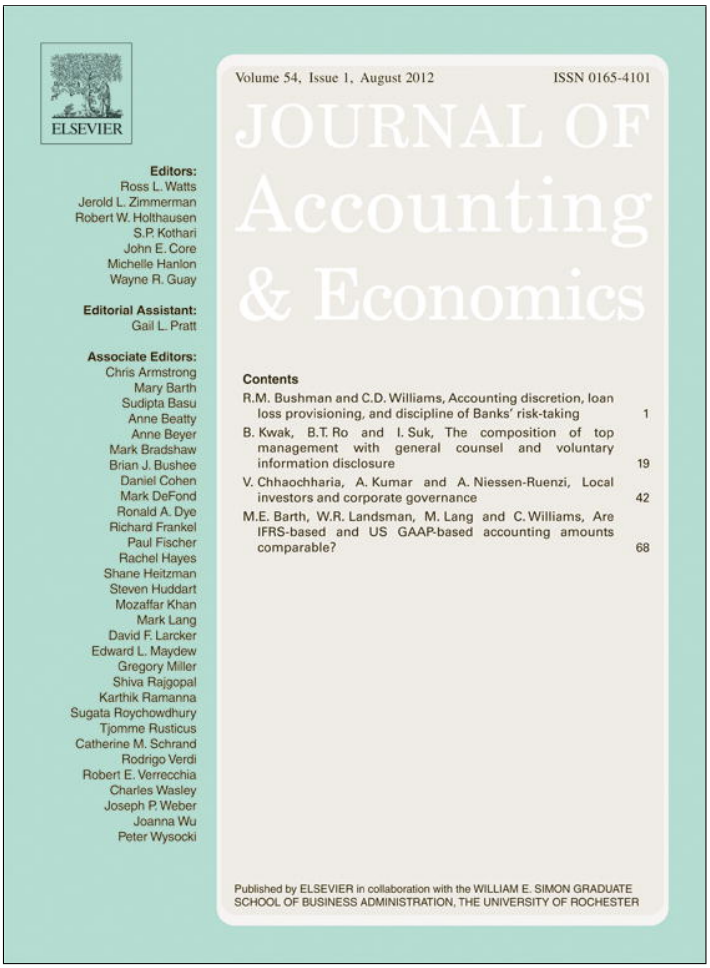

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Local investors and corporate governance ☆

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ABSTRACT

This paper shows that local institutional investors are effective monitors of corporate behavior. Firms with high local ownership have better internal governance and are more profitable. These firms are also less likely to manage their earnings aggressively or backdate options and are less likely to be targets of class action lawsuits. Further, managers of such firms exhibit a lower propensity to engage in "empire building" and are less likely to "lead the quiet life". Examining the local monitoring mechanisms, we find that local institutions are more likely to introduce shareholder proposals, increase CEO turnover, and reduce excess CEO pay.

1. Introduction

An emerging literature in accounting and finance demonstrates the economic benefits of geographical proximity. For example, both retail and institutional investors are able to benefit from their superior information about local firms (e.g., Coval and Moskowitz, 1999, 2001; Ivković and Weisbenner, 2005; Baik et al., 2010; Bernile et al., 2010), although this informational advantage has disappeared after Regulation Fair Disclosure (Bernile et al., 2011).[3] Another distinct strand of literature on shareholder activism shows that large institutional investors may influence corporate policies (e.g., Bushee, 1998; Hartzell and Starks, 2003; Parrino et al., 2003; Chen et al., 2007).

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[3] For additional evidence of local preference in investment decisions, see Huberman (2001), Grinblatt and Keloharju (2001), Massa and Simonov (2006), Bodnaruk (2009), Teo (2009), and Seasholes and Zhu (2010).

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In this study, we link these two strands of research and examine whether physical proximity between firms and investors allows large institutions to monitor corporate activities more effectively. Specifically, we examine whether firms with more local shareholders are better governed and are less likely to engage in corporate misbehavior. We also investigate whether monitoring activities of local investors affect the profitability of local firms. Although there is an obvious free-riding problem associated with the monitoring of geographically proximate firms, the potential benefits from monitoring can outweigh the monitoring costs, especially for large shareholders (e.g., Grossman and Hart, 1980; Shleifer and Vishny, 1986).

Our key conjecture is that in an economic setting where monitoring costs vary inversely with distance, firms with high local institutional ownership would have better governance characteristics. In particular, firms with more proximate shareholders would exhibit a lower propensity to engage in undesirable corporate behavior like option backdating or aggressive earnings management. As a result of better monitoring, firms with high local institutional ownership would have a lower propensity to be a target of class action lawsuits. Further, because of geographical proximity, local institutions are more likely to attend shareholder meetings and introduce shareholder proposals, facilitate CEO turnover, or limit excess CEO pay.[4] This form of local activism could also have an indirect influence on the selection of board members and the structure of compensation contracts.

There are several reasons why monitoring costs and benefits might be correlated with distance to institutional shareholders. For example, local institutions are likely to have lower communication costs, lower information gathering costs, and may even have easier access to firm-level information. Unlike remote institutions, local institutions may directly inspect a local firm and more easily acquire knowledge about the management and internal operations (e.g., Lerner, 1995). In addition, the local media is likely to provide greater coverage of local firms and increase the awareness of those firms among local investors, including institutions (e.g., Engelberg and Parsons, 2011; Gurun and Butler, 2012). Local institutions are also more likely to belong to the social networks of local managers (e.g., they may be members of the same country club), which might give them easier access to "soft" information and allow them to exert greater influence on corporate policies.[5]

Beyond these visible channels, due to their geographical proximity, local institutions may be in a better position to seek quiet agreement on governance changes. And they may informally approach the board and express displeasure about corporate policies and governance changes. Due to data limitations, we cannot precisely identify all these channels through which local institutions could affect corporate governance, but we present several pieces of evidence to establish the causal relation between shareholder proximity and corporate governance.

To measure shareholder proximity, we use the portfolio holdings of 13(f) institutional investors during the 1980–2007 period. For each firm, at the end of each year, we compute the mean distance between the firm's headquarters to the ten largest institutional shareholders. This measure captures both geographic proximity as well as stake of the institution in the firm. For robustness, we also consider other measures of local ownership, including a measure of firm ownership by institutions located within 250 miles of a firm, ownership by institutions located within a state, and the mean distance to all institutional investors.

We first examine whether monitoring activities of local institutions impact the governance of a firm. Motivated by Chhaochharia and Grinstein (2007), our internal governance proxies include a board independence score which captures the degree to which the board and the committees have a majority of independent directors. Following Yu (2008), we consider a measure of discretionary accruals to capture the firm's propensity to manage earnings. In addition, we examine whether, through its impact on internal governance, shareholder proximity affects a firm's propensity to engage in potentially fraudulent activities such as option backdating. These forms of risky firm behavior in turn could affect the firm's likelihood of being a target of class action law suits.

To study the potential indirect benefits of governance, we investigate whether local institutions influence financial outcomes such as operating performance and accounting measures that proxy for "empire building" by the manager and the extent to which a manager might "enjoy the quiet life", as defined in Bertrand and Mullainathan (2003) and Giroud and Mueller (2010). To identify some of the channels through which institutions monitor local firms, we investigate whether local institutions are more likely to introduce shareholder proposals, affect CEO turnover, and influence excess CEO compensation.

Our results indicate that firms with high local institutional ownership are more profitable and have more independent boards. Managers of those firms are less likely to engage in "empire building" and less likely to "lead the quiet life". In addition, firms with local shareholders are less likely to engage in undesirable corporate activities such as aggressive earnings management or option backdating. Consequently, they exhibit a lower propensity to be a target of class action lawsuits. Examining the mechanisms through which local institutions monitor, we find that local institutions are more likely to introduce shareholder proposals, increase CEO turnover, and reduce excess CEO compensation. Taken together,

[4] Becker et al. (2011b) show that retail investors from the local community are more likely to attend shareholder meetings. In a related setting, Masulis et al. (2009) show that foreign independent directors who are located far away from corporate headquarters are less effective monitors because they are less likely to attend board meetings or perform on-site visits, and do not have access to "soft" information through local social networks.

[5] Fracassi (2012) shows that firms with stronger social networks have better corporate policies and exhibit better overall performance. In another related study, Kedia and Rajgopal (2009) find that local social interactions influence the option grant policies of local firms.

these results are consistent with our key conjecture that local institutions are more effective monitors of corporate behavior because monitoring costs vary inversely with distance.

We rule out several alternative explanations for our findings. For example, it is possible that our results merely reflect the clustering of firms and institutions in certain geographical areas such as New York and California. We introduce a variety of geographical controls and show that our baseline results do not reflect geographical clustering of firms and institutions.

Another possibility is that local institutions do not influence corporate behavior but they are able to identify better managed and better performing local firms due to their informational advantage. We use the implementation of Regulation Fair Disclosure (Reg FD) as a natural experiment to rule out the information channel as the main explanation for our findings. This test is motivated by the evidence in Bernile et al. (2011), who show that Reg FD and SOX "leveled the playing field" and eliminated the local informational advantage of institutional investors. We find that local institutions have a significant impact on firm performance even after the implementation of Reg FD. Thus, our results are unlikely to reflect the informational advantage of local investors.

A third alternative explanation for our findings is that local institutions are not better monitors but they are better informed and are able to anticipate future changes in corporate policies more accurately. To address potential concerns about endogeneity and reverse causality, we follow Bertrand and Mullainathan (2003) and use oil price as an instrument for performance to demonstrate that firm performance does not affect shareholder proximity. We also estimate change-on-change regressions and show that the lagged change in distance to institutional shareholders is significantly related to changes in operating performance, but not vice versa. In addition, we examine changes in corporate behavior around corporate headquarter relocations. We find that when firm headquarters change, there is an improvement in firm performance when the distance between the moving firm and its institutional shareholders declines.[6]

Collectively, these results suggest that local institutional investors serve as effective monitors of corporate policies. Our findings extend the literature on shareholder activism and the monitoring effects of institutional investors (e.g., Bushee, 1998; Hartzell and Starks, 2003; Chen et al., 2007). Like those earlier studies, we show that institutions play a monitoring role but, more importantly, we establish that institutions are more effective monitors when they are *geographically closer* to a firm.

A handful of previous papers have also examined the effect of local investors on corporate policies and governance. Gaspar and Massa (2007) use the level of local mutual fund ownership as a proxy for private information and show that informed investors improve corporate governance but reduce liquidity. In a closely related paper, Kang and Kim (2008) show that block acquirers exhibit a preference for local targets and monitor them because geographical proximity reduces both information gathering and monitoring costs. Further, Becker et al. (2011b) show that local firms exhibit a greater propensity to pay dividends and pay larger dividends if the proportion of local seniors is high. Most recently, Ayers et al. (2011) show that local institutions with strong incentives to monitor reduce opportunistic financial reporting activities of corporate managers.

Our paper extends these recent empirical studies on shareholder proximity and corporate policies along several dimensions. First, we study the monitoring effects of different types of local institutions beyond mutual funds. While local mutual funds may engage in monitoring activities, motivated by the evidence in Chen et al. (2007), we conjecture that other types of local institutions such as public pension funds or "dedicated" institutions (Bushee, 1998) with longer investment horizons would monitor even more effectively. Second, we focus on a comprehensive set of corporate governance and policy indicators, including various measures of corporate fraud, managerial propensity to engage in "empire building" or the likelihood of "leading the quiet life", as well as firm profitability. Overall, we provide evidence of local monitoring in broader economic settings and show that local institutions influence corporate governance through multiple channels.

The rest of the paper is organized as follows. In the next section, we describe our main data sources and present summary statistics. In Section 3, we present our main empirical findings. In Section 4, we present results from tests designed to address potential concerns about endogeneity and reverse causality and in Section 5 we examine whether our results are induced primarily through information channels. Section 6 presents the results from additional robustness checks and we conclude in Section 7 with a brief discussion.

2. Data and summary statistics

2.1. Measures of shareholder proximity

We measure shareholder proximity using data on the quarterly common stock holdings of 13(f) institutions compiled by Thomson Reuters. The sample period is from 1980 to 2007. For each firm, at the end of each quarter, we identify all

[6] The attributes of local institutions provide additional support for our monitoring hypothesis and they are inconsistent with the preference- or expectation-based explanations. We find that local institutions are more likely to be stable, long-term, dedicated investors with larger local stakes and longer holding periods. These attributes are more similar to the attributes of institutional shareholders who are known to be active monitors (Chen et al., 2007) and less correlated with the attributes of investors who are known to have better abilities to predict future returns and earnings surprises (e.g., Yan and Zhang, 2009; Baik et al., 2010).

institutions that have a position in that firm and calculate the distance between the firm and its institutional shareholders using the zip codes of the firm's headquarter and institutional locations. We identify the institutional location (zip code) using the *Nelson's Directory of Investment Managers* and by searching the Securities and Exchange Commission (SEC) documents and web sites of institutional managers. We use the location of a firm's corporate headquarters (and not its place of incorporation) as its location. To identify firm locations and corporate headquarters relocations, we use data from both Compustat and Compact Disclosure.

Our main measure of shareholder proximity is the average distance between a firm's headquarter and its 10 largest shareholders, i.e., DIST. This distance measure captures geographical proximity to institutions but also recognizes that large institutions would have stronger incentives to monitor.[7] For robustness, we compute the equal- and value-weighted distances to all institutional investors, i.e., *Ew-Dist* and *Vw-Dist*, respectively. To capture the potential nonlinear relation between shareholder proximity and corporate governance, we consider two alternative shareholder proximity measures: the percentage of all institutional investors that are located within a 250 miles radius around firm headquarters (*%Local* 250) and the percentage of institutional ownership by institutions located within the same state (*StateIO*).[8]

As expected, these five shareholder proximity measures are correlated. In particular, the correlations between our main shareholder proximity measure DIST and the other four measures vary between -0.081 and 0.911. The lowest correlation of -0.081 is with the state institutional ownership measure and the highest correlation of 0.911 is with the *Ew-Dist* measure. The *StateIO* measure has low correlations with other proximity measures too. The highest correlation is 0.252 with the *%Local* 250 measure. Examining the correlations between *%Local* 250 and other proximity measures, we find that the correlations are around 0.450 for all three distance-based proximity measures.

