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Does Geographic Proximity Change the Passiveness of Equity Ownership by Bank Trust?*

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ABSTRACT

We provide evidence that while concentrated bank trust ownership is passive with distant firms, it is nonpassive with local firms and reduce their risk-taking. Concentrated *local* bank trust ownership is associated with (i) lower future firm equity beta and (ii) less uncertain corporate policies. The results cannot be explained by private information alone, are not driven by local bank trusts as a mixed debt-equity holder, and are robust to various tests for endogeneity. We also explore channels through which local bank trusts could exert their influence, including their stabilizing function during crisis periods and joining force with local independent directors.

JEL Codes: G30; G23; G32

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I. INTRODUCTION

The proportion of US equities owned by institutional investors has increased substantially, reaching 67% by the end of 2009 (The Conference Board 2010). The increasing dominance of institutional investors contrasts with our limited understanding of ownership characteristics that influence the role of the highly heterogeneous institutional investors. In this paper, we explore the effect of geographic proximity has on a unique type of institution—bank trust. By comparing local and nonlocal concentrated bank trust ownership at the same firm that differs only in their distance to the firm's headquarters, we show that geographic proximity alone leads to more active influence by bank trusts on firm risk-taking.

Trust is a fiduciary relationship in which the trustee holds legal title to specified property and manages that property for beneficiaries (Schanzenbach and Sitkoff 2007). Trust, usually referred to as bank trust, is managed by the trust

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department of a bank, savings and loan associations, and trust companies. The relevance of bank trust resides in the fact that Americans are bequeathing hundreds of billions of dollars a year for the next half century—the largest wealth transfer in history (Havens and Schervish 2003). According to the calculation of Schanzenbach and Sitkoff (2012) based on Federal Deposit Insurance Corporation (FDIC) annual reports of trust holdings, approximately 65% of the trust investments reside in stocks during the period 2001–2008. The largest stock holdings by the trust accounts are then reported in banks' or trust companies' 13F filings to the Securities and Exchange Commission (SEC), also known as the institutional ownership of the stock by bank trusts or "bank trust ownership". Compared to other self-identified categories of institutional ownership, like investment advisors, pension funds, etc., bank trust ownership is subject to more stringent legal and regulatory environment with respect to their fiduciary responsibilities (Del Guercio 1996). Because of their stringent requirements, bank trusts are one of the most conservative institutional investors (Bennett et al. (2003) and has low turnovers to reduce costs to the beneficiaries (Schanzenbach and Sitkoff 2007).

While bank trust's stronger preference for low-risk stocks is well documented in the literature (Hankins et al. 2008), it is less clear whether bank trust ownership will have an influence on a firm's risk-taking behavior ex post. Further, the endogenous nature of ownership structure (Demsetz 1983; Demsetz and Lehn 1985) makes it hard to produce conclusive evidence on the effect of geographic proximity. We address this concern by comparing large ownerships by bank trusts that differ only in geographic proximity, for the same firm at the same time, using a firm fixed effects regression that also controls for year fixed effects, to achieve identification. Specifically, we identify a differential relation between concentrated bank trust ownership and corporate risk-taking behavior when the *only* factor that changes is their geographic proximity[1] and show that geographic proximity alone leads bank trust ownership to overcome their passiveness and behave differently from their nonlocal peers.

Our results based on a sample over 1995–2009 show that an increase in ownership by geographically proximate bank trusts is associated with (i) lower *future* firm equity beta and (ii) less uncertain *future* corporate policies. The findings are also in agreement with the literature, which documents institutional investors' pursuit of their unique interests other than maximizing shareholder value (Romano 1993; Faleye et al. 2006). Our findings are robust to definitions of geographic proximity, and various tests for endogeneity, including firm fixed effects specifications, firm fixed effects instrumental variable (IV) regression with the help of a geography-based instrument, and propensity score matching analysis. After matching for observable firm characteristics including size, Tobin's Q, R&D intensity, industry, relative volatility in the previous

1 We use concentrated bank trust ownership in the empirical setting for a study of potential monitoring because concentrated holdings are documented to be another factor that reduces monitoring costs so that monitoring behavior is more likely (Chen et al. 2007).

24 months, etc., the difference in mean future equity beta between the firms with high (greater than and equal to 3%) and low (less than 3%) geographically proximate bank trusts ownership is –0.069, significant at a 1% level, and amounts to a reduction of about 7.3% of a standard deviation in an average firm's beta. The reduction in a firm's beta that is associated with local bank trust ownership is even larger in magnitude, at –0.105 during crisis periods.

The finding that geographic proximity alone *changes* the passive role of concentrated bank trust ownership is, to the best of our knowledge, new. We next explore whether information alone can explain our finding. Headquarters are the center of information exchange between the firm and its investors (Davis and Vernon Henderson 2008), it is possible that bank trusts have private information about local firms' future risk and corporate decisions (Ivashina and Sun 2011). If informational advantage alone drives the negative relation, we would also expect to observe lower local bank ownership to be associated with higher future equity beta. This explanation, however, does not seem to be sufficient as we find that the negative relation between local bank trust ownership and equity beta is (i) only driven by the increase of such ownership and (ii) only during crisis periods. Crises are hard to predict and represent a relatively exogenous shock (Lemmon and Lins 2003; Lin et al. 2011). If a bank trust's impact on local firms' risk-taking could be fully attributed to its informational advantage, it should display the ability to predict lower future risk and select stocks accordingly both in and out of crisis periods. Further, we find the bank trust's impact on local firm's risk-taking is stronger for large firms, inconsistent with the pure information story. Another possibility is that local bank trusts can obtain private information from loan relationships as a joint debt-equity holder. We, however, do not find support for this explanation either as there is no relation between high local bank trust ownership and outstanding local loans. Therefore, informational advantage alone cannot fully explain the differential relation between bank trust ownership and future firm risk due to geographic proximity.

We suggest a segmentation-based explanation: geographically proximate bank trust ownership that has a large stake in local firms (concentrated local bank trust ownership, CLBTO) plays a nonpassive role with corporate risk-taking because doing so is cost-efficient. We find empirical evidence that supports the segmentation-based explanation. First, local holding bias is present for most of the institution types, but is most pronounced for the bank trusts, especially the largest bank trusts. Among the top 10 largest holdings, a bank trust's average local holding size is about double that of a nonlocal holding. Such concentrated investment in local firms creates incentives for CLBTO's nonpassive role. Second, most local bank trusts have a long-term investment horizon, which makes it more effective if they choose to play a nonpassive role (Kroszner and Strahan 2001; Gaspar et al. 2005; Chen et al. 2007; Dittmann et al. 2009).[2] Third, we investigate CLBTO's trading behavior for local and

2 Our calculation shows that about 93% of local bank trust ownership has a long-term investment horizon.

nonlocal firms and find strong bias against selling local holdings both in and out of crisis. Finally, we show that the increase in CLBTO is associated with an increase in the proportion of local independent directors appointed to the firm's board, which jointly are associated with a decline in the firm's equity beta.

The channels through which CLBTO plays a nonpassive role at local firms with respect to corporate risk-taking are less than obvious. It could be close personal relationship with top executives that facilitates the communications, it could be attention that managers pay to the advice of a large long-term institutional owner to secure its long-term support, it could be direct discipline from a director on the board who represents the local bank trust's interest, or it could be a combination of some or all of the above.

Our findings extend the existing literature in three important ways. First, we provide new evidence that geographic proximity alone changes the passiveness of concentrated bank trust ownership. Second, we show that bank trusts actively pursue their interest in low risk through a segmentation of efforts, driven by geographic proximity, furthering the literature on bank trust' interest in low-risk stocks (Bennett et al. 2003). Third, in support of theories that discuss the choice between trading and monitoring for institutional owners (e.g.,Shleifer and Vishny 1986 ; Kahn and Winton 1998 ; Maug 1998), we show that when institutional owners are less likely to trade, they are more likely to play a nonpassive role to voice their interests.

II. INSTITUTIONAL INVESTORS' ROLE AND GEOGRAPHIC PROXIMITY

As dominant stock holders of most public companies, institutional investors have enjoyed the power to influence corporate value and behavior: they can either play a passive role by trading shares of the firms, or play a monitoring (active) role similar to that of an activist investor (Shleifer and Vishny 1986; Maug 1998; Kahn and Winton 1998). Empirical findings on the passiveness of institutional investors have been mixed. Investment companies like mutual funds, independent advisors like hedge funds, and pension funds are likely to be active investors due to their independence from a firm's management.

A nonpassive role is only likely within a cost-efficient setting (Chen et al. 2007). Past studies found that investors with large stakes and a long-term investment horizon may have more influence on managers and are more likely to play a nonpassive role since per unit monitoring cost will be lower. For example, concentrated institutional ownership monitors executive compensation (Hartzell and Starks 2003) and independent, long-term institutional owners are more likely to monitor in the context of mergers and acquisitions (Chen et al. 2007). Similarly, while long-term institutional investors help reduce cost of equity with better monitoring information quality (Attig et al. 2013), institutional investors with high-turnover portfolios have little

influence on managers with respect to acquisition decisions (Gaspar et al. 2005).

Geographic proximity changes the cost–benefit analysis for institutional investors' monitoring decisions and is related to segmentation of capital markets. An emerging literature shows that both retail and institutional investors have a local bias in investments (Coval and Moskowitz 1999, 2001; Grinblatt and Keloharju 2001; Ivkovic and Weisbenner 2005) and establishes that informational advantage is the main driving force for the observed local bias (Coval and Moskowitz 1999; Loughran and Schultz 2004). The informational advantage reduces monitoring costs and facilitates a nonpassive role of local institutions, which are also "in a better position to influence the firm's management" (Gaspar and Massa 2007). For example, Lerner (1995) shows that the cost of providing oversight increases with distance. He finds that geographic proximity is an important determinant of likelihood of venture board membership. Pirinsky and Wang (2006) document strong co-movement in the stock returns of geographically proximate firms. Gaspar and Massa (2007) find that local mutual funds are associated with improved corporate governance. Kang and Kim (2008) find that geographically close block acquirers are more likely than remote acquirers to engage in post-acquisition governance activities in targets. Hong et al. (2008) argue that due to an "only-game-in-town" effect, the price of a stock in regions with low population density is higher. Rajan and Subramanian (2008) show that geographical environment is important for aid to drive growth. Cumming and Dai (2010) show that venture capital, when it acts as the lead and when it is investing alone, exhibits stronger local bias to enable more convenient monitoring. Recently, Chhaochharia et al. (2012) find that local institutional investors are effective corporate monitors.

Bank trusts are believed to be passive shareholders as they seek business relationships with the firms and the cost of disagreement with the management may not be worthwhile Brickley et al. 1988; Agrawal and Mandelker 1990; Bushee 1998; Hartzell and Starks 2003; Gaspar et al. 2005; Chen et al. 2007; Ferreira and Matos 2008). Geographic proximity, however, changes the dynamics of the cost–benefit analysis, due to reasons like more concentrated investments in local firms, stronger desire to build and maintain long-term relationship with local firms, higher willingness to hold shares of local firms, and convenience for executives to hold directorships at local firms, etc. Bank trust has a particular interest in the riskiness of their investments and therefore it is possible that CLBTO plays a nonpassive role with respect to risk. Indeed, past literature demonstrates how some institutions actively pursue other interests than maximizing shareholder value (Faleye et al. 2006; Romano 1993; Woidtke 2002; Del Guercio and Woidtke 2013).

The close interaction with management could also facilitate CLBTO's nonpassive role. For example, local bank trust managers may know the firm managers' personality well because they go to the same country club, they may have good understanding about the projects local firms plan to take on, and understand the consequences from such investments since they are in the same

community, and the list goes on. In the following sections, we explore empirical evidence for these incentives in order to support our hypothetical explanation of the different role CLBTO plays at local and nonlocal firms.

III. DATA

A. Measures of institutional ownership

We use Thompson Reuters' 13F quarterly institutional common stock holdings data for the institutional ownership variables. The 13F mandatory institutional reports are filed with the SEC on a calendar quarter basis and are compiled by Thomson Reuters (formerly known as the 13F Credit Default Swap (CDS)/Spectrum database). The SEC's Form 13F requires all institutions with more than $100 million under management at the end of the year to report their long positions of equity[3] in the next year. The 13F filings hence have some limitations: small institutions with less than $100 million under management are not required to report; smaller holdings that do not make the 10,000 shares or $200,000 threshold are not included; short positions are not reported. Further, Thomson Reuters aggregates the holdings report at the management company level.[4] Local investors of a firm are defined as those located within a short distance. Since we cannot differentiate holdings by local offices of the same institutional investor, we focus on the location of corporate headquarters of the management company as the base to identify local institutional investors, similar to the approach used in Gaspar and Massa (2007) and Baik et al. (2010). Like Knyazeva et al. (2013), corporate headquarters location and firm-level financial variables are obtained from the Compustat database. We manually check for corporate headquarters location if it is missing. We identify the institutional location (zip code) by manually searching the Edgar site of the SEC for historical 13F fillings.

