-value < 0.01) to obtain a new external CEO position at other firms and 17.6% (p-value < 0.01) more likely to gain positions of any type at other firms by the end of the turnover year.

The left hand side of Panel C investigates *all* of the new director and officer positions that outside directors gain by the end of the turnover year after serving on boards that hire a CEO externally versus internally. Those on boards that hire externally are 485% more likely (p-value < 0.01) to become an external CEO; this situation is associated with 18% of boards that hire a CEO externally.[22] Outside directors who hire a CEO externally are also 28.2% more likely (p-value < 0.01) to obtain at least one new position of some type by the end of the year of hire. These same outside directors are not more likely to gain new positions the year before or the year after the turnover year (available on request).

The remainder of Panel C separately investigates external hire firms that outperform and those that underperform.[23] The middle of Panel C analyzes outside directors at outperforming firms: outside directors from firms that hire a CEO externally are 49.7% more likely (p-value < 0.01) to obtain at least one new position than outside directors from firms that promote a CEO internally. The right hand side of Panel C analyzes outside directors at underperforming firms: outside directors from firms that hire a CEO externally are 23.4% more likely (p-value < 0.01) to obtain new positions than outside directors from firms that promote a CEO internally.

Determinants of New Positions for Outside and Inside Directors

We now use multivariate probit analysis to understand whether the external CEO hiring decision is associated with new positions for outside directors after controlling for their performance. Table 4 shows this analysis; we use Yermack (2004) specification and augment it with year and industry fixed effects.[24] Columns 1 (all new positions) and Column 2 (new directorships) show that new positions for outside directors are associated with the decision to hire externally (p-value < 0.01) but not with outside directors' performance in the year prior to hire. In contrast, Column 3 shows that new directorships for *inside* directors are associated with their prior performance (p-value <0.05) but not the decision to hire externally. This difference could be due to the more meaningful information associated with inside directors' firm performance. To investigate, Columns 4 analyzes determinants of new positions for outside directors who are officers at other firms, by including their performance at these firms in the probit specification. The results show that new CEO and COB positions for these outside directors of the hiring firm are related (p-value < 0.01) to their boards' external hire decision but not these directors' prior performance as officers or as directors. In unreported results, new directorships for these outside directors are also unrelated to their prior performance. These results are consistent with some outside directors networking, rather than performing, to gaining new positions during the external CEO hiring process.

TABLE 4
DETERMINANTS OF NEW POSITIONS FOR OUTSIDE AND INSIDE DIRECTORS DURING THE CEO TURNOVER YEAR

Type of director:	Outside directors		Inside directors	Outside directors (Odirs)	
Dependent variable:	Obtain >= 1 new position (CEO, COB, or directorship)	Obtain >= 1 new directorships	Obtain >= 1 new directorships	Obtain a CEO and/or COB positions for Odirs who are officers of other firms	Search firm use is known; obtain >= 1 new directorships
Independent variables					
External CEO hire	0.1562***	0.0881***	0.0218	1.0130***	0.5071**
Variables measured in the year prior to the CEO turnover:					
Board counter$_{t-1}$	0.1666***	0.1710***	0.1926***	-0.0020	0.1739***
Excess return over the market return$_{t-1}$	0.0004	0.0004	0.0011***	-0.0013	0.0027
Fortune 500 firm$_{t-1}$	0.0492*	0.0920***	0.3478***	-0.5719***	-0.9527**
Outside director is an officer of another firm	0.1162***	0.1135***			-0.0246
Excess return at the firm(s) where the outside director is an officer$_{t-1}$				0.0003	
Intercept	-1.7260***	-1.8864***	-2.1270***	-3.4455***	-0.7542
Year and FF-49 industry fixed effects	Yes	Yes	Yes	Yes	Yes
Pseudo *R*-squared	0.0959	0.1015	0.1068	0.2308	0.1398
Table 4 continued.					
Number of directors	12,788	12,788	4,371	2,757	397
% outside hire CEOs	21.5	21.5	21.5	21.7	80.4

Outside directors are defined in Table 1; *Inside directors* are defined to be directors who are also officers of the firm. The samples of outside directors include all who are on boards of Forbes 800-size firms with at least one outside director (described in Table 1). The outside director sample in Columns 1 and 2 is the same as the sample in Table 3, Panels B and C; the samples in Columns 4 and 5 are subsets of this sample. The inside director sample in Column 3 is the inside directors on the boards of the firms in the sample for Columns 1 and 2. The end of the year prior to the CEO hire is indicated by t-1; the end of the year of hire is indicated by t_0. *New positions* are only counted if they are obtained during the CEO turnover year and are obtained by the end of the year of hire. New positions are not counted at other firms if the OD is an officer or director there in the year prior to hire. *External CEO hire* is defined in Table 1; this variable is set to 1 if the CEO is hired externally; 0 otherwise. Board counter is the number of boards seats held by each director. *Excess return over the market return* is defined in the Appendix. Industry fixed effect are included for industries having at least 5 CEO turnovers. * *p*-value < 0.1, ** *p*-value < 0.05; *** *p*-value < 0.01.

Search Firm Evidence

We now investigate a channel by which outside directors might obtain new positions. The focus is on search firms; Akyol and Cohen (2013) find directors can obtain positions by networking with search firms. Our investigation uses a unique database of CEOs placed by search firms. We first investigate whether the employment of a search firm is associated with an increased probability that an outside director obtains new directorships at other firms, relative to using a search firm and promoting a CEO

internally. Table 4 Column 5 provides the results. Its coefficient on the external CEO hire dummy (0.5071) is more than five times the coefficient on the external CEO hire dummy (0.0881) for the full sample. Untabulated results also show that the marginal effect of hiring a CEO externally on the probability of obtaining a new directorship is similarly increased by more than five times with the involvement of a search firm. If networking opportunities to gain directorships often motivate the use of search firms, few inside hires are likely to occur with the aid of search firms. Consistent with this incentive the last row of Table 4 Column 5 shows that when search firms are employed, more than 80% of the hires are external; in contrast, the external hire rate in our raw sample is 28%, while among firms with sufficient data for our analysis it is 21.5% (See the last row of Column 2).

Directorship Retention for Inside Directors

We now investigate who might support an outside director seeking to persuade a board to hire externally. We focus on inside directors. The literature has documented that inside directors are more likely to lose their jobs with an outside CEO (See Borokhovich, Parrino, and Trapani, 1996 for a summary of this research). Table 5 confirms this fact: inside directors are 9% more likely to separate from a firm with an outside CEO, relative to an inside CEO hire, by the end of the turnover year. The table also shows that inside directors are 33% more likely to retain their seat on the board if they support an external CEO hire rather than an internal promotion. Further, Table 5 shows that insider directors who support an external CEO hire, rather than an internal promotion, enjoy a higher chance of staying on the board and this increased probability persists many years. Untabulated multivariate probit results confirm the conclusions drawn from the statistics shows in Table 5. These results suggest that some inside directors seeking to retain a board seat and its associated benefits have an incentive to support an outside director seeking to hire an external CEO over an internal candidate.

TABLE 5
INSIDE DIRECTORS' RETENTION OF DIRECTORSHIPS
ON THE HIRING FIRM'S BOARD

		Retention of positions through the end of the CEO turnover year		% staying on the board through the end of the new CEO's N^{th} full year in office following the turnover year		
CEO hiring source	# of inside directors$_{t-1}$	% staying at the firm$_{t0}$	% staying on the board$_{t0}$	1st full year	2nd full year	3rd full year
Internal (I)	3,546	93.0	63.6	58.9	53.9	50.2
External (E)	849	84.6***	84.7***,^	69.1***	62.4***	54.4
% difference = (E-I)/I		-9.1	33.1	17.4	15.9	8.3
Difference (E-I)		-8.4	21.0	10.3	8.5	4.2

The sample for inside directors of Forbes 800-size firms (described in Table 1) excludes mergers and is inside directors at firms having at least one inside director at the year before the CEO turns over: t-1. *Inside* directors are defined as directors of the firm who are also officers of the firm. *Number of inside directors$_{t-1}$* is the number of inside directors at t-1. The time 't0' indicates the end of the CEO turnover year. The variable, *% staying at the firm$_{t0}$*, is the % of inside directors who were officers of the firm at t-1 and who are still officers of the firm at the end (t0) of the CEO turnover year. The variable, *% staying on the board$_{t0}$*, is the % of inside directors at t-1 who are still directors of the firm at the end (t0) of the CEO turnover year. The signed rank test is used to detect a significant difference in the median value of a variable for internal and external hires. * *p*-value < 0.1, ** *p*-value < 0.05; *** *p*-value < 0.01. ^ The percent staying on the board (84.7) is greater than the % staying at the firm (84.6) because some inside directors are no longer employees but retain their board seat.