2.2. Measures of governance and fraudulent activities

To measure firm governance, we consider different types of measures. Our first set of governance measures focuses on four board and committee characteristics, namely, whether the board has a majority of independent directors and whether the audit, nominating, and compensating committees are independent. We obtain information on board characteristics from ISS/Risk Metrics. For each firm, we first create a composite board score ranging from zero to four. This measure captures the extent to which the board and the committees are independent. A score of zero implies that neither the board nor any of the three committees has majority independent directors.

We then measure changes in board scores to track improvements in the degree of board independence. For example, a change in the board score from zero to four represents a large improvement in the overall independence of the board and committees of the firm. Using these board change scores, we define a small board change dummy that takes the value of one if the board score changes by two and zero otherwise. Similarly, the medium and large board change dummy variables take the value of one when the board score changes by three and four points, respectively, and zero otherwise.

As additional indicators of governance, we capture the level of potential fraudulent activity in a firm using three measures. The first fraud indicator is a measure of earnings management. It is based on discretionary accruals, which are measured annually from 1980 to 2007 using the Yu (2008) method. To minimize the effects of extreme observations, discretionary accruals are winsorized at the 1% and 99% levels.

The second fraud measure captures whether a class action law suit has been filed against a firm. We obtain information on class action law suits from the Securities Class Action Clearing House (http://securities.stanford.edu/). We restrict our sample to specific claims of insider trading by the management, misrepresentation, restatement, and option backdating. The class action lawsuits data cover the 2000–2007 period.

Our third fraud measure is option backdating by CEOs. This variable is defined using the Thomson Reuters' Insider Trading database and covers the period from 1996 to 2005. We only consider at-the-money options where the strike price is close to the closing price on the grant date. Further details about the construction of the option backdating variable are available in Bebchuk et al. (2010). The class action law suit and the option backdating dummy variables take the value of one if a firm has been a subject of a class action law suit or if the CEOs have backdated their options, respectively, and zero otherwise.

2.3. Performance, empire building, and quiet life measures

We quantify the governance environment of a firm further using accounting proxies that have been suggested by Giroud and Mueller (2010) as indicators of a manager's propensity to engage in "empire building" or his inclination toward "leading the quiet life". Specifically, our measures of empire building include capital expenditures, asset growth, property plant equipment growth, acquisition ratio, and acquisition likelihood. In addition, we use return on assets as our main performance measure.

Our primary data source for all corporate policy variables is Compustat. The takeover data are from the SDC Platinum Mergers and Acquisitions database and cover the period from 1996 to 2007. We restrict our sample to completed mergers. In addition we require that the acquiring firm acquires a stake larger than 50% in the target firm and that the acquiring

[7] This choice is similar to Ayers et al. (2011) who use the top five local institutional shareholders of a firm to identify potential local monitors.

[8] This nonlinearity could arise because the difference between a distance of 100 and 200 miles is not the same as the difference between a distance of 800 and 900 miles. In the first case, the 100 miles difference is likely to have a stronger impact on governance.

firm owned less than 50% on the day of the acquisition. Acquisition ratio is then defined as the sum of the value of all acquisitions made by a firm in a given year divided by the firm's average market capitalization in that year. The likelihood of acquisition is a dummy variable that equals one if the firm makes at least one acquisition during the year, and zero otherwise.

We use cost of goods sold, expenditures on research and development, and cash holdings as proxies for a manager's inclination to enjoy the quiet life. We define all these variables at an annual level during the 1980–2007 period. As before, to minimize the effects of extreme observations, all variables are winsorized at the 1% and 99% levels.

2.4. Measures of shareholder activism

We measure shareholder activism of institutional investors using shareholder proposals, CEO turnover events, and excess CEO compensation. Our data on shareholder proposals are from Risk Metrics and cover the period from 1997 to 2007. This sample covers only S&P 1500 firms. Additional details about this dataset are available in Aggarwal et al. (2009). We use ExecuComp to identify CEO turnover events during the 1996–2005 period. We do not distinguish between forced and voluntary CEO changes because the risk of misclassification is large (Jenter and Lewellen, 2010).

Excess CEO compensation is measured using compensation data from ExecuComp over the sample period 1996–2005. Specifically, excess CEO compensation is defined as the difference between compensation and expected compensation. To measure expected compensation we follow Core et al. (2008) and specify the pay regression model as follows[9]:

$$Log(Pay)_{it} = Log(Sales)_{it-1} + S\&P500_{t-1} + BookToMarket_{it-1} + StockRet_{it-1} + StockRet_{it} + ROA_{it-1} + ROA_{it} + CEOAge_{it} + Indus_i + Year_t + \varepsilon_{it}. \quad (1)$$

Excess compensation measures the extent to which managers are entrenched. If local investors play the role of activist investors then they might be able to limit the extent of managerial entrenchment by limiting excess compensation. We therefore use excess compensation as a measure of the channels through which local investors affect the governance of the firm.

In additional subsample analyses, we further classify the 13(f) institutions into different categories based on their monitoring propensity. Bushee (1998) classifies 13(f) institutions into dedicated, quasi-indexer and transient based on portfolio turnover and concentration measures.[10] Using this classification method, we classify institutions as "monitors" and "nonmonitors".

Our robustness tests use a measure of block shareholders. The sample of block-holders is based on Dlugosz et al. (2006) who identify each firm's 5% block-holders. The block-holder data are available for a sample of S&P 1500 firms over the 1996–2001 time period. Last, analyst coverage data for all firms are obtained from Thomson Reuters' I/B/E/S database.

Table 1 reports the summary statistics for the main variables used in the empirical analysis. All variables are defined in the Appendix.

3. Main empirical results

3.1. Governance characteristics of firms with local shareholders

We begin our empirical analysis by examining whether firm characteristics vary with distance to institutional shareholders. We assign firms to one of five institutional distance quintiles at the end of each year and compute the equal-weighted average of a wide range of firm characteristics. The results for the extreme quintiles are presented in Table 2. We find that firms that are geographically close to their ten largest institutional investors are less likely to engage in earnings management than firms that are geographically farther away to their ten largest institutional investors. The mean difference in the degree of earnings management between the extreme distance categories is -0.084, which is statistically significant.

Further, we find that instances of option backdating are more prevalent when institutional shareholders are located farther away. About 15% of firms in the lowest distance quintile have incidents of option backdating but in the highest distance quintile, this proportion is significantly higher ($=20.50\%$). The firms in the lowest distance quintile also have lower incidence of class action lawsuits ($=1.90\%$) and this proportion rises to 2.20% in the highest distance quintile. Taken together, these mean estimates indicate that instances of corporate fraud are positively correlated with institutional distance, perhaps because the intensity and effectiveness of monitoring declines with distance.

When we examine the mean estimates of performance, empire building, and quiet life variables, we find that firms in the lowest distance quintile are more profitable and that their CEOs are less prone to engage in empire building. Specifically, firms with higher concentration of local investors have significantly lower capital expenditures, lower asset

[9] We use CEO age as a measure of tenure which is key in defining a metric of expected compensation. Since CEO age is available for only a subset of CEOs, our sample for the excess compensation analysis is smaller than our sample for CEO turnover analysis.

[10] See http://accounting.wharton.upenn.edu/faculty/bushee/IIclass.html. The classification data corrects the known errors in the institution types beyond 1997.

Table 1
Summary statistics.

This table presents the summary statistics for the main variables used in the empirical analysis. All variables are defined in the Appendix. The sample period varies for the various datasets used in the study: accounting and institutional data are from 1980 to 2007; board characteristics and acquisitions data are from 1996 to 2007; backdating,CEO turnover and excess compensation data are from 1996 to 2005; class action law suits information is available from 2000 to 2007; headquarter changes data span the period from 1991 to 2005; shareholders proposals are available from 1997 to 2007.

Variable	Mean	Std Dev	Median	10th Pctl	25th Pctl	75th Pctl	90th Pctl	*N*
Dependent variables								
Board change	1.354	0.629	1	1	1	2	2	31,352
Earnings Mgmt	0.493	0.500	0	0	0	1	1	73,378
Option backdating	0.178	0.383	0	0	0	0	1	89,002
Class action lawsuit	0.016	0.127	0	0	0	0	0	26,464
ROA	0.073	0.226	0.115	−0.110	0.043	0.174	0.234	89,826
Capital expenditure	0.068	0.071	0.046	0.011	0.023	0.085	0.146	90,729
Asset growth	0.137	0.390	0.065	−0.178	−0.038	0.207	0.490	91,221
PPE growth	0.175	0.565	0.053	−0.202	−0.058	0.236	0.620	91,066
Acq. ratio	0.019	0.096	0	0	0	0	0	12,447
Acq. likelihood	0.069	0.254	0	0	0	0	0	12,447
Cost goods sold	0.722	0.809	0.668	0.351	0.516	0.786	0.883	91,910
R&D	0.081	0.130	0.037	0.000	0.007	0.104	0.202	53,852
Cash holding	0.102	0.135	0.047	0.005	0.015	0.135	0.278	84,782
Share prop.	0.235	1.079	0	0	0	0	0	16,155
Gov. prop.	0.147	0.710	0	0	0	0	0	16,155
CEO turnover	0.122	0.327	0	0	0	0	1	20,332
Excess compensation	−0.004	0.911	−0.003	−0.939	−0.471	0.475	0.998	7563
Distance variables								
DIST	1124	507	1.075	529	784	1399	1832	89,826
%Local 250	0.203	0.229	0.104	0.000	0.023	0.375	0.538	89,547
State IO	0.145	0.188	0.070	0.004	0.016	0.203	0.384	37,340
Ew-Dist	1112	489	999	625	759	1374	1859	89,826
Vw-Dist	1132	550	1064	484	739	1454	1933	76,637
Control variables								
IO	0.356	0.282	0.299	0.032	0.112	0.558	0.764	89,320
Log(firm size) (SZ)	5.086	1.944	4.931	2.678	3.683	6.362	7.729	89,826
Debt ratio (DR)	0.185	0.217	0.133	0.000	0.011	0.287	0.444	89,749
Sales growth (SG)	0.303	1.027	0.104	−0.193	−0.021	0.292	0.709	89,826
Market-to-book (MB)	14.211	43.084	5.402	0.396	1.749	12.225	21.285	89,814
Firm age (AGE)	14.459	14.545	10	2	4	19	32	89,826
External financing	0.970	1.878	0.397	−0.309	−0.040	1.121	2.145	88,604
Oil price sens^{Q}	−0.171	9.073	−0.030	−5.856	−1.622	1.236	6.163	83,596
Oil price sens^{Ret}	−0.011	0.286	−0.007	−0.124	−0.049	0.026	0.084	86,547
HQ change	0.002	0.044	0	0	0	0	0	89,826

growth, and lower property plant and equipment growth. The acquisition ratio and likelihood of acquisitions also exhibit a similar pattern, although the differences between local and nonlocal firms are not statistically significant.

The sorting results further indicate that local institutional investors restrict managers from leading a quiet life. We find that firms with more local shareholders have significantly lower cash holdings, lower R&D expenditures, and lower cost of goods sold. In addition, the CEO turnover rate does not vary with shareholder proximity but excess compensation levels are lower for firms with more local shareholders. Examining the differences in the stock characteristics of firms with local and nonlocal shareholders, we find that firms with greater concentration of local institutional investors are larger. We also observe that firms with high concentration of local institutions are older, have higher market to book ratios, and higher debt ratios.

3.2. Do local institutions have the attributes of monitors?

To gather additional insights into the distance–governance relation, we rotate the point of view from firms to institutions and examine whether local institutions have the known attributes of monitors. First, in Columns (4)–(9) of Table 2, we report the mean firm attributes separately for subsamples of dedicated and transient institutional investors identified using the Bushee (1998) institutional classification method. The results generally show that the difference between firms in the lowest and highest distance quintiles are much more pronounced when local investors are classified as "dedicated" investors (see Column (6)) as opposed to "transient" investors (see Column (9)). This evidence is in line with the view that dedicated investors with longer investment horizons are more likely to monitor corporate behavior than transient investors.

We also examine directly whether the attributes of local institutions resemble more closely to the attributes of large shareholders. For large shareholders the potential benefits from monitoring can easily outweigh the monitoring costs

Table 2
Shareholder proximity and firm characteristics: sorting results.

This table reports institutional distance-sorted mean estimates of various firm characteristics, which are defined in the Appendix. Institutional distance is defined as the equal-weighted distance to the 10 largest shareholders. Columns (1)–(3) present sorting results for the full sample, while Columns (4)–(6) ((7)–(9)) present results for the subsample of "dedicated" ("transient") investors, respectively. Investors are classified as dedicated, quasi-indexers, and transient investors based on the Bushee (1998) classification scheme. Dedicated institutions are characterized by low turnover and concentrated portfolios. Quasi-indexers have diversified portfolio holdings and low turnover. Transient investors have high turnover and they hold concentrated portfolios. We group quasi-indexers and dedicated investors into one category of dedicated investors. Tests of differences for means are parametric *t*-tests and tests for difference in proportions are based on the binomial proportions test. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Variable	Full sample (1–3)			Dedicated (4–6)			Transient (7–9)		
	Local (1)	Non-local (2)	L–NL (3)	Local (4)	Non-local (5)	L–NL (6)	Local (7)	Non-local (8)	L–NL (9)
Board change	1.398	1.345	0.053	1.353	1.334	0.019	1.342	1.357	−0.015
Earnings management	0.561	0.645	−0.084***	0.573	0.671	−0.098***	0.584	0.651	−0.066***
Option backdating	0.150	0.205	−0.055***	0.152	0.206	−0.054***	0.160	0.203	−0.044***
Class action lawsuit	0.019	0.022	−0.003	0.018	0.023	−0.004*	0.019	0.022	−0.003
ROA	0.050	−0.003	0.053***	0.044	−0.009	0.053***	0.031	0.002	0.029***
Capital expenditure	0.063	0.066	−0.002***	0.065	0.065	0.000	0.062	0.067	−0.005***
Asset growth	0.130	0.152	−0.021***	0.148	0.157	−0.009*	0.117	0.150	−0.033***
PPE growth	0.171	0.213	−0.042***	0.196	0.230	−0.034***	0.164	0.214	−0.050***
Acquisition ratio	0.020	0.021	−0.001	0.023	0.020	0.003	0.016	0.021	−0.006*
Acquisition likelihood	0.079	0.078	0.001	0.084	0.078	0.007	0.057	0.078	−0.021***
Cost of goods sold	0.859	0.966	−0.107***	0.878	0.970	−0.091***	0.954	1.002	−0.048***
R&D	0.085	0.134	−0.050***	0.087	0.133	−0.046***	0.097	0.137	−0.039***
Cash holding	0.101	0.145	−0.044***	0.114	0.158	−0.044***	0.116	0.155	−0.039***
CEO turnover	0.111	0.107	0.004	0.107	0.106	0.001	0.120	0.109	0.011
Excess comp.	−0.019	0.118	−0.137***	0.036	0.067	−0.031	0.001	0.045	−0.044**
IO	0.333	0.334	−0.001	0.324	0.324	0.000	0.324	0.339	−0.015***
Log(firm size)	4.986	4.658	0.328***	4.885	4.576	0.310***	4.916	4.768	0.148***
Market-to-book	8.949	8.157	0.791***	9.019	8.469	0.549***	7.832	8.487	−0.656***
Debt ratio	0.181	0.151	0.030***	0.177	0.143	0.034***	0.184	0.146	0.037***
Firm age	15.544	10.639	4.905***	14.096	9.525	4.571***	14.337	10.185	4.153***
Sales growth	−0.135	−0.022	−0.113***	−0.106	−0.031	−0.076***	−0.166	−0.046	−0.120***

(e.g., Grossman and Hart, 1980; Shleifer and Vishny, 1986) and, therefore, their monitoring incentives are likely to be high. Further, there are considerable benefits to the presence of large institutional shareholders (e.g., Cronqvist and Fahlenbrach, 2009; Becker et al., 2011a), especially in takeover decisions and post-merger firm performance (e.g., Shleifer and Vishny, 1986; Stein, 1989; Kahn and Winton, 1998). Large shareholders can potentially exert more control over the firm. A large control over cash flow and control rights might create the right incentives and financial benefits for shareholders to monitor and incur the costs of monitoring.