Distance has been the major determinant for studies related to geography. For example, John et al. (2011) use the distance to a major metropolitan area to capture the remoteness of a firm's location. Consistent with existing work, the distance considered in this paper is the distance between the corporate headquarters of firms and the headquarters of institutional investors. Like Baik et al. (2010), we exclude cases in which either the firms or institutional investors are located in Alaska, Hawaii, Puerto Rico, or the Virgin Islands. We first identify 10 institutional investors with the largest stakes of a firm and calculate the percentage of shares owned by these top10 owners (*Top10Own*). We then calculate the percentage of shares owned by bank trusts whose headquarters are

3 The reported positions are those the institution owns more than 10,000 shares or with over $200,000 in market value.

4 A certain 13F report may include holdings report from multiple funds/managers that are not necessarily located in the same area as the headquarters. This constitutes one of the limitations of our study, which is suffered by most other local-related studies using 13F data.

located within a 100 mile-radius around firm headquarters.[5] We use this percentage as a proxy for concentrated local bank trusts ownership (*Top10local_bnk*) and as our main measure of interest.[6] *Top10local_bnk* for firm *j* is calculated as[7]:

$$Top10local\_bnk_j = \frac{\sum_{i \in LB_j} V_{i,j}}{\sum_{i \in I} V_{i,j}} \quad (1)$$

where LB_j is the set of bank trust ownership out of the top 10 local institutional owners based on share value owned (headquartered within a 100 mile-radius of the headquarters of firm j) according to Bushee's categorization,[8] I is the universe of all largest 10 institutional owners, and $V_{i,j}$ is the dollar value of a top 10 institutional owners *i*'s stake in firm *j*. Similarly, we define *Top10nonlocal_bnk, Top10local_bnkno, Top10local_pps, Top10local_iia, Top10local_inv, Top10local_ins*, respectively, as the ownership of nonlocal bank trusts, institutions that are local but not bank trusts, local pension funds, local investment advisors, local investment managers, and local insurance companies by the 10 largest institutional owners based on share value owned for a particular firm.

B. Measure for firm risk-taking

Our main measure for firm risk is equity beta, which is the systematic risk of a firm and is estimated using the market model over a rolling window of 24 months with updated returns for each fiscal year. Since we are interested in how institutional ownership impacts future beta, we calculate *FBeta* below in equation (2)

5 Coval and Moskowitz (1999, 2001) and Gaspar and Massa (2007) use 100 km as a measure of locality, Ivkovic and Weisbenner (2005) set 250 miles as the radius for local investors while Baik et al. (2010) adopt state identifiers to identify local institutional investors. The distance $d_{i,j}$ between the headquarters of institutional owner *i* and firm *j* is calculated as follows: $d_{i,j} = \arccos(deg_{latlon}) \times \frac{2\pi r}{360}$ where $deg_{latlon} = \cos(lat_i) \times \cos(lon_i) \times \cos(lat_j) \times \cos(lon_j) + \cos(lat_i) \times \sin(lon_i) \times \cos(lat_j) \times \sin(lon_j) + \sin(lat_i) \times \sin(lat_j)$, lat and lon are latitudes and longitudes for the institutional owner and the firm, respectively, and r is the radius of the earth (approximately 3959 miles).

6 Bank trust ownership is usually long-term with low turnover to reduce costs. For our sample, around 93% of the total top10 bank trust ownership turns out be belong to either dedicated or quasi-index funds as defined in Bushee (1998). Since *Top10local_bnk* is a small percentage with limited variation, we use total bank trust ownership to increase the variability of this variable. Our results are robust to using long-term *Top10local_bnk* and are reported in Table X Column (4).

7 Coval and Moskowitz (2001) and Gaspar and Massa (2007) define local ownership as the "excess" local ownership in one firm relative to the benchmark expected for a particular locality in which a firm is headquartered. We use actual local institutional ownership out of the top 10 largest shareholders, in a spirit similar to Baik et al. (2010). This measure enables us to calculate changes in ownership and to assess the impact on firm risk-taking.

8 Brian Bushee kindly provides the institutional investor classification data (1981–2009) on his website: http://acct3.wharton.upenn.edu/faculty/bushee/.

$$R^{i}_{t+1,t+24} = R^{f}_{t+1,t+24} + FBeta^{i}_{t}\left(R^{M}_{t+1,t+24} - R^{f}_{t+1,t+24}\right) \quad (2)$$

We also calculate firm total risk, stock volatility, which summarizes both total and systematic risk at the firm level. Since stock volatility varies with the market, to make a fair comparison of a firm's stock volatility between that of a relatively calm market and a highly volatile market, we use relative volatility instead of the raw measure to remove the contemporaneous market effect (*Relvol12m* and *Relvol24m*, as defined in equation (3)). We calculate stock volatility of fiscal year (t) for each firm using the 12-month returns of t (with no overlapping month from $t-1$). The relative volatility of a firm to the market is computed by dividing its stock volatility by the contemporaneous Center for Research in Security Prices (CRSP) value weighted index volatility (year t):

$$\begin{aligned} &Relvol12m_t \\ &= 12\,month\,Stock\,Volatility_t / 12\,month\,CRSP\,Value\,weighted\,Index\,Volatility_t \\ &Relvol24m_t \\ &= 24\,month\,Stock\,Volatility_t / 24\,month\,CRSP\,Value\,weighted\,Index\,Volatility_t \end{aligned} \quad (3)$$

Our measures of risky corporate decisions include increase in total assets, property, plant, and equipment (PPE), capital expenditure (Capx), and R&D investment. Increase in total assets, PPE growth, Capx, and R&D investments are scaled by lagged total assets. All the data to calculate these measures come from Compustat.

C. Sample construction and summary statistics

We construct our sample as follows: We begin with all publicly traded US firms in the CRSP and Compustat databases between 1995 and 2009. SEC Release No. 33-7122 issued on December 19, 1994 made electronic filing rules applicable to all domestic registrants and third-party filing with respect to those registrants. Since we rely on the SEC EDGAR[9] for address information of institutional investors, we choose 1995 to be the start of our sample period. There was no significant change in regulation with respect to institutional investors' fiduciary responsibility during this period either, as the Uniform Prudent Investors Act was adopted by the National Conference of Commissioners

9 SEC EDGAR web address: edgar.sec.gov. As Baik et al. (2010) point out, the Thompson Reuters 13F database recycles manager numbers so that the same manager number could refer to different institutional owners. EDGAR contains information on reporting financial institutions, including their previous names and addresses. This provides a convenient way for us to track institution name changes and identify cases in which the same institution manager number is assigned to different institutions in the 13F database.

on Uniform State Laws in 1994 (Hankins et al. 2008). We exclude foreign firms, ADRs, REITs, etc., retaining only firms with CRSP share codes of 10 or 11. We also exclude firms that are financials or utilities.

Institutional investors are more likely to play a nonpassive role at firms with larger size (Smith 1996). As we are interested in exploring the nonpassive role of *Top10local_bnk*, and the equity portfolios of bank trusts tilt toward large stocks (Del Guercio 1996), we drop firms with total assets under US$100 million and focus on those with nonmissing information on institutional ownership. We conduct robustness check for firm size in Section V. Since it takes time for institutional investors to exert influence, we combine the quarterly 13F institutional holdings data with annual financial variables and risk measures as of fiscal year-end for firms with December fiscal year-end. If the fiscal year-end falls in a month other than December, we combine the quarterly 13F data dated within 3 months of the firm's actual month of fiscal year-end. Our final sample includes 36,287 firm-year observations comprising 5915 unique firms over the period of 1995–2009.

We report descriptive statistics for our dependent and independent variables in Table 1. All the continuous variables are winsorized at both 1st and 99th percentiles to minimize the potential bias due to outliers. Table A1 provides a more detailed description of how each variable is defined. The mean institutional ownership for our sample is 56.79% and top 10 owners represent 70.39% of such ownership on average. Our measure of overall institutional ownership is significantly higher than reported in others (Harford et al. 2012) since our sample excludes firms with zero institutional ownership. When these firms are included, the mean institutional ownership is about 33%, close to what was reported in the previous studies. *Top10own* is the percentage of shares held by the 10 largest shareholders and is a measure of ownership concentration. High *Top10own* suggests that a large proportion of the firm is owned by a few institutions, hence high ownership concentration. *Top10own* represents more than 70% of total institutional ownership on average, with a range between 40% and 100%, whether we include or exclude firms with zero overall institutional ownership. Out of all the top10 owners, 8.25% is local and about 1% is local bank trusts on average. That is, about 12% of top10 local ownership comes from *Top10local_bnk*. Out of the around 7% of local nonbank ownership, investment advisors are the majority, with a mean of 4.77%. Out of the top10 owners, the mean and median distant bank trust ownership are 13.96% and 10.23%, respectively, suggesting that *Top10nonlocal_bnk* represents a much larger ownership compared to *Top10local_bnk*.

According to Bushee (1998), dedicated institutional investors are characterized by large average investments in portfolio firms with extremely low turnover ratios. Quasi-indexers are characterized by low turnover and diversified holdings. We use Bushee (1998)'s categorization to identify the three types of institutional investors and combine both dedicated and quasi-index institutions and identify them as long-term investors. More than 90% of all *Top10local_bnk* is long-term, consistent with the nature of bank trust business.[10]

Table 1 Summary statistics

Variable	*N*	Mean	p50	SD	Min	Max
Relvol12 m	29,947	3.3712	2.8697	1.9953	0.6498	13.9757
Relvol24m	29,970	3.3424	2.8763	1.8921	0.7470	13.4039
Fbeta	25,664	1.2588	1.1216	0.9408	–0.7601	4.5183
Lt rating	12,876	12.5902	12.0000	3.6318	1.0000	22.0000
TA	36,523	3933.38	596.34	12,737.07	100.00	123,514.60
LogTA	36,523	6.6921	6.3853	1.5459	4.1622	11.6971
Leverage	36,348	0.2448	0.2175	0.2166	0.0000	0.9621
ROA	36,488	0.0177	0.0409	0.1407	–1.3665	0.2825
Tobin's Q	34,315	1.9436	1.4770	1.5219	0.5610	13.0753
R&D/TA	36,523	0.0322	0.0000	0.0642	0.0000	0.5701
CAPX/TA	36,009	0.0645	0.0432	0.0659	0.0000	0.3587
FA/TA	36,446	0.3024	0.2344	0.2395	0.0000	0.8976
Dividend	36,282	0.3969	0.0000	0.4893	0.0000	1.0000
Asset growth	31,907	0.1627	0.0708	0.3923	–0.5607	2.2561
$\Delta\ FA_t / TA_{t-1}$	31,836	0.0385	0.0098	0.1084	–0.1889	0.5750
$\Delta\ CAPX_t / TA_{t-1}$	31,370	0.0080	0.0020	0.0543	–0.1673	0.2708
$\Delta\ R\&D_t / TA_{t-1}$	31,907	0.0046	0.0000	0.0264	–0.1320	0.1747
Total IOR	36,523	0.5679	0.5988	0.2744	0.0000	1.0000
Top10own	36,287	0.7039	0.6826	0.1869	0.3796	1.0000
Top10localown	36,287	0.0825	0.0000	0.1560	0.0000	0.9089
Top10local_bnk	36,287	0.0101	0.0000	0.0421	0.0000	0.4457
Top10nonlocal_bnk	36,287	0.1396	0.1023	0.1404	0.0000	1.0000
Top10local_bnkno	36,287	0.0700	0.0000	0.1422	0.0000	0.8141
Top10local_ins	36,287	0.0043	0.0000	0.0217	0.0000	0.1693
Top10local_pps	36,287	0.0000	0.0000	0.0000	0.0000	0.0000
Top10local_iia	36,287	0.0477	0.0000	0.1122	0.0000	0.7172
Top10local_inv	36,287	0.0133	0.0000	0.0436	0.0000	0.2613

The table reports summary statistics for main variables used in our study over the period of 1995–2009. We exclude securities with share codes different from 10 or 11, as well as financial companies and utilities. An institutional owner is defined as "local" if the headquarters of the institution is within a 100-mile radius of the company's headquarters. The sample includes 36,287 firm-year observations from the Compustat universe with nonmissing information of institutional ownership and total assets. Quarterly 13F holdings information is combined with annual financial variables and risk measures as of fiscal year-end for firms with December fiscal year-end or within 3 months of the fiscal year-end for firms with non-December fiscal year-end. Variable definitions are in Table A1.

We consider several firm-level risk measures, including relative volatility over the next 12 and 24 months, future stock beta, future long-term credit rating. The mean and median of future stock beta are 1.26 and 1.12, respectively. The

10 In legal terms, a trust is a fiduciary relationship in which the trustee holds legal title to specified property, entrusted to him by the settlor, and manages that property for the benefit of one or more beneficiaries (Schanzenbach and Sitkoff 2007). Since the purpose of the trust is often to supply reliable source of income to the surviving spouse and children, who have low tolerance for risk, and not to maximize the value of the trust corpus, risk management is more important than value maximization. Consistent with its business nature, another feature of bank trust ownership is that it usually has a long investment horizon to reduce turnover costs.

mean and median of long-term credit rating are about 12, as ratings are measures on a scale of 1–22, with 22 being the highest rating (AAA) and 1 being the lowest rating (D), following Jiraporn et al. (2014).

