Bottom-Up Corporate Governance*

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Abstract

We call "independent from the CEO" a top executive who joined the firm *before* the current CEO was appointed. In a very robust way, firms with a smaller fraction of independent executives exhibit (1) a lower level of profitability and (2) lower shareholder returns following large acquisitions. These results are unaffected when we control for traditional governance measures such as board independence or other well-studied shareholder friendly provisions. One interpretation is that "independently minded" top ranking executives act as a counter-power imposing strong discipline on their CEO, even though they are formally under his authority.

1 Introduction

Academics and practitioners have known for long that in the absence of tight monitoring, CEOs of large publicly held firms may take actions that are detrimental to their shareholders: They commit the firm's resources to value destroying "pet" projects, build unprofitable empires, prevent valuable takeovers from happening, or even, in some rare yet highly publicized instances, engage in fraudulent window dressing or asset tunneling. To set

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up counter-powers to the CEO, the consensus among practitioners and regulators has been to rely on a strong board of directors, independent from the management. In many countries, informal codes of corporate governance have been recommending the appointment of independent directors for more than a decade.[1] In the US, the recent wave of corporate scandals has triggered a stronger regulatory response, making the hiring of independent directors mandatory for firms listed on the major stock exchanges.[2]

Indeed, academic research has found boards to be efficient tools of corporate governance. Independent boards of directors seem to pay more attention to corporate performance when it comes to CEO turnover or compensation (Weisbach (1988), Dahya, Mc Connel and Travlos (2002)). The stock market hails the appointment of independent directors with abnormal returns (Rosenstein and Wyatt (1990)). There is no evidence, however, that independent boards improve profitability or even the value of corporate assets.[3] One possibility, at least for large listed firms, is that independent boards, while still extremely valuable in times of crises, are too far away from day to day operations to add much value to a firm.

As a result, corporate governance scholars have recently shifted their attention away from organizational variables such as board composition towards other dimensions of corporate governance apparent in corporate char-

[1] As a matter of fact, many large firms have been eager to comply with their guidelines. For instance, the Cadbury Report issued in the UK in 1992 recommends that "the majority of non-executives on a board should be independent of the company" . The 1998 "Viénot II" Report in France proposes that "independent directors should account for at least one-third of the Board of Directors". Compliance with these guidelines was not mandatory, but widespread. For instance, by 1996, more than 50% of the UK firms surveyed by Dahya, Mc Connel and Travlos (2002) claimed to comply with the Cadbury Report recommendations.

[2] The NYSE and the NASDAQ require since 2003 a majority of independent directors on the board of companies listed on their exchanges.

[3] In fact, the correlation might even be negative. A likely reason for this is that poorly performing firms tend to appoint more outside director (Kaplan and Minton (1994)). Filtering out this endogeneity leads to no apparent correlation between profitability and board independence (Baghat and Black (2003), Hermalin and Weisbach (2003)).

ters, bylaws or in state takeover laws. The main finding of this recent literature is that investor-friendly corporate governance provisions boost the price of firms' assets by making them more vulnerable to takeovers (Gompers, Ishii and Metrick (2003), Cremers, Nair and John (2005),Bebchuk and Cohen (2004)).

This paper studies a new measure of the quality of corporate governance based on "organizational" information. Our intuition is that there is some information to get on the functioning of a company by focusing attention on the composition of the executive suite. After all, CEOs have to face their subordinates on a daily basis, whereas boards of directors only meet a few times every year.

More precisely, we develop a measure of "internal governance" that captures the degree of "independence" of top executives from the CEO. On a panel of US listed corporations, we compute the fraction of top ranking executives who joined the firm *before* the current CEO was appointed. We think of these executives as "independent". As CEOs are typically involved in the recruting of their subordinates, executives hired during their tenure are more likely to share the same preferences and/or have an incentive to "return the favor". Alternatively, executives who experienced previous leadership are less likely to take orders as legitimate simply because they come from the a superior.

We first provide evidence on corporate performance: We find that high internal governance (independent executives) predicts high future performance, using various profitability measures. Conversely, poor performance does *not* lead to a decrease in internal governance, suggesting a causal effect of internal governance on performance. Our findings are not affected when we control for traditional, "external" corporate governance measures. We also

show that our results are not driven by the departure of executives "leaving a sinking boat", i.e. quitting due to the anticipation of the firm's future decline.

Our second piece of evidence is on the long-run value impact of large acquisitions. We show that a lower fraction of independent executives is associated with significantly lower returns for the acquiror's shareholders. Importantly, however, regular indices of *external* governance are not correlated with the long-term shareholders' losses made after an acquisition. The board of director, takeover pressure or the design of corporate charter seem less efficient at preventing bad/expansive acquisitions from happening.

We believe an important contribution of our paper is to exhibit an organizational firm-level variable with strong systematic predictive power on future performance. Our internal governance variable might simply be a measure of the extent of CEO power over the firm: "powerful CEOs" might be both prone to do inefficient acquisitions and to replace executives with their own friends with no link between the two. However, we find that internal governance is only very weakly correlated with traditional measures of "CEO power" such as whether the CEO is chairman of the board. Another intepretation of our results is that independent executives may act as a "bottom-up governance" mechanism, making it costly to the CEO to take bad decisions.

Such a mechanism is modelled in Landier, Sraer, and Thesmar (2005). In their theory, when a CEO takes a poor decision, "independent" executives may be more prone to disagree and as a result may become less willing to put energy into implementing decisions that they consider to be inefficient.[4]

[4]Such internal governance mechanism need not arise through an open conflict between the CEO and his subordinates, or through public denouncement of corporate malpractices ("whistleblowing"). On the contrary, because an executive's job is difficult, complex and hard to monitor, it is always easy for unconvinced subordinates to shirk, slightly modify orientations or even lie about the feasibility of the CEO's strategy.

Such a need to elicit his top executives' support is taken into account by the CEO. This "implementation constraint" forces the CEO to take better decisions on average.[5]

Our study may have two normative implications for practioneers of corporate governance. First, we learn from our statistical analysis that the intensity of such internal governance can be at least partly observed and could be included in the various indexes of the quality of a firm's corporate governance. This implication does not depend on our interpretation of our results: be it the sign of executives "leaving the sinking boat", of an autocratic CEOs, or of the healthy discipline of having to convince one's subordinates, the share of independent executives as we measure it predicts performance. A second implication hinges on our "bottom-up governance" interpretation: in addition to management monitoring and advising, a key role of the board should also consist in designing the optimal balance of power within the firm. Put otherwise, the human resource role of the board is not limited to the usually emphasized CEO succession problem.

The paper has five more sections. Section 2 describes the datasets we use and how we construct our index of internal governance. Section 3 looks at the relationship between internal governance and corporate performance. Section 4 looks at the costs of acquisitions. Section 5 discusses the relation between our internal governance index and usual corporate governance measures. Section 6 concludes on theoretical questions raised by our findings.

[5] Obviously, a possible cost of diversity of opinion among executive is the potential paralysis of the chain of command; as executives are in general skeptical towards the CEO's orientations, they are less enthousiastic. Such organisation makes probably less mistakes, but is also less likely to engage with full strength into a particular direction.

Which effect dominates is an empirical question; particular features of the industry may tilt the tradeoff in one direction or another. In the context of corporate governance, the evidence presented in this paper points toward net benefits of internal governance.

2 Data and Measurement Issues

We first describe the datasets we use to complete our study. We then discuss the construction of our index of "internal governance" and outline its strengths and weaknesses.

2.1 Datasets

We use five datasets. EXECUCOMP provides us with the firm level organizational variables with which we proxy for internal governance. COMPUSTAT provides us with firm level accounting information. IRRC's corporate governance and director dataset allows us to obtain standard measures of external corporate governance. Acquisitions are drawn from SDC Platinium, and stock returns from CRSP.

2.1.1 Internal Governance

The first dataset is the EXECUCOMP panel of (at least) the five best paid executives of the largest American corporations. We use this data source to measure the extent of "internal governance" in the firm. We do this by computing the fraction of executives hired *after* the CEO took office (i.e. the fraction of non-independent executives). Thus, internal governance is said to be poor when this fraction is high.

Initially, each observation is an executive (or the CEO) in a given firm in a given year. We focus on years from 1992 to 2002; we start by removing observations for which the executive identifying number is missing. We also exclude duplicate observations. In this (nearly) raw dataset, there are 120,762 observations, which correspond to some 1,840 firms per year (20,230 firm-years) with an average of six executives each (including the CEO). As it turns out, 3,499 firm-year observations have no CEO (using the CEOANN

dummy variable indicating which executive is the CEO). In some cases, it is possible to infer the CEO's identity because, for one of the executives, the BECAMECE variable (date at which the executive became CEO) is non missing, even though the CEOANN dummy is missing (misleadingly indicating that the executive is not the CEO). By filling in these gaps, we obtain 2,472 firm year observations, and end up with **19,203** firm-years for which we know the identity of the CEO (a total of 115,933 observations in the executive-firm-year dataset).

To compute the fraction of non indenpendent executives, we will need to compare the CEO's tenure to the executives' seniorities within the company. A first approach - which corresponds to the results listed in the paper - is to rely on the seniority (within the firm) and tenure (within the position) variables reported in EXECUCOMP. The BECAMECE variable gives us, for the current CEO, the precise date at which he(she) was appointed as CEO whether he(she) was hired from inside or outside the firm. Other executives' seniorities can be recovered using the JOINED_C variable, which reports the date at which the executive actually joined the firm. Unfortunately, these variables are often missing: we lose 2,291 firm-years (12,262 executives-firm-years) by focusing on firms where the CEO's date of appointment is non missing. We then lose a further 6,760 firm years (39,695 executives-firm-years) by restricting ourselves to firms where we have non missing seniority for at least one executive. We end up with **11,179** firm-years, from 1992 to 2002, for which we can now compute the fraction of executives hired *after* the current CEO. We call this measure of executive dependence **FRAC1**.

