Geography and the Market for CEOs*

(Job Market Paper)

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Abstract

I examine the role of geography in the labor market for CEOs. I begin by investigating the joint distribution of CEO state of origin and firm headquarters location and find that the frequency with which firms hire CEOs from their own state is five times more than is expected under a model where geography plays no role in the hiring process. When considering only hiring decisions that are external to the firm or to the industry, this figure falls to just under three times. I show that geography affects both labor supply and labor demand. Specifically, smaller, less R&D-intensive firms located in less desirable locations, with weaker board incentive alignment, and whose previous CEO was locally hired are more likely to hire local CEOs. Compensation and turnover are lower for local CEOs than for non-local CEOs and adjusted operating performance significantly decreases when firms replace non-locally hired CEOs with local CEOs. These findings are consistent with the existence of search costs, agency conflicts and CEO geographic preference.

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I Introduction

Is the market for CEOs of large U.S. public corporations geographically segmented so that the probability of a CEO being hired by a firm depends on his state of origin as well as on the location of the firm? It would seem logical for the answer to this question to be "No." Labor market segmentation is often attributed to search costs on the demand side, and moving costs or lack of transferability of skills on the supply side. It is not likely that any of these factors play a role in the U.S. market for CEOs since search costs should be negligible for large corporations and CEOs are highly talented and highly paid individuals.[1] The presumption of the finance literature is that the market for CEOs is national in nature. For instance, in examining the effect of geography on broad-based stock option plans, Kedia and Rajgopal (2009) write that "... labor markets for top executives are likely to be nationally segmented rather than geographically segmented." However, to my knowledge, there is no systematic study testing whether geography plays a role in the market for CEOs. This paper seeks to fill this void by testing empirically whether the market for CEOs is geographically segmented and if so why this is the case.

In order to conduct a test of geographic segmentation in the market for CEOs it is necessary to know the joint geographic distribution of firms and CEOs. Although it is easy to proxy for firm geography using the state of the firm's headquarters, measuring geographic attributes of CEOs can be much more difficult. I focus on the state in which the CEO "grew up", or CEO state of origin. I obtain these data by combining two facts. First, social security numbers are issued by state; the first three numbers are linked to the state of issuance. Second, prior to the 1980's, U.S. residents obtained social security numbers during adolescence when applying for their first job. Combining these facts, the first three digits of a CEO's social security number may reveal the state that he considers "home." I therefore begin my study by collecting a unique dataset of CEO state of origin for 12,974 firm-year observations of non-financial, non-utility S&P 1,500 firms covered by S&P's Execucomp database for the years 1997 through 2007. In total, the sample includes 2,820 unique CEOs from 1,594 unique firms.

Upon inspection of the joint geographic distribution of firm headquarters location and CEO state of origin I find a striking pattern. For 3,923 (30.2%) of the 12,974 firm-year observations in the sample, the CEO's state of origin matches the firm's headquarters location. This preliminary evidence is suggestive of the existence of a local element in the market for CEOs.

After observing this pattern, I conduct formal tests for the existence of this local element. The tests are

[1] Kaplan and Rauh (2007) report that the median total compensation in 2004 for CEOs of non-financial firms was $2.54 million which is nearly 57 times the $44,684 U.S. median household income reported by the 2004 American Community Survey. This suggests that moving costs as a percentage of wealth for CEOs is negligible compared to the typical American family.

based on the following logic: if geography does not play a role in the market for CEOs, then the probability that a firm hires a CEO from its own state should be equal to the proportion of the CEO labor supply from that state. The tests focus on the hiring decisions. In total there are 1,162 hiring decisions between 1998 and 2007 with which to conduct tests for a local hiring bias. I create a measure of the local hiring bias, which I refer to as the *hiring home bias*. The hiring home bias is essentially the observed minus the expected percentage of local hires under the assumption that CEO state of origin is random. If geography does not play a role in the market for CEOs, then the hiring home bias should be indistinguishable from zero. For the full sample of hiring decisions this bias is 19.0%. Effectively, firms in the sample are over five times more likely to hire a local CEO than would be expected if geography does not play a role in the matching process. I find that a significant hiring home bias exists in 30 of the 43 sample states, and in each of the sample years. When considering only CEOs hired externally to the firm and to the industry, local hiring decisions are nearly three times more likely than expected if geography does not play a role in the market for CEOs.[2]

Concluding that the market for CEOs is geographically segmented, I then ask why this is the case. I propose five theories that could explain the tendency of firms to hire locally. Included are both demand- and supply-driven theories, some of which are rational and others behavioral. Specifically, I test whether firms hire locally because the costs of extending the search process geographically outweigh the potential gains (*search costs theory*), because cultural "matching" facilitates the production process (*cultural matching theory*), because the selection committee is lazy (*shirking theory*), because of private benefits the selection committee enjoys from local candidates (*cronyism theory*), or because CEOs have a preference for living and working close to home (*geographic preference theory*). These theories originate from both traditional labor economic theory and from field research evidence by Khurana (2002), who argues that the CEO labor market should not be viewed as a market in the classical sense.

I begin my assessment of the relative merits of these theories by testing for differences in firm, hired CEO, and predecessor CEO characteristics for local versus non-local hiring decisions. Consistent with the search cost theory these univariate tests indicate that firms that hire locally are smaller and less R&D intensive. Supportive of the agency theories of cronyism and shirking, firms that hire locally have lower outside board membership. When compared to firms that do not choose to hire locally, firms that hire locally more often have a predecessor CEO that is local. This finding could be due to cronyism, cultural matching, and/or search costs. Throughout the study I proxy for the desirability of a firm's location by the average percentage

[2]The literature on CEO successions makes the distinction between firms hiring internally and externally (see for example Parrino (1997), Borokhovich, Parrino, and Trapani (1996), and Agrawal, Knoeber, and Tsoulouhas (2006)). Throughout the study I am careful to differentiate the results due to geography versus those found previously to be due to firms hiring internal CEOs.

of clear days in the city of the firm's headquarters. The geographic preference theory predicts that firms in more desirable locations are better able to attract CEO talent. The univariate tests, suggest that this is indeed the case. I find that firms in more desirable locations are less likely to hire locally and that CEOs from less desirable places are more likely to be hired outside their home state.

I next test the ability of proxies for each of the theories to explain sample firms' decisions to hire local CEOs using a probit regression. Many of the univariate results are confirmed by these tests for the sample: smaller, less R&D intensive firms with weaker board/shareholder incentive alignment, located in less desirable locations, with locally hired predecessor CEOs are more likely to hire locally. An interesting finding uncovered in this analysis is that the supply-driven effect of the CEO geographic preference is remarkably large. For the average firm in the sample, a one standard deviation increase in the average percentage of clear days (0.086) decreases its probability of hiring locally by 0.05, this is nearly a 20% decrease in the probability of hiring locally. Another interpretation is that if the average firm in the sample is located in Cleveland, Ohio where the average percentage of clear days is 18.1%, the predicted probability that the firm hires a local CEO is 0.323. If that same firm is located in Los Angeles, CA where on average 40.3% of days are clear, the predicted probability of hiring a local CEO is only 0.187. In this case, geographic preferences of the CEO supply make it 73% more likely that a firm located in Cleveland, Ohio must hire locally, than a similar firm located in Los Angeles, California.