We also include the summary statistics for several measures of corporate decisions that involve uncertainty: increase in total assets and fixed assets (*PPE*), increase in capital expenditure, and R&D investments. The mean and median for asset growth, incremental PPE and capital expenditure are all positive for our sample, at levels of 16.27% and 7.08%, 3.85% and 1%, and 0.8% and 0.2%, respectively. We treat firms with missing information on R&D as having zero expenses of R&D, consistent with previous literature (Brown and Petersen 2011; Hirschey et al. 2012). The mean of incremental R&D investment is 0.46% and the median is 0. The summary statistics for these variables are reported in Table 1.

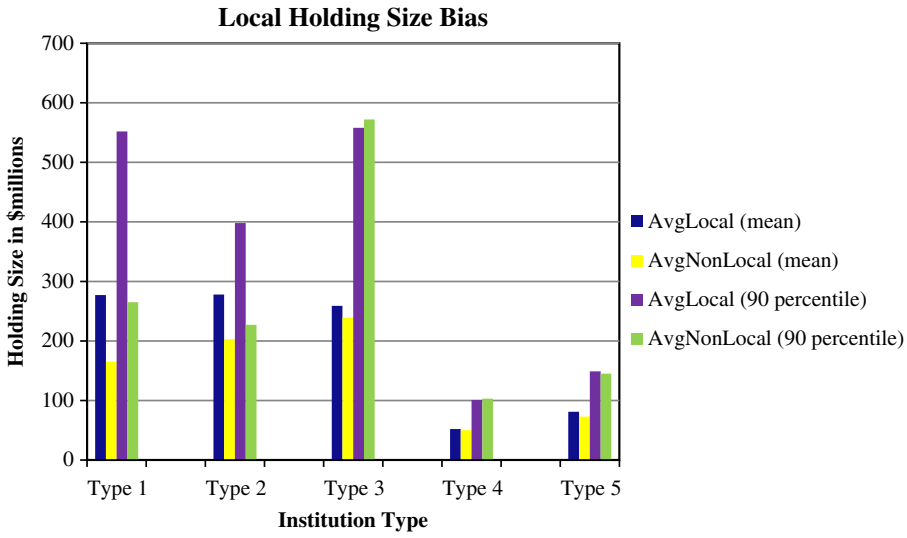
IV. EMPIRICAL RESULTS

A. Univariate tests

We start by visually examining the average local and nonlocal holding sizes of different institution types to obtain an overall view of the bias across institutional investors with different level of geographic proximity. Figure 1 displays the average dollar amount of institution's stake in local firms versus that in nonlocal firms for the five types of institutions (Following the categorization in 13F reporting, type1 = bank trust, type 2 = insurance company, type 3 = investment company, type 4 = independent investment advisor, and type 5 = pension funds and others). For the 10 largest holdings of each institution, we count the total investment dollars as well as the number of firms that are local and nonlocal, respectively, and calculate the ratios as our measures of average holding size for local and nonlocal firms (*AvgLocal* and *AvgNonLocal*, respectively). All five types of institutions show a higher average holding size for local firms but the bias varies. Bank trust is the type of institution that has the biggest bias[11] in per-firm investment, with mean values of *AvgLocal* being $277 million while *AvgNonLocal* being $165 million. The comparison of the 90 percentile of *AvgLocal* and *AvgNonLocal* for bank trusts shows an even more drastic bias, at $552 million and $265 million, respectively. Bank trusts' bias toward concentrated holdings in local firms could lead to stronger incentives for them to play a nonpassive role at these firms (Hartzell and Starks 2003).

Besides bank trusts' bias to invest in local firms, we are also interested in whether such bias lasts and how the bias might change with economic conditions. We next investigate the trading behavior of *Top10local_bnk* with respect to local and distant firms during and out of crisis periods. Crisis periods usually

11 Here and later in the paper, bank trust's bias refers to the nonrandom distribution of investments.



Institution type 1 = bank trust
Institution type 2 = insurance company
Institution type 3 = investment company
Institution type 4 = independent investment advisor
Institution type 5 = pension fund and others

Figure 1 Local bias by different institutional investors.
Average local and nonlocal holding size in million dollars for the five types of institutional investors in the 13F database. We report the comparison of local and nonlocal holding sizes in million dollars both at mean and 90 percentile.
Institution type 1 = bank trust, Institution type 2 = insurance company, Institution type 3 = investment company, Institution type 4 = independent investment advisor, Institution type 5 = pension fund and others. [Color figure can be viewed at wileyonlinelibrary.com]

coincide with high market volatility and poor economic conditions when investors strive to preserve capital. Firms find long-term investors highly desirable, especially during crisis periods, since they help create a stable environment for the firm (Beyer et al. 2014). Banks are known for "relationship building" (James 1987; Lummer and McConnell 1989; and others) and high-ranked executives working at bank headquarters are likely to have relationships with executives of local firms. It is possible that the close relationship between bank trust managers and firm managers discourages *Top10local_bnk* from selling the local holdings and facilitates the non-passive role of *Top10local_bnk*.

We explore the possibility by examining the trading behavior of *Top10local_bnk* with respect to local and nonlocal holdings during and out of crisis periods. For each firm, we calculate the mean percentage of shares sold (*PSS*) over each quarter by each institutional investor for local and nonlocal firms, respectively. We then combine the quarterly *PSS* with annual financial

variables as of fiscal year-end for firms with December fiscal year-end. If the fiscal year-end falls in a month other than December, we combine the quarterly 13F data dated within 3 months of the firm's actual month of fiscal year-end. The difference between the mean *PSS* of local and nonlocal firms measures each institutional investor's selling bias due to geographic proximity. Using a panel firm fixed effects regression, we find a strong bias for *Top10local_bnk* to not sell their local holdings and report the relation between the bias in selling and *Top10local_bnk*, over the full sample period, during and out-of-crisis periods, respectively, in Columns (1)–(3) of Table 2. Following previous literature, we include the following years: 2000–2001, 2007–2009 for crisis periods. The coefficient estimates for *Top10local_bnk* are all negative and highly significant with a confidence level better than 1%, suggesting that *Top10local_bnk* has a strong bias against selling local holdings, consistent with our conjecture that *Top10local_bnk* is likely to hold shares of local firms instead of selling.[12]

Theory suggests that institutional investors could either trade or play an active role at the firm they invest in to align the firm's behavior with their interests (Shleifer and Vishny 1986; Kahn and Winton 1998; Maug 1998). If *Top10local_bnk* biases against selling, the importance of a less passive role increases. The bias against selling local holdings therefore provides further incentives for *Top10local_bnk* to be nonpassive at local firms.

Table 3 compares the average future risk measures at firms with high and low levels of *Top10local_bnk*. A firm belongs to the category of *High Top10local_bnk* if its measure of *Top10local_bnk* is 3% and above, and to the category of *Low Top10local_bnk* if otherwise. Future firm risk measures, including average firm beta, relative volatility over 12 and 24 months, as well as long-term credit rating, are significantly lower at firms with *High Top10local_bnk*. Firms with *High Top10local_bnk* have significantly higher long-term credit rating than those with *Low Top10local_bnk*. For example, the average future firm beta is 1.28 at firms with *Low Top10local_bnk* and 1.07 at firms with *High Top10local_bnk*. The relative volatility over the next 12 months is 3.42 and 2.93, for firms with *Low* and *High Top10local_bnk*, respectively. The long-term credit rating is 12.44 and 14.37 for firms with *Low* and *High Top10local_bnk*, respectively. Even though the average firm beta, relative volatility, and long-term credit rating vary with firm size, a negative and persistent relationship between *Top10local_bnk* and future firm risk exists across subsamples with different sizes, whether it is a subsample with smaller book assets (≤$1 billion), or larger book assets (>$1 billion).

12 In results that are not reported, we find that *Top10local_bnk* barely sells its local holdings. Among the five type of institutions, bank trusts have the lowest mean, 90 percentile, and above 90 percentile measurement of *PSS*, with the median, 75 percentile of *PSS* both being zero.

Table 2 Trading and local bank trust

Variables	(1) *Dif_PSS_LBNK*	(2) *Dif_PSS_LBNK* (crisis period)	(3) *Dif_PSS_LBNK* (noncrisis period)
$LogTA_{t-1}$	0.003***	0.002**	0.003***
	(4.894)	(2.577)	(4.318)
$Leverage_{t-1}$	−0.002	0.003	−0.006
	(−0.636)	(0.503)	(−1.295)
ROA_{t-1}	0.000	0.013*	−0.011
	(0.0183)	(1.694)	(−1.318)
$Tobin's\ Q_{t-1}$	−0.001	−0.001**	−0.000
	(−1.491)	(−2.149)	(−0.00364)
$R\&D/TA_{t-1}$	−0.018	−0.035**	−0.008
	(−1.580)	(−2.127)	(−0.511)
$CAPX/TA_{t-1}$	0.004	−0.007	0.011
	(0.279)	(−0.325)	(0.689)
FA/TA_{t-1}	0.002	−0.002	0.004
	(0.351)	(−0.250)	(0.791)
$Dividend_{t-1}$	0.003**	0.003	0.003
	(1.966)	(1.295)	(1.616)
$Total\ IOR_{t-1}$	−0.008**	−0.003	−0.011**
	(−2.226)	(−0.467)	(−2.556)
$Top10own_{t-1}$	−0.000	−0.013	0.007
	(−0.0407)	(−1.489)	(1.060)
$Top10local\_bnk_{t-1}$	−0.186***	−0.192***	−0.182***
	(−7.243)	(−5.071)	(−6.323)
Constant	0.028***	0.006	0.021**
	(3.498)	(0.475)	(2.124)
Year fixed	Yes	Yes	Yes
Firm fixed	Yes	Yes	Yes
Observations	28,897	10,685	18,212
R^2	0.050	0.089	0.016

The table reports the relationship between concentrated local bank trust ownership (*Top10local_bnk*) and trading of local firm stocks. Dependent variable (*DIF_PSS_LBNK*) is the difference in average percentage of shares sold (*PSS*), ratio of net number of shares sold during one quarter to total number of shares as of the previous quarter for a firm by an institution, for local firms and nonlocal firms of a bank trust. Crisis period includes 2000–2001 and 2007–2009 and noncrisis period includes other years over our sample period of 1995–2009. Variable definitions are in Table A1. Robust standard errors are clustered at the firm level. ***, **, and * denote statistical significance based on two sided tests at the 1%, 5%, and 10% level, respectively.

B. CLBTO and firm risk

We then estimate the relation between different types of institutional ownership (*IO*) and firm risk measures, controlling for variables that can explain firm risk. By including firm fixed effects and year fixed effects and compare bank trust ownership that differs only in geographic proximity side-by-side, we achieve clear identification by using the following specification:

Table 3 Univariate tests

Overall		Low *Top10local_bnk*	High *Top10local_bnk*	Difference	*T*-statistics
Fbeta	Mean	1.2807	1.0746	0.2061***	11.7068
	N	22,934	2730		
RelVol12 m	Mean	3.4208	2.9324	0.4884***	13.7035
	N	26,904	3043		
RelVol24m	Mean	3.0929	2.896	0.4968***	14.5934
	N	26,927	3043		
Lt rating	Mean	12.4372	14.3672	–1.9300***	–16.9786
	N	11,535	1250		
Small firms					
TA < = $ 1 billion		Low *Top10local_bnk*	High *Top10local_bnk*	Difference	*T*-statistics
Fbeta	Mean	1.2905	1.1295	0.1610***	6.1771
	N	14,927	1498		
RelVol12 m	Mean	3.7260	3.4214	0.3046***	5.8296
	N	17,998	1737		
RelVol24m	Mean	3.6989	3.4022	0.2967***	5.9730
	N	18,015	1737		
Lt rating	Mean	9.5900	10.0094	–0.4194**	–2.5891
	N	2983	212		
Big firms					
TA > $ 1 billion		Low *Top10local_bnk*	High *Top10local_bnk*	Difference	*T*-statistics
Fbeta	Mean	1.2625	1.0078	0.2546***	11.2845
	N	8007	1232		
RelVol12 m	Mean	2.8041	2.2821	0.5220***	13.8687
	N	8906	1306		
RelVol24m	Mean	2.7743	2.2229	0.5514***	15.6408
	N	8912	1306		
Lt rating	Mean	13.4303	15.2572	–1.8269***	–16.0479
	N	8552	1038		

The table reports results from univariate comparison of firm risk measures for the overall sample as well as a sample with total assets over US$1 billion and a sample with total assets below US$1 billion. We exclude securities with share codes different from 10 or 11, as well as financial companies and utilities. An institutional owner is defined as "local" if the headquarters of the institution is within a 100-mile radius of the company's headquarters. Quarterly 13F holdings information is combined with annual financial variables and risk measures as of fiscal year-end for firms with December fiscal year-end or within 3 months of the fiscal year-end for firms with non-December fiscal year-end. Variable definitions are in Table A1.

$$FirmRisk_{j,t} = \beta_j + \beta_{1,j} IO_{j,t-1} + \beta_{2,j} X_{Controls\,j,t-1} + \beta_{3,j} FirmFixedEffects + \beta_{4,j} YearFixedEffects + \mu_{j,t} \quad (4)$$