Summary

The above facts show that outside directors are more likely to personally benefit by rapidly gaining new positions (director, external CEO, COB, or officer) if their board hires a CEO externally at their firm rather than promote an internal candidate. Probit analysis finds these positions are not related to these directors' performance. The opposite is true for inside directors; they must demonstrate performance to obtain new positions. Subsample analysis suggests that search firms enhance outside directors' ability to network for jobs during the turnover year - if their board hires a CEO externally. Furhter, we find that inside directors desiring to keep their seat on the board, have a greater chance of doing so if they support an external CEO hire. Thus, outside directors looking to network for jobs during the turnover year by hiring an external CEO can be aided by inside directors seeking to retain their board seats. Overall, these results are potential consistent with outside directors having agency conflicts when hiring a CEO externally.

METHOD FOR ESTIMATING PERFORMANCE GAIN

The preceding discussion provides evidence suggesting that outside directors have the incentive and means (hire externally) to obtain new positions for themselves by networking rather than performing for owners. We now investigate whether owners realize losses as a result of outside directors' incentive (new jobs) to hire externally. If this incentive does not align with owners' interests, a loss is predicted by agency theory.

To investigate this potential agency conflict and quantify the potential loss, we follow the method laid out in Nagel (2014). Their method uses the structural self-selection model (SSSM) of Li and Prabhala (2007) and Lee (1978). The SSSM a) accounts for endogeneity issues caused by selection bias and b) completely accounts for the possibility that internal and external hires manage assets differently. Further, the SSSM enables the computation of the counterfactual performance that boards would have expected by hiring from the alternative source.

Using the structural self-selection modeling method we can calculate whether boards realize a gain from their hiring choice – for example, whether the realized performance (ΔCfperf) from the external CEO choice exceeds the counterfactual performance that would have been obtained from the alternate choice not taken. We will call the result of this calculation the $gain_x$. The subscript on $gain_x$, x, indicates either hiring source: E indicates the gain from hiring a CEO externally; and I from promoting a CEO internally.

Specification of Exclusion Variables in the Structural Self-Selection Model

Exclusion variables are required to identify our structural self-selection model; they determine the CEO hiring source but not firm performance. The theoretical foundation for our first exclusion variable is described in Nagel (2014) and is based on herding theory. Theoretically, herding by boards in their CEO hiring decision a) determines the type of CEO selected, b) is unrelated to expected performance outcomes, and c) increases with the number of previous adopters.

Our remaining exclusion variables measure board characteristics, which could determine selection choice, since boards make the hiring decision. The variables chosen are based on a long literature beginning with the theory of Hermalin and Weisbach (1998). Their theory maintains that board structure is endogenously determined by prior performance. Wintokia, Linck, and Netter (2012) (WLN) show that board structure does not cause current year or future performance. Based on this theory, broad evidence in Gillan (2006)'s survey of the literature, and WLN's research, board structure variables are exclusion variables. The first is the number of directors, which Yermack (1996) relates to board efficiency. The second is the percentage of outside directors on the board. Weisbach (1988) suggests the percentage of outside directors is a determinant of hiring source. The third variable is whether the departing CEO chairs the board in the year prior to hire. Our conclusions are the same if we use *only* our exclusion variable based on herding theory and set the board structure variables to be determinants of performance (results available on request; the board structure variables are never significant determinants of performance).

Firm Fixed Effects and Mitigation of Endogenity Concerns

To remove time-invariant firm fixed effects, we use the difference-in-difference approach. To implement the approach, the profit measure, *P*, is computed as the average profit for a CEO over his tenure minus the profit in the year before he was hired (see equation (2)). This difference is used in the computation of $gain_x$ to give a difference-in-difference result. To mitigate endogeneity concerns with our independent variables, we measure each one in the year prior to hire; Section 7 addresses this endogeneity concern in greater depth.

PERFORMANCE GAINS AND DIRECTORS' POTENTIAL INCENTIVE CONFLICTS

This section uses the structural self-selection model to estimate the $gain_E$ realized by the external CEO hiring decisions of boards with potential conflicts and without. Results from the structural self-selection model's probit selection model are discussed first. The probit analysis is followed by results from the structural model with a note on CEO performance measures. Henceforth, a negative $gain_x$ in a table will be referred to as a $loss_x$.

Probit Sample Selection Model

Table 6 shows the determinants (discussed in Section 5) in our probit model of a board's choice for appointing a new CEO: promote from within the firm or hire externally.[25] Results for boards with an identified potential conflict when hiring a CEO externally are shown in Columns 2, while results for boards with no identified potential conflict are show in Column 4.

The most striking difference is that a board's percentage of outside directors is the strongest determinant of hiring a CEO externally for potentially conflicted boards (*t*-statistic = 8.2), while this same percentage predicts (though not significantly) an internal CEO hire for boards that are not potentially conflicted.[26] Prior literature has consistently found that the percentage of outside directors strongly predicts an external CEO hire. Our results suggest this relationship is driven by the hiring decisions of potentially conflicted boards.

Finally, the probit selection models have high explanatory power; more than 77% of the selection choices are classified correctly. The exclusion variables are usually the strongest predictors of hiring type for boards both with and without potential conflicts.

TABLE 6
PROBIT SAMPLE SELECTION MODEL FOR CHOICE OF HIRING SOURCE BY BOARDS WITH AND WITHOUT POTENTIAL CONFLICTS

Sample:	External CEO hire boards *with* an identified potential conflict plus inside hire boards		External CEO hire boards with *no* identified potential conflicts plus inside hire boards	
Independent variables	Coefficient	Marginal effect	Coefficient	Marginal effect
Endogenous performance variables:				
Ln(Total assets)$_{t-1}$	0.0171	0.0056	-0.0939*	-0.0154
Cash flow return on assets (CFROA)$_{t-1}$	-0.9585	-0.0199	1.0877	0.0141
Market-to-book$_{t-1}$	0.0041	0.0014	0.0436	0.0089
Leverage$_{t-1}$	0.2611	0.0110	0.0903	0.0023
Std. Dev. of stock returns$_{t-1}$	0.4119	0.0083	1.8680**	0.0150
Ln(Firm age)$_{t-1}$	-0.0886*	-0.0175	-0.0782	-0.0090
Capital expenditure/Total assets$_{t-1}$	-0.8025	-0.0121	-1.6616	-0.0145
R&D/Total assets$_{t-1}$	0.7989	0.0074	-1.8390	-0.0085
Advertising/Total assets$_{t-1}$	1.9725*	0.0140	2.6571	0.0094
Pricing power$_{t-1}$	0.0067	0.0004	0.0294	0.0015
Total asset turnover$_{t-1}$	0.0558	0.0094	0.0393	0.0037
Average CFROA$_{t-1 \text{ to } t-3}$	0.4406	0.0063	-0.9463	-0.0106
ΔOIROA (over years -1 to -3)	-0.1698	-0.0037	-1.2061*	-0.0123
Excess return over the market return$_{t-1}$	-0.0008	-0.0094	-0.0032**	-0.0211
Forced turnover indicator$_{t-1}$	0.2194	0.0448	-0.1829	-0.0203
Exclusion variables: (board structure variables and herding measure)				
% Outside directors$_{t-1}$	0.0242***	0.1132	-0.0030	-0.0086
Number of directors$_{t-1}$	-0.0333*	-0.0237	-0.0599***	-0.0254
Prior CEO chairs the board$_{t-1}$	-0.4243***	-0.0882	-0.2665**	-0.0310
Herding measure (over the three years prior to hire)	0.0046 (1.10)	0.0153	0.0125** (2.01)	0.0221
Intercept	-2.7078***		-0.7684	
Year and FF-49 industry fixed effects	Yes	Yes	Yes	Yes
Pseudo *R*-squared	0.2174		0.2131	
% Hiring choices correctly classified	77.1		80.3	
Number of external CEO hires	290		119	
Sample size (i.e., number of CEOs)	1,783		1,612	

The sample is Forbes 800-size firms. These firms, internal CEO hires and external CEO hires are defined in Table 1. The probit sample selection model is estimated as described by Heckman (1979). An external hire board is defined to have an *identified potential conflict* if one of its outside directors obtains a new position by the end of the CEO turnover year. The dependent variable for the probit selection model is 1 if an external hire is appointed, 0 otherwise. All independent variables are measured in the year prior to hire (i.e., t-1) or over the three years prior to hire (i.e., t-1 to t-3), as defined in the Appendix. *Marginal effect* is the average effect on the probability of hiring externally per unit change of the variable (as computed by SAS) times one standard deviation of the variable. For the indicator variables (*Forced turnover* and *Prior CEO chairs the board*), the marginal effect equals the average marginal effect. * p-value < 0.1, ** p-value < 0.05; *** p-value < 0.01.