The evidence reported in Table 3 indicates that a larger proportion of local investors are "dedicated" investors, as defined in Bushee (1998). Those dedicated investors have larger stakes in local firms, hold more concentrated portfolios, and have longer holding periods. In particular, 12.96% of local dedicated investors are one of the top five owners of a typical firm and this proportion is lower (9.01%) for transient investors who have shorter investor horizons and are less likely to monitor. Our results also show that local institutions hold larger and more concentrated portfolios, which suggests that they are likely to benefit more from their monitoring activities.

Consistent with our main conjecture, we also find that local stocks are more likely to be one of the top five holdings in local institutional portfolios and local institutions are more likely to be one of the top five shareholders of local firms. For example, 11.23% of "local" (lowest distance quintile) institutions is one of the top five shareholders of a firm while 9.38% "non-local" (highest distance quintile) institutions is one of the top five shareholders of a firm. This difference is significant at the 1% level. Further, this differential is larger for the subsample of dedicated investors who are more likely to act as monitors. These estimates indicate that firms with a more local shareholder base are more likely to be held by institutions that have the attributes of potential monitors.

Overall, both firm and ownership characteristics of firms with more local shareholders support our main conjecture. We find that firms with more concentrated local investors have better governance characteristics, especially if those local investors are larger, dedicated institutions with longer investment horizons. To examine the relation between institutional distance and corporate governance more accurately and to identify the direction of causality, we now turn to multivariate analysis.

3.3. Regression specification

We estimate a series of regressions in which an indicator of firm governance is the dependent variable and one of the shareholder proximity measures is the main independent variable. For the baseline results, the main regression

Table 3
Shareholder proximity and investor characteristics: sorting results.

This table reports institutional distance-sorted mean estimates of various institutional attributes. We report the mean estimates of various institutional attributes based on quintiles of distance. Institutional distance (DIST) is defined as the equal-weighted distance to the ten largest shareholders. Portfolio size is the market value of the total institutional equity portfolio. Holding period measures the average length (in years) that the institution holds a stock. Portfolio concentration is the Herfindahl index of portfolio weights. Mean holdings measures the average size of the holdings. "Prop. insti. top 5 owner" measures the proportion of all institutions within the distance quintile that is one of the top five shareholders of the firms located within the distance quintile. "Prop. insti. top 5 holdings" measures the proportion of all institutions within the distance quintile for whom the firms located within the distance quintile are one of the top five holdings of the institution. All mean estimates are also presented for the subgroups of dedicated and transient investors, as defined in Bushee (1998). The sample period is from 1980 to 2007. Tests of differences for means are parametric *t*-tests and tests for difference in proportions are based on binomial proportions test. *** indicates statistical significance at the 1% level.

Variable	DIST quintiles					L–NL
	Local	Q2	Q3	Q4	Non-local	
Institutional attributes						
Portfolio size	1.627	1.111	1.196	1.316	1.422	0.205***
Holding period	3.147	3.204	3.057	2.887	2.846	0.301***
Portfolio concentration × 100	2.398	2.461	2.331	2.238	2.170	0.228***
Mean holdings	2.71%	1.89 %	1.94%	2.28 %	2.59%	0.12%***
Prop. insti. top 5 owner	11.23%	7.83%	8.02%	9.73%	9.38%	1.85%***
Prop. insti. top 5 holdings	3.20%	1.94%	2.02%	2.15%	1.93%	1.27%***
Dedicated investors						
Portfolio size	2.004	1.301	1.425	1.609	1.789	0.215***
Holding period	3.523	3.533	3.437	3.226	3.293	0.230***
Portfolio concentration × 100	2.488	2.649	2.505	2.256	1.946	0.542***
Mean holdings	3.00 %	2.08%	2.15%	2.59 %	3.02%	−0.02%
Prop. insti. top 5 owner	12.96%	9.21%	9.61%	11.59%	9.78%	3.18%***
Prop. insti. top 5 holdings	2.94%	1.78%	1.93%	2.06%	1.72%	1.22%***
Transient investors						
Portfolio size	1.083	0.826	0.911	0.971	0.931	0.152***
Holding period	2.409	2.483	2.408	2.346	2.271	0.138***
Portfolio concentration × 100	1.821	1.720	1.687	1.709	1.685	0.136***
Mean holdings	2.18%	1.51 %	1.58%	1.75%	1.89%	0.28%***
Prop. insti. top 5 owner	9.01%	6.59%	6.69%	7.58%	8.54%	0.47%***
Prop. insti. top 5 holdings	2.73%	1.82%	1.88%	2.04%	2.09%	0.64%***

specification is a pooled cross-sectional regression, which includes year and industry fixed effects. We measure the dependent variables at time t and all independent variables, including the institutional distance measure at time $t-1$. This lagged independent variable structure enables us to at least partially address concerns about causality. The basic regression specification is as follows:

$$y_{it} = \alpha_0 + \alpha_1 DIST_{it-1} + \alpha_2 X_{it-1} + \alpha_3 Year_t + \alpha_4 Industry_i + \varepsilon_{it} \quad (2)$$

here, y_{it} is one of the corporate governance measures of firm i at time t. Institutional distance ($DIST_{it-1}$) is our main independent variable, which is defined as an equal-weighted distance between firm location and the top 10 institutional shareholders at time $t-1$. Since most of our dependent variables are available annually we conduct our empirical analysis at the annual level. To obtain annual distance estimates, we average the quarterly distance measures. X_{it-1} represents the set of control variables, which includes the level of institutional ownership, firm size, market-to-book ratio, debt ratio, sales growth, and firm age.

In addition, year fixed effects in the model (*Year*) control for broad macro-economic changes over time, while industry fixed effects (*Industry*) account for unobserved heterogeneity across industries. The industry fixed effects are defined using two digit SIC codes. Following Petersen (2009), we cluster standard errors at the firm level to account for within-firm correlations in financial policy variables across time. Our primary data consist of an unbalanced panel from 1980 to 2007.

3.4. Corporate governance and fraud regressions

In the first set of multivariate tests, we examine whether local shareholders influence corporate governance and a firm's propensity to engage in potentially fraudulent activities. The recent corporate governance scandals have revealed that managers sometimes indulge in fraudulent behavior and financial misreporting for their personal gains. Because of their proximity to the firm, local institutions may find it easier and less costly to observe and monitor the managers. Further, by tapping into the social networks of these managers, local institutions may be able to limit the amount of fraudulent activities within a firm.

To examine the relation between shareholder proximity and firm governance, we focus on the influence of local shareholders on board composition. One of the primary ways in which shareholders can exercise control over

Table 4
Internal governance and corporate fraud regression estimates.

This table reports marginal effects from fraud and governance logit regressions. The dependent variable is a board independence change or corporate fraud dummy, while the main independent variable is the distance to 10 largest institutional shareholders (DIST). Among the dependent variables, the small board independence change represents a change in board score of two, a medium board change represents a score change of three, and a large board change represents a score change of four. Corporate fraud propensity is measured using earnings management (EM), option backdating (BD), and class action law suits (CLS). Additional details about these variables are available in the Appendix. The board changes data are available for the 1996–2007 period; backdating and CEO turnover data are from 1996 to 2005; class action law suits information is available from 2000 to 2007. The independent variables are measured at time $t-1$ and all dependent variables are measured at time t. The distance variable has been standardized (mean is set to zero and the standard deviation is one). Year and industry (two-digit SIC code) fixed effects are included in all regressions. Standard errors are clustered at the firm level. The z-statistics for the coefficient estimates are reported in smaller font below the estimates. In all specifications, the dependent variable is multiplied by 100 for more readable presentation of the coefficient estimates.

	Board indep change (1–3)			Corporate fraud (4–6)		
	Sml (1)	Med (2)	Lg (3)	EM (4)	BD (5)	CLS (6)
$DIST_{t-1}$	−0.3338	−0.4200	−0.4555	0.8717	1.0638	0.1382
	(−1.76)	(−2.13)	(−2.28)	(3.97)	(8.49)	(1.86)
IO_{t-1}	−9.6332	−10.4806	−10.4136	−7.8421	3.7927	0.2784
	(−35.29)	(−35.53)	(−35.47)	(−18.86)	(22.68)	(3.03)
SZ_{t-1}	−19.0597	−21.0334	−21.5598	−12.5725	0.4619	0.9433
	(−34.71)	(−35.29)	(−35.26)	(−10.17)	(1.91)	(6.84)
MB_{t-1}	−1.3390	−1.4808	−1.5715	−0.8870	−0.1260	−0.0097
	(−6.73)	(−7.04)	(−7.36)	(−3.29)	(−0.87)	(−0.12)
DR_{t-1}	78.5456	86.3085	88.6552	−7.6999	−25.9070	−1.3406
	(13.47)	(14.08)	(14.27)	(−1.23)	(−6.67)	(−0.51)
SG_{t-1}	7.8650	8.0993	8.2842	1.5578	0.9018	0.3004
	(10.89)	(11.13)	(11.25)	(5.59)	(6.73)	(5.21)
AGE_{t-1}	−5.8090	−6.3285	−6.4935	−1.7650	0.4779	−0.1472
	(−25.37)	(−25.97)	(−26.05)	(−8.82)	(4.12)	(−1.97)
ROA_{t-1}	−12.2556	−12.6321	−13.0132	−1.1377	−1.5304	−0.3759
	(−6.15)	(−6.04)	(−6.14)	(−3.57)	(−2.58)	(−0.99)
Indus FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.516	0.509	0.524	0.099	0.069	0.058
N	19,287	19,287	19,287	73,151	88,873	18,238

management is through the choice of the board and committee structure. This choice is motivated by the new governance regulations in 2002 that required all firms on the NYSE to have a majority independent board and independent committees. Previous studies show that board characteristics have important effects on firm valuation and it could mitigate the over-investment of free cash flow (e.g., Klein, 2002; Richardson, 2006; Chhaochharia and Grinstein, 2007). We consider four board attributes, which indicate whether the board has a majority of independent directors and whether the firm has an independent audit committee, an independent compensating committee, and an independent nominating committee.

To examine the relation between shareholder proximity and corporate misbehavior, we consider three fraud proxies. Our first proxy is a measure of earnings management (i.e., discretionary accruals), which roughly captures the difference between corporate earnings and cash flows.[11] It serves as a good proxy for internal governance as prior research has established a link between discretionary accruals and governance quality. Specifically, Healy (1985), Bergstresser and Philippon (2006), and Burns and Kedia (2006) find that managerial compensation structures often create incentives for earnings manipulation and that increased transparency and disclosure leads to lower discretionary accruals.

The second proxy for corporate fraud is option backdating. A number of studies have uncovered the pattern of abnormally high returns after options are granted to CEOs (e.g., Aboody and Kasznik, 2000). As suggested by Lie (2005), these grants are opportunistically timed such that the manager can extract the most benefit from the firm. Thus, option backdating might reflect potentially fraudulent activities of managers.

Our third proxy for potentially fraudulent activity is the filing of a class action law suit against a firm in which managers either allegedly misreport earnings, restate financial information, or engage in insider trading or option backdating. Filings of class action law suits are associated with large costs to the firm (Karpoff et al., 2008). These costs include reputation as well as material costs that can be as large as 10% of annual sales (Skinner, 1997).

The estimation results from governance and fraud regressions are presented in Table 4.[12] We report the marginal effects from a series of logit regressions. Consistent with our main conjecture, the results in Columns (1)–(3) show that

[11] We use a modified Jones (1991) model to capture the level of discretionary accruals in a firm. See Dechow et al. (1995) for details.

[12] We examine the correlations among all corporate fraud and governance measures. We find that the maximum absolute correlation is 0.15, which suggests that these variables capture different elements of corporate governance.

firms with more local institutional shareholders are more likely to have large changes in board scores that increase board independence. For example, in Column (3), the coefficient estimate of $DIST_{t-1}$ is −0.456 with a z-statistic of −2.28. In economic terms, this estimate indicates that a one standard deviation decrease in institutional distance increases the likelihood of a large board change by 0.455%. This magnitude may appear low but relative to the mean board change estimate of 1.354%, this reflects a 33.60% increase.