Overall, we lose 19,203-11,179=8,024 firm-year observations in the process of constructing our measure of internal governance, mostly because many executives do not report their seniority within the firm. In 4,307 of our

remaining 11,179 firm-years, internal governance is measured by comparing the CEO's tenure with the seniority of only one executive.

This means that FRAC1 will be a very noisy measure of executive dependence; while this does not create an obviously spurious correlation with corporate performance or returns to acquisitions, it is going to bias our estimates of the effect of internal governance downwards, as measurement error often does. A second approach would be to dispense wih the seniority and tenure variables altogether and make direct use of the fact that we can follow individuals in the EXECUCOMP panel. To remove left censorship (the panel starts in 1992), we need to restrict ourselves to firms where we observe at least one episode of CEO turnover. Once the new CEO has been appointed, we can compute the fraction of executives that were *not* listed in the dataset *before* the new CEO started (we name this alternative variable **FRAC2**). The main advantage of this approach is that we can dispense of both BECAMECE and JOINED_C variables, which are often missing. The cost is that the need to observe CEO turnover restricts the number of firm-years to **6,617**. This is less that the 11,179 observations available to compute FRAC1. Also, focusing on firms with at least one CEO turnover over the course of ten years may mechanically overweight firms facing governance problems. Finally, executives enter the panel when they either (1) are hired by the firm, (2) make it into the five best paid people list, or (3) the firm decides to report their pay in its annual report/proxy. Hence, entry in the panel is a very noisy measure of hiring.

In spite of its shortcomings, the second - panel based - variable FRAC2 has a correlation coefficient of 0.41 with the first - seniority based - variable FRAC1. Both approaches led to results very similar in terms of size and significance, so we chose to focus here on the first measurement approach.

Of course, estimates based on FRAC2 are available from the authors upon request.

2.1.2 Corporate Accounts

Our tests will correlate internal governance with corporate performance. Thus, for each firm-year observation from our EXECUCOMP sample, we retrieve firm level accounting information from COMPUSTAT (we lose only 161 observations, for which we cannot find the book value of assets, in the merging process). We match by GVKEY identifier. We compute profitability as return on assets (ROA).[6] We construct Market to Book as the ratio of the firm's assets market value to their book value, as in Gompers, Ishii and Metrick (2003).[7] We proxy firm size by log(total assets). We proxy firm age by taking the difference between the current year and the first year of presence in the COMPUSTAT panel. We construct the 48 Fama-French industry dummies using the firm's 4 digit SIC industry code. Variable constructions are presented in detail in appendix B. Finally, we windsorize some variables (ROA, Market to Book) at the 1% and 99% levels.

2.1.3 External Governance

We will also look at how our measure of internal governance correlates with traditionnal corporate governance measures. Thus, for each firm year observation, we gather information on corporate governance from IRRC's corporate governance and directors dataset. This dataset provides us with commonly used proxies for corporate governance, namely, the fraction of independent

[6] Return on Assets is Operating Income Before Depreciation (item 13) minus Depreciation and Amortization (item 14) over Total Assets (item 6).

[7] Market to Book is the ratio of market to book value of assets (item 6). The market value is computed as Total Assets (item 6) plus the number of common shares outstanding (item 25) times share price at the end of the fiscal year (item 199) minus Common Equity (item 60) minus Deferred Taxes (item 74).

directors, the number of directors sitting on the board and the fraction of former employees sitting on the board. These variables are available for the 1996-2001 period only, and mostly for large firms. Out of 11,179 firm-year observations where we can measure internal governance, only 4,531 observations have information from IRRC.

We will also look at the increasingly popular Gompers, Ishii, and Metrick's (hereafter GIM) index of corporate governance, which compiles various corporate governance provisions included in the CEO's compensation package, in the corporate charter and the board structure. The GIM index is available for 1990, 1993, 1995, 1998 and 2001. In other years, we assume that it takes the value that it had in the most recent year when it was non missing. Again, just over a half (5,872 over 11,179) of our observations have a defined GIM index.

2.1.4 Acquisitions

To see if top ranking executives are able to constrain major CEO decisions, we focus on the effect of internal governance on the acquisition performance. We obtain the list of firms who made significant acquisitions from SDC Platinium (deals of value larger than $ 300 million). SDC provides us with the bidder's CUSIP and the transaction value of the deal. We focus on completed deals where the bidder bought at least 50% of the target's shares.

For each firm-year observation in our EXECUCOMP sample, we compute the number of targets acquired during that year and the overall amount spent on the deal(s). In our base sample of 11,179 firm-years where the internal governance measure FRAC1 is available, 22% of the observations correspond to firms making at least one acquisition; 1998 and 1999 are the peak years, with more than 26% of firms making at least one acquisition. Most acquirers

make only one deal per year, but there are a few serial acquirers (three percent of the observations correspond to at least five deals carried out during the year).

2.1.5 Stock Returns

We are also interested in computing the net benefit of acquisitions. To do this, we compute long run abnormal stock returns following the acquisition, for each acquirer.

We merge the above SDC extract with our base sample from EXECUCOMP. We end up with a list of 818 deals for which we know the acquirer, the date of the acquisition, and FRAC1 (the share of executives appointed after the CEO took office). Serial acquirers are overrepresented. Out of 818 deals, 188 involve one time buyers, while 368 involve firms carrying out at least four large deals. Overall, our sample features 359 different acquirers.

We then match this deal dataset with the acquirer's stock returns as provided by CRSP. More precisely, we retrieve monthly acquirer stock returns from a period extending 48 months prior to each acquisition to 48 months after the deal. We remove deals with less that 48 months of acquirer returns history before the acquisition. This reduces our sample size to 669 deals. We then estimate a three factor Fama-French model *for each acquirer* using the 48 pre-acquisition months available. We use the returns of the MKTRF, SMB, and HML portfolios from Kenneth French's web site. We then use this model to compute abnormal returns both before and after the deal.

2.2 Constructing an Internal Governance Index

The assumption underlying the internal governance measure is that the CEO is directly or indirectly involved in the recruitment process of top executives. Hence, executives appointed during his tenure are more likely to be loyal

to him and/or share his preferences than executives who were picked by a predecessor.

However, one needs to be careful with the mechanical drivers of FRAC1. As a CEO's seniority increases, a larger fraction of executives have (mechanically) been appointed during his tenure. Conversely, executives who have been with the firm longer are on average more likely to have been hired before the current CEO. This suggests that FRAC1 is positively correlated with CEO tenure, and negatively with executive seniority. Also, externally appointed CEOs often have the mandate to arrange an "executive shake-up." When recruited from the outside, CEOs have enough bargaining power vis à vis the board of directors to bring in their own teams. Hence, FRAC1 should be mechanically larger in the presence of outsider CEOs. Finally, a new CEO's appointment is sometimes followed by immediate waves of executive departures and arrivals that might be unrelated to internal governance (for example, top executives hoping for the top job leave the firm and need to be replaced).

It might be tempting to see these mechanical sources of variation in the proportion of aligned executives as exogenous shocks to internal governance, but they might be related to firm performance for reasons orthogonal to internal governance. Ignoring these sources of variation would thus lead to biased estimates of the effect of internal governance on performance. For example, CEO tenure may directly affect corporate performance simply because experience on the job matters. Also, if the firm is in really bad shape, a new CEO will have to inject more "fresh blood" into the corporate suite (Hayes, Oyer, and Schaefer, 2005), which mechanically increases executive turnover. We therefore choose be to as conservative as possible and filter out these mechanical effects when we seek to measure "internal governance."

Also, we will include them as controls in all performance regressions.[8]

More precisely, our internal governance (henceforth IG) index is defined as the residual of the fraction of "dependent" executives regressed on its expected mechanical correlates:

$$\begin{aligned} FRAC1_{it} &= a + b.CEOTEN_{it} + c.EXECSEN_{it} + d.OUTSIDE_{it} \\ &\quad + e.KNOWN_{it} + f.FRAC1\_1Y_{it} + \delta_t + \varepsilon_{it} \end{aligned} \tag{1}$$

where, for firm i in year t, $CEOTEN_{it}$ stands for CEO's tenure (in years), $EXECSEN_{it}$ for average executive seniority within the firm, $OUTSIDE_{it}$ is a dummy indicating whether the CEO comes from outside the firm, $KNOWN_{it}$ is the fraction of executives for which seniority is reported in the data, and $FRAC1\_1Y_{it}$ the fraction of executives that arrived within a year of the CEO's nomination. We also include year dummies δ_t. We define our Internal Governance (hereafter IG) index as the residual ε_{it}. It is larger when more executives than expected were hired after the current CEO was appointed. Hence, *high* values of the IG index mean *poor* internal governance (consistently with the Gompers-Ishi-Metrick external governance index).

The regression results are reported in Table 1, which has four columns. Column 1 includes the seniority variables ($EXECSEN$ for executives and $CEOTEN$ for the CEO). Column 2 adds the fraction of executives for which seniority is actually reported in EXECUCOMP ($KNOWN$, which we include to control for potential selection biases), and the fact that the CEO has been appointed from the outside ($OUTSIDE$). Column 3 adds the fraction of executives appointed within a year of the CEO's nomination, to control for management "shake-ups." Column 4 includes firm size, age and industry as

[8] By virtue of the Frisch Waugh theorem, the two approaches are equivalent. However, our residual approach will be helpful when we look at stock returns following acquisitions, since we will simply compare firms with negative and positive residuals.

additionnal regressors. As it turns out, all these mechanical correlates of $FRAC1$ work as we expected them to. $FRAC1$ is positively and strongly correlated with CEO tenure and negatively correlated with executive tenure (Columns 1 to 4). These two variables alone explain 25% of the variance of $FRAC1$ (column 1). $FRAC1$ is positively correlated with the fraction of executives whose seniority is reported: Hence, more "transparent" firms tend to have executives appointed after the CEO. $FRAC1$ is also strongly associated with the presence of outside CEOs. There are at least two possible interpretations for this. First, outside CEOs are often given a mandate to reshuffle the top management, and as a result the fraction of executives who joined the company with them is large. As it turns out, the coefficient on $OUTSIDE$ is somewhat reduced when we also include $FRAC1\_1Y$ in column 3. But it remains positive and significant, which leaves room for additional explanations: the appointment of outside CEOs triggers the departure of talented executives who were hoping to get the top job. Another possibility could simply be that management shake-ups tend to happen when the firm is doing badly, which may also generate departures. In any case, the need to replace the lost executives mechanically increases our index. Finally, firm level variables (industry, age, or even size) are not strongly correlated with $FRAC1$, and accordingly explain little of its variance. Thus, in the following analysis, we use estimates from column (3), i.e., compute IG using CEO and executives' characteristics (which account for 71% of the variance of $FRAC1$), but not the firm level variables (which account for a mere 2%).