After uncovering this initial evidence, I further test the proposed theories of geographic segmentation by focusing on the theories' predictions for executive compensation. The geographic preference, search costs, and shirking theories predict that local CEOs should be paid less than non-local CEOs. For the geographic preference theory the assumption is that CEOs have geographic preferences for their home states. This may be because it is likely that CEOs have larger networks of family, friends, and business contacts in their home states. Living in close proximity to these networks is preferable for CEOs. If the geographic preference theory is correct, then there exists a tradeoff between compensation and geography for CEOs. This tradeoff predicts that on average, local CEOs will require lower compensation than non-local CEOs of the same ability. The search costs and shirking theories suggest that local CEOs may be of lower ability than non-local CEOs, thus should be compensated accordingly. Consistent with these theories, I find that local CEOs in their first full year of tenure receive sixteen percent less compensation than do non-locally hired CEOs.

In order to more adequately control for unobservable firm characteristics I investigate changes in wages from the predecessor to the successor CEOs. My findings are generally supportive of earlier findings on compensation levels, however I find an asymmetric effect in the changes in compensation. On average there is no significant change in compensation from the predecessor CEO to the successor CEO, but when a non-local

CEO replaces a local CEO the new CEO requires a wage premium. However, when a local CEO replaces a non-local CEO, the new CEO does not accept a discount in pay. Overall the findings from the analysis of executive compensation are consistent with search costs, shirking, geographic preferences and sticky wages.

I next examine CEO turnover. The cronyism, cultural matching and geographic preference theories all predict that turnover should be lower for local CEOs than non-local CEOs. I test this prediction using a probit regression and find support for these theories. The predicted probability of turnover when the CEO of the average firm is local is 0.080 compared to 0.102 when the CEO is not local. In addition to lower turnover for local CEOs, the cronyism theory also predicts that local managers may be more immune to disciplinary action by the board. I therefore investigate the performance sensitivity of turnover for local CEOs, but find no evidence that local managers are less likely to be disciplined for poor performance.

I conclude the analysis by investigating the relationship between hiring locally and adjusted operating performance. I explore changes in adjusted operating performance to mitigate the effects of time invariant unobservable firm characteristics. I analyze these differences first in a univariate framework and then using a multiple regression model. The cultural matching theory predicts that locally hired CEOs may be more effective managers since their cultural match with the firm facilitates the production process through more effective informational flows between managers and workers, for example. The agency theories of cronyism and shirking, as well as the search cost theory suggest that hiring locally may be a signal of lower ability CEOs. Similar to the idea of Bennedsen, Nielsen, Perez-Gonzalez, and Wolfenzon (2007), where family firms may limit the talent pool to only family members, these theories predict that the talent pool may be limited to only local candidates. If this is the case, then firms that replace non-local CEOs with local CEOs may experience erosion in performance and firms that replace local CEOs with non-local CEOs may experience increases in operating performance. Consistent with these theories, I find evidence that adjusted operating performance declines when firms replace non-local CEOs with local CEOs, however I only find evidence of increases in operating performance when non-local CEOs replace local CEOs for the sample of externally hired CEOs.

Turning to the multiple regression results, I find that after controlling for firm characteristics known to affect changes in firm operating performance, the results consistent with the agency theories and search costs theory continue to hold. The results suggest that firms that change from non-local CEOs to local CEOs experience decreases in adjusted operating performance of 0.034 beyond similar firms that have no such change in CEO origin from predecessor to successor CEO. This change in adjusted operating performance is sizable given that the median firm has unadjusted ROA of 0.137 in the fiscal year prior to the hiring decision. Inconsistent with the agency theories, however, I find that this relationship between changes in firm

performance and changes in CEO origin is not mitigated by better board incentives. Further weakening the theories that suggest that local CEOs are of lower ability than non-local CEOs is the possibility that it is more difficult for firms to hire non-local CEOs when future firm performance is expected to to be poor. The analysis shows some empirical support for this alternative story.

This paper proceeds as follows. In section II, I explain in greater detail the proposed theories of geographic segmentation in the market for CEOs. In section III, I describe the sample and the data collection process for CEO state of origin. In section IV, I test for a geographic segmentation in the market for CEOs. In section V, I conduct tests of why the market for CEOs is geographically segmented, In sections VI, VII, and VIII, I test the predictions of the theories outlined in section II for executive compensation, CEO turnover, and changes in operating performance, respectively. In section IX, I conclude.

II Economics of the market for CEOs

In this section I outline several theories of how and why geography may play a role in the market for CEOs. For most of these theories the implication for firm hiring practices is that firms will tend to hire local CEOs with greater frequency than is expected in a frictionless market void of imperfections or geographic preferences. Although all of these theories predict that on average firms should have a local bias when hiring, they make different predictions in regard to the types of firms in which the local hiring bias should be the strongest. The theories also differ in their predictions for CEO compensation, turnover, and changes in firm operating performance. Later, I use these competing predictions when conducting the empirical analysis to disentangle to what degree each theory is present in the market for CEOs. In order to make the differences in the various theories of the CEO labor market perfectly clear, I outline a general version of the baseline model. When explaining alternative theories, I show how each of the theories deviates from this baseline model. Table I lists the theories as well as the general form of the objective functions that leads to both labor demand and supply. The table also shows the predicted relationship between locally hired CEOs and CEO compensation, turnover, and firm performance.

The baseline model considered is a competitive model of heterogeneous managers and firms, where managerial ability is an input in the production process, similar to that of Gabaix and Landier (2008).[3] Firms for which managerial ability is more productive will seek higher ability CEOs and higher ability CEOs will command a higher wage. In the model of Gabaix and Landier (2008), this leads to the efficient assignment of the best managers to the largest firms. Explicitly, labor demand is derived from the behavior

[3]Murphy and Zabojnik (2004, 2007) provide a partial equilibrium model where the firm's production function depends on the degree of general or specific managerial talent.

of value-maximizing firms that offer a wage, w, to a manager of ability a, so that these choices of w and a maximize firm value, $\Pi(w, a)$. It is assumed that Π is increasing in a and decreasing in w. Labor supply is determined by the pool of utility maximizing managers, who maximize $U(w)$ subject to their outside option, $\bar{U}(a)$. In this baseline model, utility of managers depends only on compensation, and reservation utility depends only on ability.[4]

A Demand for CEOs

In reality the CEO hiring process is much more complicated than the baseline model suggests. Corporate boards form selection committees, these committees are often composed of the director in charge of the compensation committee along with other volunteers from the board (Khurana, 2002). It is also common for a powerful incumbent CEO to influence the board in the selection of his successor (Zajac and Westphal, 1996). Although theoretically the selection committee is charged with choosing the manager who will lead to the maximization of shareholder value, Khurana (2002) describes the CEO selection as a process wrought with search costs, agency conflicts, and cronyism and suggests that selecting managers to "fit" corporate culture is also an important determinant in the selection process. In light of this evidence, I propose four theories of labor demand that suggest a role for geography in the market for CEOs, *search costs*, *cultural matching*, *shirking*, and *cronyism*. The role of geography in CEO demand for the first three of these theories is a result of the rational interaction of economic agents. For the *cronyism* theory the role of geography could be rational or could be due to a behavioral bias of the selection committee. Both *search costs* and *cultural matching* suggest that firms hiring locally can lead to efficient economic outcomes, whereas the agency cost theories of *cronyism* and *shirking* lead to inefficient outcomes. I now explain these theories in greater detail.