In Column (4), we use a measure of earnings management as an indicator of potentially fraudulent activities in a firm. The dependent variable in this regression is a dummy variable that takes a value of one when the level of earnings management is above the median, and zero otherwise. The estimation results are consistent with our key conjecture and indicate that firms with distant shareholders have higher levels of earnings management. Specifically, we find that the coefficient estimate of $DIST_{t-1}$ is 0.8717 and it is strongly significant both statistically and economically (z-statistic=3.97).

In Column (5), we report the evidence on opportunistic timing of option grants, i.e., option "backdating". We find that a higher fraction of local institutional investors lowers the incidence of option backdating by managers. The marginal effect of institutional distance in the option backdating regression is 1.064 and it is statistically significant at the 1% level (z-statistic=8.49). In economic terms, the estimate indicates that a one standard deviation decrease in $DIST_{t-1}$ corresponds to a 1.064% reduction in the propensity to backdate an option. Relative to the mean option backdating propensity of 17.80%, this represents a 5.98% reduction in the incidence of option backdating. This finding supports our view that local institutions are able to monitor firms more effectively and they improve internal governance.

In the next test, we estimate the class action law suit (CLS) logit regression. An incidence of class action law suits could reflect a greater propensity to commit financial fraud or potential manipulation within a company (Fich and Shivdasani, 2007). The results reported in Column (6) indicate that local institutions lower the probability of CLS by 0.138% and this effect is both statistically and economically significant (z-statistic=1.86). Relative to the mean CLS propensity of 1.60%, the marginal effect represents a 8.63% decrease.

Overall, the regression results in Table 4 are consistent with our local monitoring hypothesis and indicate that monitoring activities of local institutional shareholders improve internal governance and lower the likelihood of corporate fraud. Our evidence is consistent with the evidence in Kedia and Rajgopal (2011), who find that a firm's fraud propensity decreases with the distance to a large monitor like the Securities and Exchange Commission (SEC).

3.5. Performance, empire building, and quiet life regressions

In this section, we consider corporate policy variables that capture the effects of monitoring indirectly. An indirect outcome of effective monitoring by local institutions is an improvement in operating performance. To measure operating performance, we compute a firm's return on assets, which can be decomposed into three components: (i) cost of goods sold to sales ratio, (ii) sales and general administrative expenses to sales ratio, and (iii) sales-to-asset ratio. An improvement in production efficiency will be reflected in a decrease in costs, while an improvement in investment efficiency will be reflected in sales-to-asset ratio (Ang et al., 2000). Therefore, improvements in production and investment efficiency induced by effective monitoring should lead to an overall improvement in return on assets.

Beyond its impact on operating performance, local monitoring should restrict "empire building" activities of corporate managers. Managers often have incentives to grow the firm beyond optimal size because it increases their power by increasing the amount of resources under their control. This type of firm growth leads to excess investment and output (e.g., Donaldson, 1984; Jensen, 1986). If institutional investors are able to monitor geographically proximate firms more effectively, they are likely to limit the empire building activities of local managers.

Following Giroud and Mueller (2010), we consider multiple proxies for empire building, including the level of capital expenditures, total asset growth, and property, plant and equipment growth. Since these measures may be perceived as indirect measures of empire building, we use acquisition ratio and likelihood of acquisition based on takeover data to define more direct measures of empire building.

To investigate whether active monitoring by local investors reduces local managers' tendencies to "lead the quiet life", we again follow Giroud and Mueller (2010) and use cost of goods sold scaled by sales, R&D expenses scaled by total assets, and cash holdings as quiet life proxies. If managers do not encounter any pressure from local institutional monitors, they are unlikely to undertake cognitively difficult activities such as negotiating with input suppliers and organizational subdivisions demanding higher overheads. This reluctance could lead to under-investment and inefficient resource allocation.

The empire building and quite life regression results are reported in Table 5.[13] We obtain these estimates using pooled OLS regressions with industry (two digit SIC code) and year fixed effects. The sample period is from 1980 to 2007. The dependent variables in these regressions are operating performance and accounting measures that capture the extent to which a manager might engage in empire building or exhibit an inclination to lead the quiet life. As before, the main independent variable is the distance to ten largest investors ($DIST_{t-1}$) and we use the same set of control variables as in Table 4.

[13] We examine the correlations among the empire building and quiet life variables and find that those variables are not very strongly correlated. The highest correlation is between asset growth and PPE growth (=0.521). All other correlations are below 0.50 in absolute terms. These moderate levels of correlations suggest that these dependent variables do not capture the same aspects of internal firm governance.

Table 5
Performance, empire building, and quiet life regression estimates.

This table reports the estimates from a set of regressions in which one of the corporate policy variables is the dependent variable. The set of dependent variables includes firm performance (ROA), measures of a manager's propensity to engage in empire building, and her likelihood of leading a quiet life. The proxies for empire building include capital expenditures, asset growth, property plant and equipment growth, acquisition ratio and likelihood of acquisition. The indicators of quiet life include cost of goods sold, R&D, and cash holdings. The main independent variable is the mean distance to 10 largest institutional shareholders (DIST). The distance variable has been standardized (mean is set to zero and the standard deviation is one). The independent variables are measured at time $t-1$ and all dependent variables are measured at time t. All variables are defined in the Appendix. Corporate policy and institutional variables are available for the 1980–2007 period. The acquisition data are available for the 1996–2007 period. All regressions include year and industry effects using the two-digit SIC industry definitions. Standard errors are clustered at the firm level. The t-statistics for the coefficient estimates are reported in smaller font below the estimates.

	Perf	Empire building (2–6)					Quiet life (7–9)		
	ROA (1)	Cap Ex (2)	Asset Gr (3)	PPE Gr (4)	Acq ratio (5)	Acq like (6)	CGS (7)	R&D (8)	Cash (9)
$DIST_{t-1}$	−0.0085	0.0010	0.0018	0.0026	0.0014	0.0728	0.0116	0.0109	0.0070
	(−5.88)	(2.51)	(1.16)	(1.62)	(1.47)	(1.72)	(2.36)	(9.64)	(7.79)
IO_{t-1}	0.0235	0.0035	0.0579	0.0387	0.0017	0.2328	−0.0007	0.0025	0.0067
	(14.98)	(5.89)	(25.26)	(12.73)	(1.23)	(3.45)	(−0.09)	(2.13)	(6.11)
SZ_{t-1}	0.0243	−0.0049	−0.1158	−0.1063	0.0152	1.3261	−0.0126	−0.0232	−0.0343
	(9.09)	(−5.38)	(−34.45)	(−24.41)	(8.03)	(17.10)	(−1.29)	(−12.21)	(−21.67)
MB_{t-1}	0.0397	0.0082	0.0790	0.1082	0.0004	0.1862	−0.0474	−0.0072	0.0034
	(28.84)	(16.78)	(32.74)	(31.43)	(0.48)	(5.09)	(−8.52)	(−7.97)	(3.79)
DR_{t-1}	0.4447	0.0735	0.4185	0.0420	0.0285	−2.4982	−0.3079	−0.3136	−0.5602
	(10.62)	(5.64)	(8.59)	(0.62)	(0.95)	(−1.60)	(−1.87)	(−9.70)	(−22.85)
SG_{t-1}	−0.0287	0.0045	0.0395	0.0905	0.0149	0.2969	0.0524	0.0083	0.0068
	(−16.16)	(11.01)	(13.68)	(20.89)	(4.26)	(4.55)	(6.85)	(6.76)	(8.36)
AGE_{t-1}	0.0156	−0.0039	−0.0220	−0.0545	−0.0004	−0.1321	−0.0356	−0.0102	−0.0094
	(13.59)	(−9.83)	(−14.98)	(−25.09)	(−0.31)	(−3.45)	(−7.83)	(−11.14)	(−11.76)
Indus FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.192	0.247	0.091	0.100	0.030	0.103	0.075	0.271	0.245
N	88,604	87,750	88,315	88,209	12,046	12,046	88,863	52,235	82,133

The estimates in Column (1) show that institutional distance is inversely related to operating performance. Specifically, a one standard deviation increase in institutional distance is associated with a 0.85% reduction in ROA. Relative to the mean ROA of 7.30%, this represents an economically significant 11.64% change. Since we account for the effects of institutional ownership, the sensitivity of ROA to institutional distance captures the incremental impact of local investors on firm performance.

In Columns (2)–(6), we report the results using proxies for empire building. We find consistently across all measures of empire building that there is a greater tendency for managers to engage in empire building as institutional distance increases. For example, a one standard deviation increase in $DistTop10_{t-1}$ corresponds to a 0.10% increase in capital expenditure, which is both statistically and economically significant (t-statistic=2.51). Relative to the mean capital expenditure of 6.80%, this represents an economically significant 1.47% increase. Our results with other empire building proxies are statistically weaker but consistent with our broad conjecture.

Columns (7)–(9) present the results on the impact of local investors on managerial propensity to lead the quiet life. With all three quiet life proxies, we find that greater shareholder proximity reduces managerial propensity to lead the quiet life. Further, these results are stronger than the evidence obtained from empire building regressions, both statistically and economically. In particular, the $DIST_{t-1}$ estimate in Column (7) indicates that a one standard deviation increase in distance corresponds to a 1.16% increase in cost of goods sold, which is statistically significant at the 5% level (t-statistic=2.36).

The evidence from R&D expenditure and cash holdings regressions provides additional support to our conjecture. In both instances, the $DIST_{t-1}$ estimate is statistically significant at the 1% level. In economic terms, one standard deviation increase in distance corresponds to a 0.007 increase in cash holdings. And relative to the mean cash holdings of 0.102, this represents an economically significant 6.86% change.

3.6. Evidence of local monitoring using other distance measures

In the next set of tests, we examine whether our results are robust to alternative definitions of shareholder proximity. We consider four alternative distance measures. Our first measure uses the number of institutions within a 250 mile radius (*%Local* 250) as a proxy for shareholder proximity. This measure is likely to capture potential nonlinear effects of distance. Our second measure uses state institutional ownership as a measure of local ownership. State ownership is defined as the level of ownership by institutions located within the state in which a firm is headquartered as a proportion of total institutional ownership in the firm. This definition could capture the mandated local holding requirements of some state

Table 6
Baseline estimates using alternative shareholder proximity measures.

This table reports the estimates from fraud, governance, performance, empire building, and quite life regressions using different measures of shareholder proximity. For brevity, we only report the estimates of the main independent variable: shareholder proximity. Proportion of institutions within 250 miles measures the fraction of total shares held by investors who are within a 250 miles radius of a firm's corporate headquarters. State ownership is the dollar value of a state's investors in a firm scaled by the dollar value of total holdings of all investors in that firm. Equal-weighted distance is the average distance to all institutional investors of a firm. The value-weighted distance is the distance to all institutional investors of a firm where the weights are based on proportion of their holdings in the firm. Additional details about all variables are available in the Appendix. The governance and fraud regression specifications in Panel A are identical to those in Table 4. The specifications for performance, empire building, and quite life regressions in Panel B are identical to those in Table 5.

Panel A: Governance and fraud regression estimates

	Board indep change (1–3)			Corporate fraud (4–6)		
	Sml (1)	Med (2)	Lg (3)	EM (4)	BD (5)	CLS (6)
(1) *Proportion of institutions within 250 miles*						
%Local 250	4.1805	5.0791	5.4405	−3.0485	−2.1956	−0.4676
	(5.46)	(5.56)	(5.88)	(−3.53)	(−4.01)	(−1.23)
(2) *State ownership*						
% State IO	0.1438	0.1590	0.1649	0.0060	−0.0466	0.0007
	(6.29)	(6.58)	(6.70)	(0.32)	(−3.57)	(0.13)
(3) *Equal-weighted distance*						
Ew-Dist	−0.4110	−0.4432	−0.4939	1.005	1.194	0.153
	(−2.28)	(−2.35)	(−2.60)	(4.65)	(9.83)	(2.08)
(4) *Value-weighted distance*						
Vw-Dist	−0.4207	−0.4589	−0.5099	0.9858	1.2115	0.1601
	(−2.17)	(−2.26)	(−2.49)	(4.59)	(9.74)	(2.05)

Panel B: Performance, empire building, and quiet life regression estimates

	Perf	Empire building (2–6)					Quiet life (7–9)		
	ROA (1)	Cap Ex (2)	Asset Gr (3)	PPE Gr (4)	Acq ratio (5)	Acq like (6)	CGS (7)	R&D (8)	Cash (9)
(1) *Proportion of institutions within 250 miles*									
%Local 250	0.0287	−0.0121	−0.0196	−0.0110	0.0001	0.2570	0.0549	0.0023	0.0186
	(4.66)	(−7.48)	(−2.97)	(−1.15)	(0.01)	(1.10)	(0.27)	(0.47)	(4.97)
(2) *State ownership*									
% State IO	−0.0228	−0.0100	−0.0141	−0.0067	0.0023	0.5351	−0.1737	−0.0172	−0.0089
	(−1.83)	(−3.98)	(−1.01)	(−0.34)	(0.29)	(1.41)	(−4.47)	(−2.05)	(−1.31)
(3) *Equal-weighted distance*									
Ew- Dist	−0.0099	0.0009	0.0010	0.0016	0.0015	0.0930	0.0113	0.0127	0.0073
	(−6.09)	(2.20)	(0.59)	(0.70)	(1.44)	(1.90)	(1.62)	(9.98)	(7.49)
(4) *Value-weighted distance*									
Vw-Dist	−0.0064	0.0006	0.0024	0.0024	0.0018	0.0620	0.0092	0.0086	0.0053
	(−4.24)	(1.44)	(1.48)	(1.06)	(1.48)	(1.15)	(1.46)	(7.54)	(5.86)

pension funds. Our last two measures are the equal-weighted and value-weighted distance to all institutional investors without conditioning on the size of their stakes.

The estimation results with these alternative distance measures are summarized in Table 6. The coefficient estimates of the shareholder proximity measure are not statistically significant in some cases. But the results from all governance and corporate policy variables are qualitatively similar to the baseline results. This evidence indicates that our main results are not very sensitive to the specific choice of the shareholder proximity measure.

Overall, the results from our main empirical tests provide strong support to our key conjecture. We show that local institutions monitor local firms by improving internal governance and reducing the likelihood of fraudulent activities. Further, local institutions limit the ability of managers to engage in empire building and restrict managerial inclination to lead the quiet life.