Last, one possible concern could be that our internal governance index may be correlated with intense merger activity in the past. After many mergers, top executives from the targets join the executive suite, mechanically increasing our index. If the firm still has trouble "digesting" its past ac-

quisitions, it is likely to underperform on both accounting and stock price measures. To address this concern, we correlated our residual IG index with the number of past acquisitions for a cross section of firms in 2000. We found *no* evidence that high IG index firms had bought a particularly large number of firms in the 1990s. This is robust to various controls and to the year chosen. Our index is thus not a proxy for M&A "indigestion."

3 Internal Governance and Corporate Performance

We start by investigating the correlation between internal governance and corporate performance. Figure 1 provides a first look at the relationship between our IG index and corporate performance. In this figure, we split the sample distribution of our IG index into five quantiles. Then, for each quantile, we compute the mean industry[9] adjusted performance, as well as the 95% confidence band assuming normality. Performance is measured through ROA (left panel) and market to book value of assets (right panel). Figure 1 shows a positive and statistically significant association between good internal governance (low values of our IG index) and corporate performance.

3.1 Basic Results

As discussed above, some mechanical correlates of internal governance may be correlated with corporate performance. For example, junior CEOs or executives may be on average worse performers simply because they lack experience. We thus move to a multivariate analysis that allows us to capture these "human capital" effects. We run the following regression:

$$Y_{it} = \alpha + \beta IG_{it-1} + (IG \ \ controls)_{it} + (Firm \ \ controls)_{it} + \varepsilon_{it} \qquad (2)$$

[9] We used the Fama-French 48 industries (Fama and French (1997)).

where Y_{it} measures corporate performance (ROA, market to book value of assets). IG_{it-1} is our measure of internal governance, lagged one period.[10] We include two sets of controls. First, the mechanical correlates of our index are included since it may be argued that they directly affect corporate performance (CEO tenure, mean executive seniority, share of executive hired right after the CEO, a dummy indicating if the CEO is an insider or not). However, we must bear in mind that, because of the Frisch Waugh theorem, their inclusion does not affect our estimate of β (the IG index is by definition orthogonal to these variables, so they do not create any "omitted variable bias"). Secondly, we add firm level controls that are traditionnally strong correlates of performance: log(firm age+1), log(assets), year dummies, and 48 Fama-French industry dummies. Since we have several observations per firm (corresponding to different years), and because IG_{it} is strongly persistent, it is likely that the ε_{it} are not independent from different observations of the same firm i. Hence, we correct for this form of heteroskedasticity by looking at Hubert-White-Sandwich estimates.

The sample correlation between performance and the IG index is strong and stable across years (results available from the authors). Multivariate regression results are reported in Table 2. Columns 1 to 3 use ROA as dependent variable in equation (2); columns 4 to 6 use market to book value of assets.[11] Columns 1 and 4 report regression results only with firm level controls, and columns 2 and 5 include the mechanical correlates of the index. As expected, the difference is negligible, and stems from the fact that the sample on which the index is estimated (Table 1, column 3) is slightly different from the sample used for the performance regressions (2). Columns 3

[10] We seek to partially avoid obvious simultaneity biases, such as the ones we discuss below. As it turns out, our results are insensitive to the time-lag used.

[11] Similar results are obtained with Return on Equity, but we did not report them because of space limitation.

and 6 further control for initial performance, as a limited attempt to control for fixed effects.[12] Each time, our index of governance is significantly and robustly correlated with performance: a one standard deviation increase in IG results in a decrease of about 1.5 ROA percentage point and about 10% of market value of assets. The explanatory power of this effect is not very large (some 10% of standard deviation of the explained variable), but, as we will see, it is consistently significant and easily surpasses the usual "external" corporate governance measures. Also, the small size of our coefficients should not surprise us given the noise of our internal governance measure FRAC1 (see section 2.1).

3.2 Robustness Checks and Causality

Table 3 checks whether the performance-IG correlation reported in Table 2 is driven by any particular subperiod. In this table, we report, for both measures of corporate performance, the point estimate of β in (2) where internal governance is measured by IG, including both firm level and mechanical controls as in columns 2 and 5 of table 2, except that one regression is run for each year. As it turns out, the point estimate is fairly stable across periods and significant in most years. As a consistency check, we verified that we get similar magnitudes and significance levels by regressing directly on FRAC1, our unfiltered measure of internal governance, rather than on our internal governance index.

There are many stories consistent with the relation between IG and performance found in Tables 2 and 3. Our favored interpretation is that strong internal governance is a way for shareholders to "hold the CEO on a tight

[12] We have also run, but not reported, regressions of corporate performance on FRAC1, the fraction of executives hired after the CEO took office, as well as various controls. FRAC1 turned out to be highly significant in all specifications we tested. This is not surprising by virtue of Frisch Waugh theorem.

leash" and prevent the CEO from undertaking "crazy" projects or building an empire. One could argue, however, that the causality runs in the opposite direction: declining performance may actually trigger an increase in IG (a drop in our measure of internal governance). One plausible story could be based on management turnover. In most firms, poor performance triggers a change in the management team. In this scenario, internal governance worsens *because* performance declines, not the contrary.

While we have no "smoking gun" to assess the causal relation between internal governance and corporate performance, we can at least take two preliminary steps to reduce the likelihood of reverse causation.

First, we look at the joint dynamics of internal governance and corporate performance. Do changes in corporate performance happen before or after changes in internal governance? To test these two hypotheses, we run the following two regressions:

$$Y_{it} = \alpha + \beta IG_{it-L} + \gamma Y_{it-L} + controls_{it} + \varepsilon_{it} \quad (3)$$

$$IG_{it} = a + bIG_{it-L} + cY_{it-L} + controls_{it} + \varepsilon_{it} \quad (4)$$

where we use one and two year lags ($L = 1, 2$) and Y_{it} is the firm's corporate performance at date t. If changes in corporate performance tend to lead changes in IG, we should not be able to reject that $c > 0$ and $\gamma = 0$. Such a test can be thought of as the panel data version of causality tests *à la* Granger in time series analysis.

Estimates of equations (3)-(4) are reported in Table 4. All regressions include firm level controls (age, size, year and industry dummies). Column (1) reports the estimates of β and γ of equation (3), while column (2) reports the estimates of b and c from (4). The top panel reports the regression results assuming $L = 1$. The bottom panel assumes $L = 2$. The results suggest that, in general, changes in internal governance happen *before* changes in corporate

performance as estimates of c are never significantly different from zero, while estimates of β are.

Another endogeneity concern, which is not ruled out by our time-series evidence is the following: executives might tend to leave companies when they anticipate poor performance (for example because they want to avoid the danger of getting fired). If executives have private information on future performance, IG would rise *before* performance declines, but without being the cause of decline. One justification for such anticipation effects is that executives can observe the CEO's ability, or the evolution of the firm's markets, before they materialize in corporate accounts.

As a consequence, our IG index might be simply proxying for executive turnover, which would itself be a predictor of performance decline. We thus add to equation 2 the fraction of executives that left the firm in the previous year as a control. This turnover control is constructed as the fraction of the firm's year $t-1$ executives who are no longer reported as working for the company at year t in the EXECUCOMP data. To be fair, they can drop out of our sample either because they are no longer employees of the company, or because they do not belong any more to the most paid employees of the company. But this is as far as EXECUCOMP allows us to go to measure executive departure. Controlling for such measure of executive turnover means that we compell the identification of the coefficient on our IG index to rely exclusively on the comparison between the year the CEO started his/her tenure, and the year top execs started to work for the firm.

We present the new estimation results in 5, using the same firm level controls as in 2. As it turns out, executive turnover indeed has a significant negative impact on firm performance, confirming the idea that unexepectedly high executive turnover is an early sign of bad performance. Nevertheless,

adding this control does not affect the magnitude and significance of the impact of our internal governance measure on performance, either measured as ROA or Market to Book. Overall, Table 4 and Table 5 point toward a causal link going on from high Internal Governance to bad performance.

4 Internal Governance and Acquisitions

To test whether internal governance increases the quality of the firm's strategy by constraining the CEO in his choices, a natural place to look is at the firm's acquisition policy. There is substantial debate among financial economists as to whether long-run acquisition returns are positive or negative for the acquiring firm. Loughran and Vijh (1997) find that the returns to long-run investors in acquiring firms are on average negative, in particular when the deal is financed with stock issues. Mitchell and Stafford (1999), among others, criticize their estimates, partly because post acquisition returns tend not to be independent events, as acquisitions generally cluster around stock market booms. The main problem with this literature is that there is considerable heterogeneity among types of acquisitions and their performance. Thus, financial economists lose substantial information on their entire distribution by focusing on average returns and average profitability. In attempt to reduce this heterogeneity, some recent papers have outlined the size of acquisitions as a key factor for success or failure (Moeller, Schlingemann, and Stulz (2005), Bradley and Sundaram (2004)). The evidence they present is consistent with "small" acquisitions as value-creating, and large ones as value-destroying. Following up on these papers, we look at the effect of internal governance on shareholder losses (gains) in large acquisitions.