We lag all institutional ownership by 1 year as we are most interested in the effect of institutional ownership on future firm risk. Even though institutional

ownership is more likely to have a threshold effect (similarly argued in Chen et al. 2007) and nonlinearity may exist for the relation between ownership and firm risk, we use a linear model to capture the relationship since we do not find the quadratic term to be significant.[13] $X_{Controls}$represents control variables that include (i) *Firm size* (measured in natural log of million dollars). We expect firm-level risk measure to be negatively associated with firm size as larger firms are usually more established and are subject to less uncertainty. Long-term credit rating should usually improve as the firm grows, and we expect it to be positively associated with firm size. (ii) Book leverage ratio (*Leverage*, total book value of debt/total book value of assets). We expect firm-level total risk to be positively associated with leverage while long-term rating should be negatively associated with leverage. (iii) Measure of operating performance (*ROA*, calculated as the ratio of net income to total assets). Strong operating performance should be negatively associated with future firm risk and positively associated with long-term rating. (iv) Tobin's *Q* (calculated as the ratio of [book value of total assets – book value of common equity + market value of common equity-deferred taxes and investment tax credit]/book value of total assets). Higher growth firms usually have higher Tobin's Q, yet are subject to more uncertainty. Thus, we expect Tobin's Q to be positively associated with future risk. (v) Fixed asset ratio (*FA/TA,* ratio of net fixed assets to total assets); (6) R&D intensity (*R&D/TA*, percentage of R&D expenses to total assets; if R&D is missing, this variable is set to 0); (7) Dividend dummy. Firms that pay dividends usually have more stable cash flow, which helps reduce risk. Thus, we expect a negative relation between dividend dummy and future risk. (8) Overall institutional ownership (*Total IOR*, shares owned by all institutional investors/total shares outstanding). Quality stocks are more likely to attract institutional ownership, which suggests negative relationship between firm risk and overall institutional ownership. (9) Top10 institutional ownership (*Top10own*, ratio of shares owned by the 10 largest institutions to shares owned by all institutional investors). This measure captures the concentration level of institutional ownership. Since large, mature firms are more likely to have higher numbers of institutional owners and top 10 shareholders is less representative of the overall institutional ownership at large firms, we expect a positive relation between top10 institutional ownership and firm risk measures.

The regression also includes year and firm fixed effects. When analyzing the impact of institutional ownership on firm risk, omitted unobservable firm characteristics may lead to endogeneity concerns. Controlling for firm-fixed effects allows us to mitigate the impact of any unobserved, yet time-invariant omitted variables on our results so that our findings are not driven by certain "types" of firms (assuming that firm types remain constant over our sample period).

We report results for risk measures including *FBeta, Fbeta36 m, RelVol12 m, Totvol36 m,* and *Ltrating*, from the above-mentioned regressions for *Top10local_bnk*, *Top10nonlocal_bnk*, as well as other local ownership of nonbank trust institutions (*Top10local_ins, Top10local_pps, Top10local_iia, Top10local_inv*, *etc.*) in Table 4. *Top10local_bnk* stands out among various local ownerships,

13 The negative relationship between local bank trust and future firm risk remains unchanged if we use a quadratic model. Results are available upon request.

Table 4 Volatility and long term rating

Variables	(1) *Fbeta*	(2) *Fbeta*	(3) *Fbeta*	(4) *Relvol 12m*	(5) *Fbeta 36m*	(6) *Totvol 36m*	(7) *LT rating*	(8) *CAR-FF5*
$LogTA_{t-1}$	–0.017	–0.016	–0.013	–0.110***	–0.036	–0.005**	1.193***	–0.145***
	(–0.683)	(–0.642)	(–0.520)	(–2.642)	(–1.484)	(–2.329)	(25.61)	(–6.346)
$Leverage_{t-1}$	–0.070	–0.073	–0.075	0.533***	–0.003	0.012	–3.203***	0.168*
	(–0.845)	(–0.890)	(–0.911)	(3.491)	(–0.028)	(1.588)	(–10.90)	(1.919)
ROA_{t-1}	–0.326***	–0.326***	–0.322***	–1.034***	–0.175**	–0.011*	6.497***	–0.387***
	(–3.677)	(–3.668)	(–3.626)	(–6.329)	(–2.024)	(–1.899)	(12.35)	(–2.802)
Tobin's Q_{t-1}	0.069***	0.069***	0.068***	0.074***	0.051***	0.003***	0.377***	–0.047***
	(8.491)	(8.494)	(8.411)	(5.333)	(6.527)	(4.613)	(8.524)	(–4.780)
$R\&D/TA_{t-1}$	–0.223	–0.224	–0.207	–0.463	0.151	0.059**	0.146	–0.096
	(–0.680)	(–0.683)	(–0.630)	(–0.885)	(0.507)	(2.497)	(0.0953)	(–0.224)
$CAPX/TA_{t-1}$	0.552***	0.555***	0.544***	1.156***	0.653***	0.027	–0.268	0.509*
	(2.805)	(2.819)	(2.768)	(2.868)	(3.738)	(1.574)	(–0.289)	(1.891)
FA/TA_{t-1}	–0.067	–0.069	–0.062	–0.004	0.064	0.007	–0.017	0.124
	(–0.456)	(–0.467)	(–0.426)	(–0.014)	(0.452)	(0.630)	(–0.0558)	(1.227)
$Dividend_{t-1}$	–0.044	–0.044	–0.042	–0.106*	–0.021	0.003	1.832***	–0.030
	(–1.232)	(–1.220)	(–1.174)	(–1.751)	(–0.611)	(1.110)	(17.25)	(–1.190)
Total IOR $_{t-1}$	–0.101	–0.103	–0.120	–0.285**	0.027	0.010**	0.300	–0.071
	(–1.381)	(–1.415)	(–1.632)	(–2.377)	(0.445)	(1.987)	(1.256)	(–1.004)
$Top10own_{t-1}$	0.166*	0.166*	0.138	0.852***	0.143*	0.028***	–1.021***	0.263***
	(1.854)	(1.844)	(1.529)	(5.795)	(1.762)	(4.317)	(–3.094)	(3.040)
$Top10local\_bnk_{t-1}$	–0.476**	–0.465**	–0.476**	–0.763**	–0.679***	–0.041***	3.135***	–0.043
	(–2.365)	(–2.309)	(–2.052)	(–2.400)	(–3.332)	(–2.771)	(2.589)	(–0.265)
$Top10local\_ins_{t-1}$	–0.280							
	(–0.940)							
$Top10local\_pps_{t-1}$	0.000							
	(.)							
$Top10local\_iia_{t-1}$	–0.112							
	(–0.964)							
$Top10local\_inv_{t-1}$	0.380*							
	(1.723)							

Table 4 (*continued*)

Variables	(1) *Fbeta*	(2) *Fbeta*	(3) *Fbeta*	(4) *Relvol 12m*	(5) *Fbeta 36m*	(6) *Totvol 36m*	(7) *LT rating*	(8) *CAR-FF5*
Top10local_bnkno $_{t-1}$		0.012	0.012	0.032	–0.070	0.019**	0.001	0.000
		(0.127)	(0.088)	(0.213)	(–0.705)	(2.227)	(0.004)	(0.000)
Top10nonlocal_bnk $_{t-1}$			–0.178		0.007	0.008		0.068
			(–1.435)		(0.061)	(0.823)		(0.546)
Top10nonlocal_bnkno $_{t-1}$			0.019		0.065	0.013**		0.022
			(0.187)		(0.819)	(1.999)		(0.196)
Constant	1.393***	1.387***	1.414***	2.637***	1.304***	0.093***	1.927***	0.816***
	(6.483)	(6.450)	(6.109)	(7.231)	(5.858)	(4.998)	(3.737)	(3.529)
Year fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
FF12 industry fixed	No	No	No	No	No	No	Yes	No
Observations	20,835	20,835	20,835	24,239	20,835	21,585	10,411	21,799
R^2 (pseudo r-sq)	0.088	0.088	0.089	0.232	0.103	0.230	(0.217)	0.025

The dependent variable for Columns (1)–(7) of this various future firm risk measures and the dependent variable for Column (8) is cumulative abnormal return from the Fama–French five-factor model. The independent variables are various institutional ownership over the period 1995–2009. Results in Columns (1)–(6) and Column (8) are from panel firm fixed effects regressions and results in Column (7) are from a Tobit regression. We exclude securities with share codes different from 10 or 11, as well as financial companies and utilities. An institutional owner is defined as "local" if the headquarters of the institution is within a 100-mile radius of the company's headquarters. The sample includes 36,287 firm-year observations from the Compustat universe with nonmissing information of institutional ownership and total assets. Quarterly 13F holdings information is combined with annual financial variables and risk measures as of fiscal year-end for firms with December fiscal year-end or within 3 months of the fiscal year-end for firms with non-December fiscal year-end. Variable definitions are in Table A1. Robust standard errors are clustered at the firm level. ***, **, and * denote statistical significance based on two sided tests at the 1%, 5%, and 10% level, respectively.

including those of local pension funds and insurance companies, showing a significant relationship with future firm risk and is the only type of ownership that is negatively related to all future risk measures at a significance level better than 5%. The relation between *Top10nonlocal_bnk* (nonlocal bank trust ownership with large stakes) and *FBeta* is negative yet not significant, consistent with the common belief that bank trust ownership is passive. If *Top10local_bnk* actively influences local firms' future risk-taking, we expect to observe the effect on systematic risk. We, therefore, focus on the effect of *Top10local_bnk* on systematic risk, measured by *FBeta* in our study. We also summarize the ownership by local and nonlocal, bank trust and nonbank trust institutions into four categories: *Top10local_bnk, Top10nonlocal_bnk, Top10local_bnkno*, and *Top10nonlocal-bnkno*, respectively, in the empirical analyses that follow.

Finally, Column (8) shows an insignificant relation between *Top10local_bnk* and Fama–French risk factors adjusted-abnormal return. We also find a positive yet insignificant relation between local firms' Tobin's Q and *Top10local_bnk* and insignificant performance from a long-short portfolio with high- and low-*Top10local_bnk*.[14] All these results suggest that CLBTO does not have a value implication despite their push for lower risk.

C. Geography-based IV regression

It is well known that studies on ownership and performance are subject to severe endogeneity concerns (Himmelberg et al. 1999). Although Gaspar and Massa (2007) and Kang and Kim (2008) both argue that local ownership is likely exogenous, residual endogeneity in *Top10local_bnk* may not be useful to identify its true relationship with firm risk. Alternatively, we use the fixed firm effects IV approach to establish causality between *Top10local_bnk* and *FBeta*. By including firm fixed effects in the IV regressions, we alleviate the endogeneity that is related to certain time invariant unobservable firm characteristics, which are omitted in the model but are related to both firm risk and *Top10local_bnk*. We introduce the following two instrument variables for *Top10local_bnk*:

- *STop10lown_bnk*: Annual average of top10 local bank trust ownership for all other firms in the same state but not the same industry defined by their two-digit *SIC* codes[15]
- *SIC2Top10lown_bnk*: Annual average of top10 local bank trust ownership for all other firms in the same industry defined by their two-digit *SIC* codes but not located in the same state

14 These results are available from the authors upon request.

15 The IV ($STop10lown\_bnk_i$) for $Top10local\_bnk_i$ is constructed by including all other firms that are in the same state but not the same industry as firm *i*, identifying the aggregated *Top10local_bnk* level for each, and calculating the average *Top10local_bnk* across firms and over time. Similarly, we construct the other IV ($SIC2Top10lown\_bnk_i$) using the information on *Top10local_bnk* for all other firms that have the same two-digit *SIC* codes as firm *i* but not located in the same state, and calculating the average.

A valid instrumental variable requires meeting two conditions: relevance and exclusion. This means that the instrument should affect the level of *Top10local_bnk*, but it should not affect firm risk through other channels except for its direct effect on *Top10local_bnk*. Through the geographic proximity link, which leads to shared economic or political factors that influence bank trust ownership levels, *STop10lown_bnk* and *Top10local_bnk* are related and the relevance condition should hold. At the same time, *STop10lown_bnk* is unlikely to influence the focal firm's risk because it is the average level of bank trust ownership at *other* firms.

The negative relation between *Top10local_bnk* and *FBeta* could be driven by the following factors: firm characteristics, industry characteristics, location of the firm, and finally, information at, or effort by the Top10local_bnk. Our main IV is not driven by firm or industry characteristics by construct. To examine whether the location of the firm influences the relation between *Top10local_bnk* and its future equity beta, we compare the average *FBeta* in states with above- and below-mean and median levels of *Top10lown_bnk* and do not find the difference in average *FBeta* to be different from zero (*t*-statistic = 0.63 and 0.9, respectively). The correlation coefficient between *Top10local_bnk* and *FBeta* is not significantly different from zero either (*p*-value = 0.39). This suggests that the negative relation between *Top10local_bnk* and *FBeta* is not driven by states (location). As we show in Section IV.D, information does not seem to be driving the relation either. The main IV, *STop10lown_bnk*, therefore, is related to our endogenous variable *Top10local_bnk* only through the link that is due to geographic proximity, hence it satisfies the exclusion criterion as well.