4. Potential monitoring channels

To further characterize the monitoring effects of local institutions, we examine the channels through which those investors may influence internal governance. Due to data limitations we cannot precisely identify all the channels through

which local institutions could affect corporate governance. However, we present several pieces of evidence, which suggest that there is a causal relation between shareholder proximity and corporate governance. Specifically, we investigate whether firms with high concentration of local institutional investors are associated with more shareholder proposals, higher CEO turnover rates, and lower excess CEO pay.

4.1. Shareholder proposals

Until the late 1990s shareholder proposals were not a key mechanism through which governance changes within a firm were accomplished. However, following corporate scandals such as Enron, corporate boards have become more responsive to shareholder proposals. The number of shareholder proposals that have been implemented has increased significantly after 2002. In particular, institutional investors such as CalPERS are known to affect governance changes in firms (e.g., Smith, 1996; Guercio and Hawkins, 1999; Prevost and Rao, 1999; Gillan and Starks, 2007b) and institutional activism serves as an important disciplining mechanism (Gillan and Starks, 2000).

If proximity facilitates shareholder activism, local institutions may use shareholder proposals to influence corporate governance. Specifically, we conjecture that monitoring activities of local institutions would be reflected in a larger number of shareholder proposals at a firm. Given that institutions could influence management through other more direct ways, it is unlikely that local investors would use shareholder proposals as the primary vehicle for affecting governance. However, shareholder proposals could be one of the methods used by local institutions to pressure management.

To test our conjecture, we obtain data on shareholder proposals for all S&P 1500 firms from Risk Metrics for the 1997–2007 period. The dataset contains the company name, the date of the annual meeting, name of the shareholder that makes the proposal, the content of the proposal, and information on whether a proposal received a majority vote and was formally approved. Our initial sample contains 2347 shareholder proposals. When we exclude shareholder proposals that are not initiated by institutional investors, our sample size reduces because many of the proposals are made by individual investors or labor unions. Our final sample contains 1638 proposals initiated by institutional investors.

Panel A of Table 7 reports the different types of proposals made by institutional investors and Panel B breaks down the sample by the type of proposal. We find that 9.8% of the proposals are made by pension funds that are known to be activists (Gillan and Starks, 2007a) and are more likely to engage in monitoring activities. Additional statistics reported in Panel B show that proposals sponsored by local institutions are more likely to be approved and that they are more concerned with governance issues.

In Columns (1)–(4) of Panel C, we use a logit regression framework to study whether local institutions are more likely to initiate shareholder proposals. Our dependent variable is a dummy variable that takes the value of one if an institution initiates a shareholder proposal and zero otherwise. We further categorize the proposals into governance and other proposals and define an additional dependent variable that takes a value of one if an institution initiates a governance proposal and zero otherwise. The logit regression results indicate that local institutions are more likely to initiate shareholder proposals even after controlling for size and other firm characteristics. Specifically, we find that marginal effect of the coefficient on DIST is -0.1634 which is statistically significant at the 10% level. We also find weak evidence that local institutions are more likely to initiate governance proposals.

Further, using our alternative distance measures, we find that local institutions are more likely to be associated with a higher number of shareholder proposals. These results are reported in Panel D. After controlling for size, performance, market to book, debt ratio and the level of institutional ownership, *%Local* 250 has a coefficient estimate of 0.0279 (see Column (2)), which is statistically significant at the 10% level. Interestingly, as shown in Column (4), these local institutions located within 250 miles of a firm are more likely to initiate governance proposals. The coefficient estimate of DIST in this regression is 0.2646, which is again both statistically and economically significant. The logit regression estimates reported in Panel D also indicate that state institutional ownership is related to the initiation of shareholder proposals. This evidence is consistent with the fact that many state pension funds who take a large position in local firms are likely to be activist investors.

Taken together, our results on the initiation of shareholder proposals suggest that local institutions are more likely to be associated with firms with more shareholder proposals. Beyond initiating shareholder proposals, there are other channels through which local institutions would influence management, which we investigate next.

4.2. CEO turnover

Next, we investigate whether local institutions affect CEO turnover. The prior literature has demonstrated that institutional investors influence the CEO turnover decision through direct activism or indirectly. For example, large institutional owners or block-holders might affect change by "voting with their feet". Parrino et al. (2003) show that stock sales by institutional investors are significantly associated with the likelihood of forced CEO turnover.

To assess the role of local institutions on CEO turnover, we estimate a turnover logit regression in which the dependent variable takes the value of one when a CEO is replaced, and zero otherwise. The results are reported in Column (5) of Table 7. Consistent with our conjecture, we find that firms with more local institutional ownership are more likely to experience CEO turnover. Our results are statistically as well as economically significant. For example, a one standard deviation increase in institutional distance reduces CEO turnover propensity by 0.80%. Relative to the unconditional

Table 7
Shareholder proximity and activism.

This table reports results from tests related to shareholder activism of local institutional investors. Panel A reports the shareholder proximity measures (average distance to 10 largest shareholders and the fraction of total shares held by investors who are within a 250 miles radius of a firm's headquarters) for firms with and without shareholder proposals. Panel B shows the shareholder proximity measures for the proposals that are accepted and withdrawn. Panel C reports marginal effects (multiplied by 100) from logit regressions where the shareholder proposal dummy, CEO turnover dummy, or excess CEO compensation is the dependent variable. The main independent variable is the mean distance to 10 largest institutional shareholders (DIST). The distance variable has been standardized (mean is set to zero and the standard deviation is one). The CEO turnover dummy is equal to one if the CEO of a firm changes in a given year and zero otherwise. Excess compensation is defined as log(compensation) less log(expected compensation), where expected compensation is computed as in Core et al. (2008). Panel D presents marginal effects from logit regressions using other proximity measures. The *z*-statistics for the coefficient estimates are reported in smaller font below the estimates. All variables are defined in the Appendix. In all regressions, the independent variables are measured at time $t-1$ and all dependent variables are measured at time t. Year and industry (defined using two-digit SIC codes) fixed effects are included in all regressions. Standard errors are clustered at the firm level. The sample period for shareholder proposals is from 1997 to 2007. The sample period for CEO turnover events and excess compensation is from 1996 to 2005.

Panel A: Sponsor type and shareholder proximity

Sponsor type	DIST	%*Local* 250	% of Total
Church	986	0.220	26.30
Company	979	0.200	1.30
Foundation	1197	0.040	0.20
Mutual fund	1049	0.200	5.20
Public pension fund	1073	0.160	9.80
Religious assoc.	1038	0.180	6.50
Special interest	927	0.230	4.50
SRI fund	1108	0.180	9.40
Union	1008	0.210	36.70

Panel B: Proposal type and shareholder proximity

Proposal type	DIST	%*Local* 250	% of Total
Governance, passed	978	0.194	
Governance, withdrawn	1032	0.186	63.50
Non-governance, passed	918	0.208	
Non-governance, withdrawn	1004	0.169	36.50

Panel C: Multivariate results

	Shareh. prop. (1)	Shareh. prop. (2)	Gov. prop. (3)	Gov. prop. (4)	CEO turnover (5)	Excess compensation (6)
$DIST_{t-1}$	−1.4018	−0.1634	−0.7459	−0.2016	−0.8043	0.0499
	(−2.63)	(−1.81)	(−1.86)	(−1.39)	(−2.01)	(2.30)
IO_{t-1}		−0.2348		−0.0959	−1.5438	0.1944
		(−2.81)		(−2.44)	(−3.06)	(8.37)
SZ_{t-1}		10.8460		6.8702	2.7563	0.0899
		(16.15)		(13.66)	(4.16)	(2.86)
MB_{t-1}		−0.0752		−0.3127	−1.1116	0.0019
		(−0.41)		(−2.22)	(−2.83)	(0.12)
DR_{t-1}		−10.3304		−11.8818	−33.2321	0.0432
		(−3.36)		(−2.20)	(−2.71)	(0.08)
SG_{t-1}		−3.9119		−3.6191	−0.4413	0.0961
		(5.23)		(−5.78)	(−0.46)	(2.46)
AGE_{t-1}		1.1812		0.8242	−0.6749	−0.0334
		(5.16)		(4.83)	(−2.05)	(−2.08)
Indus FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.101	0.379	0.107	0.356	0.021	0.062
N	11,022	10,882	11,022	10,882	15,585	7563

Panel D: Other distance measures

%*Local* 250_{t-1}	5.1830	0.0279	4.4791	0.2646	2.0798	−0.1940
	(2.04)	(1.76)	(2.37)	(1.88)	(1.60)	(−0.08)
% State IO_{t-1}	10.2464	0.5946	3.3413	0.3045	−0.0095	0.4748
	(2.03)	(2.39)	(2.87)	(2.71)	(−0.43)	(2.34)
Ew-$Dist_{t-1}$	−0.9149	−0.0365	−0.6246	−0.0356	−0.5948	0.0427
	(−4.74)	(−1.14)	(−4.15)	(−1.30)	(−2.13)	(2.14)
Vw-$Dist_{t-1}$	−0.6335	−0.0541	−0.3813	−0.0571	−0.8204	0.0365
	(−3.56)	(−1.62)	(−2.81)	(−2.02)	(−2.67)	(1.58)

turnover propensity of 12.20%, this represents a 6.59% decline. This evidence indicates that local institutions directly monitor local firms through their influence on major firm events such the replacement of a firm's CEO.

4.3. CEO compensation

In the next test, we examine the role of local investors on CEO compensation. The seemingly large compensation packages of CEOs have recently been highlighted in both business and academic press. As highlighted in Bebchuk and Fried (2004), the observed executive pay practices cannot be explained by a model in which shareholders are optimally contracting with managers. Rather, the CEO pay process is one in which the CEO sets his own pay subject to constraints such as public opinion (Kuhnen and Niessen, forthcoming). This hidden or excess compensation takes various forms like perks, large pension packages, or generous severance packages. The CEO is able to set his own pay package because the CEO often has significant control over the board. Thus, the excess CEO compensation can be perceived as a measure of managerial entrenchment in a firm. Motivated by this observation, we use CEO compensation as a direct measure of local institutions' abilities to limit managerial entrenchment by limiting rent extraction by a CEO.

As discussed in Section 2.4, we measure excess CEO compensation following Core et al. (2008) and examine whether local institutions are more likely to be associated with lower excess compensation. We estimate panel regressions where the main dependent variable is excess compensation and the independent variable is institutional distance. The results are reported in Column (6) of Table 7. Consistent with our conjecture, we find that local institutional presence is associated with lower excess compensation. This relation is statistically significant at the 5% level (t-statistic=2.30). In economic terms, a one standard deviation decrease in institutional distance reduces excess CEO compensation by about $50,000.

Overall, the results from tests designed to identify local monitoring channels indicate that shareholder proximity increases the likelihood of shareholder proposal sponsorship and CEO turnover, and reduces excess CEO compensation. Consequently, local monitoring activities of institutional investors improve the operating performance of local firms.

5. Establishing causality

Our results so far do not allow us to draw strong conclusions regarding the causal relation between shareholder proximity and corporate governance. It is possible that local investors do not monitor corporate behavior but they have an informational advantage that allows them to predict future policy changes accurately. Local investors may also merely have a preference for local firms with better governance and may not necessarily influence governance in those firms.

Although it is very difficult to explain *all* of our findings using these two alternative hypotheses, we conduct a battery of tests designed to establish a casual link between local institutional monitoring and corporate behavior. For brevity, we focus on the relation between institutional distance and operating performance, because ultimately all monitoring efforts should be reflected in firm profitability. The results from various endogeneity and reverse causality tests are summarized in Table 8.

5.1. Test of reverse causality using oil price shocks

First, we investigate whether there is evidence of reverse causality between operating performance and institutional distance. If we do not find strong evidence of reverse causality, it would provide additional support to our causal interpretation that shareholder proximity influences corporate governance and profitability rather than the reverse.

We use two different tests to alleviate potential concerns of reverse causality. In the first test, we use a two-stage least squares estimation method to examine the relation between DIST and ROA. Following Bertrand and Mullainathan (2003), we use oil price as an instrument for ROA to capture the independent effects of ROA on institutional distance. Bertrand and Mullainathan (2003) focus only on the energy sector as the performance of firms in this industry is more likely to depend upon changes in the oil price. Their assumption is that a firm is too small to affect the world price of oil but changes in the oil prices do affect firm performance.

We adapt their identification method in our setting and apply it to all firms. Specifically, we compute the historical sensitivity of firm performance as measured by Tobin's Q to oil prices. We compute the oil price sensitivity measure for each Compustat firm over the 1987–2007 period. We regress the performance measure on an oil price indicator and consider year fixed effects in the specification. We use the UK Brent oil price and correct it for inflation using the consumer price index (CPI). Since the Q measure is based on annual data, to minimize measurement error, we create the sensitivity index using the full sample period rather than create a time-varying sensitivity measure.[14] For robustness, we also use realized stock returns as an alternative performance measure and compute the oil price sensitivity of each firm.

Using the Tobin's Q and returns based oil price sensitivity measures, we estimate instrumental variables (IVs) regressions where the main dependent variable is DIST. The set of independent variables includes ROA, which is instrumented using the oil price sensitivity measures. The results are presented in Columns (1) and (2) of Table 8. In Column (1) we present the IV regressions where ROA is instrumented using oil price sensitivity computed using Tobin's Q. The results of the first stage regressions are summarized in the lower part of the table.

[14] Our approach is similar in spirit to the Rajan and Zingales (1998) method for computing the external financing measure.

Table 8
Estimates from endogeneity and reverse causality tests.