But before looking at gains, we first focus on the relation between internal governance and acquisition *policy*. We find that firms with good internal

governance do not make fewer acquisitions and that their acquisitions do not correspond to smaller purchases. We follow Gompers, Ishii and Metrick (2003), and use SDC to compute, for each firm-year of our EXECUCOMP extract: (1) the number of deals of more than $10 million in value and (2) the overall amount of all deals struck within the year (the sum of all transaction values if there are several deals), normalized by the acquirer's market capitalisation. None of these measures of acquisition intensity proved to be correlated with our IG-index. Moreover, we find that the IG index is not correlated with the number of *past* acquisitions, which means that selecting firms with poor internal governance does not select "serial acquirers."

We then turned to the impact of internal governance on acquisition *quality*. As argued above, we focus on large acquisitions (whose value exceeds $300 million $). To measure the performance of acquisitions, we first follow Loughran and Vijh (1997) and focus here on the acquirer's long term abnormal stock returns, which we compute using a four factor pricing model (the Fama-French (1996) three factors plus Carhart's (1997) momentum factor) estimated *at the firm level* in the 48 months preceeding the acquisition. We restrict ourselves to the 1993-2002 period, in order to be able to use EXECUCOMP information.

We split the sample of transactions into two parts (each comprising some 400 deals): deals where the acquirer has above-median IG index (poor internal governance), and deals where the acquirer has below-median IG index (good internal governance) in the year preceding the acquisition. Columns 1 and 2 of Table 6 report, separately for good and poor internal governance acquirers, the average cumulative abnormal returns, starting 12 months before the deal up to 48 months after the deal. Column 3 reports the difference in cumulative returns, and tests for the equality of average returns using a

standard t-test, without assuming equality of variances. Figure 2 plots cumulative abnormal returns for each month, separately for poor (left panel) and good (right panel) internal governance acquirers.

We find that firms with poor internal governance make largely underperforming acquisitions. Four years after the acquisition, firms with good internal governance have on average lost some 15% of shareholder value, which is significantly different from zero. However, firms with poor internal governance have lost almost 30%, which is both significantly different from zero and from the wealth lost by long term shareholders of well governed firms. This difference is robust to (1) the way we split the sample, on condition that each contains enough observations in each category (good/poor governance) and (2) to the pricing model (results are almost similar when we omit the momentum factor; they are somewhat noisier, but still point in the right direction if we use the CAPM or if we merely substract the market return from stock returns).

As a robustness check, we then look at the significance of our results using a calendar time portfolio method as recommended e.g., by Mitchell and Stafford (1997). This method addresses the critique that, due to their time overlap, post-event returns are not independent. Another problem is that measurement errors inherent in the computation of individual abnormal returns are compounded by calculating cumulative returns.

For our sample of acquisitions, we therefore construct two equally weighted portfolios of firms that completed at least one acquisition within the last n months. The first portfolio is long in acquirers whose internal governance index one year prior to the acquisition is below-median (the "good internal governance" portfolio). The second portfolio is long in acquiring firms with above median IG index (the "poor internal governance" portfolio). Both

portfolios are therefore rebalanced each month as acquirers whose deal occurred more than n months ago leave and new acquirers enter. Let $R^P_{n,t}$ (resp. $R^G_{n,t}$) be the monthly return of the poor (resp. good) internal governance portfolios.

We then estimate the abnormal returns of the two portfolios with a four-factor asset pricing model (the three Fama French factors plus the momentum factor, all available from the Kenneth French website). We also estimate the abnormal returns of a portfolio that is long in good internal governance, and short in poor internal governance acquirers, as in equation (7):

$$\begin{aligned} E\left(R^G_{n,t} - Rf_{n,t}\right) &= \alpha^G_n + \beta^G_n(Rm_t - Rf_t) + s^G_n.\ SMB_t \\ &\quad + h^G_n.\ HML_t + u^G_n.UMD_t \end{aligned} \tag{5}$$

$$\begin{aligned} E\left(R^P_{n,t} - Rf_{n,t}\right) &= \alpha^P_n + \beta^P_n(Rm_t - Rf_t) + s^P_n.\ SMB_t \\ &\quad + h^P_n.\ HML_t + u^P_n.UMD_t \end{aligned} \tag{6}$$

$$\begin{aligned} E\left(R^G_{n,t} - R^P_{n,t}\right) &= \alpha^{G-P}_n + \beta^{G-P}_n(Rm_t - Rf_t) + s^{G-P}_n.\ SMB_t \\ &\quad + h^{G-P}_n.\ HML_t + u^G_n.UMD_t \end{aligned} \tag{7}$$

The intercepts of these regressions α^G_n, α^P_n, and α^{G-P}_n represent the average monthly abnormal returns, given the model. These "alphas" are reported in Table 7, for n = 12, 24, 36 and 48 months. First, notice that the long-run abnormal returns of all acquisitions (which we report as a benchmark in the first line of Table 7) are slightly positive and marginally significant, in contrast with the results of long run stock returns, which are negative and significant. This discrepancy is at the heart of the methodological controversy on long-run stock return studies.[13]

[13]When looking at three year returns on acquiring firms, Mitchell and Stafford (2000) find an equal weighted monthly alpha of -0.2%, which is statistically significant. The

When we sort by internal governance value, results confirm our cumulative abnormal returns analysis: Abnormal returns to good internal governance firms after major acquisitions are positive and significant (some 0.5% per month) within 1, 2, 3 or 4 years following the deal announcement. They are small and insignificant for poor internal governance firms. Our long-short portfolio's alphas are positive and significant when the selection window is sufficiently large (last 24, 36 or 48 months), and less so in the short run (last 12 months). This is to some extent consistent with evidence from Table 6, where the difference in value destroyed widens over time.

5 Internal Governance and Stock Returns

The previous section shows that internal governance influences the quality of a firm's strategy and that the market does not immediately price this effect: acquisitions of poor IG firms are followed by *long-term* negative performance. If the market underestimates the impact of internal governance on a firm's performance, it is possible that our measure of internal governance has predictive power on stock-returns. This section investigates this issue, by extending the previous analysis from acquiring firms to all firms. Positive abnormal returns for good internal governance need not be incompatible with market efficiency, and this evidence can be subject to several interpretations. It could be that the market underestimates its benefits, that these benefits turned out to be larger than expected or simply that the information we used to construct our index was not available to investors in real time. One other possible explanation could be that such abnormal returns proxy for a hidden

difference between our result and theirs may stem from the time period chosen (we look at 1993-2002, while their time frame is 1961-1993). Another possibility is that firms are selected on the basis of their belonging to EXECUCOMP (we will return to this issue below). This, however, should not affect the *comparison* between poor and good governance firms.

risk factor. Distinguishing between these explanations is, we believe, beyond the scope of this paper.

We start by constructing a good and a poor internal governance portfolio. The poor (resp. good) governance portfolio is long in all firms whose internal governance index was in the top quartile (resp. bottom quartile) of the IG distribution of the previous year. We look at both value and equal weighted portfolios (the weighting scheme uses the stockmarket capitalization in January of the current year). These portfolios are rebalanced every year as firms' stockmarket capitalizations change, and firms change governance category.

Figure 3 provides an indication of the relative long-run performance of the good and poor governance (value weighted) portfolios. It looks at the cumulative returns of investing \$100 in these portfolios in January 1993, over the 1993-2002 period. Investing \$100 in January 1993 in the portfolio of good IG companies yields \$400 by the end of 2002, while investing in the poor governance portfolio yields less than \$250. In order to show that this difference in returns is not driven by the usual risk factors, we then regress monthly returns of the good/poor internal governance portfolios (R_t^G, R_t^B) on Fama and French (1996)'s three risk factors, plus Carhart (1997)'s momentum factor. We also look at the returns of the portfolio that is long in good internal governance stocks, and short in poor internal governance stocks. This amounts to running the following three regressions, for both value and equal weighted portfolios:

$$
\begin{aligned}
E\left(R_t^G - Rf_t\right) &= \alpha^G + \beta^G(Rm_t - Rf_t) + s^G.\ SMB_t \\
&\quad + h^G.\ HML_t + u^G.UMD_t \\
E\left(R_t^P - Rf_t\right) &= \alpha^P + \beta^P(Rm_t - Rf_t) + s^P.\ SMB_t \\
&\quad + h^P.\ HML_t + u^P.UMD_t \\
E\left(R_t^G - R_t^P\right) &= \alpha^{G-P} + \beta^{G-P}(Rm_t - Rf_t) + s^{G-P}.\ SMB_t \\
&\quad + h^{G-P}.\ HML_t + u^G.UMD_t
\end{aligned}
$$

The intercepts α^G, α^P, and α^{G-P} of these regressions are the excess returns.

Results are reported in Table 8 for three different models: a CAPM (which assumes $s = h = u = 0$), the Fama-French 3-factor model (assuming $u = 0$), and the full 4-factor model. We show equal-weighted (left panel) and value-weighted (right panel) regressions. Panel A looks at the returns of a portfolio made up of all firms in the matched COMPUSTAT-CRSP-EXECUCOMP panel. Panel B provides estimates for the good governance portfolio. Panel C looks at the poor governance portfolio, while panel D focuses on the long-short strategy.

To interpret our results, it is first important to note that our whole sample of companies yields a positive and significant alpha for both value-weighted and equal-weighted portfolios (panel A). This is driven by the fact that EXECUCOMP includes only S&P 1500 companies, and is by design biased toward ex post successful companies. For that reason, both portfolios (good and poor IG companies) yield positive alphas (panels B and C). For all specifications and weighting, the good IG portfolio has a larger alpha than the poor IG portfolio. Yet, the difference is insignificant and small for equal-weighted portfolios. As a result, the equal-weighted long-short strategy (panel D) has an alpha that is insignificant, albeit positive, in the four-factor pricing model,

albeit positive. Reassuringly, however, and consistently with Figure 3, the value-weighted long-short strategy yields positive alphas (0.5% monthly in the four-factors specification), with no significant load on the market and a strong negative loading on the momentum factor.