Structural Self-Selection Model Estimates

Table 7 presents the estimates from applying the structural self-selection model for estimating the counterfactual performance of the passed over internal candidates by potentially conflicted boards that hire a CEO externally. The model is the same for boards that are not potentially conflicted, because the reference group for estimating all counterfactual performance is again all internal CEO hires.[27] The independent variables in the regressions are listed on the left hand side of the table. For comparison, we

TABLE 7
STRUCTURAL SELF-SELECTION MODEL ESTIMATES OF PERFORMANCE FROM CEOS CHOSEN BY POTENTIALLY CONFLICTED BOARDS

	Cash flow perf. (ΔCFperf)	
Independent variables	External hires	Internal hires
Inverse Mills ratio (IMR)	-0.0104	-0.0167
	(-0.43)	(-1.00)
Ln(Total assets) $_{t-1}$	0.0011	-0.0018
	(0.21)	(-1.23)
Cash flow return on assets $_{t-1}$	-1.2368 ***	-1.0165 ***
	(-8.06)	(-11.07)
Market-to-book $_{t-1}$	-0.0037	0.0026
	(-0.57)	(1.29)
Leverage $_{t-1}$	-0.0212	-0.0528 ***
	(-0.66)	(-3.40)
Std. Dev. of stock returns $_{t-1}$	-0.1440	-0.0906
	(-0.96)	(-1.39)
Ln(Age of the firm) $_{t-1}$	0.0066	0.0089 ***
	(0.97)	(3.26)
Capital expenditure/Total assets $_{t-1}$	0.1177	0.0216
	(1.05)	(0.65)
R&D/Total assets $_{t-1}$	0.0777	0.0119
	(0.55)	(0.16)
Advertising/Total assets $_{t-1}$	0.0741	0.0746
	(0.66)	(1.35)
Pricing power $_{t-1}$	0.0045	0.0022
	(0.99)	(0.23)
Total asset turnover $_{t-1}$	0.0041	0.0070 **
	(0.42)	(1.96)
Average CFROA$_{t-1 \text{ to } t-3}$	0.8254 ***	0.5315 ***
	(4.01)	(4.94)
ΔOIROA (over years -1 to -3)	0.1951 *	0.1148 **
	(1.75)	(2.24)
Excess return over the market return $_{t-1}$	0.0002 **	0.0000
	(1.97)	(-0.17)
Forced turnover $_{t-1}$	0.0158	-0.0381 **
	(0.71)	(-2.54)
Intercept	0.0547	0.0407 *
	(0.83)	(1.73)
Year and FF-49 industry fixed effects	Yes	Yes
Variance inflation factor for the IMR	3.05	1.82
Sample size	290	1,493
Adjusted *R*-squared	0.620	0.465

External CEO hires with an identified potential conflict and internal CEO hires are drawn from the Forbes 800-size firms defined in Table 1. An external hire board is defined to have an *identified potential conflict* if one of its outside directors obtains a new position (primarily directorships) by the end of the CEO turnover year. The dependent variable is *Cash flow performance* (Δ *CFperf*). Selection bias is accounted for by the *Inverse Mills ratio* (computed from the sample selection model in Table 6 as specified by Heckman, 1979). All variables are defined in the Appendix. Standard errors are corrected for firm level clustering (Petersen, 2009) when computing significance; *t*-statistics are in parenthesis. * *p*-value < 0.1, ** *p*-value < 0.05; *** *p*-value < 0.01. Note: *t*-statistics are virtually identical to those reported if we correct for the fact that the inverse Mills ratio is an estimated variable; these results are not tabulated.

present the structural self-selection model for estimating the counterfactual performance of external CEOs hired by potentially conflicted boards.[28]

A *t*-test on the coefficient of the first independent variable listed, the inverse Mills ratio (IMR), provides a test for boards' bias to select superior performers. The IMR coefficient in Column 1 shows no significant selection bias for external hires; this result is consistent throughout our analysis. The potential incentive conflicts we document for outside directors are consistent with and would predict this lack of selection bias.

The IMR coefficient in Column 2 also shows no selection bias for internal CEO hires. We reason that internal CEOs are capable, on average, because inside directors need the firm to perform well to further their careers. Thus, inside directors work with the board out of their self-interest to narrow the internal CEO candidate pool to just those capable of improving the firm. However, their self-interest does not go so far as to narrow the selection to the best internal candidate, so the IMR is not significant.

The columns of Table 7 show the estimated performance regressions for internal and potentially conflicted external CEO hires. A comparison of the signs and significance of the coefficients for internal and external hires shows differences in how the two types of CEOs manage assets. First, most of the variables that significantly explain ΔCfperf for internal hires are different from the variables that explain external hires' performance. For instance, age of the firm is significant for internal hires, not external hires. Further, among all the coefficients, including those for fixed effect, 12 coefficients are significantly different (typical *p*-value < 0.05) for internal and external hires, and 27 coefficient have different signs.[29] These results provide evidence that internal and external hire CEOs manage assets differently. Therefore, separate estimation equations for internal and external hire performances are required to capture differences in asset management ability.

Performance Gain for Boards with Versus without Potential Conflicts

Table 8 divides external CEO hires into those made by boards with potential incentive conflicts and those that have no identified conflicts.[30] Our agency hypothesis predicts a $loss_E$ when an external CEO is hired by a board with potential conflicts but not by one without. Table 8, Panel A, Row 1 shows that potentially conflicted Forbes 800-size boards realize an average (median) $loss_E$ of 2.74 (2.30) percentage points in cash flow (*p*-value < 0.01). Similarly, Row 2 shows that potentially conflicted independent director dominated boards realize an average (median) loss of 2.54 (0.76) percentage points in cash flow (*p*-value < 0.01). These results are economically important. Using our databases we calculate that the average cash flow return on assets for S&P 500 firms in our time period is 9.6%. Therefore, the $loss_E$ for potentially conflicted Forbes 800-size boards is 28.5% of the average cash flow for S&P 500 firms (i.e., 28.5%=100*2.74/9.6).

In sharp contrast, Panel B, Row 1 shows that boards that hire externally with no potential conflicts realize no significant $loss_E$ in median cash flow performance. Row 2 shows that independent director dominated boards with no potential conflicts show no significant loss in average cash flow performance and an insignificant gain of 1.32 percentage points in median cash flow performance.

Now we briefly consider the performance of internally promoted CEOs. Panel A, Rows 1 and 2 show that these CEOs realize an average (median) $gain_I$ of more than 2.18 (1.88) percentage points in cash flow (*p*-value < 0.01) relative to the counterfactual performance that external CEO hires would have delivered when appointed by potentially conflicted boards. A $gain_I$ is realized 64% of the time.

Henceforth to focus on the likely results for external hire boards with no potential conflicts, we present median performances and the percentage of external hire boards that realize a $gain_E$. This approach avoids reporting results driven by rare but spectacular failures associated with external CEOs who take extraordinary risks.