This table reports results from tests of endogeneity and reverse causality. In Column (1) and (2), we report estimates from regressions of firm performance on institutional distance. We instrument for performance using the sensitivity of Tobin's Q or stock returns to oil prices. In Column (3) we report estimates from performance regression estimated using GMM. In Columns (4) and (5), we report results from change-on-change regressions, where change in distance to institutional shareholders (ΔDIST) is regressed on changes in ROA. In Column (4), the changes are defined from year $t-1$ to t and, in Column (5), changes are from year $t-2$ to t. In Columns (6) and (7), we report regression results for firms that relocate their corporate headquarters. In Column (6), we regress change in distance to 10 largest institutions following headquarters change on change in ROA, where the change is measured from $t-1$ to t. Column (7) reports the estimates from the same regression as in Column (6) except that the change is measured from year $t-2$ to year t. In Columns (8) and (9), we focus on firms for which governance is more likely to be important. This set includes firms that need external financing and firms that are sensitive to external shocks such as oil price changes. In Column (8), we report the ROA regression estimates from an extended specification that contains an interaction between DIST and a measure of external financing. We use the Rajan and Zingales (1998) measure of external financing, which is defined at the three-digit SIC code level over the 1980–2006 period. In Column (9), the extended specification includes an interaction between distance to institutional shareholders and a measure of oil price sensitivity. Oil price sensitivity measures the sensitivity of firm returns to changes in oil prices over the 1987–2007 period. Last, in Column (10), we estimate the ROA regression with firm fixed effects. All variables are defined in the Appendix. In all regressions the independent variables are measured at time $t-1$ and all dependent variables are measured at time t. The distance variable has been standardized (mean is set to zero and the standard deviation is one). Year and industry (defined using two-digit SIC codes) fixed effects are included in all regressions. Standard errors are clustered at the firm level.

	Two stage LS		GMM	Changes		HQ changes		Ext. Fin.	Oil Sens.	Firm FE
	$DIST_t$ (1)	$DIST_t$ (2)	ROA_t (3)	ΔROA (4)	$\Delta DIST$ (5)	ΔROA_t (6)	ΔROA_t (7)	ROA_t (8)	ROA_t (9)	ROA_t (10)
ROA_{t-1}	−2.9838	−1.5955	0.0492							
	(−1.53)	(−1.45)	(0.007)							
$DIST_{t-1}$			−0.1523					−0.0048	−0.0060	−0.0048
			(−1.85)					(−3.42)	(−3.17)	(−4.63)
$\Delta DIST_{t-2,t-1}$				−0.0029						
				(−2.43)						
$\Delta ROA_{t-2,t-1}$					0.0115					
					(0.64)					
$\Delta DIST_{t-1,t+1}$						−0.0078				
						(−1.90)				
$\Delta DIST_{t-2,t+2}$							−0.0084			
							(−1.98)			
$DIST_{t-1} \times EFIN_i$								−0.0114		
								(−2.94)		
$DIST_{t-1} \times OIL_i^{ret}$									−0.0054	
									(−1.78)	
IO_{t-1}	0.0549	0.0308	0.0067	0.0064	−0.0035	0.0189	0.0135	0.0241	0.0235	0.0173
	(1.64)	(1.58)	(0.25)	(9.28)	(−1.87)	(3.40)	(2.77)	(15.45)	(14.85)	(14.41)
SZ_{t-1}	0.1045	0.0518	0.0318	−0.0147	0.0025	0.0387	0.0369	0.0211	0.0239	−0.0283
	(1.36)	(1.19)	(0.52)	(−10.52)	(0.93)	(2.75)	(3.27)	(8.06)	(8.81)	(−8.09)
MB_{t-1}	0.1270	0.0647	−0.0097	−0.0015	−0.0004	0.0303	0.0340	0.0405	0.0396	0.0253
	(1.48)	(1.32)	(−0.28)	(−2.61)	(−0.20)	(4.77)	(6.44)	(29.48)	(28.23)	(32.29)
DR_{t-1}	0.0999	−0.2673	0.1834	0.2249	−0.0736	−0.3386	−0.2858	0.4084	0.4515	0.2312
	(0.20)	(−0.91)	(0.20)	(10.01)	(−1.49)	(−0.69)	(−0.78)	(9.82)	(10.61)	(7.53)
SG_{t-1}	−0.0374	−0.0115	0.1811	−0.0102	0.0038	−0.0499	−0.0008	−0.0273	−0.0288	0.0007
	(−1.06)	(−0.57)	(1.33)	(−5.51)	(1.05)	(−2.82)	(−0.09)	(−15.42)	(−16.05)	(0.52)
AGE_{t-1}	−0.0598	−0.0742	−0.0277	0.0041	−0.0023	0.0316	0.0357	0.0139	0.0155	−0.0050
	(−3.54)	(−8.11)	(−0.59)	(8.74)	(−1.64)	(5.97)	(6.67)	(12.28)	(13.43)	(−3.01)
$EFIN_{t-1}$								−0.0696		
								(−13.91)		
OIL_i^{ret}									−0.0136	
									(−4.62)	
Indus FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
OIL_i^Q (*firststage*)	0.0026									
	(2.82)									
OIL_i^{ret} (*firststage*)		−0.0112								
		(−4.54)								
ROA_{t-2}			0.9236							
			(1.23)							
ROA_{t-3}			0.3576							
			(1.07)							
ROA_{t-4}			0.1718							
			(0.56)							
ROA_{t-5}			−0.2764							
			(−2.35)							
AR(1)			0.083							
AR(2)			0.387							
Hansen			0.833							
R^2	0.187	0.195	–	0.011	0.005	0.219	0.233	0.203	0.194	0.628
N	50,532	53,001	61,028	79,747	82,929	2211	1757	88,604	86,547	88,604

We find that our regression specification satisfies the condition of a good IV since the first stage regression shows that oil price sensitivity is significantly correlated with firm performance (t-statistic = 2.82). In the second stage regression, we find that the coefficient estimate of ROA, which is instrumented by the oil price sensitivity measure, is negative but insignificant (t-statistic = −1.53). The results are similar when we compute the oil price sensitivity measure using stock returns (see Column (2)). Collectively, these results at least to some extent alleviate concerns that our main results are induced by reverse causality where firm performance affects shareholder proximity.

5.2. Addressing endogeneity concerns using GMM estimation

Pooled OLS regression models can control for unobserved firm heterogeneity under the assumption that firm characteristics are strictly exogenous to corporate policy variables. But such a specification cannot account for dynamic endogeneity of firm characteristics and, ideally, an instrumental variables (IV) estimation framework is needed. Unfortunately, we are unable to identify good instruments for institutional distance and thus cannot perform the IV estimation.

To mitigate potential concerns about endogeneity, we use the generalized method of moments (GMM) dynamic panel estimation method. In particular, we use the GMM difference estimator proposed in Newey and Rosen (1988) and subsequently refined in Arellano and Bond (1991) to further examine the relation between institutional distance and firm performance. We choose the GMM estimation method because it accounts for unobserved heterogeneity (i.e., unobservable variables affect both the dependent and independent variable) as well as simultaneity (i.e., independent variables are functions of the dependent variables). Further, this method at least partially addresses the potential endogeneity between institutional distance and corporate policy variables.

The GMM estimation results are reported in Table 8, Column (3). We find that institutional distance is negatively related to ROA, i.e., firms that are closer to institutional investors have higher operating performance. The $DIST_{t-1}$ coefficient estimate is −0.1523, which is statistically and economically significant. The GMM coefficient estimate is much larger than the OLS coefficient estimate, which could be due to a reduction in the measurement error.

Examining the other estimates from the GMM specification, we find that the lagged values of ROA are significantly related to the current level of firm performance. The p-value from the AR(2) test suggests that there is statistically insignificant serial correlation at the second difference level. Additionally, the Hansen test suggests that the instruments are valid (p-value = 0.833). Last, the p-value from the Wald test confirms that the direction of causality is from institutional distance to firm performance and not the reverse.

5.3. Change-on-change regressions

We further establish the directional link between institutional distance and firm performance by estimating change-on-change regressions. The shareholder proximity measure is unlikely to exhibit large variation because local institutional monitors are likely to be stable, long-term investors. However, the relative importance of local monitors can change over time as the holdings of non-local institutions change. When the relative distance to potential monitors decreases, local monitoring effects can become stronger. Further, in some extreme instances, even stable monitors would pressure management by selling their shares when they are dissatisfied by management's performance (e.g., Parrino et al., 2003), which would affect shareholder proximity.

We estimate two regressions and report the results in Columns (4) and (5) of Table 8. In Column (4), we use the lagged change in institutional distance to explain changes in ROA and, in Column (5), we use lagged changes in ROA to explain changes in institutional distance. If the direction of causality is from institutional distance to ROA, a decrease in institutional distance would lead to improvements in ROA but improvements in ROA would not bring institutional shareholders closer to the firm. This test has also been used in Aggarwal et al. (2011) to establish the direction of causality between institutional ownership and firm performance.

The evidence in Column (4) indicates that an increase in institutional distance is associated with a 0.3% decrease in ROA, which is statistically significant at the 5% level (t-statistic = −2.43). In contrast, the reverse relation is statistically insignificant (t-statistic = 0.64). This evidence indicates that the causal link from institutional distance to firm performance is considerably stronger than the reverse causal relation.

5.4. Exogenous shock to shareholder proximity: HQ changes

In the next test, we provide additional evidence of causality by examining the distance-performance relation following an exogenous shock to shareholder proximity induced by changes in firm headquarters (HQ). Although in some cases, mergers, tax considerations, or internal structural issues might influence corporate headquarter relocations (Strauss-Kahn and Vives, 2009), in most instances, headquarter changes fairly exogenously generate a shock to shareholder proximity. We exploit this change in shareholder proximity to study the impact of local investors on the governance of local firms.

We create a dataset that covers the period from 1991 to 2005 and track HQ changes of all publicly traded U.S. firms. Compustat only reports the location for the most current location but Compact Disclosure dataset provides the state, street, and complete address of each firm every year. We use the Compact Disclosure dataset to identify HQ locations of

each firm over time and identify corporate HQ relocations. We only consider those HQ change events when the corporate office of a firm moves to another state.

If local institutions influence the corporate governance of local firms, changes in shareholder proximity following HQ changes should affect firm performance. To test this conjecture, we consider a sample of firms that have experienced changes in corporate headquarters during the 1991–2005 sample period. We define a change in distance variable ($\Delta DistHQ$), which reflects the change in distance between a firm and its ten largest shareholders around a HQ move. We expect that $\Delta DistHQ$ would be negatively related to change in firm performance, i.e., a decrease in the distance to institutional shareholders is associated with an improvement in firm performance.

The estimation results from HQ change regressions are reported in Columns (6) and (7) of Table 8. In Column (6), the change in distance is computed from year $t-1$ to $t+1$, where the HQ change occurs in year t. In Column (7), the change in distance is measured from year $t-2$ to $t+2$. Consistent with our conjecture, the results in Column (6) indicate that a decrease (increase) in distance to institutional shareholders following a change in HQ significantly increases (decreases) a firm's return on assets. The results are qualitatively similar when we consider changes in distance based on a four-year window around HQ changes (see Column (7)).

Collectively, these results from HQ change regressions are consistent with the conjecture that local institutional monitoring has a causal impact on firm performance.

5.5. Effect of local investors when monitoring is important

We now investigate whether monitoring effects of local institutions are stronger among firms for which monitoring is likely to be more important. This test is based on the assumption that firms that depend on external financing to finance their investment opportunities would be able to obtain outside financing more easily if they are better governed. We conjecture that if local institutions engage in monitoring activities, institutional distance is likely to be more important for the valuation of firms that depend on outside financing.

Because the financial dependence of a particular firm depends upon various firm characteristics, we use the Rajan and Zingales (1998) approach and construct an index of financial dependence for each industry. Specifically, we compute the external financial dependence measure as the difference between capital expenditures and cash flow divided by capital expenditures for each three-digit SIC code based industries during the 1980–2006 period.[15] We extend our baseline regression specification where the set of independent variables includes not only the institutional distance variable but also the measure of financial dependence and the interaction between institutional distance and financial dependence.

Further, firms that are more sensitive to external shocks such as oil price shocks are more likely to have windfall gains or losses and may have easier availability of free cash flows. These firms are likely to benefit more from institutional monitoring. We conjecture that local institutions are more likely to act as monitors among firms that are more susceptible to external shocks to cash flows. We create a measure of the sensitivity of firm performance to oil prices by regressing firm level Tobin's Q on inflation adjusted Brent UK oil prices. This is a firm-level sensitivity measure defined over the 1987–2007 period. If local institutions act as monitors, then the interaction between institutional distance and oil price sensitivity measure should be significant in the performance regression.

The results are reported in Columns (8) and (9) of Table 8. Consistent with our conjecture, we find that the relation between distance to institutional shareholders and firm performance is stronger for firms that are likely to benefit more from better governance. The interaction term between financial dependence and institutional distance has a significantly negative coefficient estimate (estimate $=-0.0114$, t-statistic $=-2.94$). Similarly, the evidence in Column (9) indicates that the interaction term between oil price sensitivity and institutional distance has a statistically significant coefficient estimate (estimate $=-0.0054$, t-statistic $=-1.78$). The estimate is only significant at the 10% level but it provides additional support for the monitoring role of local institutions.

5.6. Firm fixed effects regression

Another way to establish the causal relation between shareholder proximity and firm governance is to use a firm fixed effects regression specification. The firm fixed effects model would also allow us to account for the impact of any unobserved firm effects on our results. In this case, we would exploit the time variation in the shareholder proximity for a given firm and examine whether it affects firm performance. Unfortunately, the shareholder proximity measure does not exhibit a significant variation over time and this makes the identification difficult. But for completeness, we report the results with firm fixed effects in Table 8, Column (10).

We find that even after the inclusion of firm fixed effects along with year fixed effects, the relation between institutional distance and firm performance is strong, both statistically and economically. Compared to the DIST estimate of -0.0085 (t-statistic $=-5.88$) obtained using year and industry fixed effects (see Column (1) of Table 5), the results weaken but remain significant. Specifically, we find that the coefficient estimate of DIST is -0.0048, which is statistically

[15] Rajan and Zingales (1998) construct an industry-level measure of financial dependence that they interact with a country-level measure of financial development to explain growth in value-added of a particular industry in a given country.

significant at the 1% level (t-statistic $=-4.63$). This evidence is consistent with our key conjecture and shows that the monitoring activities of local institutional investors improve firm performance.[16]

Taken together, our results from various causality tests portray a consistent picture. Higher levels of local institutional ownership improves corporate governance and leads to better firm performance but not vice versa. The results from a few of these causality tests may have alternative interpretations but jointly these results establish a causal relation between shareholder proximity and corporate governance.

6. Local monitoring or superior local information?

A key alternative explanation for our findings is that local investors do not monitor local firms but they are simply good at identifying better performing local firms. Many pieces of evidence presented so far are inconsistent with this interpretation but we conduct several additional tests to further rule out a purely information based explanation for our findings.