Finally, Table 9 explains why our alphas lose in statistical significance in the equal-weighted portfolio: The long-short strategy remains significant on non-weighted regressions when we restrict ourselves to the top one-half market capitalizations. One possible explanation is that our measure of internal governance is noisier for small caps. Another could be that internal governance matters more for large firms, which tend to have less concentrated ownership and are therefore less likely to have a dominant owner. Finally, it is possible that large firms are more involved in large, value-destroying acquisitions, and, as a result, internal governance is more important for them.

6 External Versus Internal Governance

We have shown that our measure of "internal governance" correlates well with (1) overall corporate performance and (2) the efficiency of some crucial strategy choices (acquisitions). However, one possible story consistent with such evidence is that we are proxying for corporate governance in the "traditional" sense: firms with weak shareholders, weak boards and imperial CEOs could also be the ones where the CEO has all the power to appoint faithful executives. Hence, a well-entrenched CEO is more likely to replace executives who do not show sufficient loyalty, which makes our IG index rise. At the same time, weak boards do not have the means to oppose large, wasteful acquisitions.

This alternative story puts external governance back to the fore: when "external" governance is poor, the firm performs less well, and most execu-

tives have had less time on the job than the CEO. If this were true, however, the existing literature on "external" governance would have had no trouble in finding a positive statistical relation between corporate performance and measures of governance quality. Existing contributions have repeatedly failed to find a positive correlation between the share of outsiders in the board and profitability (see Baghat and Black (2003), and also Hermalin and Weisbach (2003) for a survey). Using corporate charter-based governance measures, Gompers, Ishii, and Metrick (2003) do not find a consistent correlation between investor-friendly firm-level institutions and operating performance. Thus, the available evidence casts doubts on internal governance as a proxy of external governance in our regressions.

We look directly at the correlations between our measure of internal governance and some measures of "external" governance that are used in the literature. To do this, we regress our internal governance index on (1) the Gompers-Ishii-Metrick index of governance, which takes large values for management-friendly corporate charters, (2) the fact that the CEO is also the chairman of the board, which measures the CEO's degree of power on the board (see, for example, Adams, Almeida and Ferreira (2004)), (3) the size of the board (Yermack (1996) shows that firms with large boards are less efficient), (4) the share of current employees, and (5) of past employees as corporate directors. The first measure is available for a subset of our main sample - the largest firms. The second measure is available for our whole sample as it is extracted from EXECUCOMP. The third, fourth, and fifth measures are extracted from IRRC's boards and directors database and so available only for a subsample of our main dataset.

Overall, the evidence is not consistent with internal governance being a proxy of external governance. Regression results, controlling for both firm

level variables and mechanical correlates of IG, are reported in Table 10. Columns 1-3 include the external governance indexes separately, while column 4 combines all of them. Some results point slightly toward a correlation between the two governance measures. Our index is correlated with the charter based GIM index (the coefficient is small and significant at 5%). Also, internal governance is worse when the CEO is chairman, suggesting that CEOs who are powerful inside the firm are also powerful in the boardroom. The only other significant relation is more surprising: internal governance turns out to be better when there are more employees sitting on the board of directors. The literature on independent directors reports this correlation: it is usually interpreted as evidence that bad performing firms tend to appoint outsiders on the board (Hermalin and Weisbach (2003), Kaplan and Minton (1994)). One other, more daring, interpretation of this negative correlation between internal and external governance is the following. The particularity of these board members (employees) is their intimate knowledge of human capital and the power struggles within the firm. Insiders sitting on the board therefore have enough information about the competence of executives to efficiently interfere with the CEO in the nominating process. By preventing the CEO from appointing new subordinates, they enforce a good level of internal governance. This interpretation does, however, reverse the conventional wisdom on employee-directors.

Table 10 suggests there might be some weak correlation between internal and external governance. We thus provide new estimates of equation (2) in table 11 including an external governance measure as further control. Columns 1-3 focus on ROA as a measure of performance, while columns 4-6 look at the effects on the market valuation of assets. Columns 1 and 4 include the GIM index only, and the firm controls and mechanical correlates of (2).

Columns 2 and 5 add our internal governance IG index. Columns 3 and 6 include the other external governance indexes.

Consistent with Gompers, Ishii and Metrick (2003), the GIM index is negatively correlated with market to book, but not with operating performance. However, this correlation with market to book disappears once we include the index of internal governance. To be fair, the coefficient estimate becomes noisier, but not smaller, partly because the number of observations where our index and the GIM index overlap is less than 5,000. Notice that in columns 2 and 5, the coefficient on internal governance is identical to some results in Table 2.

Finally, the inclusion of the other external governance indexes shows that (1) most are not really correlated with corporate performance, which is consistent with the existing literature, (2) the share of inside directors is *positively* correlated with performance and (3) the effect of our index remains unaffected by the inclusion of these controls, even though they considerably reduce the sample size.

Before concluding, we run a similar horse race between external and internal governance for our acquisition returns results. The simplest way to do this is to ask whether after an acquisition, the long-run stock returns of acquirers with poor external governance underperform those of acquirers with good external governance. To do this, we repeat the exercise in section 4 by computing long-run cumulative abnormal returns for acquirers with an above- and below-median GIM index. Average long-run returns are reported in columns 4-6 of table 6, as well as in figure 4. Column 4 displays returns to long-term shareholders of management-friendly companies, column 5 does the same for shareholder-friendly companies. Column 6 computes the difference, and tests for equality. As is apparent from both the Table and the

figure, the two subgroups display strong negative returns for large acquisitions (10-15% after four years); the difference between them, however, is small and insignificant statistically.

7 Conclusion

This paper argues that the careful design of the chain of command *within the firm* affects the efficiency of the decisions that are taken. Our informal argument is that independently-minded executives always impose more constraints on the CEO than executives who owe him their jobs. These constraints may prevent controversial decisions from being taken, and have in general the useful effect of de-biasing the CEO. To do this, top executives do not have to formally disobey, or enter in open conflict with their boss. They may simply choose to be less enthusiastic in their work.

This argument is explored theoretically in a companion paper (Landier, Sraer and Thesmar (2005)). Our framework is very simple: a firm has to choose between two projects, A and B. A CEO receives a private signal as to which project is best, and orders his executives to carry out the project that he wants implemented. The executives can put in various degrees of effort. Importantly, both CEO and executives have intrinsic preferences toward A or B (they are biased). Their biases can be similar (executive dependence) or different (executive independence). We make two key assumptions. First, the CEO has privileged information on the project's quality. Second, the top executives have to carry out the project that they are ordered to implement, and cannot openly disobey.

We find that it might be optimal, from an (unbiased) shareholder perspective to have executives who disagree with the CEO over the preferred course of action. The reason is that the CEO has to "elicit the executive's

support," i.e., he needs them to put in high effort. This constraint will reduce the CEO's bias and lead to an improvement in decision-making. The effect will be reinforced by increasing credibility: executives know that the CEO will be less biased, and will, in consequence, believe his orders more often. With independent executive, the CEO gains legitimacy. But dissent will also be costly because it will "paralyze" the chain of command: executives will be ordered to carry out projects they dislike more often, and will put in less effort.

8 References

ADAMS, R. B., H. ALMEIDA, and D. FERREIRA, 2002, "Powerful CEOs and their Impact on Corporate Performance," *Review of Financial Studies (forthcoming).*

BAGHAT, S., and B. BLACK, 2003, "The Non-Correlation Between Board Independence and Long Term Firm Performance," *Journal of Corporation Law.*

BEBCHUK, L., and A. COHEN, 2004, "The Costs of Entrenched Boards," *Journal of Financial Economics (forthcoming).*

BRADLEY, M., and SUNDARAM, A., 2004, "Do Acquisitions Drive Performance or Does Performance Drive Acquisitions?", *mimeo*

CARHART, M., 1997, "On Persistence in Mutual Fund Performance." *Journal of Finance*, 52:1, pp 57-82.

CREMERS, M., K. JOHN, and V. NAIR, 2005, "Takeovers, Governance and the Cross-Section of Returns," *mimeo.*

DAHYA, J., J. MC CONNEL, and N. TRAVLOS, 2002, "The Cadbury Commitee, Corporate Performance and Top Management Turnover," *The Journal of Finance, 67, 461–480.*

FAMA, E. and K. FRENCH, 1996, "Multifactor Explanations of Asset Pricing Anomalies", *Journal of Finance*, 51, 55-84

FAMA, E. and K. FRENCH, 1997, "Industry Costs of Equity", *Journal of Financial Economics*, 43:2, 153-193

GOMPERS, P., J. ISHII, and A. METRICK, 2003, "Corporate Gover-

nance and Equity Prices," *Quaterly Journal of Economics*, 118.

HAYES, R., P. OYER, and S. SCHAEFFER, 2005, "Co-Worker Complementarity and the Stability of Top Management Teams," *mimeo.*

HERMALIN, B., and M. WEISBACH, 2003, "Boards of Directors as an Endogenously Determined Institution: A Survey of the Economic Evidence," *Economic Policy Review*, 9, 7–26.

KAPLAN, S. and MINTON, B., 1994, "Appointment of Outsiders in Japanese Boards: Determinants and Implications for Managers," *Journal of Financial Economics*, 36, 225–258.

LANDIER, A., SRAER, D. and THESMAR, D., 2005, "Optimal Dissent in Organizations," *mimeo*

LOUGHRAN, T. and VIJH, A., 1997, "Do Long-Term Shareholders Benefit from Corporate Acquisitions?", *Journal of Finance*, 52

LYON, J.D., BARBER, B.M., and TSAI, C. 1999. "Improved Methods for Tests of Long-Run Abnormal Stock-Returns," *Journal of Finance*, 54.