TABLE 8
CASH FLOW GAIN FOR CEOS BY THEIR SOURCE OF HIRE AND GAINS ASSOCIATED WITH OUTSIDE DIRECTORS' POTENTIAL CONFLICTS OF INTEREST

Panel A: Boards that have an identified potential conflict of interest and hire an external CEO

	Sample size (by hiring source)		Average $gain_x$ (by hiring source)		Median $gain_x$ (by hiring source)		% who realize a $gain_x$ (by hiring source)	
Board's source of CEO hire:	External	Internal	External	Internal	External	Internal	External	Internal
1) Forbes 800-size firms	290	1,493	-0.0274*** (-5.32)	0.0241*** (11.12)	-0.0230*** (-5.62)	0.0211*** (12.47)	34.1	64.0
2) Firms with indep. director dominated boards	192	736	-0.0254*** (-3.49)	0.0218*** (6.85)	-0.0076*** (-3.18)	0.0188*** (6.88)	43.8	59.6

Panel B: Boards that have no identified potential conflict of interest and hire an external CEO

1) Forbes 800-size firms	119	1,493	-0.0214** (-2.15)	NA NA	-0.0022 (-1.26)	NA NA	45.4	NA
2) Firms with indep. director dominated boards	34	736	-0.0408 (-1.31)	NA NA	0.0132 (0.09)	NA NA	52.9	NA

Panel C: Percentage of external CEO hire decisions that involve identified potential conflicts of interest

	Forbes 800-size firms
Sample size	409
Percent potentially conflicted	70.9

The samples are drawn from the Forbes 800-size firms. Forbes 800-size firms are defined in Table 1, as are internal and external CEO hires. An external hire board is defined to have an *identified potential conflict* if one of its outside directors obtains a new position (primarily directorships) by the end of the CEO turnover year. The structural self-selection model solved in Table 7 and discussed in Section 5 is used to estimate $gain_x$ in cash flow performance. Subscript *x* indicates hiring source: E indicates external hire, I indicates internal hire. For computing $gain_x$, cash flow performance (ΔCFperf) is defined in the Appendix and in equation (2). Selection bias is accounted for by the inverse Mills ratio (see equations (9) and (10) in Nagel, 2014). The $gain_E$ for an externally hired CEO is the actual performance (ΔCFperf) of the external CEO minus the counterfactual performance of the internal CEO candidate (i.e., the expected performance of an internal hire given that an outsider was hired); see equation (11) in Nagel (2014). The "$gain_I$" for an internal hired CEO is the actual performance of the internal hired CEO minus the counterfactual performance of the external CEO candidate (i.e., the expected performance of an external CEO hire given that an insider was hired); see equation (12) in Nagel (2014). $Gains_x$ are winsorized at the 1% and 99% levels within each type of CEO hire. *Average* and *Median* $gains_x$ significantly different from zero are determined using the *t*-statistic (signed rank test). "indep. Director" means independent director. In Panel C the proportions test is used to establish significance. The *t*-statistic for significance is given in parentheses. * *p*-value < 0.1, ** *p*-value < 0.05; *** *p*-value < 0.01. NA means there was either not enough data to compute the counterfactual external hire performance or that the regression for computing this performance was unreliable (adjusted *R*-squared was negative).

Potentially Conflicted Boards Involved in Bankruptcies, Restructuring, and Large Firms

Table 9, Panel A investigates a case where all directors' incentives are likely aligned with owners because directors' jobs are at stake: an expected bankruptcy. The results in Row 1 show a reduction in the significance (*p*-value < 0.10) of the $loss_E$ from hiring a CEO externally, compared to that for Forbes 800-size firms (See Table 8, Panel A; *p*-value < 0.01). Firms facing a bankruptcy could have difficulty attracting the required CEO talent, so Row 1a narrows the focus to firms expecting bankruptcy that succeed in hiring from a superior performing firm; the results now show a $gain_E$ of 1.2 percentage points when hiring externally. To see whether this improvement is driven by reduced agency conflicts or hiring from top performing firms, Row 2 investigates external hires from a top performing firm made by directors not expecting to lose their jobs; the result is a $loss_E$ of 2.08 percentage points (*p*-value < 0.01).

TABLE 9
OUTSIDE DIRECTORS' INCENTIVE CONFLICTS VERSUS EXTERNAL CEO CASH FLOW PERFORMANCE IN BANKRUPTCIES, FORCED TURNOVERS, RESTRUCTURING A FIRM, AND AT S&P 500-SIZE FIRMS

Panel A: Potential director incentive conflicts involving firms likely to go, and not likely to go bankrupt

	Sample size	Average $gain_E$	Median $gain_E$	% who realize a $gain_E$
1) Firms likely to go bankrupt	82	-0.0376*	-0.0373*	40.2*
	[151]	(-1.83)	(-1.87)	(-1.87)
1a) Same as #1 but externally hire	37	0.0120	0.0198	54.1
from top firms	[151]	(0.39)	(0.39)	(0.39)
2) Firms not likely to go bankrupt &	179	-0.0208***	-0.0146***	40.2***
externally hire from top firms	[1,376]	(-3.33)	(-2.95)	(-2.95)

Panel B: Potential conflicts involving new positions obtained by outside directors during the CEO turnover year

	Boards with no identified potential conflicts			Boards with identified potential conflicts		
	Sample size	Median $gain_E$	% who realize a $gain_E$	Sample size	Median $gain_E$	% who realize a $gain_E$
1) One of the firm's outside director	0			50	-0.0269***	28.0***
becomes the new external CEO				[1,493]	(-3.11)	(-3.11)
2) One of the firm's outside director	0			58	-0.0216***	31.0***
becomes the new external COB				[1,493]	(-3.37)	(-3.37)
3) Firms that restructure	28	-0.0106*	35.7*	78	-0.0226***	32.1***
	[368]	(-1.71)	(-1.71)	[368]	(-3.36)	(-3.36)
4) S&P 500-size firms	34	-0.0114*	35.3*	118	-0.0150***	40.7***
	[669]	(-1.92)	(-1.92)	[669]	(-2.61)	(-2.61)

The samples are drawn from the Forbes 800-size firms. Forbes 800-size firms are defined in Table 1, as are internal and external CEO hires. The structural self-selection model discussed in Table 7 is used to estimate the $gain_E$ in cash flow performance for the samples listed (subscript E indicates external). The $gain_E$ for an externally hired CEO is defined in Table 8. $Gains_E$ are winsorized at the 1% and 99% level. Sample sizes not given in brackets are the number of externally hired CEOs in the sample; below each of these sample sizes the bracketed sample size is the number of internally promoted CEOs used to estimate the counterfactual performances that the internal CEO hires would have delivered given that an external CEO was actually hired. In Panel B, an external hire board is defined to have an *identified potential conflict* if one of its outside directors obtains a new position (primarily directorships) by the end of the CEO turnover year. In Rows 1 and 2 of Panel B, the counterfactual internal CEO performance is estimated using all internal hire CEOs. In Row 3, the counterfactual is estimated using the 368 internal CEO appointed who restructure their firm. In Row 4, the counterfactual is estimated using the 669 internally promoted CEOs at S&P 500-size firms. *Firms not likely to go bankrupt* are in the 80% of firms least likely to experience bankruptcy, as defined by the Shumway bankruptcy predictor variable (Shumway, 2001). *Firms likely to go bankrupt* are the remaining 20% of firms (those most likely to go bankrupt). *Top firms* have a CFROA (see equation (1)) greater than the median of all Forbes 800-size firms. *Forced turnovers* are identified using the algorithm of Parrino (1997). *Firms that restructure* have a dollar value of restructuring during the CEO's tenure that exceeds 25% of the value of Total assets (Computstat item data6) the year before the CEO is hired. The dollar value of restructuring is computed over a CEO's tenure as the sum of 1) the market value of a firm that is sold, 2) the market value of assets sold off, 3) the market value of firms acquired by the CEO, and 4) the market value of firms spun off by the CEO. *S&P 500-size firms* have at least $2 billion in total assets in the year prior to hire. *Average* $gains_E$ significantly different from zero are determined using the *t*-statistic. *Median* $gains_E$ significantly different from 0 are determined by the signed rank test; the same test established significance for *% who realize a gain*. * *p*-value < 0.1, ** *p*-value < 0.05; *** *p*-value < 0.01.

Table 9, Panel B first investigates directors' specific incentives. Row 1 shows that outside directors who become their firm's externally hired CEO realize a median $loss_E$ of 2.69 percentage points (*p*-value < 0.01). Row 2 shows that outside directors who become their firm's COB by the end of the year of hire

also realize a $loss_E$: 2.16 percentage points (p-value < 0.01). The remaining two rows of Panel B investigate situations that could be favorable for externally hired CEOs. Row 3 of Panel B investigates boards who externally hire a CEO that restructures the firm; 74% of these boards are potentially conflicted.[31] The boards without potential conflicts realize a $loss_E$ of little significance (p-value < 0.10). However, external CEOs who restructure after being hired by potentially conflicted boards realize a $loss_E$ of 2.26 percentage points (p-value < 0.01). Finally, the last row of Panel B shows results for the larger and more capable S&P 500-size firms in our sample (those with more than $2 billion in total assets the year before hire). Potentially conflicted S&P 500-size boards realize a loss of 1.51 percentage points (p-value < 0.01) whereas S&P 500-size boards with no identified potential conflicts realize no significant loss on average and a median $loss_E$ of low significance (p-value < 0.10).