By using a fixed effect IV regression with *STop10lown_bnk*, we could test whether the Top10local_bnk push for lower *FBeta* at local firms due to segmentation that is driven by geographic proximity. Geography-based instruments have similarly been used in previous literature, like Jiraporn et al. (2014), Cheng et al. (2014), Chang et al. (2016), among others. We also include *SIC2Top10lown_bnk* as the second IV to conduct the endogeneity test for *Top10local_bnk*.

Column (1) of Table 5 shows that the *F* statistic of joint significance of adding the two IVs is 31.04, with a *p*-value of 0.00, suggesting that our IVs are not weak instruments (Stock et al. 2002). Column (2) of Table 5 demonstrates results from the second stage of IV regressions on future firm beta. Hansen's *J* statistic ($J = 0.302$, $p = 0.58$) for the over-identification test is not significant and we conclude that at least one of our instruments is valid. The coefficient estimates in the first stage of IV regression show a highly positive significant relation between both IVs and *Top10local_bnk* (*t*-stat = 7.17 and 4.32 for *STop10lown_bnk* and *SIC2Top10lown_bnk*, respectively), confirming the relevance of our IVs. The coefficient estimates of the predicted *Top10local_bnk* in the second stage of IV regression remain highly negatively significant (*t*-statistic = –2.13), consistent with our main findings.

Our findings suggest that after controlling for endogeneity issues, *Top10local_bnk* is associated with lower future beta. They also provide evidence that the

Table 5 Fixed effects instrumental (IV) regressions

Variables	(1) First stage *Top10local_bnk$_{t-1}$*	(2) Second stage *Fbeta*	(3) First stage *Top10local_ bnk$_{t-1}$*	(4) Second stage *Fbeta*
Top10local_bnk$_{t-1}$ (instrumented)		−2.742** (−2.13)		−2.683** (−2.08)
LogTA$_{t-1}$	0.002 (1.39)	−0.033 (−1.35)	0.001 (0.88)	−0.021 (−0.85)
Leverage $_{t-1}$	−0.006 (−1.57)	−0.058 (−0.69)	−0.005 (−1.39)	−0.068 (−0.81)
ROA $_{t-1}$	−0.003 (−0.81)	−0.372*** (−4.10)	−0.003 (−1.08)	−0.358*** (−3.97)
Tobin's Q $_{t-1}$	−0.000 (−1.11)	0.064*** (8.02)	−0.000 (−1.40)	0.066*** (8.19)
R&D/TA $_{t-1}$	−0.003 (−0.29)	−0.244 (−0.74)	−0.003 (−0.33)	−0.238 (−0.72)
CAPX/TA $_{t-1}$	−0.004 (−0.40)	0.494** (2.46)	−0.006 (−0.58)	0.523** (2.60)
FA/TA $_{t-1}$	0.014 (1.51)	−0.016 (−0.11)	0.015 (1.53)	−0.021 (−0.14)
Dividend $_{t-1}$	0.002 (1.01)	−0.038 (−1.05)	0.002 (1.10)	−0.041 (−1.12)
Total IOR $_{t-1}$			0.009** (2.09)	−0.137* (−1.95)
Stop10lown_bnk	0.552*** (7.17)		0.549*** (7.16)	
SIC2Top10lown_bnk	0.440*** (4.32)		0.441*** (4.33)	
Year fixed	Yes	Yes	Yes	Yes
Firm fixed	Yes	Yes	Yes	Yes
Endogeneity Chi-sq Test (*p*-value)	4.076 ($p = 0.044$)		3.947 ($p = 0.047$)	
Hansen's *J*-test (*p*-value)	0.302 ($p = 0.583$)		0.354 ($p = 0.552$)	
F-test of excluded instruments (*p*-value)	31.04 ($p = 0.000$)		31.21 ($p = 0.000$)	
Observations		20,306		20,306
R^2		0.076		0.069

The table reports results from fixed effects instrumental regressions for the relation between *Fbeta* and *Top10local_bnk*. *Stop10lown_bnk* and *SIC2Top10lown_bnk* are two instruments for the endogenous variable *Top10local_bnk*, respectively. Columns (1) and (2) report the second stage result without and with controlling for lagged *Total IOR*, respectively. We exclude securities with share codes different from 10 or 11, as well as financial companies and utilities. An institutional owner is defined as "local" if the headquarters of the institution is within a 100-mile radius of the company's headquarters. The sample includes 36,287 firm-year observations from the Compustat universe with nonmissing information of institutional ownership and total assets. Quarterly 13F holdings information is combined with annual financial variables and risk measures as of fiscal year-end for firms with December fiscal year-end or within 3 months of the fiscal year-end for firms with non-December fiscal year-end. Variable definitions are in Table A1. Robust standard errors are clustered at the firm level. ***, **, and * denote statistical significance based on two sided tests at the 1%, 5%, and 10% level, respectively.

geographic proximity-driven nonpassive role of the *Top10local_bnk* has high economic significance with respect to local firms' future beta. The endogeneity test has a Chi-square statistic of 4.08 with a *p*-value of 0.04, suggesting *Top10local_bnk* is endogenous at the conventional level. Compared to other types of local ownership (local mutual fund ownership in Gaspar and Massa 2007; overall local block owners in Kang and Kim 2008), *Top10local_bnk* is more endogenous, likely because *Top10local_bnk* selects low-risk investments and therefore is more driven by firm characteristics than other types of local institutional ownership. Nevertheless, our results remain unchanged after controlling for endogeneity.

D. Interpretation: Information only or nonpassive role involved?

Since long-term institutional ownership is relatively stable over time, the level of lagged ownership could serve as a good proxy for the future institutional ownership level (Gompers et al. 2001; Baik et al. 2010). We examine the change in institutional ownership and future risk to mitigate the concern that the negative relationship we find is due to bank trusts' preferences of stocks with lower risk. As implemented in Baik et al. (2010), we include both change and lagged levels of local and nonlocal bank trust ownership (*Top10local_bnk* and *Top10nonlocal_bnk*, respectively) in equation (4) and report the results in Columns (1) and (2) of Table 6. *Top10local_bnk* is negatively associated with measures of firm risk in the future at both lagged (*t*-stat = –2.626) and difference levels (*t*-stat = –2.521). The coefficient estimates are economically significant as well (–0.725 and – 0.498, respectively). The coefficient estimates for neither lagged or change of nonlocal bank ownership is significant at the conventional level. We also include lagged local and nonlocal nonbank institutional ownership as controls. The nonbank ownerships, whether they are local or nonlocal, are positively associated with future firm risk, even though the relation is not statistically significant.

There are several possible reasons why *Top10local_bnk* is associated with lower future firm risk. For example, pure informational reasons including: ownership by local bank trusts can "certify" the quality of the stock which results in lower cost of capital; or *Top10local_bnk* can predict future performance and unload investments that will sour in advance to avoid future high risk. Or, *Top10local_bnk* plays a nonpassive role to influence corporate policy that relates to uncertainty. In order to identify the most plausible explanation for our findings, we reestimate equation (4) for small firms, those with book assets of US $100 million and below only. If our finding reflects a "certification" effect, we expect to see strong negative relation between *Top10local_bnk* and future firm risk, since Initial Public Offering (IPO) and venture capital literature shows that the "certification" effect is more salient with smaller and less prestigious firms (e.g., Megginson and Weiss 1991). We do not find a negative relation between *Top10local_bnk* and future firm risk for the smaller firm subsample in Column (3), suggesting that "certification" effect does not explain results.

Table 6 Concentrated bank trust ownership and future beta: Local versus nonlocal

Variables	(1) *Fbeta*	(2) *Fbeta*	(3) *Fbeta* TA > $1 million and ≤$100 million	(4) *Fbeta*	(5) *Fbeta* Crisis	(6) *Fbeta* Noncrisis
$LogTA_{t-1}$	−0.012	−0.011	0.047	−0.012	0.087**	−0.050
	(−0.467)	(−0.416)	(0.962)	(−0.487)	(2.270)	(−1.519)
$Leverage_{t-1}$	−0.079	−0.081	−0.171	−0.076	−0.244*	−0.080
	(−0.950)	(−0.977)	(−1.212)	(−0.919)	(−1.862)	(−0.749)
ROA_{t-1}	−0.322***	−0.322***	−0.229**	−0.323***	0.035	−0.430***
	(−3.627)	(−3.631)	(−2.472)	(−3.635)	(0.271)	(−3.098)
$Tobin's\ Q_{t-1}$	0.068***	0.068***	0.018*	0.068***	0.111***	0.041***
	(8.409)	(8.414)	(1.852)	(8.408)	(10.11)	(3.316)
$R\&D/TA_{t-1}$	−0.206	−0.207	−0.249	−0.217	−0.445	0.362
	(−0.630)	(−0.632)	(−0.891)	(−0.664)	(−0.895)	(0.858)
$CAPX/TA_{t-1}$	0.543***	0.538***	−0.047	0.546***	1.338***	0.214
	(2.761)	(2.737)	(−0.168)	(2.782)	(3.744)	(0.908)
FA/TA_{t-1}	−0.059	−0.055	0.226	−0.063	−0.456*	0.153
	(−0.402)	(−0.376)	(1.011)	(−0.428)	(−1.930)	(0.855)
$Dividend_{t-1}$	−0.041	−0.041	−0.003	−0.042	−0.063	−0.057
	(−1.160)	(−1.153)	(−0.056)	(−1.183)	(−1.175)	(−1.219)
$Total\ IOR_{t-1}$	−0.117	−0.118	−0.179	−0.122*	−0.144	−0.098
	(−1.603)	(−1.612)	(−1.131)	(−1.661)	(−1.198)	(−1.105)
$Top10own_{t-1}$	0.142	0.139	0.141	0.138	0.001	0.158
	(1.574)	(1.539)	(0.537)	(1.530)	(0.00797)	(1.386)
$Top10local\_bnk_{t-1}$	−0.725***	−0.709**	0.433	−0.354	−0.988***	−0.200
	(−2.626)	(−2.122)	(1.154)	(−1.335)	(−2.725)	(−0.681)
$Top10nonlocal\_bnk_{t-1}$	−0.186	−0.230	0.089	−0.174	−0.086	−0.098
	(−1.499)	(−1.036)	(0.897)	(−1.401)	(−0.484)	(−0.574)
$Top10local\_bnkno_{t-1}$	0.003	0.046	0.131	0.011	−0.016	0.135
	(0.0235)	(0.193)	(0.974)	(0.0776)	(−0.0762)	(0.722)
$Top10nonlocal\_bnkno_{t-1}$	0.012	0.025	0.105	0.024	0.040	0.157
	(0.119)	(0.125)	(1.250)	(0.230)	(0.286)	(1.073)

Table 6 (*continued*)

Variables	(1) *Fbeta*	(2) *Fbeta*	(3) *Fbeta* TA > $1 million and ≤$100 million	(4) *Fbeta*	(5) *Fbeta* Crisis	(6) *Fbeta* Noncrisis
$\Delta Top10local\_bnk_t$	–0.498**	–0.496**				
	(–2.521)	(–2.112)				
$\Delta Top10nonlocal\_bnk_t$		–0.073				
		(–0.531)				
$\Delta Top10local\_bnkno_t$		0.058				
		(0.397)				
$\Delta Top10nonlocal\_bnkno_t$		0.010				
		(0.0813)				
$Top10local\_bnk\_inc_t$				–0.060**		
				(–1.967)		
$Top10local\_bnk\_dec_t$				–0.039		
				(–1.143)		
Constant	1.409***	1.391***	0.614*	1.412***	0.864**	1.388***
	(6.088)	(4.905)	(1.796)	(6.092)	(2.452)	(4.453)
Year fixed	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed	Yes	Yes	Yes	Yes	Yes	Yes
Observations	20,835	20,835	9578	20,835	7930	12,905
R^2	0.089	0.089	0.047	0.089	0.096	0.109

The table reports the results from estimating the relation between *Fbeta* and bank trust ownership, for local and nonlocal bank trust ownership, respectively. We exclude securities with share codes different from 10 or 11, as well as financial companies and utilities. An institutional owner is defined as "local" if the headquarters of the institution is within a 100-mile radius of the company's headquarters. We include both lagged and change in the bank trust ownership as control variables (Columns (1) and (2)). Column (3) uses sample observations with total assets greater than $1 million and less and equal to $100 million and Column (4) assumes different slopes for the relationship for increasing and decreasing local bank trust ownership, respectively. We break the full sample into crisis and noncrisis periods and report estimation results in Columns (5) and (6), respectively. Crisis period includes the following years: 2000–2001, 2007–2009 and noncrisis period is defined accordingly. The sample includes 36,287 firm-year observations from the Compustat universe with nonmissing information of institutional ownership and total assets. Quarterly 13F holdings information is combined with annual financial variables and risk measures as of fiscal year-end for firms with December fiscal year-end or within 3 months of the fiscal year-end for firms with non-December fiscal year-end. Variable definitions are in Table A1. Robust standard errors are clustered at the firm level. ***, **, and * denote statistical significance based on two sided tests at the 1%, 5%, and 10% level, respectively.