A.1 Search costs

It is possible that the executive search process is costly for firms. This cost may stem from diverting firm resources away from the production process in order to conduct the search, or there could be an explicit fixed cost such as the cost of hiring an executive search firm. Both Bebchuk and Fried (2004) and Khurana (2002) discuss the role and prevalence of executive search firms in the CEO hiring process. The mere existence of these firms suggests that search is costly in the market for CEOs. If hiring from the local supply of CEOs does not require these search costs (or has lower search costs), then only firms that stand to benefit from conducting a wider search will engage in one. This theory suggests that larger firms and firms in which managerial input is more productive will choose to conduct a nationwide search for CEO candidates, whereas

[4] Although this is a model of heterogeneous managers and firms, for simplicity I omit subscripts.

smaller firms or firms where managerial input is less productive may choose not to conduct such a search. The search cost theory of CEO demand implies that smaller, less technical firms will tend to hire locally and that compensation of local CEOs hired by large companies should be lower than that of non-local CEOs hired by firms of the same size.[5]

For the search costs theory, labor demand changes from the baseline model in the following way: instead of firms maximizing $\Pi(w, a)$, they maximize $\Pi(w, a, C(g))$, where $C(g)$ is a cost associated with the search process. This cost could depend on geography, g (i.e. a broader search is more expensive) or it could just be a fixed cost, where $C(g)$ is the cost to the firm of hiring an executive search firm, for example.

A.2 Cultural matching

There is a growing literature on the effects of culture on economic outcomes (see Guiso et al. (2006) for a recent review). If culture is an input in the production process and there are regional cultural differences, then it could be optimal for firms to hire local CEOs. The cultural matching theory of CEO demand suggests that firms may pay a premium for a local CEO over a non-local CEO with the same ability, since the cultural "match" of local CEOs aids the production process.[6] Explicitly, the baseline model of labor demand changes from firms choosing w and a to maximize $\Pi(w, a)$, to firms choosing w, a, and c to maximize $\Pi(w, a, c)$, where c is a cultural characteristic of the manager and can be more or less productive for a firm depending on its match with the firm.

A.3 Shirking

The first two theories discussed assume that the selection committee selects the manager that maximizes firm value. The next two theories of CEO demand relax this assumption by introducing an agency problem between the selection committee and shareholders. These theories are closely related to the "managerial power" approach to executive compensation of Bebchuk and Fried (2004). The shirking theory of CEO demand assumes that the hiring process requires effort on the part of the selection committee and that effort is costly for those on the committee. If less effort is required to conduct a local CEO search, then this model predicts that firms with poor board incentive alignment will tend to hire locally. Unlike the previous two theories, this theory leads to an inefficient allocation of CEOs to firms.

In relation to the baseline model, the shirking theory introduces an agency cost, so previously labor

[5]Firms in which managerial input is less productive should hire less talented CEOs and less talented CEOs have lower outside options.

[6]Firms will pay a premium for this cultural match as long as there is adequate competition for the candidates' cultural traits and the supply of CEOs with these traits is not perfectly elastic.

demand was derived by value maximizing firms, but under the shirking theory it is determined by value maximizing agents. Labor demand is derived in the following way: the selection committee chooses w, a, and e to maximize utility, $V(\Pi(w, a(e)), 1 - e)$, where e is the effort exerted by the selection committee in the search. It is assumed that search is costly for the search committee and that conducting a wider search requires more effort. V is decreasing in the search committee's effort level, but is increasing with firm value and since the ability of the manager chosen depends on the effort exerted by the search committee and firm value is increasing with managerial ability, there is a tradeoff between maximizing firm value and exerting effort.

A.4 Cronyism

Like the shirking theory, the cronyism theory of CEO demand stems from a selection committee/shareholder agency problem. The cronyism theory posits that CEOs are hired based not only on their ability, but that some preference is given for the private benefits that they provide to the selection committee. Appointing a local CEO may have private benefits for board members. These private benefits may be due to an increased comfort level with a local CEO or could be perks that board members receive from local CEOs. The former motivation for cronyism is behavioral in nature and the latter is not. Zajac and Westphal (1996) provide evidence for the behavioral motivation by showing that boards favor new CEOs who are demographically similar to them. Cohen, Frazzini, and Malloy (2008, 2009) provide evidence of the private benefits enjoyed by mutual fund managers and equity analysts derived from their social ties to corporate boards and corporate officers. If the selection committee is socially linked to the newly appointed CEO, then the new CEO may be more likely to allow the board members to retain their board seats or to continue a consulting contract with the firm, for example. If inside board members tend to be local, then the cronyism theory of CEO demand predicts that firms with lower board independence are more likely to hire locally. Like the shirking theory, the cronyism theory leads to an inefficient allocation of CEOs to firms.

For the cronyism theory, labor demand is derived similarly to that of the shirking theory, the selection committee chooses w, a, and b to maximize utility, $V(\Pi(w, a), b)$, where b is some characteristic of the manager that provides no value to the firm, but is considered in the selection process because of the private benefits it provides to the selection committee. If directors are local, then it is possible that this bias would be toward hiring local CEOs.[7]

[7]Fahlenbrach, Low, and Stulz (2008) find that outside CEO directors are from firms geographically close to the firms' boards they sit on.

B Supply of CEOs

Geography may also play a role in the market for CEOs through the supply side of the market. Labor force immobility, which is often attributed to either non-transferability of skills or to moving costs, has a plausible influence on labor supply for most markets. However, it is not likely that either of these factors play a role in the market for CEOs, since CEOs are highly talented and highly paid individuals.[8] A more likely supply-side theory of geographic segmentation is that CEOs may have a preference for where they live and work (CEO utility depends not only on compensation, but also on geography). If this is the case, then managers may be more inclined to accept employment opportunities in locations that are more desirable to them. This idea that CEOs have geographic preferences leads to the final theory of the role of geography in the market for CEOs, the *geographic preference* theory.

The geographic preference theory postulates that individuals in the CEO labor pool have preferences for where they work and live. If members of the CEO talent pool have geographic preferences, then these preferences should be considered when deciding whether to accept or reject offers for employment. This theory implies a tradeoff between compensation and geographic preference. CEOs moving to less geographically desirable locations should require wage premiums over similarly talented individuals who have preferences for those same locations.[9] The source of CEOs' geographic preferences could be either desire to live near networks of family, friends or business contacts or it could be related to the desirability of the environment. Geographic preferences stemming from CEOs' desires to be near networks of family, friends, or business contacts could cause local geographic preferences since it is likely that strong networks exist near CEOs' homes. If CEOs have local geographic preferences, then firms will hire local CEOs for lower wages than non-local CEOs of the same ability. If geographic preferences stem from environmental attributes, then it should be easier for firms headquartered in more desirable environments to attract talented individuals. This theory suggests that an efficient allocation of firms to CEOs will be influenced by the geographic preferences of the supply of CEOs and has implications for optimal firm location.

Explicitly, this means that labor supply is derived from value maximizing managers, who maximize $U(w, g)$, instead of $U(w)$ under the baseline model. In this theory, utility not only depends on wage, but also on the location of the firm, g. In addition, the outside option of managers may be written as $\bar{U}(a, \bar{g})$, where $\bar{g}$

[8] Kaplan and Rauh (2007) report that the median total compensation in 2004 for CEOs of non-financial firms was \$2.54 million which is nearly 57 times the \$44,684 U.S. median household income reported by the 2004 American Community Survey. This suggests that moving costs as a percentage of wealth for CEOs is negligible compared to the typical American family.

[9] This idea is closely related to the theory of compensating wage differentials, which was first conceived by Adam Smith over 200 years ago and "...suggests that jobs with disagreeable characteristics will command higher wages, other things equal..." (Smith, 1979, p.339).

is a benchmark location. Maybe this benchmark is where the manager currently lives, or maybe it is based on a past experience with a location, such as his state of origin.