VALIDITY, ROBUSTNESS, AND ALTERNATIVE EXPLANATIONS

In this section the validity of the exclusion variables used in our structural self-selection model is empirically tested. We next investigate the robustness of our results to alternate measures such as operating income and yearly stock returns, and then reconcile with the prior literature. Lastly, we test alternate explanations for the new directorships obtained by outside directors on boards that hire external CEOs.

Validity of Exclusion Variables Used in the Structural Self-Selection Model

Our structural self-selection model assumes that the four exclusion variables are valid; that is, they are uncorrelated to performance outcomes. To establish the validity of our exclusion variables, we apply a common empirical test used in labor economics (Booker, et al., 2011). To run the test, the determinants of performance shown in Table 7 *and* the four exclusion variables shown in Table 6 are regressed on the dependent variable, performance, in the second stage of the Heckman procedure. The test interprets the exclusion variables as likely to be valid if they are not statistically significant determinants of performance in this regression. Care is required in the sample selected for this regression. Heckman (1979) points out that variables not belonging in the true structural equation for performance may appear to be statistically significant determinants of performance in regressions on subsamples. Therefore, we use the complete sample of all Forbes 800-size firms for the test. The results are shown in Table 10, Panel A. None of the exclusion variables is a significant determinant of performance, implying our exclusion variables are likely to be valid.

To further establish whether the proper structural self-selection model is identified, we follow the tests of Leung and Yu (1996). They show that identification depends upon whether the inverse Mills ratio (IMR) is correlated with the determinants of performance, X, in equations (8) and (9), not whether there is an exclusion variable. We find the IMR is not significantly correlated with these determinants, as Table 7, Column 3 shows that its variance inflation factor is 1.82 when estimating cash flow performance for the internal CEO candidate.[32]

TABLE 10
TESTS OF THE VALIDITY OF THE STRUCTURAL SELF-SELECTION MODEL AND ROBUSTNESS OF LOSSES FROM EXTERNAL CEO HIRING BY CONFLICTED BOARDS

Panel A: Test for the validity of the exclusion variables using regression with all Forbes 800-size firms

	Δ CFperf (Same as Table 7)	
Independent variables:		
Intercept and all independent variables from Table 7 including the inverse Mills ratio	Yes	
Exclusion variables:	Coefficient	*t*-statistic
% Outside directors$_{t-1}$	-0.0001	-0.48
Number of directors$_{t-1}$	0.0003	0.41
Prior CEO chairs the board$_{t-1}$	-0.0011	-0.25
Herding measure (over the three years prior to hire)	-0.0002	-1.38
Sample size (Adjusted *R*-squared)	1,902 (0.464)	

Panel B: Robustness of losses to the performance measures for external CEO hires made by boards with identified potential conflict of interest

	Sample size		Average gain$_x$		Median gain$_x$		Adjusted *R*-squared	
Measure of performance	Conflicted external hire	Internal CEO hire	Conflicted external hire (gain$_E$)	Internal CEO hire (gain$_I$)	Conflicted external hire (gain$_E$)	Internal CEO hire (gain$_I$)	Conflicted external hire (gain$_E$)	Internal CEO hire (gain$_I$)
1) Operating income	290	1,490	-0.0120*** (-2.89)	0.0105*** (6.41)	-0.0107*** (-3.73)	0.0102*** (6.78)	0.258	0.360
2) NI + depreciation and amortization	290	1,495	-0.0237*** (-4.42)	0.0190*** (8.44)	-0.0178*** (-4.69)	0.0189*** (10.06)	0.406	0.410
3) Yearly stock return	211	1,141	-7.0125*** (-3.15)	10.6356*** (10.27)	-2.3088** (-2.22)	10.2538*** (10.68)	0.805	0.775

The sample for Panel A, Forbes 800-size firms, is defined in Table 1, as are internal hires and external hires. Δ *CFperf* is defined in equation (2). *Gains*$_x$ for internal and externally hired CEOs are defined in Table 8. Subscript *x* indicates hiring source: E indicates external hire, I indicates internal hire. *Gains*$_x$ are winsorized at the 1% and 99% levels within each type of hire. Boards with *identified potential conflict of interest* are defined in Table 8. The performance measures used in Panel B, Rows 1 to 3, are defined just like Δ *CFperf* is in equation (2), except that the listed performance measure is used in place of cash flow. For instance, in Row 1 of Panel B *operating income* return on assets is used instead of cash flow return on assets (CFROA) in equation (2) to give Δ OIperf. In Row 3 of Panel B the *yearly stock return* (STKRET) during the CEO's tenure is used in equation (2) to give Δ STKRETperf; the year that overlaps the prior CEO and the year that overlaps the subsequent CEO are excluded. All variables are defined in the Appendix. *Average gains*$_x$ significantly different from zero are determined using the *t*-statistic, which is given in parenthesis. *Medians gains*$_x$ significantly different from zero are determined using the signed rank test. * *p*-value < 0.1, ** *p*-value < 0.05; *** *p*-value < 0.01.

Alternative Performance Measures

Table 10, Panel B shows the robustness of our result to alternate performance measures for conflicted boards of Forbes 800-size firms.[33] For brevity, we do not present the results for boards with no identified potential conflicts; these boards consistently show no significant *loss*$_E$.

The first row of the panel shows *gain*$_x$ using operating income return on assets. As was previously mentioned, operating income excludes many costs associated with strategies primarily used by externally hired CEOs, such as discontinuing operations. In line with this reasoning, Panel B, Row 1 shows the average *loss*$_E$ by conflicted external CEO hires (-0.012) and the *gain*$_I$ by internal hires (0.0105), though

significant (p-value < 0.01), are about half the magnitude found (2.74 percentage points) when using a cash flow measure that completely captures the costs and benefits of boards' hiring source decision (see Table 8, Row 1).

The cash flow measure used in Table 10, Panel B, Row 2 (net income plus depreciation and amortization expense) is commonly used in Finance texts and is used by Kaplan and Zingales (1997). This measure captures many accruals but none of the costs of discontinued operations reported after tax. Therefore, we expect and find a reduction in the explanatory power of regressions that use this cash flow measure. Specifically, the adjusted R-squared value for external hires in Table 10, Panel B, Row 2 is 0.406 versus the 0.620 value shown in the second column of Table 7 where performance is measured by our expanded cash flow measure (see equation (2)).

In Table 10, Panel B, Row 3 we investigate whether the cash flow $loss_E$ of external CEOs hires appointed by potentially conflicted boards are reflected in these CEOs' yearly stock returns, relative to the counterfactual hires' stock returns. The results provide confirmation. On average, external CEOs hired by potentially conflicted boards realize a $loss_E$ of 7.01 percentage points in stock returns per year (p-value < 0.01) relative to the counterfactual stock returns of the internal CEO candidate.

Reconciliation with Prior Literature

We replicated the results of Huson, Malatesta and Parrino (2004) (available on request) showing no loss due to external hiring using a similar sample (surviving Forbes 800-size firms) with a similar regression specification and their operating income measure. Using the same sample of surviving firm, our structural self-selection model also shows no $loss_E$ in operating income when hiring externally.

Robustness of Performance Results to Using Matching Methods

Roberts and Whited (2012) recommend using matching methods to verify the robustness of results when endogeneity is a concern. We use the matching estimator of Abadie and Imbens (2006) to remove estimation bias, which they show increases with sample size when using alternative estimators such as propensity score matching. An advantage of using a matching method is that it mitigates endogeneity concerns if the matching variables are measured prior to the treatment (the hiring decision), which we do.

TABLE 11
ROBUSTNESS TO THE METHOD OF ESTIMATING PERFORMANCE GAINS FROM POTENTIALLY CONFLICTED BOARDS' EXTERNAL CEO HIRING

	Average $gain_x$ due to treatment	
Matching method	External CEO hires by potentially conflicted boards (Sample size = 290)	Internal CEO hires (Sample size = 1,493)
Matching estimator method of Abadie and Imbens (2006)	-0.0282*** (-4.88)	0.0162*** (2.59)

The sample of internal CEO hires and external CEO hires made by boards with identified conflicts is the same as in Table 8, Panel A, Row 1. *Internal CEO hires* and *External CEO hires* are defined in Table 1. An external hire board is defined to have an *identified potential conflict* if one of its outside directors obtains a new position (primarily directorships) by the end of the CEO turnover year. This table reports treatment effects. The $gain_x$ *due to treatment* for firms with potentially conflicted boards that hire a CEO externally equals the cash flow performance, ΔCFperf, realized by hiring externally minus the cash flow performance of internal hire(s) at matched firm(s). In a similar manner, the $gain_x$ *due to treatment* for firms with boards that hire a CEO internally equals the performance realized by promoting a CEO internally minus the performance of potentially conflicted external hire(s) at matched firm(s). Cash flow performance, $\Delta CFperf$, is defined in the Appendix and in equation (2). Matching of firms is accomplished using the matching estimator of Abadie and Imbens (2006) with replacement. We account for bias as recommended by Abadie and Imbens (2004). The variables used in matching are the same variables used in the probit model of Table 6. In Panel A, t-statistics are reported in parentheses. * p-value < 0.1, ** p-value < 0.05; *** p-value < 0.01.