If the *Top10local_bnk* has private information and is good at predicting firms that will face higher risk in the future so that it could remove them from their portfolios, we expect to observe a negative relation to hold for decreasing *Top10local_bnk* and higher future firm risk. Otherwise, we expect to observe lower future firm equity beta to be associated with increasing *Top10local_bnk*. We reestimate equation (4) using a piecewise regression that assumes different slopes for increase in *Top10local_bnk* and decrease in *Top10local_bnk*. We create two dummy variables, *Top10local_bnk _Inc* and *Top10local_bnk _Dec*, which take a value of one for increase and decrease in *Top10local_bnk*, respectively, and zero otherwise. The base case therefore is a zero change in *Top10local_bnk*. Only the coefficient estimates for the increase in *Top10local_bnk* turns out to be negative and significant, suggesting that the negative relation between change in *Top10local_bnk* and future beta is driven by the increase in *Top10local_bnk*. This result is reported in Column (4) of Table 6, providing evidence for the nonpassive role of the *Top10local_bnk*.

If the negative relation between *Top10local_bnk* and *FBeta* is purely informational, we expect such relation to persist over time, whether in an expansionary economy or in a recessionary economy. We define 2000–2001 and 2007–2009 as crisis years and the other years over the period of 1995–2009 as noncrisis years. We reestimate equation (4) to examine the relation over years in and out of crisis periods. Results in Columns (5) and (6) of Table 6 show that the negative relation between *Top10local_bnk* and *FBeta* is limited to crisis periods and that *Top10nonlocal_bnk* and *FBeta* is not related either in or out of crisis periods. Crises are not easy to predict and therefore can be considered an exogenous shock to the economy. Information alone therefore cannot explain why *Top10local_bnk* and not *Top10nonlocal_bnk* causes lower equity beta during crisis periods, again suggesting *Top10local_bnk* plays a nonpassive role at local firms.

We also explore the possibility that our findings are driven by the informational advantage of local bank trust ownership which has access to private information due to loan relationships. As a mixed debt-equity holder, it is natural for local bank trust ownership to play an active role and monitor risk-taking. We construct two subsamples by drawing 500 random firms from the full sample and separate them into two groups that have either above-median local bank trust ownership or no local bank trust ownership. If our results are driven by local bank trust as the mixed debt-equity holder, we expect to observe a high correlation between local bank trust ownership and local bank loan balance. As we see in Table 7, there are 161 firms that belong to the nonlocal bank trust ownership group and 209 firms that belong to the above-median local bank trust ownership group, and the other 130 firms out of 500 randomly selected firms drop out of the groups as they do not have bank loan information. The mean local bank loan percentages, which we calculate based on data collected from DealScan, for the two groups show no difference (p-value of 0.94). The correlation coefficient between local bank trust ownership and local bank loan percentage is actually –0.016 (p-value of 0.76). Therefore, we conclude no evidence suggesting local bank trust ownership as a mixed debt-equity holder.

Table 7 Concentrated local bank trust ownership and local bank loan balance

Panel A. For 500 randomly selected high and no local bank trust samples			
	No *Top10local_bnk* (161 obs)	High *Top10local_bnk* (209 obs)	Difference
Mean local bank loan%	11.328%	11.514%	–0.186% (*p value* = 0.9372)
Panel B. Correlation between local bank ownership and *Top10local_bnk*			
Corr (local bank ownership, *Top10local_bnk*) = –0.016 (*p value* = 0.7566)			

This table examines whether local bank trust ownership's role is driven by its informational advantage as a lender in the same time. Panel A reports the difference in mean local bank loan percentages from two groups constructed using 500 randomly selected firms from our main sample. Panel B reports the correlation coefficient of local bank loan percentages of firms in these two groups.

To further explore evidence for the *Top10local_bnk*'s nonpassive role, we examine the relation between *Top10local_bnk* and the change in corporate investment policies that involve uncertainty. If the *Top10local_bnk* play a nonpassive role and have an impact on *future* firm equity beta, it may be through changes in corporate policies that involve uncertainty, which lead to lower equity beta. Changes of total assets and fixed assets, capital expenditure and R&D intensity usually involve uncertainty even though they may represent more opportunities. We use changes in total assets, incremental fixed assets (plant, property and equipment), capital expenditure, and R&D expenses as our proxies to capture corporate investment decisions that involve uncertainty. We report estimation results on these proxies in Table 8. Both lagged and change in the level of *Top10local_bnk* are negatively associated with increases in asset growth and R&D growth, suggesting that local bank ownership is very cautious with risky investment decisions. Even though both lagged local and distant bank trust ownership is negatively associated with capital expenditure growth, change of the ownership is not. We also do not find significant relation between *Top10nonlocal_bnk*, which is the percentage of distant concentrated bank trust ownership and asset growth and R&D growth, consistent with findings from the prior literature that bank trust ownership is usually passive (Brickley et al. 1988).

E. How does geographic proximity facilitate local Bank trusts' nonpassive role?

We next examine the channels through which local bank trusts play a nonpassive role to reduce risk. Geographical proximity might foster social networks and make it easy for local bank trusts to informally express their opinions and influence corporate decisions. For example, past studies show that social networks are powerful tools to influence corporate policies (Kedia and Rajgopal

Table 8 Top10 local bank trust ownership and investment decisions

Variables	(1) Asset growth	(2) $\Delta FA_t/TA_{t-1}$	(3) $\Delta CAPX_t/TA_{t-1}$	(4) $\Delta R\&D_t/TA_{t-1}$
$LogTA_{t-1}$	−0.037***	−0.006***	−0.002***	−0.000***
	(−17.95)	(−10.41)	(−10.09)	(−3.729)
Leverage $_{t-1}$	−0.045***	−0.014***	−0.010***	−0.005***
	(−2.919)	(−3.371)	(−5.229)	(−4.868)
ROA $_{t-1}$	0.032	0.043***	0.020***	0.014***
	(1.062)	(6.282)	(5.280)	(4.972)
Tobin's Q $_{t-1}$	0.077***	0.010***	0.006***	0.004***
	(25.31)	(17.87)	(19.78)	(18.05)
R&D/TA $_{t-1}$	0.243***	−0.097***	−0.035***	
	(3.295)	(−7.881)	(−5.457)	
CAPX/TA $_{t-1}$	0.304***	0.486***		−0.017***
	(5.366)	(26.85)		(−6.142)
FA/TA $_{t-1}$	−0.010		0.001	0.000
	(−0.615)		(0.321)	(0.421)
Dividend $_{t-1}$	−0.011**	−0.005***	−0.004***	−0.002***
	(−2.034)	(−3.334)	(−6.247)	(−7.789)
Total IOR $_{t-1}$	−0.044***	−0.019***	−0.005***	−0.001
	(−3.816)	(−5.509)	(−3.522)	(−1.051)
Top10own $_{t-1}$	−0.018	−0.014***	−0.004*	0.006***
	(−1.075)	(−2.871)	(−1.872)	(5.319)
Top10local_bnk $_{t-1}$	−0.195***	−0.025	−0.017**	−0.013***
	(−2.745)	(−1.396)	(−2.009)	(−3.097)
Δ Top10local_bnk $_t$	−0.164*	−0.026	−0.003	−0.010**
	(−1.951)	(−1.298)	(−0.278)	(−2.023)
Top10nlocal_bnk $_{t-1}$	−0.062	−0.011	−0.016***	−0.002
	(−1.449)	(−0.905)	(−2.685)	(−0.855)
Δ Top10nlocal_bnk $_t$	−0.024	−0.006	−0.001	−0.001
	(−1.097)	(−0.945)	(−0.318)	(−1.094)
Top10local_bnkno $_{t-1}$	−0.069	−0.008	−0.017***	0.001
	(−1.639)	(−0.701)	(−2.941)	(0.430)
Top10nlocal_bnkno $_{t-1}$	−0.027	0.006	−0.011*	−0.001
	(−0.699)	(0.570)	(−1.895)	(−0.240)
Constant	0.361***	0.061***	0.040***	−0.001
	(7.534)	(4.689)	(6.021)	(−0.227)
Year fixed	Yes	Yes	Yes	Yes
FF12 Industry fixed	Yes	Yes	Yes	Yes
Observations	29,285	29,282	29,178	29,285
R^2	0.205	0.221	0.098	0.145

The table reports the results on the impact of *Top10local_bnk* on corporate investments that involve uncertainty. We exclude securities with share codes different from 10 or 11, as well as financial companies and utilities. An institutional owner is defined as "local" if the headquarters of the institution is within a 100-mile radius of the company's headquarters. The sample includes 36,287 firm-year observations from the Compustat universe with nonmissing information of institutional ownership and total assets. Quarterly 13F holdings information is combined with annual financial variables and risk measures as of fiscal year-end for firms with December fiscal year-end or within 3 months of the fiscal year-end for firms with non-December fiscal year-end. Variable definitions are in Table A1. Robust standard errors are clustered at the firm level. ***, **, and * denote statistical significance based on two sided tests at the 1%, 5%, and 10% level, respectively.

2009; Fracassi 2012). Geographic proximity also facilitates local executives to join the board and become a director (Knyazeva et al. 2013). Directors, especially independent directors on corporate boards are powerful as they vote on corporate policies and secure the changes that investors want (Cornett et al. 2008; Klein and Zur 2009).

Even though we cannot precisely identify the channels through which *Top10local_bnk* affects future firm risk, we examine whether *Top10local_bnk* is related to the installation of board directors and how such connection is associated with future firm risk. Wan (2008) shows that board directors who are local are better monitors and they have stronger impacts on corporate policy. Following this argument, we examine how *Top10local_bnk* influences the composition of board members by investigating the relation between *Top10local_bnk* and local directorships. Local directors are defined as board directors who are located within 100 miles of corporate headquarters, and the home address for each director in the Investor Responsibility Research Center (IRRC) database is taken from his report on insider trading to the SEC and treated as the director's location (Wan 2008).[16] If the director changes his address in a given year, the valid address with a date that is closer to the annual board meeting date is used. Since other local institutional ownerships are likely to be associated with local directorships, we control for these ownerships in our analysis. Using a smaller data sample that is manually collected with information on local directors over the period of 1996–2004, we find that both higher level and increase of *Top10local_bnk* are positively associated with a higher percentage of local independent directors.[17] We also find that local nonbank ownership is associated with a higher percentage of local independent directors. On the other hand, nonlocal institutional ownership is negatively associated with the percentage of local independent directorships.

Our findings in Panel A of Table 9 so far demonstrate a local bias for directorships. Alternatively, the positive relationship between *Top10local_bnk* and local independent directorships could be that the local independent directors push for lower firm risk due to local-related reasons. To disentangle these two explanations for our findings, we further investigate how local independent directorships influence the relation between local institutional ownership and future firm risk following three steps. First, we conduct a univariate test to examine the relation between *Local indep director* and *Fbeta*, where *Local indep director* is defined as the ratio of local independent directors to total directors. The results are reported in Panel B of Table 9 and show that above-median *Local indep director* is associated with higher *Fbeta* (1.23 versus 1.09). This suggests that average local independent directorship does not necessarily pursue low risk.

16 We thank Hong Wan for providing this sample of data set.

17 We focus on independent directors since they are not likely to be affiliated with the firm, whether as an employee or as someone representing the banker that provides loans to the firm. The local independent directors could be individuals from a local bank trust as long as there is no business relationship (loans or corporate trusts for example) between them.

Table 9 Top10 local Bank Trust, local independent director, and future Beta.