III Data

The data come from four main sources. I use S&P's Execucomp database to identify the CEO of each firm in each year, and for information on CEO age, tenure, and compensation. Using the data from Execucomp, I identify CEOs' states of origin by searching the Lexis Nexis online public record database. I describe this process in detail in the next subsection. All firm-level accounting data are from Compustat. Finally, firms' headquarters locations come from a combination of Compustat and Compact Disclosure. In addition to these main sources, I also obtain data on firm-level board and governance characteristics from the RiskMetrics database, security prices from the Center for Research on Security Prices (CRSP), and I use several sources from U.S. government agencies for data on city- and state-level demographic and geographic characteristics.

I begin with the sample of firms covered by S&P's Execucomp database for the years 1997 through 2007. In total there are 18,978 firm-year observations averaging 1,725 observations per year. I next remove financial firms (SIC codes 6000 to 6999) and utilities (SIC codes 4900 to 4999), as is standard when investigating corporate policies, since these firms are regulated. These screens remove 2,688 and 1,111 firm-year observations respectively, for a total of 15,179 firm-years left in the sample. I next filter out an additional 1,049 firm-year observations, where the firm's headquarters is located outside the United States. This leaves me with a final sample of 14,130 firm-year observations. For the sample there are 1,639 unique firms and 3,177 unique CEOs.

A CEO state of origin

It is not obvious how to systematically link CEOs to geographic locations. Is it best to link CEOs to a location just before the time of their hiring? or is better to focus on where he were raised? Maybe, it is best to focus on where CEOs attended college, began their first jobs, or where they were born. Although all these links have their merits, in this paper I try to isolate where CEOs "grew up", or what I refer to as *CEO origin*. I argue that a CEO's link to his origin is more important than any other geographic link that a CEO possesses. Not only does it provide their location at a point in time, but it also could provide information associated with their past experiences,[10] or the location of a network of family and friends. CEO origin could be a place where others are aware of the CEO's existence, since most individuals that rise to the

[10]For example Malmendier and Nagel (2007) show that individuals who experience low stock market performance during their lives are less willing to take financial risk and participate less in the stock market.

top of the corporate ladder are exceptional people. Finally, if there are regional differences in culture across the U.S. and personality is shaped during adolescence, then origin provides a way of measuring unobserved CEO characteristics.[11]

A limitation of CEO origin is that it may be more appropriate for testing some theories of geographic segmentation than others. For instance, for the search cost theory a better CEO geographic link may be the location of the residences of CEOs prior to the time of the hire. Although this may seem more appropriate, this geographic link is likely a choice variable of the CEO, whereas CEO origin is not. In addition, it is possible to see how CEO origin could be relevant for the search cost theory. It may be more likely that firms have knowledge of individuals who are local standouts. These individuals may be more likely to gain attention by their hometown media or to be engaged in charitable activities in their hometown, making the search for these individuals by local firms less difficult.

I identify CEO U.S. state of origin using the following logic and methodology. I hand collect the data on CEO state of origin by utilizing the "People Search" function for the Lexis Nexis online public records database. This search function utilizes data from nationwide bankruptcy records, deeds, motor vehicle registrations, phone records, voter registrations, judgments and liens, and UCC sources to locate and provide information on individuals.[12] Searches are conducted based on data from the Execucomp annual compensation database. Specifically, for each firm year I identify the CEO of the firm as the executive who is CEO for all or most of the fiscal year (CEOANN="CEO"). I use the first, middle, and last name, as well as the CEO's current age as inputs into the Lexis Nexis "People Search". I conduct this initial search on a nationwide basis as to not bias my results toward finding a CEO living in the state of the firm headquarters. For most CEOs with complete data from Execucomp I am able to easily identify the CEO. For CEOs with common surnames the search process is more difficult, however a unique first or middle name can make identifying even those individuals with common surnames quite easy. If I do not identify the CEO using only age and name, then I perform an additional search in which I also include the state of the firm's headquarters in the search field "previous state." This narrows the search to only those individuals for whom the database has some record of them occupying a residence in the state of the firm headquarters at some point in time. The output from the search process typically lists both current and past addresses. Since many CEOs list their address as the company's headquarters address, I also search for CEOs based on the address of the firm headquarters. For

[11] Persico, Postlewaite, and Silverman (2004) explain the wage premium commanded by taller individuals, by showing that it is not actually adult height driving the wage premium, but height during adolescence. They show that short adults, who were tall adolescents also command a wage premium. They attribute height in adolescence with confidence and conclude that there is a wage premium for confidence not for adult height.

[12] Note that information that is subject to regulation by the Drivers' Privacy Protection Act, Gramm-Leach-Bliley Act, and other applicable state rules and regulations is not available to researchers unless a "permissible use" is selected. All data collected for this study used the search functionality that only searches unregulated data.

approximately, 800 of the sample CEOs I cross check my results with the data on CEO residences collected by Cronqvist, Makhija, and Yonker (2009), this aids considerably in the identification process.

In addition to current and previous addresses, the output from the people search also typically includes birth year, telephone numbers, the first five digits of the individual's social security number, and the year of social security number issuance. The data on the social security number provides a unique method by which to identify a person's state of origin, since social security numbers are non-random. The first three digits are assigned by the state of issuance and digits four and five indicate the sequence of issuance. So by using the first three digits of their social security number, I am able to determine the state where each CEO in the sample resided at the time his card was issued. During the time period when most of the sample CEOs obtained their social security numbers (the 1950's and 1960's) these numbers were primarily used for employment purposes.[13] Consequently, most people during this time period obtained their social security cards when they began their first job. In the U.S., it is typical for individuals to first begin work at fifteen or sixteen years of age. If this is the case, then the social security number data could provide information on where CEOs "grew up."

Using data on year of birth and the social security number procurement year, I calculate the age that CEOs in the sample obtained their social security cards. As expected, I find that the median CEO in the sample procured his social security card at the age of sixteen. I define a CEO's state of origin as the state in which the CEO obtained his social security card. By this methodology I identify the year and state in which 2,820 (88.8%) of the sample CEOs obtained their social security numbers. After merging this data with the original panel of 14,130 firm-year observations, complete data on CEO origin is obtained for 12,974 (91.2%) of the firm-year observations.

There are two interesting cases in the sample where the CEOs origin may not necessarily be determined by where he obtained his social security card. The first is for foreign-born CEOs. The place where these CEOs obtained their social security numbers may not be where they grew up. However, since I have data on year of birth as well as the year each CEO obtained their social security card I create a method for identifying foreign-born CEOs. I assume that a CEO is foreign-born if the age that he obtained his social security card is greater than 21 years of age. Twenty-one years of age is chosen, since it is possible that a U.S.-born CEO may not work until after the completion of college. The age at graduation for most individuals is 21 year of age, at which time most graduates begin work. In order to work, one needs a social security number. Thus, the identification of foreign-born CEOs relies on the assumption that domestic-born CEOs are employed

[13]Currently, the tax code requires children over one years of age (passed in 1990) to have a social security number in order to be claimed as a dependent on their parents tax returns and between 1986 and 1990 this requirement was for children over the age of five.

at some point by the time they are twenty-one years of age. Note that this proxy for foreign-born CEOs will underestimate the number of CEOs who are actually foreign-born, but it will mitigate the problem of incorrectly associating foreign-born CEOs with the cultural background of the state in which they first entered the country. Using this classification technique I find that 231 (8.2%) of the sample CEOs are foreign-born.