6.1. Regulation Fair Disclosure as a natural experiment

In the first test, we use the implementation of Regulation Fair Disclosure (Reg FD) as a natural experiment to rule out the information channel as the main explanation for our findings. This test is motivated by the evidence in Bernile et al. (2011), who show that Reg FD and SOX "leveled the playing field" and eliminated the local informational advantage of institutional investors. Using a difference-in-difference method, we study the relation between institutional distance and corporate governance before and after the implementation of Reg FD. If our results are induced primarily through the information channel, the relation between shareholder proximity and corporate governance would weaken and may even disappear following the implementation of Reg FD.

To examine this information hypothesis, we define a post Reg FD dummy that is set to one for all years after 1999 (since Reg FD was implemented in October 2000) and zero otherwise. We interact this dummy variable with the institutional distance measure and include the interaction term as an additional variable in the baseline specifications. We also include the post Reg FD dummy variable in all specifications. All firm, industry, and year controls are included in the regressions but for brevity we only report the coefficients on distance, interaction term and the Reg FD dummy.

The estimation results are reported in Table 9. Panel A presents the results for the governance regressions and Panel B reports the results from performance, empire building, and quiet life regressions. In most specifications, the coefficient estimate of $DIST_{t-1}$ retains its sign and statistical significance. This evidence indicates that the relation between shareholder proximity and corporate governance remains significant even after the implementation of Reg FD when the informational advantage of local investors disappeared. Thus, our results are unlikely to merely reflect the informational advantages of local investors.

The estimates of the post Reg FD $\times DIST_{t-1}$ interaction term are also consistent with our conjecture. Specifically, in Panel A, it has a positive and statistically significant (at the 10% level) coefficient estimate in the option backdating regression (see Column (5)). This evidence indicates that local ownership has a stronger influence on the propensity to engage in backdating following the implementation of Reg FD.

Further, the post Reg FD $\times DIST_{t-1}$ interaction variable in the ROA regression is significantly negative, which indicates that the relation between local ownership and a firm's return on assets becomes even stronger during the post Reg FD period. We interpret this as evidence against an information story because the relation between shareholder proximity and ROA should become weaker or even disappear after the Reg FD. This finding indicates that monitoring activities of local investors rather than their superior local information is the primary driver of the relation between shareholder proximity and corporate governance.

6.2. Exclude mutual funds

Gaspar and Massa (2007) show that local mutual fund ownership of firms improves governance and induces value-enhancing decisions. In the second test, to ensure that our results are not driven mainly by the information gathering efforts of mutual funds, we exclude them from our sample. We use the Bushee (1998) investor classification method and compute the institutional distance measure for all institutional investors that do not belong to institutional type 4 (i.e., the investment companies). The results reported in Table 10 (see Test (1)) indicate that excluding mutual funds from the sample does not materially change the relation between institutional distance and corporate governance.

Another key result in Gaspar and Massa (2007) is that monitoring activities of local mutual funds lower stock liquidity. To ensure that our results are not driven by such liquidity effects, we include the Amihud (2002) illiquidity ratio as an additional control variable in our regressions. Even after we account for the liquidity effects of local mutual fund

[16] In all our tests, the unit of observation has been a firm. Another way to examine the monitoring role of institutions would be to investigate whether the same institution has a differential impact on the corporate governance of local and non-local firms. To investigate this possibility, we create a sample of institution-firm level pairs and re-estimate the main regressions using institution fixed effects. Consistent with our main conjecture, we find that and our firm-level results, we find that a given institution is more likely to be associated with good governance practices in local firms than distant firms.

Table 9
Information or monitoring? Evidence from Reg FD.

This table reports the estimates from extended specifications of fraud, governance, performance, empire building,quiet life, CEO turnover and excess compensation regressions that include a Regulation Fair Disclosure (Reg FD) interaction term. The Reg FD dummy variable takes a value of one in the years after 1999 and zero otherwise. For brevity, we only report the estimates of the interaction term and the main independent variable DIST (distance to 10 largest shareholders). Additional details about all variables are available in the Appendix. The governance and fraud regression specifications in Panel A are identical to those in Table 4. The specifications for performance, empire building, and quite life regressions in Panel B are identical to those in Table 5. Class action law suits regression is omitted because these data are available only for the 2000–2007 period. The CEO turnover and excess compensation regression specifications in Panel A are identical to those in Table 7. All marginal effects in the logit regressions are multiplied by 100 to improve readability.

Panel A: Governance and fraud regression estimates

	Board indep change (1–3)			Corporate fraud (4–5)		CEO	Excess
	Sml (1)	Med (2)	Lg (3)	EM (4)	BD (5)	Turn (6)	Comp (7)
$DIST_{t-1}$	−0.5223	−0.8576	−0.8786	1.0918	0.7833	−0.1938	0.0492
	(−1.22)	(−1.92)	(−1.95)	(3.92)	(4.38)	(−1.77)	(2.24)
$DIST_{t-1} \times$ Post Reg FD	0.1186	0.4559	0.4324	0.6001	0.5348	−1.4078	0.0012
	(0.25)	(0.92)	(0.87)	(0.62)	(1.76)	(−0.37)	(0.05)
Post Reg FD	12.9763	14.4667	14.9271	39.0013	15.1151	0.7643	−0.2026
	(16.29)	(17.19)	(17.47)	(24.13)	(10.79)	(0.56)	(−5.42)
Indus FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj./Pseudo R^2	0.527	0.520	0.523	0.091	0.073	0.021	0.062
N	19,287	19,287	19,287	73,151	88,873	15,585	7563

Panel B: Performance, empire building, and quiet life regression estimates

	Perf	Empire building (2–6)					Quiet life (7–9)		
	ROA (1)	Cap Ex (2)	Asset Gr (3)	PPE Gr (4)	Acq ratio (5)	Acq like (6)	CGS (7)	R&D (8)	Cash (9)
$DIST_{t-1}$	−0.0050	0.0011	0.0051	0.0068	0.0054	0.1808	0.0094	0.0093	0.0055
	(−3.26)	(2.13)	(2.33)	(2.12)	(1.92)	(2.17)	(1.78)	(8.23)	(6.07)
$DIST_{t-1} \times$ Post Reg FD	−0.0138	0.0000	−0.0100	−0.0049	−0.0022	−0.0964	0.0026	0.0071	0.0052
	(−3.65)	(0.06)	(−2.46)	(−0.81)	(−0.77)	(−0.97)	(0.16)	(3.41)	(2.74)
Post Reg FD	−0.0910	−0.0492	−0.0453	−0.1033	−0.0086	−1.3670	0.0903	0.0340	0.1163
	(−18.12)	(−23.15)	(−4.86)	(−7.05)	(−2.23)	(−7.79)	(4.55)	(9.89)	(36.51)
Indus FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj./Pseudo R^2	0.194	0.252	0.093	0.104	0.033	0.105	0.077	0.274	0.245
N	88,604	87,750	88,315	88,209	12,046	12,046	88,863	52,235	82,133

ownership, we find that the relation between institutional distance and corporate governance measures remains qualitatively similar to the baseline cases (see Test (2)).

6.3. Another test of the information hypothesis

In the next set of tests, we rotate the point of view from institutions to firms to further separate our monitoring explanation from a preference-based explanation. Specifically, we investigate whether monitoring effects of local institutions are present among firms with low information asymmetry where the preference-based explanation is less applicable. These tests are based on the observation that investors are able to exploit their superior information more effectively among firms with high information asymmetry. Previous studies show that institutions overall and local institutions in particular are more likely to exploit their local informational advantage for firms with higher information asymmetry (e.g., Schultz, 2010; Bernile et al., 2010).

We consider subsamples of firms based on analyst coverage and firm size as high analyst coverage and high market capitalization attributes are likely to proxy for low information asymmetry. Tests (3)–(6) in Table 10 show that our main results hold for both subsamples, although some of the estimates are stronger for the low information asymmetry subsamples. This evidence is inconsistent with an information based explanation but support the monitoring hypothesis.

6.4. Effect of exchange regulations of 2003

In response to the corporate scandals in the United States in 2001 and 2002, the Sarbanes–Oxley Act and the new rules of the major exchanges established new restrictions on the structure and operations of boards. One of the main provisions

Table 10
Estimates from basic robustness tests.

This table reports the results from various robustness tests. In each test, we re-estimate the fraud, governance, performance, empire building, and quite life regressions. For brevity, we only report the estimates of the main independent variable DIST (distance to 10 largest shareholders). Test (1) reports estimates using a distance measure to all institutions excluding mutual funds. In Test (2), we control for liquidity using the Amihud (2002) measure. In Tests (3) and (4), we present results for stocks with high and low analyst coverage subsamples, respectively. Analyst coverage data are obtained from I/B/E/S. High and low analyst coverage is based on the median of analyst coverage. Tests (5) and (6) report estimates for size-based subsamples. Large and small firms are classified based on the median firm size. Tests (7) and (8) report estimates from a subsample analysis before and after 2003. All variables are defined in the Appendix. The governance and fraud regression specifications in Panel A are identical to those in Table 4. The CEO turnover and excess compensation regression specifications in Panel A are identical to specifications (5) and (6) in Table 7, Panel D, respectively. The specifications for performance, empire building, and quite life regressions in Panel B are identical to those in Table 5. All marginal effects in the logit regressions are multiplied by 100 to improve readability.

Panel A: Governance and fraud regression estimates

	Board indep change (1–3)			Corporate fraud (4–6)			CEO	Excess
	Sml (1)	Med (2)	Lg (3)	EM (4)	BD (5)	CLS (6)	Turn (7)	Comp (8)
(1) *No mutual funds*								
$DIST_{t-1}^{NoMF}$	−0.2411	−0.2915	−0.3421	1.6674	1.2331	0.2153	−0.5771	0.0416
	(−1.21)	(−1.79)	(−1.90)	(7.95)	(9.98)	(2.80)	(−2.08)	(2.08)
(2) *Control for liquidity*								
$DIST_{t-1}$	−0.3706	−0.3806	−0.4166	1.3255	1.2309	0.0862	−0.9013	0.0436
	(−1.71)	(−1.80)	(−1.81)	(5.60)	(8.37)	(1.08)	(−2.21)	(1.99)
(3) *High analyst coverage stocks*								
$DIST_{t-1}$	−0.3716	−0.3888	−0.3913	1.4321	0.7306	0.1694	−1.0887	0.0338
	(−3.08)	(−3.20)	(−3.23)	(5.55)	(5.19)	(1.78)	(−1.59)	(1.13)
(4) *Low analyst coverage stocks*								
$DIST_{t-1}$	−0.3326	−0.3940	−0.4334	1.3188	0.6653	0.1426	−0.3899	0.0572
	(−2.22)	(−2.54)	(−2.78)	(5.94)	(5.14)	(1.82)	(−0.79)	(2.73)
(5) *Larger firms*								
$DIST_{t-1}$	−0.5459	−0.7264	−0.7955	1.9979	2.0131	0.2008	−1.1664	0.0051
	(−1.21)	(−1.54)	(−1.67)	(6.60)	(10.65)	(1.75)	(−2.12)	(0.16)
(6) *Smaller firms*								
$DIST_{t-1}$	−0.0679	−0.0768	−0.0701	0.8696	0.1548	0.0605	−0.2853	0.0850
	(−2.58)	(−2.61)	(−2.69)	(3.06)	(0.98)	(0.72)	(−0.49)	(3.67)
(7) *Subsample*: Year $\leq$ 2003								
$DIST_{t-1}$	−0.4668	−0.4954	−0.5244	0.8717	0.9958	−0.1729	−0.9824	0.0619
	(−1.86)	(−1.90)	(−1.99)	(3.97)	(7.57)	(−1.31)	(−2.25)	(2.85)
(8) *Subsample*: Year > 2003								
$DIST_{t-1}$	−1.9492	−0.2940	−0.3397	0.4350	1.4038	0.3210	0.2490	−0.0008
	(−0.54)	(−1.01)	(−1.15)	(1.08)	(3.56)	(3.42)	(0.27)	(−0.02)

Panel B: Performance, empire building, and quiet life regression estimates

	Perf	Empire building (2–6)					Quiet life (7–9)		
	ROA (1)	Cap Ex (2)	Asset Gr (3)	PPE Gr (4)	Acq ratio (5)	Acq like (6)	CGS (7)	R&D (8)	Cash (9)
(1) *No mutual funds*									
$DIST_{t-1}^{NoMF}$	−0.0102	0.0010	0.0015	0.0040	0.0019	0.1070	0.0141	0.0134	0.0077
	(−6.07)	(2.39)	(0.87)	(1.67)	(1.81)	(2.21)	(1.93)	(10.18)	(7.73)
(2) *Control for liquidity*									
$DIST_{t-1}$	−0.0083	0.0011	0.0020	0.0050	0.0039	0.1341	0.0134	0.0108	0.0069
	(−4.95)	(2.19)	(0.95)	(1.64)	(2.30)	(1.97)	(1.94)	(8.67)	(7.11)
(3) *High analyst coverage stocks*									
$DIST_{t-1}$	−0.0095	0.0014	0.0012	0.0035	0.0037	0.1223	0.0113	0.0107	0.0050
	(−4.67)	(2.81)	(0.59)	(1.15)	(1.53)	(1.77)	(1.90)	(7.78)	(4.95)
(4) *Low analyst coverage stocks*									
$DIST_{t-1}$	−0.0092	0.0011	0.0006	0.0028	0.0012	0.0904	0.0174	0.0113	0.0065
	(−5.59)	(2.65)	(0.34)	(1.10)	(0.98)	(1.46)	(2.44)	(9.02)	(6.81)
(5) *Larger firms*									
$DIST_{t-1}$	−0.0071	0.0014	0.0056	0.0104	0.0016	0.0785	0.0101	0.0097	0.0084
	(−6.18)	(2.43)	(2.46)	(3.36)	(1.42)	(1.73)	(1.16)	(9.49)	(7.93)

Table 10 (*continued*)

Panel B: Performance, empire building, and quiet life regression estimates

	Perf	Empire building (2–6)					Quiet life (7–9)		
	ROA (1)	Cap Ex (2)	Asset Gr (3)	PPE Gr (4)	Acq ratio (5)	Acq like (6)	CGS (7)	R&D (8)	Cash (9)
(6) *Smaller firms*									
$DIST_{t-1}$	−0.0136	0.0006	0.0011	−0.0009	0.0010	−6.0793	0.0114	0.0126	0.0057
	(−5.20)	(1.15)	(0.47)	(−0.26)	(0.23)	(−13.24)	(1.31)	(6.87)	(4.29)
(7) *Subsample*: Year ≤ 2003									
$DIST_{t-1}$	−0.0074	0.0011	0.0036	0.0056	0.0042	0.1345	0.0065	0.0105	0.0062
	(−4.68)	(2.29)	(1.81)	(1.94)	(2.27)	(1.95)	(1.19)	(9.34)	(6.88)
(8) *Subsample*: Year > 2003									
$DIST_{t-1}$	−0.0079	0.0007	−0.0038	0.0022	0.0019	0.0620	0.0286	0.0129	0.0092
	(−2.09)	(1.83)	(−0.54)	(0.20)	(0.62)	(0.39)	(1.05)	(4.26)	(3.33)

of these rules required that (i) a majority of board members on a single board be independent and (ii) the members of compensation, audit, and nominating committees be independent. In our setting, it is likely that local investors would have a diminished effect on internal governance after 2003.