Panel A		
Variables	(1) *Local indep director*	(2) *Local indep director*
$LogTA_{t-1}$	–0.012***	–0.010**
	(–2.656)	(–2.202)
$Leverage_{t-1}$	0.027	0.025
	(0.807)	(0.740)
ROA_{t-1}	0.098**	0.104**
	(1.988)	(2.096)
$Tobin's\ Q_{t-1}$	0.000	0.000
	(0.144)	(0.175)
$R\&D/TA_{t-1}$	0.243**	0.241**
	(2.041)	(2.029)
$CAPX/TA_{t-1}$	0.047	0.054
	(0.418)	(0.476)
FA/TA_{t-1}	–0.033	–0.035
	(–0.914)	(–0.954)
$Dividend_{t-1}$	0.018	0.020
	(1.380)	(1.513)
$Top10local\_bnk_{t-1}$	0.250***	
	(2.594)	
$\Delta Top10local\_bnk_{t}$	0.132*	
	(1.702)	
$Top10local\_bnkno_{t-1}$	0.167***	
	(4.317)	
$\Delta Top10local\_bnkno_{t}$	0.073**	
	(2.236)	
$Top10nlocal\_bnk_{t-1}$		–0.183***
		(–3.406)
$\Delta Top10nlocal\_bnk_{t}$		–0.067*
		(–1.747)
$Top10nlocal\_bnkno_{t-1}$		–0.164***

Table 9 (*continued*)

Panel A

Variables	(1) *Local indep director*	(2) *Local indep director*
		(–4.608)
ΔTop10nlocal_bnkno $_t$		–0.076***
		(–2.718)
Constant	0.394***	0.549***
	(8.970)	(9.830)
Year fixed	Yes	Yes
FF12 Industry fixed	Yes	Yes
Observations	7295	7295
R^2	0.087	0.085

Panel B

		Low	High		
Overall		*Local indep director*	*Local indep director*	Difference	T-statistics
Fbeta	Mean	1.0877	1.2259	–0.1383***	–6.5378
	N	3929	3793		

Panel C

Variables	(1) *Fbeta* High *local* indep director	(2) *Fbeta* Low *local* indep director	(3) *Fbeta* Top10local_bnk ≥3%	(4) *Fbeta* Top10local_bnk <3%	(5) *Fbeta* Top10local_bnk Positive own	(6) *Fbeta* Top10local_bnk zero own
$LogTA_{t-1}$	–0.049	–0.154**	–0.036	–0.013	–0.040	–0.012

Table 9 (*continued*)

Panel C

Variables	(1) *Fbeta* High *local* indep director	(2) *Fbeta* Low *local* indep director	(3) *Fbeta* Top10local_bnk ≥3%	(4) *Fbeta* Top10local_bnk <3%	(5) *Fbeta* Top10local_bnk Positive own	(6) *Fbeta* Top10local_bnk zero own
	(–0.789)	(–2.218)	(–1.426)	(–0.763)	(–1.589)	(–0.732)
Leverage $_{t-1}$	–0.206	0.175	–0.102	0.127	–0.101	0.128
	(–1.066)	(0.810)	(–0.572)	(1.141)	(–0.577)	(1.152)
ROA $_{t-1}$	–0.335	–0.061	–1.540***	–1.494***	–1.551***	–1.492***
	(–1.375)	(–0.235)	(–3.118)	(–8.087)	(–3.163)	(–8.078)
Tobin's Q $_{t-1}$	0.037**	0.055***	0.013	0.052***	0.010	0.052***
	(2.066)	(2.989)	(0.496)	(4.276)	(0.411)	(4.316)
R&D/TA $_{t-1}$	1.020	–0.340	0.480	2.145***	0.581	2.142***
	(1.302)	(–0.466)	(0.352)	(4.019)	(0.453)	(3.982)
CAPX/TA $_{t-1}$	–0.919*	1.247**	–0.759	0.840**	–0.671	0.863**
	(–1.782)	(2.456)	(–0.857)	(2.224)	(–0.817)	(2.269)
FA/TA $_{t-1}$	0.103	–0.766**	0.484	–0.317***	0.467	–0.322***
	(0.304)	(–2.102)	(1.637)	(–3.095)	(1.603)	(–3.145)
Dividend $_{t-1}$	–0.059	0.112	–0.412***	–0.260***	–0.399***	–0.258***
	(–0.545)	(1.142)	(–4.566)	(–6.721)	(–4.629)	(–6.661)
Total IOR $_{t-1}$	–0.102	–0.080	0.040	0.002	0.052	0.003
	(–0.519)	(–0.483)	(0.189)	(0.015)	(0.256)	(0.025)
Top10own $_{t-1}$	0.197	0.013	–0.815***	–0.108	–0.954***	–0.064
	(0.949)	(0.0755)	(–2.595)	(–0.667)	(–3.261)	(–0.398)
Top10local_bnk $_{t-1}$	–0.754**	0.434				
	(–2.181)	(0.972)				
Top10local_bnkno $_{t-1}$	–0.257	0.255				
	(–1.168)	(1.225)				
Local indep director $_{t-1}$			–0.333**	–0.064	–0.314**	–0.065

Table 9 (*continued*)

Panel C

Variables	(1) *Fbeta* High *local* indep director	(2) *Fbeta* Low *local* indep director	(3) *Fbeta* Top10local_bnk ≥3%	(4) *Fbeta* Top10local_bnk <3%	(5) *Fbeta* Top10local_bnk Positive own	(6) *Fbeta* Top10local_bnk zero own
			(−2.491)	(−0.807)	(−2.409)	(−0.823)
Constant	1.878***	2.685***	1.635***	1.248***	1.785***	1.128***
	(3.566)	(4.801)	(3.724)	(4.927)	(4.083)	(4.431)
Year fixed	Yes	Yes	Yes	Yes	Yes	Yes
FF12 Industry fixed	No	No	Yes	Yes	Yes	Yes
Firm fixed	Yes	Yes	No	No	No	No
Observations	3265	3305	949	5404	975	5378
R^2	0.126	0.185	0.385	0.308	0.385	0.308

The table reports results from estimating the interrelationship between *Top10local_bnk*, *Local indep director* and *Fbeta*. We exclude securities with share codes different from 10 or 11, as well as financial companies and utilities. An institutional owner is defined as "local" if the headquarters of the institution is within a 100-mile radius of the company's headquarters. The sample comes from the Compustat universe with nonmissing information of institutional ownership and total assets. Quarterly 13F holdings information is combined with annual financial variables and risk measures as of fiscal year-end for firms with December fiscal year-end or within 3 months of the fiscal year-end for firms with non-December fiscal year-end. Our local director data covers sample period of 1996–2004 for S&P 1500 firms only, which significantly reduces the sample size for results in this table. Variable definitions are in Table A1. Robust standard errors are clustered at the firm level. ***, **, and * denote statistical significance based on two sided tests at the 1%, 5%, and 10% level, respectively.

Second, we reestimate equation (4) in two subsamples with above- and below-mean local independent directorships and report results in Columns (1) and (2) in Panel C of Table 9. The results from fixed-effects regressions show that the negative association between lagged *Top10local_bnk* and future firm risk only exists in the subsample with above-median local independent directorship (*t*-value = 2.18). In the results that are not tabulated, we find that local investment advisor ownership is positively associated to future firm beta in the subsample with above-median local independent directorship.[18]

Finally, we estimate the relation between local independent directorship and future firm risk in two subsamples with high and low *Top10local_bnk*.[19] Results in Columns (3) and (5) of Panel C show that there is a negative relation between *Local indep director* and future firm risk in the subsamples with high or positive *Top10local_bnk* (*t*-stat = –2.49 and – 2.41, respectively). When *Top10local_bnk* is low or not present, there is no relation between local independent directorship and future firm risk (Columns (4) and (6)). In summary, our results in Panels A to C of Table 9 suggest that the negative relation between *Top10local_bnk* and *Fbeta* is likely due to the joint force of local concentrated bank trust ownership and local independent directorship.

V. CONCLUSION

Despite the common belief that bank trust ownership is passive in the US, we show that controlling for other characteristics of the owner, including type of the institutions, investment horizon, as well as concentration of the stake, geographic proximity changes the role of bank trust ownership at the firms in which they invest. CLBTO is associated with (i) lower future firm equity beta and (ii) less uncertain future corporate policies. Our findings are hard to interpret using information alone arguments, and are more consistent with *Top10local_bnk*'s nonpassive role on risk-taking due to segmentation. Geographic proximity lowers the cost of a nonpassive role and creates incentives for *Top10local_bnk* to segment its effort with local and nonlocal firms. Interestingly, these incentives are also related to bank's desire to build relationships with local firms by being a desirable long-term investor.

We also explore channels through which local bank trusts could exert their influence, including their stabilizing function during crisis periods and joining force with local independent directors. Although our data do not allow us to explicitly identify the channel how the *Top10local_bnk* causes lower future equity beta, we show that the *Top10local_bnk* has a stabilizing function during crisis and could join force with local independent directors to be nonpassive.

18 These results are available from the authors upon request.

19 Since most firms have *Top10local_bnk* equal to zero and the absolute value of *Top10local_bnk* is usually low, we rely on an absolute magnitude of *Top10local_bnk* at 3% or 0% to separate the full sample into two subsamples with high- and low-*Top10local_bnk*, respectively.

We provide new empirical evidence that suggests the importance of geographical proximity in the relation between institutional owners and their investment targets. There remains, however, more to learn about how geography influences agents' intervention incentives and efforts in the future study. Lastly, recognizing the importance of this additional dimension could be fruitful for regulator in the framework of the Prudent Man/Investor.

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REFERENCES

Agrawal, A., and G. Mandelker (1990), 'Large Shareholders and the Monitoring of Managers: The Case of Anti-Takeover Charter Amendments', *Journal of Financial and Quantitative Analysis*, 25, 143–61.

Attig, N. et al. (2013), 'Institutional Investment Horizons and the Cost of Equity Capital', *Financial Management*, 2013, 441–77.

Baik, B., J. Kang, and J. Kim (2010), 'Local Institutional Investors, Information Asymmetries, and Equity Returns', *Journal of Financial Economics*, 97, 81–106.

Bennett, J. A., R. W. Sias, and L. T. Starks (2003), 'Greener Pastures and the Impact of Dynamic Institutional Preferences', *Review of Financial Studies*, 16, 1203–38.

Beyer, A., D. Larcker, and B. Tayan (2014), *Study on How Investment Horizon and Expectations of shareholder Base Impact Corporate Decision-Making*. National Investor Relations Institute and The Rock Center for Corporate Governance, Stanford University Closer Look Series, Stanford, CA, USA.

Brickley, J., R. Lease, and C. Smith Jr. (1988), 'Ownership Structure and Voting on Antitakeover Amendments', *Journal of Financial Economics*, 20, 267–91.

Brown, J. R., and B. C. Petersen (2011), 'Cash Holdings and R&D Smoothing', *Journal of Corporate Finance*, 17, 694–709.

Bushee, B. J. (1998), 'The Influence of Institutional Investors on Myopic R&D Investment Behavior', *Accounting Review*, 73, 305–33.

Chang, K., E. Kang, and Y. Li (2016), 'Effect of Institutional Ownership on Dividends: An Agency-Theory Based Analysis', *Journal of Business Research*, 69, 2551–9.

Chen, X., J. Harford, and K. Li (2007), 'Monitoring: Which Institutions Matter?', *Journal of Financial Economics*, 86, 279–305.

Cheng, B., I. Ioannou, and G. Serafeim (2014), 'Corporate Social Responsibility and Access to Finance', *Strategic Management Journal*, 35, 1–23.

Chhaochharia, V., A. Kumar, and A. Niessen-Ruenzi (2012), 'Local Investors and Corporate Governance', *Journal of Accounting and Economics*, 54, 42–67.

Cornett, M. M., A. J. Marcus, and H. Tehranian (2008), 'Corporate Governance and Pay-for- Performance: The Impact Pf Earnings Management', *Journal of Financial Economics*, 87, 357–73.

Coval, J., and T. Moskowitz (1999), 'Home Bias at Home: Local Equity Preference in Domestic Portfolios', *Journal of Finance*, 54, 3045–73.
Coval, J., and T. Moskowitz (2001), 'The Geography of Investments: Informed Trading and Asset Prices', *Journal of Political Economy*, 109, 811–41.
Cumming, D., and N. Dai (2010), 'Local Bias in Venture Capital Investments', *Journal of Empirical Finance*, 17, 362–80.
Davis, J., and J. Vernon Henderson (2008), 'The Agglomeration of Headquarters', *Regional Science and Urban Economics*, 38, 445–60.
Del Guercio, D. (1996), 'The Distorting Effect of the Prudent-Man Laws on Institutional Equity Investments', *Journal of Financial Economics*, 40, 31–62.
Del Guercio, D. and T. Woidtke (2013), 'Do the Interests of Labor Union and Public Pension Fund Activists Align with Other Shareholders' Evidence from the Market for Directors', Working Paper, University of Oregon.
Demsetz, H. (1983), 'The Structure of Ownership and the Theory of the Firm', *Journal of Law and Economics*, 26, 375–90.
Demsetz, H., and K. Lehn (1985), 'The Structure of Corporate Ownership: Causes and Consequences', *Journal of Political Economy*, 93, 1155–77.
Dittmann, I., E. Maug, and C. Schneider (2009), 'Bankers on the Boards of German Firms: What they Do, What They Are Worth, and Why They Are (Still) There', *Review of Finance*, 14, 35–71.
Faleye, O., V. Mehrotra, and R. Morck (2006), 'When Labor Has a Voice in Corporate Governance', *Journal of Financial and Quantitative Analysis*, 41, 489–510.
Ferreira, M. A., and P. Matos (2008), 'The Colors of Investors' Money: The Role of Institutional Investors around the World', *Journal of Financial Economics*, 88, 499–533.
Fracassi, C. (2012), 'Corporate Finance Policies and Social Networks', Working Paper, University of Texas at Austin.
Gaspar, J., and M. Massa (2007), 'Local Ownership as Private Information: Evidence on the Monitoring-Liquidity Trade-Off', *Journal of Financial Economics*, 83, 751–92.
Gaspar, J., M. Massa, and P. Matos (2005), 'Shareholder Investment Horizons and the Market for Corporate Control', *Journal of Financial Economics*, 76, 135–65.
Gompers, P., J. Ishii, and A. Metrick (2001), 'Institutional Investors and Equity Prices', *Quarterly Journal of Economics*, 116, 229–59.
Grinblatt, M., and M. Keloharju (2001), 'How Distance, Language, and Culture Influence Stockholdings and Trades', *Journal of Finance*, 56, 1053–73.
Hankins, K. W., M. J. Flannery, and M. N. Nimalendran (2008), 'The Effect of Fiduciary Standards on Institutions' Preference for Dividend-Paying Stocks', *Financial Management*, 37, 647–71.
Harford, J., A. Kecskesand, and S. Mansi (2012), 'Investor Horizons and Corporate Cash Holdings', Working Paper, University of Washington.
Hartzell, J. C., and L. T. Starks (2003), 'Institutional Investors and Executive Compensation', *Journal of Finance*, 58, 2351–74.
Havens, J. J., and P. G. Schervish (2003), 'Why the $42 Trillion Wealth Transfer Is Still Valid: A Review of Challenges and Questions', *The Journal of Gift Planning*, 7, 11–5.
Himmelberg, C. P., R. G. Hubbard, and D. Palia (1999), 'Understanding the Determinants of Managerial Ownership and the Link between Ownership and Performance', *Journal of Financial Economics*, 53, 353–84.
Hirschey, M., H. Skiba, and M. B. Wintoki (2012), 'The Size, Concentration and Evolution of Corporate R&D Spending in US Firms from 1976 to 2010: Evidence and Implications', *Journal of Corporate Finance*, 18, 496–518.