The second interesting case is due to data unavailability. The data on the year in which the social security number was obtained is limited. For all those individuals who obtained their social security card between 1936 and 1952, the issue year is listed as 1936 to 1952. This makes the classification of foreign-born CEOs difficult for the sample of CEOs born prior to 1931, since for these CEOs it is impossible to determine whether or not they obtained their social security number prior to age 22. There are 116 (4.1%) such cases in the sample, which I classify as domestic born, since the bias produced by removing the oldest CEOs seems to outweigh the bias of incorrectly identifying a small percentage of foreign-born CEOs.

B Firm headquarters location

The locations of firms' headquarters are determined using a two step process. Initially, I use the headquarters location listed in the Compustat database as the location of the firm headquarters. Compustat however, only provides information on the current headquarters location, so for firms that moved their corporate headquarters the data are not historically accurate. To determine which firms changed the location of their headquarters I use data from Compact Disclosure, which provides data on historical SEC filings. The header file from SEC filings contains information on firms' headquarters location. Using these resources I identify all interstate headquarters moves. For the sample firms there are a total of 83 interstate moves. The historical headquarters location for these firms is recorded and attributed to appropriate fiscal year.

IV Is the market for CEOs geographically segmented?

In section II, I outlined several theories of why a local hiring bias may exist in the market for CEOs. In this section I try to answer the question, "Is the market for CEOs geographically segmented?" Specifically, I investigate whether there is geographic segmentation in the CEO labor market, which leads to a local bias in hiring CEO candidates. I begin the analysis by examining the joint distribution of CEO origin and firm headquarters location for the stock of CEOs. I then conduct formal tests to determine whether there is a bias toward hiring local CEOs. The null hypothesis for these tests is that geographic segmentation does not exist in the market for CEOs.

Table II displays the joint distribution of CEO state of origin and firm headquarters location for all

firm-year observations in the sample. A striking pattern emerges. The diagonal elements of the matrix reveals that a large proportion of the firms in each state are run by CEOs from that same state. For 3,923 (30.2%) of the 12,974 firm-year observations in the sample, the CEO's state of origin matches the firm's headquarters location. This pattern holds for large states, such as New York, where for 468 (51.7%) of 906 firm-year observations firms are headed by local CEOs and even for many smaller states (by population) such as Utah, where for 29 (56.9%) of 51 firm-year observations firms are run by local CEOs.

The marginal distribution of CEO origin shows that CEOs from every state (and Washington, DC) are represented. New York State overwhelmingly produces the greatest number of CEOs in the sample with New Yorkers managing firms in 1,764 (13.6%) of the 12,974 firm-year observations. Foreign-born CEOs constitute the second largest percentage of the sample with foreign-born CEOs running firms in 1,054 (8.1%) of the firm-year observations, followed by CEOs native to the states of California, Illinois and Ohio. CEOs from these states constitute 7.00%, 6.50%, and 6.04% of firm-year observations, respectively.

Turning to the marginal distribution of firm location, there are firms from 46 of the 50 states represented in the sample in addition to Washington, DC. Firms headquartered in the state of California have the most firm-year observations in the sample with 2,115 (16.3%) of the 12,974 observations, followed by Texas, New York, and Illinois with 1,216 (9.4%), 906 (7.0%), and 760 (5.6%) firm-year observations, respectively.

A The hiring home bias

After observing that over thirty percent of the firms in the sample are run by local CEOs, I set out to test formally whether there exists a local bias in the matching of CEOs to firms for large U.S. public corporations. Although it is possible to identify when most of the CEOs in the sample were hired using Execucomp data, I concentrate on the hiring decisions between 1998 and 2007 in order to mitigate the effects of survivorship bias. I identify hiring decisions as those observations where the CEO of the firm changes from one fiscal year to the next. The hiring event occurs in the fiscal year of the change in CEO. Because data on the CEO for the previous year is necessary in order to identify hiring decisions using this method, observations occurring in 1997 are removed. Therefore, the sample of hires includes the fiscal years 1998 through 2007. In addition, for some observations, I am unable to identify the CEO in the previous year, which makes it impossible to identify hiring decisions for these observations. Removing these observations reduces the sample to 11,218 observations for which I am able to identify CEO turnover. For the years 1998 through 2007, I identify 1,162 (10.4% of firm-year observations) hiring decisions in the sample.

After defining the sample with which to conduct the test of a local bias, I next define the test. The test is based on the following logic, if geography does not play a role in the market for CEOs, then the probability

that a firm hires a CEO from its own state should be equal to the proportion of the CEO labor supply from that state. Given this logic, I define a measure HB, which I refer to as the *hiring home bias*. A hiring home bias exists if the percentage of observed local hires in the sample is significantly greater than expected under the assumption that CEO origin is random. I compute the hiring home bias as,

$$HB = \frac{N_L - E(N_L)}{N}, \tag{1}$$

where N is the number of hiring decisions in the sample, N_L is the observed number of local CEOs hired in the sample, and $E(N_L)$ is the expected number of locally hired CEOs in the sample. The hiring home bias is zero if the number of local CEOs in the sample is equal to the expected number of local CEOs, it is close to one if all CEOs in the sample are locally hired, and if the number of local CEOs in the sample is less than expected, then the hiring home bias is negative. Thus, HB is bounded above by $1 - E(N_L)/N$ and it is bounded below by $-E(N_L)/N$. There exists a hiring home bias if HB is greater than zero and larger HB indicates a larger hiring home bias. Effectively, the hiring home bias is the observed minus the expected percentage of local hires in the sample, given that CEO origin is random.

In order to compute the hiring home bias it is necessary to define both what it means to be a "local" hiring decision and the distribution of state of origin for the CEO labor pool. A hiring decision is considered *local* if the firm's headquarters is located in the same state as the hired CEO's state of origin. Although previous research has used distance to measure local biases, the data on CEO origin reveals only the state of origin, so under a distance measure any estimate of a local hiring bias will be greater than under the proposed definition.[14] When testing for a local hiring bias I make two alternative assumptions for the geographic distribution of adolescent-age CEO talents and abilities. The first is that those with CEO talents and abilities are uniformly spread across the U.S. adolescent population. The second allows there to be non-uniformity across regions that leads to more CEOs per capita emerging from different states. For the first distributional assumption I use population data to proxy for the distribution of CEO talents and for the second I assume that the observed distribution of CEO origin is representative of the population of CEO adolescent-age talents and abilities.

Formally, I define a time dependent random variable $S(t)$ which is equal to the state of origin of a hired CEO. This random variable follows a multinomial distribution. For a firm headquartered in state s_i at time t_i the probability that hiring decision i is local is $Pr(S_i = s_i|t_i)$. Let $p_i(s_i|t_i)$ denote this probability. The

[14]See Coval and Moskowitz (1999) for an example of a measure of "local" that involves distance. In addition to the subsequent analysis, I also estimate the hiring home bias using two alternative definitions of local hires. These definitions of local use U.S. Census regions and divisions. Under both measures of local hires a significant hiring home bias is estimated.

expected value of N_L is then just the sum of the sample $p_i(s_i|t_i)$'s. I compute $E(N_L)$ as $\sum_{i=1}^{N} p_i(s_i|t_i)$. In order to compute $E(N_L)$, for each hiring decision i, I must choose some proxy for $p_i(s_i|t_i)$ for each of the N hiring decisions.