MITCHELL, M.L., and STAFFORD, E., 2000, "Managerial Performance and Long-Term Stock-price Performance," *Journal of Business,* 73:287-320

MOELLER, S., SCHLINGEMANN, F., and STULZ, R., 2005, "Wealth Destruction on a Massive Scale? A Study of Acquiring-Firm Returns in the Recent Merger Wave," *Journal of Finance*, 60, 757-782

MORCK, R., SHLEIFER, A., and R. VISHNY, 1989, "Alternative Mechanisms of Corporate Control," *American Economic Review*, 79: 842-852

ROSENSTEIN, S., and J. WYATT, 1990, "Outside Directors, Board In-

dependence and Shareholder Wealth," *Journal of Financial Economics*, 26, 175–191.

VAFEAS, N., 1999, "Board Meeting Frequency and Firm Performance," *Journal of Financial Economics*, 53, 113–142.

VAN DEN STEEN, E., 2005, "Organizational Beliefs and Managerial Vision," *Journal of Law, Economics and Organization,* 21, 256–283.

WEISBACH, M., 1988, "Outside Directors and CEO Turnover," *Journal of Financial Economics*, 20, 431–460.

YERMACK, D., 1996, "Higher Market Valuation of Companies with a Smaller Board of Directors," *Journal of Financial Economics*, 40, 185–211.

ZINGALES, L., 2004, "Want to Stop Corporate Fraud? Pay Off Those Whistle-Blowers," *Washington Post* (outlook section).