To test this possibility, we create subsamples for before and after 2003 and examine the effect of distance on our internal governance, fraud, CEO turnover, excess CEO pay and firm policy variables. The results are presented in Table 10 (Tests (7) and (8)). We find that the effect of local investors on internal governance, corporate fraud, excess compensation and CEO turnover is indeed more pronounced before 2003. This evidence is consistent with the conjecture that exchange regulations improved the overall corporate governance of firms. We find a similar pattern for performance, empire building and quiet life variables.[17]

7. Summary and conclusion

The economic benefits of geographical proximity have been recognized in the portfolio choice, asset pricing, and banking literatures. Surprisingly, the previous corporate finance literature has paid relatively less attention to the impact of geographical proximity on corporate behavior. In this paper, we study whether geographical proximity to institutional shareholders influences corporate governance of firms. Our main conjecture is that the monitoring effects of local institutions would improve corporate governance, particularly when other forms of governance are weak.

Consistent with this conjecture, we find that firms with high concentration of local institutional investors have better internal governance and are more profitable. Those firms are also less likely to be associated with undesirable corporate activities such as aggressive earnings management or option backdating and are less likely to be targets of class action lawsuits. Further, managers of such firms exhibit a lower propensity to engage in "empire building" and less likely to "lead the quiet life". Monitoring by local institutions is more effective when there is a large local concentration of longer-term, "dedicated" investors. Examining the local monitoring mechanisms, we find that local institutions are more likely to introduce shareholder proposals, increase CEO turnover and reduce excess compensation. Taken together, our results indicate that local institutions are more effective monitors of corporate behavior because monitoring costs vary inversely with distance.

These findings extend the emerging corporate finance literature on the monitoring activities of local shareholders. Our evidence also adds a new twist to the information-based explanation for local bias. If monitoring activities of local institutions improve firm performance, evidence of superior returns from local investments of institutions might not be due to their superior local information. Investors might earn higher returns simply because they free-ride on the monitoring activities of other local investors. The true source of superior performance of local institutions is the monitoring activities of "other" local institutions. We hope to investigate these interesting issues in our future research.

[17] We conduct additional tests to rule out other explanations for our findings. For example, another information-based alternative explanation for our findings is that local institutions are not better monitors but they are able to anticipate the future changes in corporate policies more accurately. We do not find support for this alternative expectations hypothesis. Our results also do not reflect the natural clustering of investors and firms in certain geographic regions. Last, we find that local institutions are not merely a substitute governance mechanism to large block-holders (e.g., Cronqvist and Fahlenbrach, 2009; Becker et al., 2011a).

Appendix A

A.1. Dependent variables

Earnings management (*EM*): Discretionary accruals are calculated as in Yu (2008) and are expressed as a percentage of assets of a firm. Following a modified Jones model (Dechow et al., 1995), we estimate discretionary accruals from regressions of total accruals on changes in sales and property plant equipment for every year within a particular industry. The initial sample is obtained from Compustat and covers the period from 1981 to 2002. Foreign firms, unclassified, and firms from the financial industry are deleted. In addition, firms with missing assets, net income before extraordinary items and cash from operations are also deleted. Small firms defined as a market capitalization of less than 10 million are also deleted from the sample. Discretionary accruals are estimated annually and are winsorized at the 1% and 99% levels. *Source*: Estimated. *Time period*: 1980–2007.

Option backdating (*BD*): It is a dummy variable that takes the value of one if the CEO backdated options during the 1996–2005 period and zero otherwise. Following Bebchuk et al. (2010), we include observations of insiders' equity transactions (Forms 3–5 and 144) that have the cleanse indicator (R or C). Duplicate, scheduled, and grants that were given in months where the firms had an ex-date of a dividend are also eliminated. The date for the effective grant date is assigned based on closeness of the closing price of the grant date and strike price of the grant (within 1%). *Source*: Thomson Financial's Insider Trading Database. *Time period*: 1996–2005.

Class action lawsuit (*CLS*): It is a dummy variable that takes the value of one if there has been a class action law suit filed against a firm in a particular year and zero otherwise. Class action law suits (classic) related to financial fraud (e.g., restatements) or insider trading are included in the database. *Source*: Stanford University and Cornerstone Research Litigation Database. *Time period*: 2000–2007.

Return on assets (*ROA*): It is measured as earnings before interest, taxes, depreciation and amortization scaled by assets (Compustat data # 13/Compustat data # 6). ROA is calculated annually and winsorized at the 1% and 99% levels. *Source*: Compustat. *Time period*: 1980–2007.

Capital expend: Capital expenditures is measured as capital expenditure (Compustat data # 30) scaled by total assets (Compustat data # 6). Capital expenditure is winsorized at the 1% and 99% levels. *Source*: Compustat. *Time period*: 1980–2007.

Asset growth: Asset growth is the percentage increase in assets (Compustat data # 6) in one year. Asset growth is winsorized at the 1% and 99% levels. *Source*: Compustat. *Time period*: 1980–2007.

PPE growth: PPE growth is the percentage increase in property plant and equipment expenditure (Compustat data # 8) in one year. PPE growth is winsorized at the 1% and 99% levels. *Source*: Compustat. *Time period*: 1980–2007.

Acquisition ratio: It is the sum of the value of all acquisitions made by a firm in a year. The variable is scaled by the total market capitalization of the firm. *Source*: SDC Platinum. *Time period*: 1996–2007.

Acquisition likelihood: It is a dummy variable that takes a value one if the firm has made at least one acquisition in a year and zero otherwise. *Source*: SDC Platinum. *Time period*: 1996–2007.

Cost of goods sold (*CGS*): Cost of goods sold is measured by cost of goods sold (Compustat data # 41) scaled by total sales (Compustat data # 12). Cost of goods sold is winsorized at the 1% and 99% levels. *Source*: Compustat. *Time period*: 1980–2007.

R&D: R&D expenditure is measured by R&D (Compustat data # 46) scaled by total assets (Compustat data # 6). R&D expenditure is winsorized at the 1% and 99% levels. *Source*: Compustat. *Time period*: 1980–2007.

Cash holdings: Cash holdings is measured by cash (Compustat data # 162) scaled by total assets (Compustat data # 6). Cash holdings are winsorized at the 1% and 99% levels. *Source*: Compustat. *Time period*: 1980–2007.

Board change: We create a composite board score based on four board characteristics, which include whether the board has a majority of independent directors and whether each of the audit, compensating, and nominating committees has a majority of independent directors. The board score ranges from zero to four. Board change is defined as a dummy variable that takes a value one if the board independence score improves and zero otherwise. A small board change represents a change of board independence by two. A medium change is a change in the board score of three and a large board change represents a change in independence score from zero to four. *Source*: Risk Metrics. *Time period*: 1996–2007.

CEO turnover: CEO turnover is a dummy variable equal to one if the CEO of a firm changes. *Source*: ExecuComp. *Time period*: 1996–2005.

Excess compensation: Excess compensation is defined as the residual from an estimated compensation model with industry and year fixed effects. We use Core et al. (2008) to define a model for executive compensation. The model is defined as follows: $Log(Pay)_{it} = Log(Sales)_{it-1} + S\&P500_{t-1} + BookToMarket_{it-1} + StockReturn_{it-1} + StockReturn_{it} + ROA_{it-1} + ROA_{it} + CEOAge_{it} + Industry_i + Year_t + \varepsilon_{it}$. $Excesscompensation_{it} = Log(Pay)_{it} - Log(ExpectedCompensation)_{it}$. *Source*: ExecuComp. *Time period*: 1996–2005.

HQ change: HQ change is a dummy variable equal to one if a firm moves its corporate headquarters from one state on another. *Source*: Compact Disclosure. *Time period*: 1991–2005.

Shareholders proposal dummy: It is a dummy variable equal to one if shareholders submit a proposal. *Source*: Risk Metrics. *Time period*: 1996–2007.

Governance proposal dummy: It is a dummy variable equal to one if shareholders submit a governance proposal. *Source*: Risk Metrics. *Time period*: 1996–2007.

A.2. Main explanatory variables

DIST: It is the equal-weighted distance to the 10 largest institutional shareholders of a firm. Based on the holdings data we can identify all institutions that have holdings in a particular firm. We then obtain data on the zip codes for all institutions and firms. The zip codes are used to identify the latitude and longitude for each firm and institution. We calculate the distance between a firm and an institutional investor that has a holding in the company using the following distance formula: $D(\text{firm,insti}) = r \times \arccos[\sin(\text{latfirm}) \times \sin(\text{latinst}) + \cos(\text{latfirm}) \times \cos(\text{latinst}) \times \cos(\text{loninst} - \text{lonfirm})]$, where latfirm and latinst are the latitudes of the firm and the institutional investor locations, respectively. lonfirm and loninst are the longitudes of the firm and the institutional investor locations, respectively. r is the radius of the earth in miles (i.e., $r=3963$), and the latitude and longitude values for firms and institutions that have been converted into radians by means of a division by $180/\pi$. See Coval and Moskowitz (1999) for additional details. DIST is winsorized at the 1% and 99% levels. *Source*: Thomson Reuters. *Time period*: 1980–2007.

State IO: It is the total dollar value of the ownership of a state's investors in a firm scaled by the dollar value of total holdings of all investors in the firm. *Source*: Thomson Reuters. *Time period*: 1980–2007.

Ew-Dist: It is the average distance between firm and institutional shareholders. *Source*: Thomson Reuters. *Time period*: 1980–2007.

Vw-Dist: The value-weighted distance between a firm and its institutional shareholders, where the weights are determined based on the stake of the institution in the firm. *Source*: Thomson Reuters. *Time period*: 1980–2007.

Local 250: It is the proportion of total institutional ownership by institutional investors located within 250 miles of a firm. *Source*: Thomson Reuters. *Time period*: 1980–2007.

A.3. Control variables

Institutional ownership (*IO*): It is the total institutional ownership in the firm. IO is winsorized at the 1% and 99% levels. *Source*: Thomson Reuters. *Time period*: 1980–2007.

Firm size (*SZ*): It is the logarithm of the total market capitalization of a firm. Market capitalization is measured as end of year closing price (Compustat data # 199) times number of shares outstanding (Compustat data # 25). Size is winsorized at the 1% and 99% levels. *Source*: Compustat. *Time period*: 1980–2007.

Debt ratio (*DR*): Debt ratio is measured as the ratio of long term debt (Compustat data # 9) and short term debt (Compustat data # 34) scaled by total assets (Compustat data # 6). Debt ratio is winsorized at the 1% and 99% levels. *Source*: Compustat. *Time period*: 1980–2007.

Sales growth (*SG*): Sales growth is a the growth rate of net sales (Compustat data # 12). It is measured as $(SG_t/SG_{t-1})-1$. Sales growth is winsorized at the 1% and 99% levels. *Source*: Compustat. *Time period*: 1980–2007.

Market-to-book ratio (*MB*): Market-to-book ratio is measured as assets (Compustat data # 6) less book value of equity (Compustat data # 60) less market value of equity (Compustat data # 199 $\times$ 25) scaled by total assets. The market-to-book ratio is winsorized at the 1% and 99% levels. *Source*: Compustat. *Time period*: 1980–2007.

Firm age (*AGE*): Age of the firm as defined from the year it was founded. *Source*: Jovanovic and Rousseau (2001). *Time period*: 1978–2007.

Housing collateral ratio: It is the log ratio of housing equity to labor income for each state. *Source*: Stijn Van Nieuwerburgh's web site. *Time period*: 1979–2007.

Relative unemployment: It is the ratio of current state unemployment rate to the moving average of the state unemployment rate in the previous four years. *Source*: Bureau of Economic Analysis, Bureau of Labor Studies. *Time period*: 1979–2007.

Income growth: It is the growth rate of labor income. *Source*: Bureau of Economic Analysis. *Time period*: 1979–2007.

External finance (*EFIN*): It captures a firm's dependence on external financing and is defined as the industry (three-digit SIC)-level median of the ratio of capital expenditures minus cash flow over capital expenditures (the numerator and denominator are summed over all years for each firm before dividing). This variable measures the portion of capital expenditures not financed by internally generated cash and is based on Rajan and Zingales (1998). External finance dependence is an industry level measure over the 1980–2007 period and is winsorized at the 1% and 99% levels. *Source*: Compustat. *Time period*: 1980–2007.

Oil price sensitivity^{Q} (OIL^{Q}): The oil price sensitivity is defined as the sensitivity of firm-level Tobin's Q to oil prices. Specifically, we regress Tobin's Q on oil prices and year fixed effects. The oil price is the UK Brent oil price and is corrected for inflation using the CPI. The oil price sensitivity is a single measure for each firm over the entire time period. The measure is winsorized at the 1% and 99% levels. *Source*: Datastream, Compustat. *Time period*: 1987–2007.

Oil price sensitivity^{Ret} (OIL^{Ret}): The oil price sensitivity is defined as the sensitivity of firm-level stock returns to oil prices. Specifically, we regress returns on oil prices and year fixed effects. The oil price is the UK Brent oil price and is corrected for inflation using the CPI. The oil price sensitivity is a single measure for each firm over the entire time period. The measure is winsorized at the 1% and 99% levels. *Source*: Datastream, Compustat. *Time period*: 1987–2007.

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