For the first distributional assumption on CEO labor pool state of origin (uniformity), I proxy for $p_i(s_i|t_i)$ by utilizing state-level population data from the U.S. Decennial Census for the years 1960 and 1970. For each year I compute the proportion of the U.S. population living in each state. I proxy for the probability that a firm selects a CEO from its own state by the percentage of the U.S. population living in the state in which the firm is headquartered 36 years prior to the hiring decision. I choose 36 years prior to the hire because the median CEO at the time of hire is 52 years old and the median age when the CEOs in the sample obtain their social security cards is 16 years of age. The difference is 36 years and so the probabilities measure the probability that the firm selects a CEO of median hire age, who procured his social security card at the median age in the sample. Because I have U.S. population data in ten-year intervals, I choose the Census data closest to 36 years prior to the date of hire.

If CEO talents are not spread uniformly across the U.S. population (as suggested by the fact that 13.6% of CEOs are from New York State), then the hiring home bias will be overestimated in states that have a greater proportion of adolescents with talent necessary to become CEOs relative to the population and it will be underestimated in states where CEO abilities are rarer in the adolescent-age population relative to the population. The assumption that CEO talents are spread uniformly across the U.S. adolescent population could potentially bias the estimation of the home bias for the entire sample upward if firms tend to locate in states with more adolescent CEO talent relative to the state population.[15] For this reason, I also estimate the hiring home bias under the alternative assumption that the observed distribution of the 12,974, firm-year observations on CEO state of origin is representative of the geographic distribution of adolescent-age CEO talent. The hiring home bias under the assumptions of both uniformity and non-uniformity of CEO talents in the U.S. adolescent population is reported in the following analysis.

B Estimation of the hiring home bias

Table III reports the results of tests for geographic segmentation in the market for CEOs. In Panel A, I conduct two different types of tests for a local hiring bias. First, I compute the hiring home bias for each state and test whether on average the hiring home bias is different from zero. I compute this test for all states included in the sample and also for only those states with twenty or more hiring decisions. Second, for

[15] To see this realize that if a large number of the firms in the sample are from states where the expected number of CEOs growing up in those states is assumed to be too low, then these states will receive greater weight in the estimation of the hiring home bias.

the entire sample as well as for each state subsample, I compute exact binomial tests, testing if the number of local hires observed in each subsample comes from a binomial distribution where the probability of hiring locally is the expected percentage of local hires and the number of trials is the number of hiring decisions within the given sample. The estimated hiring home bias is displayed in columns (1) and (2). Column (1) displays the hiring home bias under the assumption that CEO talent is spread uniformly across the U.S. population and in column (2) CEO talent is assumed to follow the observed geographic distribution of CEO origin for the stock of CEOs. The observed percentage of local CEOs is listed in column (3) and the expected percentages under the two different distributional assumptions are given in columns (4) and (5). Thus, the hiring home bias displayed in column (1) is just the difference between the values in columns (3) and (4) and the hiring home bias in column (2) is the difference between columns (3) and (5).

For the full sample, I find that the hiring home bias is 0.188 under CEO talent uniformity and 0.186 if CEO talents follow the observed distribution of the stock of CEOs. This means that the full sample of hiring decisions has 18.8 percentage points more local CEOs than expected if CEO talent is spread uniformly across the U.S. population. Effectively since 23.4% of hired CEOs are local and the expected percentage of local hires is 4.6%, this suggests that firms hire locally 5.1 times more often than expected. When focusing on the estimates of the hiring home bias for the state subsamples, for 30 of the 43 states the binomial test of the null hypothesis that the market for CEOs is perfectly integrated is rejected in favor of geographic segmentation. The table shows that the hiring home bias ranges from -0.011 in Kansas (which had 3 hiring decisions, none of which were local) to 0.553 in Louisiana (which had seven local hiring decisions). Focusing on states with more than 20 hiring decisions, firms in the states of New York, Wisconsin, and Ohio all exhibit hiring home biases over 0.30 and firms in the states of Pennsylvania, Missouri, Tennessee, Massachusetts, and Michigan, all have hiring home biases of over 0.20. There are however, some states with large samples of hiring observations where on average firms do not exhibit local hiring biases. These states include Connecticut, Colorado, and Florida. The t-tests testing that the average state exhibits no hiring home bias are overwhelmingly rejected under both distributional assumptions and for both the full sample of states and the sample of states with over 20 hiring decisions. In addition, the exact binomial test for the full sample of hires is also rejected at the 0.01 significance level.

In Panel B of Table III, I estimate the hiring home bias for the sample of hires in each of the sample years. The table shows that the average hiring home bias is 0.190 under the assumption that CEO origin is uniform and 0.189 under the assumption that the observed distribution of CEO origin is representative of the true distribution. T-statistics testing whether the time series average is different from zero are overwhelmingly rejected. Although the hiring home bias falls from 0.239 in 1998 to 0.194 in 2007 this decline does not appear

to be steady across the years. The estimated coefficient on the time trend is negative, but only significant at the 10% level (unreported). If the hiring home bias is in part due to search costs, then this downward trend could be due to technological advances over the sample period.

C Robustness checks

The results of the tests for a local bias indicate that geographic segmentation is present in the market for CEOs. They are consistent using either distributional assumption of CEO talent and indicate that a hiring home bias is pervasive across states and time. However, it is possible that the smaller firms in the sample are driving the results if search costs are large in the market for CEOs. In addition, the literature on CEO selection shows that the majority of CEOs are hired from within the company (Parrino, 1997; Borokhovich et al., 1996; Agrawal et al., 2006; Murphy and Zabojnik, 2007; Frydman, 2007) and several papers document that a significant proportion of firms are run by descendant CEOs (Anderson and Reeb, 2003; Pérez-González, 2006; Villalonga and Amit, 2006). These two facts could also be driving the hiring home bias. Even if a hiring home bias is found among externally hired CEO candidates it is possible that the observed home bias is a result of industry geographic clustering since a large proportion of externally hired candidates are hired from within the industry.[16] Another potential problem with the analysis lies in the data collection of CEO origin that could bias the results toward finding a hiring home bias. I now investigate these issues.

C.1 Firm size

If search costs are large in the market for CEOs, then the hiring home bias may be limited to only smaller sample firms. I test whether the hiring home bias is limited to the smallest firms in the sample by estimating the hiring home bias using hiring decisions of only the largest firms. Panel C of Table III reports the hiring home bias and results of the exact binomial tests for several different subsamples of hiring decisions. The first row reports the hiring home bias for the 309 hiring decisions made by S&P 500 firms in the sample. The estimates of the bias are nearly unchanged from those of the full sample. They are estimated at 0.181 and 0.175 under the talent uniformity and non-uniformity distributional assumptions, respectively. Both estimates are significant at the 0.01 significance-level. It does not appear that the hiring practices of small firms in the sample are driving the observed hiring home bias.

[16] Cremers and Grinstein (2009) find that for their sample only 14 percent of firms hire CEOs that are external to the firms' industries.

C.2 Inside hires & descendant CEOs

It is possible that the CEO hiring home bias could partly be due to firms promoting from within the company or the prevalence of descendent CEOs. Why is it more likely that the state of origin of a CEO hired from within the company is the same as the firm headquarters than that of a externally hired CEO? When an individual rises to the rank of CEO from within a company he is hired into the firm earlier in his career and at a more junior level than is a externally hired CEO. It is likely that the labor market for junior-level management is more regionally segmented than it is for senior-level management. If this is the case and firms hire internally, then the pool of talent from which firms draw could have a disproportionate number of local candidates. Turning to descendent CEOs, it may be more likely for these CEOs to be local since it is probable that their families resided in the states of the firms' headquarters during their adolescence.