In Table 11, results from the Abadie and Imbens matching method are shown for Forbes 800-size firms. We find a $loss_E$ of 2.82 percentage points on average when conflicted boards hire externally (p-value < 0.01) and a $gain_I$ of 1.62 percentage points when boards hire internally (p-value < 0.01). The results are not significantly different from what is shown in Table 8, Panel A for Forbes 800-size firms. Since the matching and structural self-selection model results for external hires are also consistent, our results are verified and likely robust to endogeneity concerns.

Tests of Alternative Explanations

Table 12, Panels A investigates whether new directorships for outside directors from firms that hire externally are due to their specialized operational expertise. Panel A shows no improvement in performance after these outside directors join their new firm as a director; and the firm of their new directorship shows a significant increase in risk (p-value < 0.05), whereas firms show no increase in risk after employing outside directors from firms that had just promoted a new CEO internally.

Table 12, Panel B examines whether outside directors' superior knowledge of the external CEO hire process drives their greater chance of obtaining new directorships. The results do not support this explanation. Within the first two years of obtaining their directorship, an external CEO hire only occurs 9.8% of the time, which is not significantly different than that (8.7%) for outside directors who obtained new directorships after serving on boards that promoted a CEO internally.

Finally, Table 12, Panel C considers whether boards prefer underperforming directors and, therefore, new positions disproportionately go to outside directors of external hire firms. This explanation is based on the theory of Hermalin and Weisbach (1998) and suggests director/officer selection is endogenous. In this theory, underperforming CEOs prefer pliant directors and so might preferentially select directors and officers from underperforming firms. In this case, underperforming outside directors who promote a CEO internally are expected to obtain new positions as frequently as outside directors who hire a CEO externally. Panel C provides no support for this expectation – outside directors from underperforming firms that promote a CEO internally are less likely (p-value < 0.01) to obtain new positions than outside directors from firms that hire externally.

TABLE 12
TESTS OF ALTERNATIVE EXPLANATIONS FOR NEW POSITIONS OBTAINED BY POTENTIALLY CONFLICTED OUTSIDE DIRECTORS

Panel A: Potentially conflicted outside directors obtain new positions for their operational expertise

Board of outside director's hiring source decision	Test statistic	# of all new positions	# with required data	Impact of outside directors at new position (After – before) Δ CFROA	Δ Excess return	Δ risk
External	Mean	601	409	-0.0029	1.67	3.52**
	Median			-0.0025	0.00	2.32***
	Mean	1,839	1,403	-0.0011	-2.34	0.11
Internal	Median			0.9156	0.21	0.00

Panel B: Potentially conflicted outside directors obtain new positions for expertise in hiring a new CEO externally

Board of outside director's hiring source decision	# of all new positions	% of outside directors' that hire a CEO externally at their new position within 2 years of obtaining it
External	601	9.8
Internal	1,839	8.7

Panel C: The labor market for directors and executives prefers underperforming outside directors (ODs)

	Firms (t-1)	# of ODs (t-1)	# of new positions / # ODs at t-1
Firm hires a CEO externally	387	2,783	0.216
Internal hire firm underperforms	900	6,526	0.182***

The samples in Panels A, B, and C are drawn from Forbes 800-size firms; these firms and the types of hire (*External* CEO hire or *Internal* CEO hire**)** are defined in Table 1. *OD* stands for outside director. An external hire board is defined to have an *identified potential conflict* if one of its ODs obtains a new position (primarily directorships) by the end of the CEO turnover year. Panels A and B investigate ODs' contribution at their new positions; these new positions (primarily directorship) are analyzed in Table 3. *CFROA* and *Excess return over the market return* are defined in the Appendix. *Risk* is the standard deviation of monthly stock returns in the year prior to hire. Δ *CFROA* = CFROA averaged over the first three full years of an OD's new directorship less the CFROA at that firm the year prior to the directorship appointment year; Δ excess return and Δ risk are similarly defined; both excess return and risk are measured as % per year. The yearly excess return = 12 * average monthly excess return. Risk variance is additive assuming independence, so yearly risk = square root (12*the square of the monthly standard deviation of stock returns). An *internal hire firm underperforms* if a) ΔOIROA (over years -1 to -3) is less than the median for firms with outside directors (ODs) or if excess return over the market return is less than the median for firms with ODs, and b) one or more of the firm's officers leaves to become an external CEO at another firm in the two years prior to the CEO turnover; the measures used in this definition are defined in the Appendix. All remaining terms are defined in the Appendix. The *t*-test is used to detect a significant difference across groups in the average value of a variable; the signed rank test is used for significant differences in medians. In Panel C the proportions test is used to establish significance. * *p*-value < 0.1, ** *p*-value < 0.05; *** *p*-value < 0.01.

CONCLUSIONS

The evidence we present suggests that a portion of outside directors have incentive conflicts when they participate in the CEO hiring process. Our results suggest these conflicts involve their desire for positions at other firms (director, CEO, COB, officer) or the CEO and COB positions at the firm they direct. These positions are a) gained with greater likelihood in the CEO turnover year when outside directors participate in hiring a CEO externally rather than promoting from within, b) are not associated with these directors' performance, and c) not gained with greater likelihood in non-turnover years. Our evidence suggests that executive search firms are one (of many) means by which potentially conflicted outside directors gain new positions.

Our definition of a potentially conflicted outside director is based on the positions they gain by the end of the CEO turnover year. This definition necessarily lumps truly conflicted outside directors with those who are not and thus biases against finding agency costs. Still, the firms of potentially conflicted directors show substantial cash flow and stock return losses for owners of firms that hire a CEO externally, relative to what would have been obtained from the internal CEO candidates. Thus, our results suggest that a substantial portion of the outside directors we identify as potentially conflicted are truly conflicted during a CEO turnover year.

ENDNOTES

1. For evidence that directors' incentives may not align with owners, see Hilscher and Sisli-Ciamarra (2013), Gillan (2006), Brick, Palmon and Wald (2006), Harford (2003), and Shleifer and Vishny (1997).
2. This literature extends back to at least Fama and Jensen (1983) and Fama (1980).
3. Forbes 800-size firms have at least $350 million in assets in the year prior to hiring the new CEO; approximately 99% of Forbes 800 firms are this large.
4. See Zhang and Rajagopalan (2010), Khurana (2002), and Section 3.
5. We do not investigate stock announcement returns as they are an ex ante measure of CEOs' performance. Warner, Watts, and Wruck (1988) argue that stock announcement returns are ambiguously related to investors' performance expectations for new CEOs, except in the case of forced turnovers. Evidence from Huson, Malatesta, and Parrino (2004) (HMP) suggests announcement returns do not anticipate future performance. HMP find a greater stock reaction to the announcement of an external CEO hire than an internal hire following a forced turnover (p. 258), yet subsequent operating income is not greater (p. 263).
6. Outside directors are not employees of the firm, but they may have contractual links to the firm. Outside directors who have no contractual links to the firm are classified as independent directors. We show that

boards with 75% or more outside directors are independent director dominated 81% of the time. Therefore, we call a board independent director dominated if 75% or more of the board is composed of outside directors.