A Figures

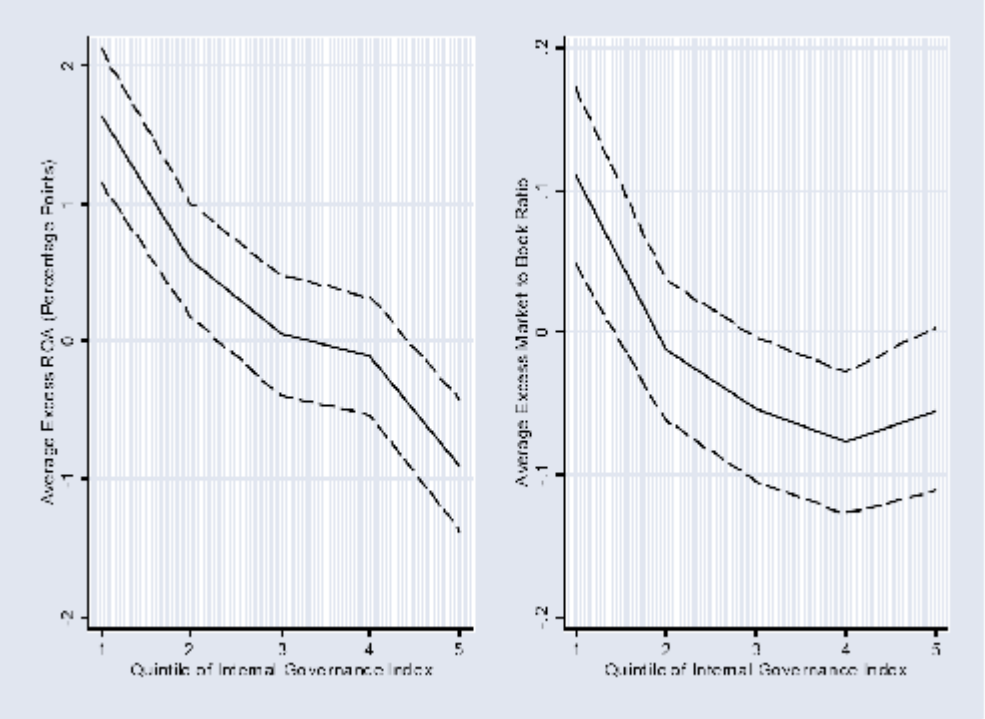

Figure 1: Abnormal Economic Performance by Quintile of Governance Index

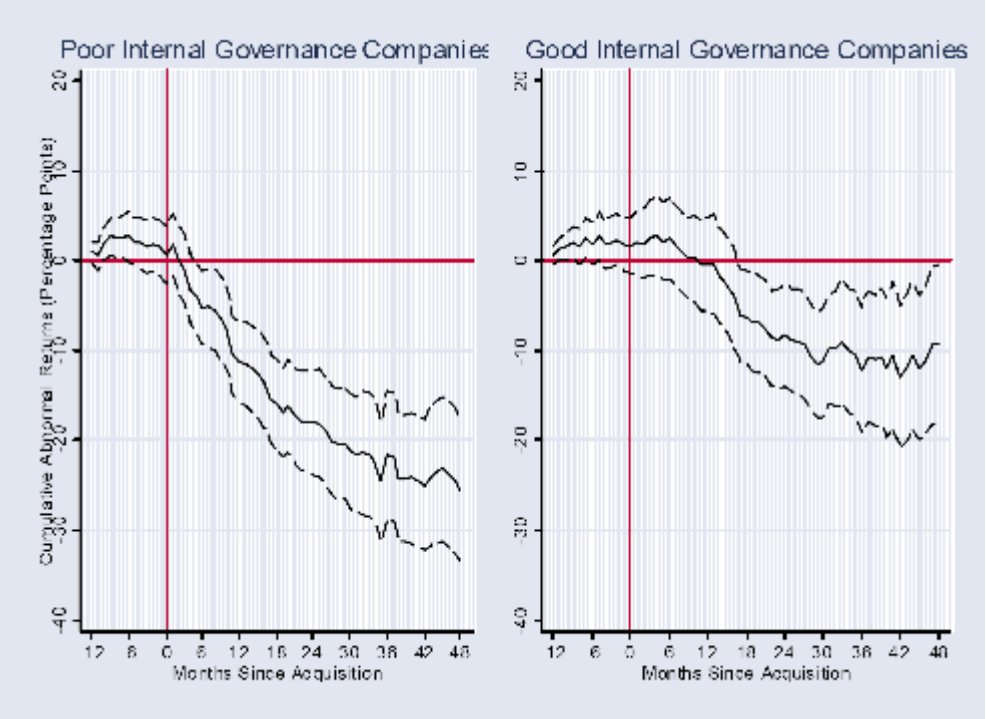

Figure 2: Long-Run Returns From Acquisitions: Good vs Poor Internal Governance

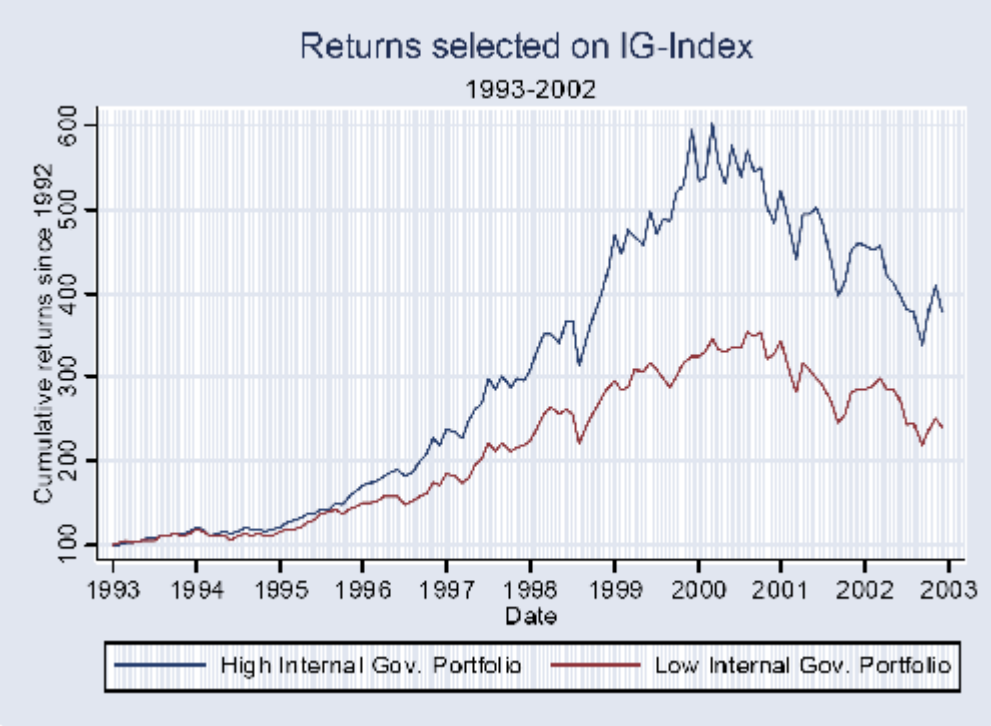

Figure 3: Cumulative Returns on Portfolios Sorted by Internal Governance Index

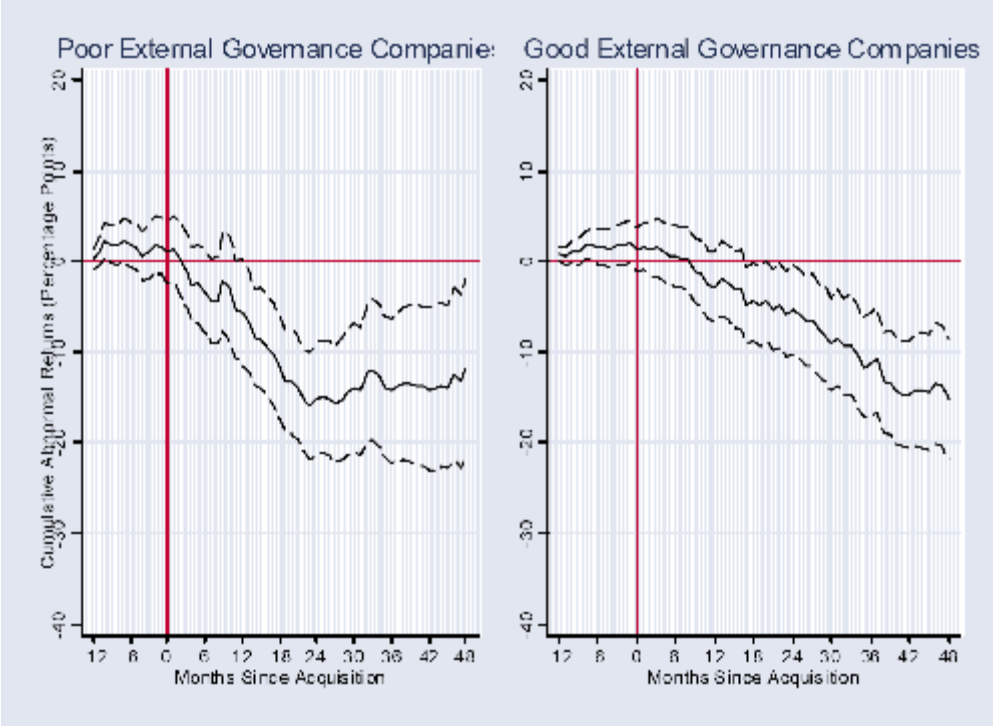

Figure 4: Long-Run Returns From Acquisitions: Good vs Poor External Governance

B Tables

Table 1: Mechanical Correlates of Internal Governance

	Fraction of executives appointed after the CEO (×100)			
	(1)	(2)	(3)	(4)
CEO seniority	1.3***	1.3***	1.4***	1.5***
	(0.1)	(0.1)	(0.1)	(0.7)
Executives' mean seniority	-1.2***	-1.0***	-0.9***	-0.8***
	(0.0)	(0.0)	(0.0)	(0.0)
Fraction of executives whose	-	0.6***	0.5***	0.4***
seniority is reported (×100)		(0.0)	(0.0)	(0.0)
CEO from outside	-	9.3***	6.9***	6.3***
		(0.8)	(0.7)	(0.7)
Fraction of executives appointed	-	-	0.5***	0.5***
in the year foll. CEO nomination (×100)			(0.0)	(0.0)
Ln(Firm Age)	-	-	-	-1.0**
				(0.5)
Firm Size	-	-	-	-0.0
				(0.2)
48 industry dummies	No	No	No	Yes
Year dummies	Yes	Yes	Yes	Yes
R^2	0.25	0.62	0.71	0.73
Observations	11,147	8,728	8,728	8,166

Source: OLS estimates, allowing for heteroskdastic residuals, clustered at the firm level. The fraction of executives appointed after the CEO is regressed on various variables suspected to be mechanically correlated: column 1 controls for the fact that the CEO is an outsider, the CEO seniority, as well as for the mean seniority of executives; column 2 adds the number of executives appointed in the first two years following the CEO nomination; column 3 adds firm specific control, namely Firm Size as measured by log of Asset, log of Firm Age and the 48 Fama French industries. *, ** and *** means statistically different from zero at 10,5 and 1% level of significance. Our Internal Governance Index is defined as the residual of column (2) regression.

Table 2: Accounting Performance and Internal Governance

	Return on Assets (×100)			Market to Book		
Explanatory variables	(1)	(2)	(3)	(1)	(2)	(3)
Internal governance index	-7.1***	-7.3***	-3.7***	-0.6***	-0.6***	-0.4**
(delayed by 1 year)	(1.5)	(1.5)	(1.2)	(0.2)	(0.2)	(0.2)
	[-1.1]	[-1.1]	[-0.6]	[-0.1]	[-0.1]	[-0.1]
Controls:						
Firm initial profitability	No	No	Yes	No	No	Yes
CEO, Executive characteristics	No	Yes	Yes	No	Yes	Yes
Firm log(assets), log(age)	Yes	Yes	Yes	Yes	Yes	Yes
Year, Industry FE	Yes	Yes	Yes	Yes	Yes	Yes

Source: Huber-White-Sandwich estimates, allowing for correlation of all observations of a given firm. "Internal Governance Index" is the share of EXECUCOMP executives who joined the company after the CEO was appointed, filtered from mechanical effects. It is defined as the residual of the column (3) regression in table 1. Corporate performance is measured through Return on Assets (first three columns) and through market valuation of assets (last three columns). All regressions use log(book assets), log(firm age), year dummies and the 48 Fama French industry dummies. In columns 2 and 5, we add the CEO and executives characteristics that serve as regressors in table 1. Column 3 (resp. column 6) further adds the firm's ROA (resp. market to book) computed in its first year of presence in COMPUSTAT after 1991, as a limited attempt to control for firm level unobserved heterogeneity. *, ** and *** means statistically different from zero at 10,5 and 1% level of significance. The term reported in brackets is the marginal effect of one standard deviation change in governance index on the dependent variable.

Table 3: Accounting Performance and Internal Governance - Year by Year Results

	ROA	Market To Book
1993	-9.1***	-0.4
	(3.0)	(0.4)
1994	-9.9***	-0.9***
	(3.5)	(0.3)
1995	-10.3***	-0.5
	(2.7)	(0.3)
1996	-10.6***	-0.5*
	(2.6)	(0.3)
1997	-5.3**	-0.8***
	(2.3)	(0.3)
1998	-9.7***	-1.1***
	(2.4)	(0.3)
1999	-5.9***	-0.9***
	(2.3)	(0.3)
2000	-7.1***	-0.8**
	(2.6)	(0.3)
2001	-3.8	-0.2
	(2.6)	(0.3)
2002	-5.2**	-0.3
	(2.4)	(0.3)
Fama-Mac Beth	-7.7***	-0.6***
	(0.8)	(0.1)

Source: OLS estimates. Regressions of corporate performance on internal governance index and controls are run separately each year. The coefficients on internal governance and their standard error are reported. Each column corresponds to the choice of one corporate performance measure (ROA or M/B). Corporate performance is then regressed on one-year-lagged internal governance index, controlling for CEO and executive seniority, fraction of executives reporting seniority, CEO's origin, log(assets), log(firm age), sales growth and 48 industry-dummies. The specification is identical to the regression presented in table 2, columns 2 and 5. The bottom row indicates the Fama-Mac Beth estimate. *, ** and *** means statistically different from zero at 10,5 and 1% level of significance.

Table 4: Accounting Performance and Internal Governance - Granger Causality

	Internal Governance	ROA (×100)
One-year-lag specification:		
Internal governance index (-1)	0.8***	-1.8***
	(0.0)	(0.5)
ROA (-1)	-0.5	0.8***
(×100)	(1.3)	(0.0)
Two-year-lag specification:		
Internal governance index (-2)	0.7***	-2.0***
	(0.0)	(0.8)
ROA (-2)	-0.9	0.6***
(×100)	(2.4)	(0.0)
Controls :		
Firm log(assets),log(age)	Yes	Yes
Year, Industry FE	Yes	Yes

Source: Hubert-White-Sandwhich estimates, allowing for residuals correlated across all observations of each firm. In the top panel, column 1 reports the estimate of a regression of internal governance on one-year lagged internal governance and one-year lagged corporate performance. Column 2 reports the result of a regression of corporate performance on one-year lagged internal governance and one-year lagged corporate performance. Both regressions control for firm age and size, industry and year fixed effects. The bottom panel reports the same regression results, taking two-year-lags as explanatory variables, instead of one-year-lags. Corporate performance is measured through Return on Assets. Standard errors are between parentheses. *, ** and *** means statistically different from zero at 10,5 and 1% level of significance.

Table 5: Accounting Performance and Internal Governance - Controlling for Executives Turnover

	ROA	Market to Book
Explanatory variables	(1)	(2)
Internal governance index	-2.2^{***}	-0.3^{***}
(delayed by 1 year)	(.56)	(.09)
	[-.4]	[-.05]
Controls:		
Executives Turnover	-3.1^{***}	-0.2^{***}
at year t-1	(.66)	(.08)
	[-.5]	[.-03]
Firm initial profitability	Yes	Yes
CEO, Executive characteristics	Yes	Yes
Firm log(assets), log(age)	Yes	Yes
Year, Industry FE	Yes	Yes

Source: Huber-White-Sandwich estimates, allowing for correlation of all observations of a given firm. "Internal Governance Index" is the share of EXECUCOMP executives who joined the company after the CEO was appointed, filtered from mechanical effects. It is defined as the residual of the column (3) regression in table 1. Corporate performance is measured through Return on Assets (first three columns) and through market valuation of assets (last three columns). Executive Turnover at year $t-1$ measures the fraction of the firm's year $t-1$ executives who are no longer reported as working for the company at year t in the EXECUCOMP data. All regressions use log(book assets), log(firm age), year dummies, the 48 Fama French industry dummies, CEO and executives characteristics, and firm's initial ROA (resp. market to book) computed in its first year of presence in COMPUSTAT after 1991. *, ** and *** means statistically different from zero at 10,5 and 1% level of significance. The term reported in brackets is the marginal effect of one standard deviation change in governance index on the dependent variable.

Table 6: Long Run Abnormal Returns Following a Major Acquisition

	Internal Governance			External Governance		
	Poor	Good	Difference	Poor	Good	Difference
Months since acquisition						
-12	-	-	-	-	-	-
-6	2.7	1.9	-0.8	1.7	1.6	-0.1
0	0.6	1.6	1.0	1.0	1.2	0.3
+6	-5.3	2.5	7.8***	-3.3	0.6	3.9
+12	-11.4	-0.4	10.9***	-5.5	-2.8	2.7
+18	-16.0	-6.4	9.6***	-11.8	-4.5	7.3**
+24	-18.0	-8.4	9.6**	-15.1	-5.3	9.7**
+30	-21.2	-11.4	9.8**	-14.0	-9.0	4.8
+36	-21.7	-12.3	9.4*	-14.3	-11.3	3.0
+42	-25.0	-12.9	12.0**	-14.2	-14.8	-0.6
+48	-25.4	-9.4	16.2***	-11.8	-15.3	-3.5

Source: 818 acquisitions from SDC Database. Abnormal returns are computed after estimating, for each acquirer, a Fama French 3 factor model + momentum on the 48 months preceeding the acquisition. Cumulative abnormal returns, starting 12 months before the deal, are computed for each firm. Column 1 reports, every 6 months, the average cumulative abnormal returns of acquirers with internal governance lower than median. Column 2 does the same for above median internal governance acquirers, while column 3 reports the difference. *, ** and *** means statistically different from zero at 10,5 and 1% level of significance, using a standard test of equality, assuming away the equality of variances.