Following Cremers and Grinstein (2009), I determine an inside hire as any hire where the CEO joined the company at least two years prior to becoming CEO.[17] I identify external hires using two techniques. For some CEOs Execucomp provides data on when these CEOs joined the firm. Under the first identification technique, if this data is provided, then a CEO is considered an external hire if he becomes CEO within two years of joining the firm. Of the 1,162 hiring decisions for only 618 (53.2%) of the hiring events, does Execucomp have complete data on when the CEO joined the company. Of these 618 events, 291 (47.1%) are categorized as external hiring decisions using this methodology. The second identification method uses Execucomp data on the top five executives of firms to identify internal and external hires. If a hired CEO is one of the top five officers of the hiring firm for at least three years prior to becoming CEO, then he is categorized as internal. If a hired CEO is a top executive of a firm other than the hiring firm within three years of the hiring decision, then he is considered an external hire. If no prior company affiliation is found and a CEO can only be identified as an executive of the hiring firm for two years or less, then he is neither categorized as internal nor external. Using this methodology, I am able to identify whether CEOs are hired internally or externally for an additional 428 hiring decisions. Of these 428 decisions, 76 (17.8%) are categorized as externally hired. When combining these techniques, I am able to identify whether the CEO was hired internally or externally for 1,046 (90.0%) of the 1,162 hiring decisions. Of these 1,046 observations, for 367 (35.1%) the CEO is hired externally. This percentage of external hires is slightly greater than found in most of the literature,[18] however the literature finds an upward time trend in the decision to hire from outside the company and data utilized

[17] Others have used a more narrow definition of external hires. Parrino (1997) and Agrawal et al. (2006) determine inside hires as any hire where the CEO joined the company at least one year prior to becoming CEO.

[18] Cremers and Grinstein (2009) find that thirty percent of CEOs in their sample of hires between 1993 and 2005 are hired externally. Murphy and Zabojnik (2007) find the percentage of externally hired CEOs in their sample of large U.S. firms is 26.5% during the 1990s and 32.7% from 2000 to 2005. Frydman (2007) finds this figure to be 30.0% during the 1990s. The latter two studies document an upward time trend in the percentage of externally hired CEOs.

in this study is more current than that used in previous studies. Assuming that descendant CEOs are likely to have worked for the family business in some capacity prior to becoming CEO, by controlling for inside hires I also control for descendant CEOs.

The second row of Panel C of Table III shows the estimates of the hiring home bias for the subsample of 367 externally hired candidates. The hiring home bias falls by more than half to 0.089, but remains significantly positive and the binomial tests are rejected under both distributional assumptions for CEO origin. The hiring home bias remains high in many states, however the number of observations is large for only a few states. For New York the hiring home bias remains high at 0.350 and for Ohio the hiring home bias is 0.210 (unreported). Although it appears, that both family firms and inside hiring decisions play a role in the hiring home bias, these previously documented features of the CEO labor market do not explain why firms tend to hire locally.

C.3 Industry geographic clustering

In the previous subsection I explained why internal candidates may be more likely to be local than externally hired candidates. It is possible that the practice of hiring internally for some firms may lead to a local bias even among firms that hire externally. This is best illustrated with an example. Imagine that firms in the auto industry are geographically clustered in Michigan. Further suppose that it is the Ford Motor Company's practice to promote from within the firm. I showed earlier how this practice could bias Ford to hire a local CEO. Now suppose General Motors wants to hire an external CEO. They may want a CEO with industry specific knowledge. Thus, they may recruit an officer from Ford, who was promoted from within the company and is therefore more likely to be local. This example shows how a local bias may result even for firms that hire externally. The hiring home bias among externally hired candidates in this case is a result of external hires coming from within the industry coupled with industry geographic clustering and some firms in the industry promoting from within the company.

In order to test whether the hiring home bias among external hires is a result of industry geographic clustering, I estimate the hiring home bias among hiring decisions that are external to the industry. I do this by extracting the hired CEOs' previous employer and that previous employer's industry from the Execucomp database using the methodology outlined in the previous subsection. Of the 361 external hiring decisions, I am able to identify the hired CEO's previous employer in 185 (51.2%) of the cases. This methodology does not identify the previous employer of CEOs who were employed by smaller public firms and CEOs who were previously employed by private firms, however the identification process yields results similar to Cremers and Grinstein (2009), who find that 60.0% of their sample of external hires come from public firms. Of the 185

hiring decisions, 121 (65.4%) are categorized as external to the industry.[19] Hires are considered within the industry if the two-digit SIC code of the hired CEO's previous and new employer match.

In the third row of panel C of Table III I estimate the hiring home bias for the sample of 121 external industry hires. Of these hires 17 (14.0%) are local hires, which is nearly three times more than expected under either distributional assumption of managerial talent. The hiring home bias is 0.093 under the assumption of talent pool uniformity and the exact binomial tests are rejected under both distributional assumptions. It appears that industry clustering does not explain the hiring home bias.

C.4 Data biases

Another potential reason for observing the hiring home bias in the sample is that there exists a bias in the data collection process for CEO state of origin, which increases the probability of incorrectly identifying CEOs so that their state of origin is recorded as the same state as the firm headquarters. How might this be possible? When collecting CEO origin, the first step is to use first, middle, and last name and age to search nationally for the individual. If the CEO is not located in this manner, then additional criteria are added. The additional criteria are that the individual occupied a residence in the state of the firm's headquarters at some point in time. According the 2000 U.S. Census, sixty percent of the U.S. population lives in the state in which they were born. If the CEO is incorrectly identified, then this could bias the data toward finding that the CEO's state of origin matches the state in which the firm is headquartered. This could ultimately be the reason for observing a hiring home bias in the data.

In order to test whether a data bias due to identification error is the cause of the hiring home bias, I calculate the hiring home bias after eliminating those CEOs who are most likely to be improperly identified. I do this in the following way. First, I filter from the data all CEOs whose surname is one of the 1,000 most common surnames listed in the 2000 U.S. Census. The more common the surname, the more likely it is that the CEO is incorrectly identified. Next, I compute the hiring home bias for the total sample and for each year in the sample. The filter reduces the sample of hiring decisions by 303 (26.1%) to 859 hiring decisions.

The fourth row of panel C reports the hiring home bias for this sample of 859 hiring decisions. The results are virtually unchanged from that of the full sample. The hiring home bias for the filtered sample is 0.188 versus 0.190 for the unfiltered sample. The results do not appear to be driven by identification error.

From the results of the analysis in this section, I conclude that the market for CEOs is geographically

[19] Cremers and Grinstein (2009) find that 45 percent of external hires come from outside the industry, however their definition from within industry is more broad. They define an externally hired CEO to be within the same industry using the Fama French 10 industry group classification. When they use the Fama French 48 industry group classification they find that 61 percent of external hires are from outside the industry.

segmented. The null hypothesis of a perfectly integrated market for CEOs is overwhelmingly rejected for nearly every test. For the full sample of hiring decisions, firms hire local CEOs over five times more often than expected if CEO origin were random. Even among CEOs hired externally to the firm or to the industry this null hypothesis is rejected. Although the firms in these subsamples hire locally less frequently than in the full sample, these firms hire local CEOs nearly three times more often than expected. These results are robust to data biases, firm size and several distributional assumptions on managerial talent. I next investigate reasons why the market for CEOs is geographically segmented.

V Why does geographic segmentation exist?