7. See Yermack (2004), Harford (2003), and Sonnenfeld, Kusin, and Walton (2013).
8. Heads of executive recruiting for large firms and professionals within the industry privately report to the authors that lead search professionals often conduct CEO, director, and executive searches at multiple firms simultaneously. Within their search firm, lead professionals share their potential candidates and job openings.
9. Specific information on U.S. search firms' fees was obtained through private conversation with heads of executive recruiting for Fortune 500 firms and Doug Tatum, head of the Newport Board group.
10. See for instance Murphy and Zabojnik (2007) and Zhang and Rajagopalan (2010).
11. External CEOs privately report they are aware their turnover rate is high, thus they seek to increase their value to search firms that can link them to future job opportunities; they also desire directorships. Increasing the search firm's value is often accomplished by contracting with the search firm to participate in filling junior executive positions at the external CEO's new firm.
12. To see this dynamic, consider the search firm's opinion of an outside director's ability/value after the director disputes the search firm's recommendation to hire externally. If the recommendation is rejected, the search firms will lose approximately 20% of revenues. Further, the outside director would appear unable to recognize talent that the search professional believes is the best.
13. We are aware of no data that allows a direct test of whether these potential agency conflicts cause single directors to use networking to obtain benefits for themselves at owners' expense by influencing their board to hire a CEO externally. Data on boards' nominating process for directors, but not CEOs, is disclosed starting in 2004. See http://www.sec.gov/rules/final/33-8340.htm.
14. The sample is reduced by the need to have all the variables required for analysis throughout the paper. Without this restriction the Forbes 800-size sample has 2,264 (72.1%) internal hires and 873 (27.9%) external CEO hires obtained from public firms.
15. See for instance, Beaver, Kennelly, and Voss (1968), Thomas (1974), Ward (1994), Barber and Lyon (1996), Barth, Cram, and Nelson (2001), Callen and Sega (2004), Dechow and Ge (2006), Orpurt and Zang (2009), Barton, Hansen, and Pownhall (2010).
16. See for the seminal paper by Bahnson, Miller, and Budge (1996), and subsequent research by Hribar and Collins (2002) including their literature survey on page 106, and Orpurt and Zang (2009).
17. Funds from Operations – Other (Statement of Cash Flow) (data item 217) contains both allocations and accruals. Conclusions are the same if Funds from Operations – Other is added to our cash flow measure.
18. We include the first, sometimes partial year performance because Weisbach (1995) argues incoming CEOs controls asset sales even before the new CEO is announced to the public, while Pourciau (1993) shows some control the books so as to "take a bath" in the appointment year at the prior CEO's expense in order to inflate future profits.
19. For this analysis we use the forced turnover data provided by Jenter and Kanaan (2014).
20. See, for instance, Huson, Malatesta, and Parrino (2004), Denis and Denis (1995), and Weisbach (1988).
21. We suggest the external CEO positions obtained by outside directors of firms involved in a CEO turnover are usually not due to a succession plan. We find these potentially conflicted outside directors underperform the counterfactual internal CEO candidate (See Section 6). This finding also partly motivates our classification of these directors' CEO positions as potentially conflicted rather than not conflicted. We recognize that by construction outside directors have exclude themselves from becoming the CEO when they choose an inside CEO hire; this exclusion indicates ex post that outside directors passed themselves over to find the CEO.
22. All outside directors who become external CEOs are checked by hand to avoid misclassifications.
23. We use two measures of underperformance. The first, a decline in operating income, predicts forced CEO turnovers. The second, excess stock return over the market, is widely used to establish managerial ability.
24. We do not include gender; Yermack finds gender is not significant. We also do not including grey director status; this biases against our results as Yermack shows grey director status is negatively related to new directorships.
25. Throughout all analyses, fixed effects that identify only one type of hire are not used.
26. In untabulated results we show that the number of directors with potential incentive conflicts predicts an external CEO hire.

27. Industry fixed effects can be different, as a fixed effect is dropped when the type of hire is the same for an industry in all years of our sample. This maintains consistency with the probit model.
28. Valid regression results are not obtained for external CEO hires appointed by boards without potential conflicts; this regression's adjusted *R*-squared is negative
29. The coefficient values are assumed to be normally distributed; the two sample *t*-test provides significance.
30. Recall that potential conflicts for outside directors arise from a greater probability of obtaining the CEO or COB position(s) at their firm, or new positions at other firms, when they choose to hire a CEO externally.
31. The 74% for restructuring is derived from CEO hires by boards with a potential conflict divided by all restructuring hires: 78/(78+28).
32. A variation inflation factor greater than 10 indicates a collinearity concern.
33. We do not consider cash flows estimated from balance sheet accounts. In a seminal paper, Bahnson, Miller, and Budge (1996) show that such estimates are "deficient and unreliable" for approximately 75% of firms in Compustat. Ward, Foster, and Woodroof (2007) show that estimated cash flow does not predict financial distress; reported cash flow from operating activities on the cash flow statement does predict financial distress.

REFERENCES

Abadie, A. & G. Imbens (2004). Implementing Matching Estimators For Average Treatment Effects In Stata, *The Stata Journal* 4, 290–311.

Abadie, A. & G. Imbens (2006), Large Sample Properties Of Matching Estimators For Average Treatment Effects, *Econometrica* 74, 235–267.

Akyol, A.C. & L. Cohen (2013). Who chooses Board Members?, in Kose John, Anil K. Makhija, and Spephen Ferris, Eds.: *Advances in Financial Economics*.

Allgood, S. & K.A. Farrell (2003). The Match Between CEO and Firm, *Journal of Business* 76, 317-341.

Bahnson, P.R., P.B. W. Miller, & B.P. Budge, (1996). Nonarticulation In Cash Flow Statements and Implications For Education, Research and Practice, *Accounting Horizons* 10, 1-15.

Barber, B.M. and J.D. Lyon (1996). Detecting Abnormal Operating Performance: The Empirical Power and Specification Of Test Statistics, *Journal of Financial Economics* 41, 359-399.

Barth, M.E., D.P. Cram, & Karen K. Nelson (2001). Accruals and The Prediction of Future Cash Flows, *The Accounting Review* 76, 27-58.

Barton, J., T.B. Hansen, & G. Pownhall (2010). Which Performance Measures Do Investors Around The World Value The Most - and Why? , *The Accounting Review* 85, 753-789.

Beaver, W.H., J.W. Kennelly, & W.M. Voss (1968). Predictive Ability As A Criterion For The Evaluation Of Accounting Data, *Accounting Review* 43, 675-683.

Booker, K., T.R. Sass, B. Gill, & R. Zimmer (2011). The Effects Of Charter High Schools On Educational Attainment, *Journal of Labor Economics* 29, 377-415.

Borokhovich, K.A., R. Parrino, & T. Trapani (1996). Outside Directors and CEO Selection, *The Journal of Financial and Quantitative Analysis* 31, 337-355.

Callen, J.L. & D. Sega (2004). Do Accruals Drive Firm-Level Stock Returns? A Variance Decomposition Analysis, *Journal of Accounting Research* 42, 527-560.

Dechow, P.M. & W. Ge (2006). The Persistence Of Earnings and cash Flows and The Role Of Special Items: Implications For The Accrual Anomaly, *Review of Accounting Studies* 11, 253–296.

Demsetz, H. & K. Lehn (1985). The Structure Of Corporate Ownership: Causes and Consequences, *Journal of Political Economy* 93, 1155-1177.

Denis, D.J. & D.K. Denis (1995). Performance Changes Following Top Management Dismissals, *Journal of Finance* 50, 1029-1057.

Fama, E.F. (1980). Agency Problems and The Theory of The Firm, *Journal of Political Economy* 88, 288-307.

Fama, E.F. & M.C. Jensen (1983). Separation Of Ownership and Control, *Journal of Law and Economics* 26, 301-325.