Table 7: Post Acquisition Alphas of Acquiring Firms: Sorted by Internal Governance

	Equal weights			
	0 - 12	0 - 24	0 - 36	0 - 48
All acquisitions	0.3	0.2	0.3	0.3
	(1.3)	(1.4)	(1.6)	(1.9)
Longs Good IG	0.5	0.5	0.6	0.6
	(2.3)	(2.6)	(3.1)	(3.3)
Longs Poor IG	0.1	-0.0	-0.0	-0.0
	(0.4)	(0.1)	(0.2)	(0.0)
Good IG - Poor IG	0.5	0.5	0.6	0.6
	(1.4)	(1.9)	(2.5)	(2.5)

Source: CRSP, Compustat and Execucomp over 1993-2002. This table reports the monthly alphas, in percentage points, of various portfolios, estimated using the Fama French 3 factor model, augmented with the momentum factor (UMD). The first line presents the monthly alphas of equal-weighted portfolios of firms who made a significant acquisition less than 12, 24, 36 and 48 months ago. The second line looks at the portfolio of past acquirers whose level of internal governance was above median, before acquisition. The third line looks at the portfolio of past acquirers whose level of internal governance was below median, before acquisition. The fourth line looks at the portfolio long in high governance acquirers and short in low internal governance acquirers. T-statistics are between brackets.

Table 8: Returns of Portfolio Selected by Internal Governance Index

Equal Weighted					Value Weighted				
α	RMRF	SMB	HML	UML	α	RMRF	SMB	HML	UML
A. Whole sample									
0.7	1.0	-	-	-	0.2	1.0	-	-	-
(3.4)	(22.9)				(2.2)	(54.6)			
0.3	1.2	0.4	0.4	-	0.2	1.0	-0.1	-0.0	-
(2.4)	(31.6)	(12.3)	(8.9)		(2.5)	(50.9)	(5.5)	(0.3)	
0.6	1.1	0.5	0.4	-0.2	0.3	1.0	-0.1	-0.1	-0.1
(5.1)	(36.8)	(16.7)	(10.3)	(8.9)	(5.5)	(62.2)	(5.8)	(1.3)	(9.5)
B. Longs firms with good internal governance									
0.8	1.1	-	-	-	0.4	1.1	-	-	-
(3.4)	(30.0)				(2.0)	(23.4)			
0.5	1.2	0.5	0.3	-	0.7	1.0	-0.3	-0.4	-
(3.2)	(26.7)	(10.5)	(6.0)		(3.5)	(18.8)	(5.6)	(5.4)	
0.7	1.1	0.5	0.3	-0.2	0.7	1.0	-0.3	-0.4	-0.0
(5.0)	(28.1)	(12.6)	(6.3)	(5.8)	(3.5)	(18.1)	(5.4)	(5.4)	(0.3)
C. Longs firms with poor internal governance									
0.5	1.1	-	-	-	0.1	1.0	-	-	-
(2.2)	(22.5)				(0.4)	(29.3)			
0.3	1.2	0.5	0.3	-	0.0	1.0	0.0	0.1	-
(1.6)	(25.2)	(9.9)	(6.0)		(0.0)	(24.8)	(0.0)	(1.7)	
0.6	1.2	0.5	0.3	-0.2	0.2	1.0	0.0	0.1	-0.1
(3.9)	(28.7)	(13.4)	(6.0)	(8.1)	(1.3)	(25.3)	(0.8)	(1.5)	(5.0)
D. Longs good internal gov. / shorts poor internal gov.									
0.2	-0.1	-	-	-	0.4	0.1	-	-	-
(2.0)	(2.4)				(1.4)	(2.2)			
0.2	-0.1	-0.0	0.0	-	0.7	-0.1	-0.3	-0.4	-
(1.9)	(1.8)	(0.7)	(0.0)		(2.7)	(0.8)	(4.2)	(5.1)	
0.1	-0.0	-0.0	0.0	0.1	0.5	-0.0	-0.3	-0.4	0.1
(1.1)	(1.2)	(1.1)	(0.2)	(2.8)	(2.0)	(0.2)	(4.7)	(5.0)	(2.5)

Source: CRSP, Compustat and Execucomp over 1993-2002. Monthly returns of portfolios are regressed on various models of expected returns: the CAPM, the Fama French three factor model and the FF model augmented with Carhart's momentum factor. The table presents point estimates of the loadings on various factors, and the t- statistic between parentheses. The left part focuses on returns of equal-weighted portfolios, while the right part looks at value-weighted portfolios (using the preceding year's market capitalizations as weights). Panel A presents the expected returns of a portfolio of all firms which belong to CRSP, Compustat and Execucomp. Panel B presents the portfolio long in firms ranking in the lower 25% of internal governance index (lower index means better governance) in the preceeding year. Panel C presents the returns of a portfolio long in firms in the high 25% of internal governance index. Panel D shows the corrseponding long-short strategy.

Table 9: Alphas of Internal Governance-Based Portfolios, Sorted by Size

	Equal Weights			Value Weights		
	Good IG	Poor IG	Good - Poor	Good IG	Poor IG	Good - Poor
Sorted by size						
$<$ median	1.0	1.0	-0.1	0.9	0.8	0.1
	(5.3)	(5.2)	(0.3)	(4.3)	(4.2)	(0.7)
$>$ median	0.4	0.1	0.3	0.7	0.1	0.6
	(3.1)	(1.1)	(2.7)	(5.7)	(0.9)	(3.8)

Source: CRSP, Compustat and Execucomp over 1993-2002. This table reports the monthly alphas, in percentage points, of various portfolios, estimated using the Fama French 3 factor model, augmented with the momentum factor (UMD). We compute alphas for firms with above (resp. below) median values of internal governance index. The sample is broken down by size as measured using the previous years' stockmarket capitalization. Within each of these half samples (firms larger, or smaller than median), this table presents the alphas on high (resp. low) internal governance firms. Columns 1-3 correspond to equal-weighted portfolios, and columns 4-6 to value-weighted ones. Columns 1 and 4 present the monthly alphas of a portfolio long in good IG firms. Columns 2 and 5 present present the monthly alphas of a portfolio long in bad IG firms. Columns 3 and 6 present the monthy alpha of the corresponding long-short strategy.

Table 10: Are Internal and External Governance Related ?

	Internal Governance Index (×100)			
	(1)	(2)	(3)	(4)
GIM Governance index	0.3**	-	-	0.1
	(0.2)			(0.2)
CEO is Chairman		2.0**	-	0.4
		(0.9)		(1.2)
Board size	-	-	-0.2	-0.1
			(0.2)	(0.2)
Frac directors	-	-	-11.5***	-8.5*
who are current employees			(3.7)	(4.4)
Frac indep. directors	-	-	0.2	1.5
who are former employees			(4.9)	(5.6)
CEO/Firm controls	Yes	Yes	Yes	Yes
48 industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Observations	4,734	7,432	3,447	2,610

Source: OLS estimates, allowing for heteroskdastic residuals. Internal governance index (see table 1) is regressed on various corporate governance indicators, controlling for log(assets), log(firm age), sales growth, 48 industry-dummies, year fixed effects, CEO tenure and executive seniority. Columns 1 to 4 add various corporate governance controls. Column 1 uses the (mostly) corporate charter-based corporate governance index from Gompers, Ishii and Metrick (2003). Column 2 uses the number of directors on the board as a measure of board effectiveness. Columns 3 uses two classical measures of board dependence to the CEO: the share of currently employed directors and the share of past employees. Column 4 uses all four measures simultaneously. *, ** and *** means statistically different from zero at 10,5 and 1% level of significance.

Table 11: Internal Versus External Governance

	Return on Assets (×100)			Market To Book		
	(1)	(2)	(3)	(1)	(2)	(3)
Internal governance	-	-6.9***	-5.7***	-	-0.87***	-0.88***
(delayed by 1 year)		(1.9)	(2.3)		(0.26)	(0.33)
GIM governance index	-0.1	-0.1	-0.0	-0.02*	-0.02	-0.00
	(0.1)	(0.1)	(0.1)	(0.01)	(0.01)	(0.02)
CEO = Chairman	-	-	0.2	-	-	-0.21*
			(0.8)			(0.11)
Board size (# directors)	-	-	-0.1	-	-	-0.02
			(0.1)			(0.02)
% Directors currently	-	-	7.4***	-	-	-0.49
employed			(2.7)			(0.41)
% Directors previously	-	-	3.3	-	-	-0.51
employed			(3.7)			(0.50)
Firm/CEO controls	yes	yes	yes	yes	yes	yes
Year effects	yes	yes	yes	yes	yes	yes
48 Industry effects	yes	yes	yes	yes	yes	yes
Observations	4,634	3,933	2,274	4,416	3,495	1,977

Source: Huber-White-Sandwich estimates, allowing for correlation of all observations of a given firm. The measure of internal governance is the share of EXECUCOMP executives who joined the company after the CEO was appointed. Corporate performance is measured through Return on Assets (first three columns) and through Return on Equity (last three columns). All regressions use as controls: CEO and executive seniorities, sales growth, log(book assets), log(Firm age), year dummies and the 48 Fama French industry dummies. Columns 1 and 4 use the corporate charter based corporate governance index from Gompers, Ishii and Metrick (2003). Columns 2 and 5 use the number of directors on the board as a measure of board effectiveness. Columns 3 and 6 use two classical measures of board dependence on the CEO: the share of current and past employees serving as directors. The limited availability of corporate governance data is responsible for the drop in observation number. *, ** and *** means statistically different from zero at 10,5 and 1% level of significance.