Hong, H., J. D. Kubik, and J. C. Stein (2008), 'The Only Game in Town: Stock Price Consequences of Local Bias', *Journal of Financial Economics*, 90, 20–37.
Ivashina, V., and Z. Sun (2011), 'Institutional Stock Trading on Loan Market Information', *Journal of Financial Economics*, 100, 284–303.
Ivkovic, Z., and S. Weisbenner (2005), 'Local Does as Local Is: Information Content of the Geography of Individual Investors' Common Stock Investments', *Journal of Finance*, 60, 267–306.
James, C. (1987), 'Some Evidence on the Uniqueness of Bank Loans', *Journal of Financial Economics*, 19, 217–35.
Jiraporn, P. et al. (2014), 'Does Corporate Social Responsibility (CSR) Improve Credit Ratings? Evidence from Geographic Identification', *Financial Management*, 43, 505–31.
John, K., A. Knyazeva, and D. Knyazeva (2011), 'Does Geography Matter? Firm Location and Corporate Payout Policy', *Journal of Financial Economics*, 101, 533–51.
Kahn, C., and A. Winton (1998), 'Ownership Structure, Speculation, and Shareholder Intervention', *Journal of Finance*, 53, 99–129.
Kang, J., and J. Kim (2008), 'The Geography of Block Acquisitions', *Journal of Finance*, 63, 2817–58.
Kedia, S., and S. Rajgopal (2009), 'Neighborhood Matters: The Impact of Location on Broad Based Stock Option Plans', *Journal of Financial Economics*, 92, 109–27.
Klein, A., and E. Zur (2009), 'Entrepreneurial Shareholder Activism: Hedge Funds and Other Private Investors', *Journal of Finance*, 64, 187–229.
Knyazeva, A., D. Knyazeva, and R. W. Masulis (2013), 'The Supply of Corporate Directors and Board Independence', *Review of Financial Studies*, 26, 1561–605.
Kroszner, R., and P. Strahan (2001), 'Bankers on Boards: Monitoring, Conflicts of Interest, and Lender Liability', *Journal of Financial Economics*, 62, 415–52.
Lemmon, M. L., and K. Lins (2003), 'Ownership Structure, Corporate Governance, and Firm Value: Evidence from the East Asian Financial Crisis', *Journal of Finance*, 58, 1445–68.
Lerner, J. (1995), 'Venture Capitalists and the Oversight of Private Firms', *Journal of Finance*, 50, 301–18.
Lin, C. et al. (2011), 'Ownership Structure and the Cost of Corporate Borrowing', *Journal of Financial Economics*, 100, 1–23.
Loughran, T., and P. Schultz (2004), 'Weather, Stock Returns, and the Impact of Localized Trading Behavior', *Journal of Financial and Quantitative Analysis*, 39, 343–64.
Lummer, S., and J. McConnell (1989), 'Further Evidence on Bank Lending Process and Capital Market Response to Bank Loan Agreements', *Journal of Financial Economics*, 25, 52–63.
Maug, E. (1998), 'Large Shareholders as Monitors: Is there a Trade-Off between Liquidity and Control?', *Journal of Finance*, 53, 65–98.
Megginson, W., and K. Weiss (1991), 'Venture Capitalist Certification in Initial Public Offerings', *Journal of Finance*, 46, 879–903.
Pirinsky, C., and Q. Wang (2006), 'Does Corporate Headquarters Location Matter for Stock Returns?', *Journal of Finance*, 61, 1991–2015.
Rajan, R., and A. Subramanian (2008), 'Aid and Growth: What Does the Cross-Country Evidence Really Show?', *The Review of Economics and Statistics*, 90, 643–65.
Romano, R. (1993), 'Public Pension Fund Activism in Corporate Governance Reconsidered', *Columbia Law Review*, 93, 795–853.
Schanzenbach, M. M., and R. H. Sitkoff (2007), 'Did Reform of Prudent Trust Investment Laws Change Trust Portfolio Allocation?', *Journal of Law and Economics*, 50, 687–711.

Schanzenbach, M. M. and R. H. Sitkoff (2012), 'The Prudent Investor Rule: A Theoretical and Empirical Reassessment', Working Paper, Northwestern University.
Shleifer, A., and R. W. Vishny (1986), 'Large Shareholders and Corporate Control', *Journal of Political Economy*, 94, 461–88.
Smith, M. P. (1996), 'Shareholder Activism by Institutional Investors: Evidence from CalPERS', *Journal of Finance*, 51, 227–52.
Stock, J. H., J. H. Wright, and M. Yogo (2002), 'A Survey of Weak Instruments and Weak Identification in Generalized Method of Moments', *Journal of Business and Economic Statistics*, 20, 518–29.
The Conference Board (2010). 'Trends in Asset Allocation And Portfolio Composition', Harvard Law School Forum.
Wan, H. (2008), 'Two Essays on Corporate Governance – Are Local Directors Better Monitors, and Directors Incentives and Earnings Management', Working Paper, University of South Florida.
Woidtke, T. (2002), 'Agents Watching Agents?: Evidence from Pension Fund Ownership and Firm Value', *Journal of Financial Economics*, 63, 99–131.

I. APPENDIX

Table A1 Variable definitions: All names in parentheses () refer to the Compustat item name

Variable names	Definition	Source
AvgLocal	Total dollar investment in the 10 largest holdings by an institutional investors in local firms/Total number of local firms out of the 10 largest holdings	Thompson Reuters' 13F
AvgNonLocal	Total dollar investment in the 10 largest holdings by an institutional investor in nonlocal firms/Total number of nonlocal firms out of the 10 largest holdings	Thompson Reuters' 13F
Relvol12 m	12-month stock return volatility$_t$/12-month CRSP value-weighted index volatility$_t$	CRSP
Relvol24m	24-month stock return volatility$_t$/24-month CRSP value-weighted index volatility$_t$	CRSP
Totvol36 m	36-month stock return volatility$_t$	CRSP
Fbeta	Future beta estimated using market model using $t + 1$ to $t + 24$-month returns	CRSP
Fbeta36 m	Future beta estimated using market model using $t + 1$ to $t + 36$-month returns	CRSP
Lt rating	Long-term bond rating, D (1) to AAA (22)	Compustat
TA	Total assets; (at)	Compustat
LogTA	Log (TA) at the end of fiscal year-end	Compustat
Leverage	Total debt/total assets; (dltt + dlc)/(at)	Compustat
ROA	Return on assets, net income before extraordinary items/TA; (ni)/((ib)	Compustat
Tobin's Q	Market value of total assets divided by book value of total assets; ((at) + (prcc_f * csho) – (ceq + txditc))/(at)	Compustat
R&D/TA	Research and Development expenses/TA; (xrd)/(at); treat missing xrd as zero	Compustat
CAPX/TA	Capital expenditures/TA; (capx/at)	Compustat
FA/TA	Net fixed assets/TA; (ppent/at)	Compustat
Dividend	Takes 1 if firms pay common dividends, else 0; (dvc > 0)	Compustat
Asset growth	Total asset growth rate; (at(t)/at(t – 1)) 1	Compustat

Table A1 (*continued*)

Variable names	Definition	Source
$\Delta\ FA_t/TA_{t-1}$	Change in net fixed assets divided by total assets at the beginning of fiscal year; (ppent(t) – ppent(t – 1))/(at(t – 1))	Compustat
$\Delta CAPX_t/TA_{t-1}$	Change in capital expenditure divided by total assets at the beginning of fiscal year; (capx(t) – capx(t – 1))/(at(t – 1)	Compustat
$\Delta R\&D_t/TA_{t-1}$	Change in R&D expense divided by total assets at the beginning of fiscal year; (xrd (t) – xrd(t – 1))/(at(t – 1), treat missing xrd as zeo	Compustat
Total IOR	Total institutional ownership for a firm in a given fiscal year; Total institutional shares/total number of shares outstanding	Thompson Reuters' 13F
Top10own	Top10 institutional ownership; top10 institutional shares/total number of shares outstanding	Thompson Reuters' 13F
Top10localown	Local top10 institutional ownership; local top10 institutional shares/top10 institutional shares; Institutions are defined as "local" if the distance between the firm's and the institution's headquarters is 100 miles or less.	Thomson Resuters' 13F; Compustat
Top10local_bnk	Local top10 bank trust ownership; local top10 bank trust shares/top10 institutional shares	Thomson Resuters' 13F; Compustat
Top10local_bnk_inc	A dummy variable that takes on value 1 if there is increase in *Top10local_bnk* and 0 otherwise	Thomson Resuters' 13F; Compustat
Top10local_bnk_dec	A dummy variable that takes on value 1 if there is decrease in *Top10local_bnk* and 0 otherwise	Thomson Resuters' 13F; Compustat
Top10nonlocal_bnk	Top10 bank trust ownership that is nonlocal.	Thomson Resuters' 13F; Compustat
Top10local_bnkno	Local top10 ownership excluding bank trust; local top10 shares except bank trust/top10 institutional shares	Thomson Resuters' 13F; Compustat
Top10nonlocal_bnkno	Top10 institutional ownership excluding bank trust ownership that is nonlocal.	Thomson Resuters' 13F; Compustat
Top10local_ins	Local top10 insurance company ownership; local top10 insurance company shares/ top10 institutional shares	Thomson Resuters' 13F; Compustat

Table A1 (*continued*)

Variable names	Definition	Source
Top10local_pps	Local top10 public pension fund ownership; local top10 public pension fund shares/ top10 institutional shares	Thomson Resuters' 13F; Compustat
Top10local_iia	Local top10 independent advisor ownership; local top10 independent advisor shares/ top10 institutional shares	Thomson Resuters' 13F; Compustat
Top10local_inv	Local top10 investment company ownership; local top10 investment company shares/top10 institutional shares	Thomson Resuters' 13F; Compustat
Local indep director	The fraction of local independent director; number of local independent directors/ total directors. Directors are defined as "local" if the distance between the director's home address and the institution's headquarters is 100 miles or less.	IRRC; Compustat
SIC2loc indep director	Average of the fraction of local independent director at other firms with the same two-digit *SIC* code (not including the firm under consideration)	Thompson Reuters' 13F; Compustat
STop10lown_bnk	Annual average of top10 local bank trust institutional ownership at other firms that are in the same state (excluding firms that are in the same industry defined by their two-digit *SIC* codes)	Thompson Reuters' 13F; Compustat
Stop10localown	annual average of top10 local institutional ownership (nonbank trusts) at other firms that are in the same state (not including the firm under consideration)	Thompson Reuters' 13F; Compustat
SIC2Top10lown_bnk	Annual average of top10 local bank trust institutional ownership at other firms with the same two-digit *SIC* code (excluding firms that are located in the same state)	Thompson Reuters' 13F; Compustat
Top10LLTIO_bnk	Local top10 long-term institutional ownership (*LLTIO*) that belongs to bank trust ownership; local long-term top10 bank trust shares/top10 institutional shares	Thompson Reuters' 13F; Compustat

Table A1 (*continued*)

Variable names	Definition	Source
Top10local_ins	*LLTIO* that belongs to insurance company ownership; local long-term top10 insurance company shares/top10 institutional shares	Thomson Reuters' 13F; Compustat
Top10local_pps	*LLTIO* that belongs to public pension ownership; local long-term top10 public pension fund shares/top10 institutional shares	Thomson Reuters' 13F; Compustat
Top10local_iia	*LLTIO* that belongs to independent investment advisor ownership; local long-term top10 independent investment advisor shares/top10 institutional shares	Thomson Reuters' 13F; Compustat
Top10local_inv	*LLTIO* that belongs to investment company ownership; local long-term top10 investment company shares/top10 institutional shares	Thomson Reuters' 13F; Compustat
PSS	Percentage of shares sold, ratio of net number of shares sold during one quarter to total number of shares held as of the previous quarter for a firm by an institution. This measure is merged with annual financial variables as fiscal year-end for firms with December fiscal year-end. If the fiscal year-end falls in a month other than December, we combine the quarterly *PSS* Within 3 months of the firm's actual month of fiscal year-end.	Thomson Reuters' 13F
Dif_PSS_LBNK	The difference in average *PSS* for local firms and nonlocal firms of a bank trust	Thomson Reuters' 13F