Gillan, S.L. (2006). Recent Developments In Corporate Governance: An Overview, *Journal of Corporate Finance* 12, 381– 402.
Hallock, K.F. (1997). Reciprocal Interlocking Boards Of Directors and Executive Compensation, *Journal of Financial and Quantitative Analysis* 32, 331-344.
Harford, J. (2003). Takeover Bids and Target Directors' Incentives: The Impact Of A Bid On Directors' Wealth and Board Seats, *Journal of Financial Economics* 69, 51–83.
Heckman, J.J. (1979). Sample Selection Bias As A Specification Error, *Econometrica* 47, 153-171.
Hermalin, B.E. (2005). Trends In Corporate Governance, *Journal of Finance* 60, 2351-2384.
Hermalin, B.E. & M.S. Weisbach (1998). Endogenously Chosen Boards Of Directors and Their Monitoring of The CEO, *The American Economic Review* 88, 96-118.
Hribar, P. & D.W. Collins (2002). Errors In Estimating Accruals: Implications For Empirical Research, *Journal of Accounting Research* 40, 105-134.
Huson, M.R., P.H. Malatesta, and R. Parrino (2004). Managerial Succession and Firm Performance, *Journal of Financial Economics* 74, 237-276.
Jenter, D. & F. Kanaan (2014). CEO Turnover and Relative Performance Evaluation, *Journal of Finance* Forthcoming.
Kaplan, R.S. & L. Zingales (1997). Do Investment-Cash Flow Sensitivities Provide Useful Measures Of Financing Constraints?, *Quarterly Journal of Economics* 112, 169-215.
Khurana, R. (2002). *Searching for A Corporate Savior: The Irrational Quest for Charismatic CEOs* (Princeton University Press, Princeton, New Jersey).
Lee, L.F. (1978). Unionism and wage rates: A Simultaneous Equations Model With Qualitative and Limited Dependent Variables, *International Economic Review* 19, 415-433.
Leung, S.F. & S. Yu (1996). On the Choice Between Sample Selection and Two-Part Models, *Journal of Econometrics* 72, 197-229.
Li, K. & N.R. Prabhala (2007). Self-Selection Models In Corporate Finance, in Espen B. Eckbo, Ed.: *Handbook of empirical corporate finance: Empirical corporate finance*.
Linck, J.S., J.M. Netter, & T. Yang (2009). The Effects and Unintended Consequences of the Sarbanes-Oxley Act On The Supply and Demand for Directors, *Review of Financial Studies* 22, 3287-3328.
Murphy, K.J. & J. Zabojnik (2007). Managerial Capital and The Market for CEOs, *Manuscript, University of Southern California*.
Nagel, G.L. (2014). The Likely Effect Of CEO Hiring Source On Total Cash Flow Performance, *Working Paper, SSRN*.
Orpurt, S.F. & Y. Zang (2009). Do Direct Cash Flow Disclosures Help Predict Future Operating Cash Flows and Earnings?, *The Accounting Review* 83, 893-935.
Pan, Y. & T.Y. Wang (2012). First Year In Office: How Do New CEOs Create Value?, *SSRN working paper*.
Parrino, R. (1997). CEO Turnover and Outside Succession: A Cross-Sectional Analysis, *Journal of Financial Economics* 46, 165-197.
Peters, F.S. & A.F. Wagner (2013). The Executive Turnover Risk Premium, 69, 1529–1563, *Journal of Finance*.
Petersen, M.A. (2009). Estimating Standard Errors In Finance Panel Data Sets: Comparing Approaches, *Review of Financial Studies* 22, 435-480.
Pourciau, S. (1993). Earnings Management and Nonroutine Executive Changes, *Journal of Accounting and Economics* 16, 317-336.
Roberts, M.R. & T.M. Whited (2012). Endogeneity In Empirical Corporate Finance, *SSRN working paper*.
Shleifer, A. & R.W. Vishny (1997). A Survey Of Corporate Governance, *Journal of Finance* 52, 737-783.
Shumway, T. (2001). Forecasting Bankruptcy More Accurately: A Simple Hazard Model, *Journal of Business* 74, 101-124.
Thomas, A.L. (1974). The Allocation Problem: Part Two, *Studies in Accounting Research No. 9 (Sarasota, FL: American Accounting Association).*

Ward, T.J. (1994). An Empirical Study Of the Incremental Predictive Ability Of Beaver's Naive Operating Cash Flow Measure Using Four-State Ordinal Models Of Financial Distress, *Journal of Business Finance and Accounting* 21, 547-561.
Ward, T.J., B.P. Foster, & J. Woodroof (2007). Estimated Operating Cash Flow, Reported Cash Flow From Operating Activities, and Financial Distress, *Journal of Quantitative Analysis in Finance and Accounting*.
Warner, J.B., R.L. Watts, & K.H. Wruck (1988). Stock Prices and Top Management Changes, *Journal of Financial Economics* 20, 461-92.
Weisbach, M.S. (1988). Outside Directors and CEO Turnover, *Journal of Financial Economics* 20, 431-460.
Weisbach, M.S. (1995). CEO Turnover and The Firm's Investment Decisions, *Journal of Financial Economics* 37, 159-188.
Williams, S. & M. Perez (2014). Yahoo's Acquisition Strategy Is Actually A Talent Strategy, Washington Post.
Wintokia, M.B., J.S. Linck, & J.M. Netter (2012). Endogeneity and The Dynamics Of Internal Corporate Governance, *Journal of Financial Economics* 105, 581-606.
Yermack, D. (1996). Higher Market Valuation Of Companies With A Small Board Of Directors, *Journal of Financial Economics* 40, 185-211.
Yermack, D. (2004). Remuneration, Retention, and Reputation Incentives For Outside Directors, *Journal of Finance* 59, 2281-2308.
Zhang, Y. & N. Rajagopalan (2010). CEO Succession Planning: Finally At The Center Stage Of The Boardroom, *Business Horizons* 53, 455—462.

APPENDIX

Variable name	**Variable definition** (Monetary variables are measured in 2005 U.S. dollars)
Dependent performance variables	
Δ CFperf	The average of CFROA over CEO *i*'s tenure minus CFROA in the year prior to CEO *i*'s appointment. CFROA is defined below or see equation (1).
Δ OIperf	The average of OIROA over CEO *i*'s tenure minus OIROA in the year prior to CEO *i*'s appointment. OIROA is operating income before depreciation/total assets = data13/data6.
Δ STKRETperf	The yearly stock return (STKRET) averaged over CEO *i*'s tenure minus STKRET in the year prior to CEO *i*'s appointment. The average excludes CEOs' first partial year to exclude exiting CEOs' returns and announcement returns for new CEOs.
Independent performance variables *(usually measured in the year prior to hire)*	
Total assets	Compustat item data6 in millions of dollars ($M).
Average total assets	(Total assets_t + Total asets_{t-1}) / 2; if Total asets_{t-1} is missing, Total assets_t is used.
CFROA	Cash flow return on assets is CF / Average total assets. CF = Income before extraordinary items + Depreciation and amortization + Extraordinary items and discontinued operation + Deferred taxes + Equity in net loss (earnings) + Sale of property, plant, and equipment and sale of investments – Loss (gain) = data123+data125+data124+data126+data106+data213. See equation (1).
Market-to-book	The market value of Total assets/ Average total assets = (Total assets – Book equity – Deferred taxes + Market value of equity)/Average total assets = (data6-data60-data74+data25*data199)/Average total assets. If Deferred taxes is missing, it is set to 0.
Leverage	Long term debt/Total assets = data9/data6.
Std. Dev. Of stock returns (a.k.a. Risk)	The standard deviation of monthly stock return over the year prior to hire.
Firm age	The number of years the firm has been listed on CRSP in the year that the CEO is hired.
Capital expenditure	data128. If Capital expenditure is missing, it is set to 0.
R&D	data46. If R&D is missing, it is set to 0.
Advertising	data45. If Advertising is missing, it is set to 0.
Pricing power	Net income/Sales = data237/data12.

Total asset turnover	Sales/Total assets = data12/data6.
Average $CFROA_{t-1 \text{ to } t-3}$	Average of CFROA over the three years prior to hire.
ΔOIROA (over years -1 to -3)	Change in operating income return on assets is OIROA in the year before hire minus OIROA three years before hire. OIROA is Operating income/Total assets = data13/data6.
Excess return over the market return	Percentage stock return of the firm over the year prior to the CEO hire less that year's value weighted percentage return for all stocks in CRSP.
Forced turnover indicator	If the departing CEO's age is less than 61 in the year of departure and the Shumway bankruptcy predictor variable (computed per Shumway 2001, p. 122) is in the two deciles of firms most likely to go bankrupt, the forced turnover indicator is set to 1; otherwise st to 0.
Exclusion variables *(board structure variables measured in the year prior to hire and the herding measure)*	
% Outside directors	Percentage of board seats held by directors who are not officers of the firm
Number of directors	The number of directors on the board of directors
Prior CEO chairs board	Prior CEO chairs the board in the year prior to hire
Herding measure	The percentage of externally hired CEOs over the three years prior to hire that are within the firm's Fama-French 49 industry; firms used to form this percentage are all smaller firms than Forbes 800-size firms (i.e., their total asset value < $350 million).
Other terms used	
Outside director	A director of a firm who is not listed as an officer of that firm by Compaq Disclosure
Independent director dominated boards	Using Risk Metrics' Investor Responsibility Research Center data and its definition of independent directors, we show that boards with 75% or more outside directors are independent director dominated 81% of the time. Thus, we call a board Independent director dominated if 75% or more of the board is composed of outside directors.