In the previous section I showed that large U.S. corporations hire local CEOs five times more than expected if CEO origin is random. In short, I show that the market for CEOs is geographically segmented. In this section I try to explain why firms exhibit this local hiring bias. Specifically, I test to what degree the search costs, cultural matching, shirking, and cronyism theories of CEO demand and the geographic preference theory of CEO supply, outlined in section II, can explain the local CEO hiring bias. Most of the tests in this section rely on the flow of CEOs (hiring decisions). The exception is when investigating CEO turnover the entire panel is used in the analysis.

I begin the analysis by merging the data on firm location and CEO origin with firm, hired CEO, and previous CEO characteristics. Of the 1,162 hiring decisions identified in the sample there are ten for which accounting data is not yet available from Compustat. This leaves me with 1,142 hiring decisions with which to conduct the analysis. Table IV displays summary statistics for the variables that are used in the analysis for the sample of hiring decisions. Definitions and data sources for these variables are found in the Appendix. The summary statistics show that the sample is composed of large mature firms. The median firm has book value of assets of $1.33 billion and is 37 years old. In regard to board characteristics, two-thirds of the directors of the median firm are outsiders and 10.6% of firms have outside board members that collectively own 1% or more of the firm. Consistent with my findings in the previous sections, 23.3% of hired CEOs are local and 9.0% are foreign-born. The median age that CEOs in the sample are hired is 52 years of age and 42.1% of hired CEOs are also hired as chairman of the board. The median CEO in the sample leaves the firm at age 60 and slightly more of the previous CEOs are local (26.4%) and fewer are foreign-born (7.7%) when compared to the newly hired CEOs. The majority of both previous and new CEOs is internally hired, 65.1% and 73.6%, respectively.

A Univariate analysis

I begin assessing the relative merits of the proposed theories of the hiring home bias by conducting univariate tests for differences between firm, new CEO, and previous CEO characteristics for firms that hire locally versus those that hire non-local CEOs. Table V displays the sample means for the partitions of these characteristics as well as the value of t-statistics testing for their differences. The search costs theory predicts that smaller firms and firms in which managerial talent is less productive should be more likely to hire local CEOs. Although the univariate tests do not show a significant difference in firm size as measured by the natural log of the book value of firm assets ($Assets$), the mean R&D expense (RD) is 34.8% lower for firms that hire local CEOs.

The agency theories of shirking and cronyism suggest that local CEOs are hired due to the lack of board incentives or independence. The table shows support for these theories, both the average percentage of outside directors on the board ($PctOutsideDir$) and the percentage of firms with outside directors owning more than 1% of the firm ($OutsideDirOwnDum$) are significantly lower for firms that hire locally than those that do not.[20] Additional support for the cronyism theory is suggested by the fact that a larger percentage of firms that hire locally have previous CEOs that are local ($PrevCeoLocal$). If the incumbent CEO exhibits some influence over the board in their hiring decision then he might encourage the board to hire a friend, relative or business contact. If the incumbent CEO is local, then it may be more likely that his "cronies" are local. Additionally, this finding could support the cultural matching theory or search costs theory. It could be that those firms that hire locally do so consistently because hiring locally is optimal. This may be the case for firms for which the productivity of a cultural match is high or the productivity of managerial talent is low.

The geographic preference theory predicts that firms located in desirable areas will be less likely to hire locally than firms located in undesirable areas. In order to test this theory I must create a proxy for geographic desirability. Throughout the analysis I proxy for the desirability of a location by the average percentage of clear days in a given location.[21] Although there are many other ways to proxy for location desirability, such as average temperatures or distinguishing between rural versus urban areas, this measure only implies one simple assumption: human beings prefer sunny days to cloudy days. It does not assume that people prefer a warmer climate to a cooler climate or that CEOs prefer urban areas to rural areas, just that they prefer sunshine to clouds. I hypothesize that there is much less heterogeneity in people's preferences

[20] Although previous studies have used the average percentage of ownership of board members as a measure of board incentives (e.g. Core et al., 1999), descriptions of the hiring process by Khurana (2002) suggest that a collective measure may be more appropriate.

[21] Roback (1982) shows that the number of clear days in the city of employment is positively priced by U.S. workers using the hedonic price method of Rosen (1974).

for sunshine than the other proposed measures of geographic desirability. The data on the percentage of clear days are from the National Climatic Data Center (NCDC), which records city-level data on weather patterns. Most of the data are recorded at local airports or National Weather Service weather stations and are based on 50 or more years of observations. For the percentage of clear days per year in the city of the firm headquarters ($FirmHQPctClear$), I match data from the NCDC with the city of firm headquarters. For firms headquartered in cities not covered by the NCDC, I use data from a covered city that is close to the firm's headquarters. For example, the headquarters of Wal-mart Stores is in Bentonville, Arkansas. This city is not covered by the NCDC, thus I use weather data from Fort Smith, Arkansas, which is approximately 85 miles south of Bentonville. To measure the desirability of the CEO state of origin ($CeoOriginPctClear$), I convert city-level data into state-level data. I do this by averaging the percentage of clear days of all cities in a given state.

Table V shows preliminary support for the geographic preference theory. The percentage of clear days in the city of the firms' headquarters for firms that hire locally is significantly less on average than for firms that do not hire local CEOs. This suggests that firms in more desirable locations can better attract CEOs. In addition, the table shows that CEOs from less desirable states are more often hired outside their states, which suggests that talented individuals are more likely to relocate if they are from less desirable locations. The geographic preference theory also makes predictions for CEO compensation. If CEOs prefer to live close to home, then local CEOs should be paid less than non-local CEOs with similar ability. The table shows that in a univariate setting that this is indeed the case, however this also could be a result of the search costs or shirking theories, which suggests that locally hired CEOs may be of lower ability than non-local CEOs.

The univariate analysis also confirms previous findings on the role of external hiring decisions and family firms, showing that locally hired CEOs are more often hired from within the company ($InsideHire$) and that family firms may play a role in the decision to hire locally. The latter point is evidenced by the larger proportion of incumbent CEOs that are founders ($Founder$) at the time of the hiring decision for firms that hire local CEOs.

Table VI shows the percentage of local hires in the sample by two-digit SIC code. The table shows that SIC code 73, business services, has the highest frequency of firms in the sample with 142 (12.4%) of the of 1,142 hiring decisions. The search cost theory predicts that firms in which managerial talent is more productive will be more likely to hire non-local CEOs. Supportive of this hypothesis, the table shows that firms in the engineering and management services industry (SIC 87) made 19 hiring decisions and for none of the hiring decision did the firms hire locally. This is precisely the type of industry where managerial talents should be most productive.

B Predicting local hiring decisions

I now test the ability of the proposed theories to explain why firms hire local CEOs by estimating a probit regression for the sample of 1,142 hiring decisions, where the dependent variable is a dummy variable that equals one if the firm hires a local CEO and is zero otherwise.[22] For all models estimated using the full sample of hiring decisions I include both industry (using 2-digit SIC codes) and year fixed effects, but do not report the coefficient estimates or standard errors of these estimates. For the models that are estimated conditional on hiring internally or externally, I include only year fixed effects. All standard errors are White (1980) heteroscedasticity-consistent standard errors, clustered at the industry-level. I first test each of the theories' predictions independently and then jointly.

Table VII shows the estimated marginal effects and their standard errors for twelve different specifications. For each model, in addition to proxies related to the underlying theories I include the percentage of the U.S. population in the state of the firm headquarters 36 years prior to the hiring decision ($PctPop$) in order to control for the probability of hiring from ones own state. As expected, for each of the specifications the estimated marginal effect of this variable is significantly positively related to the probability of hiring locally. In column (1), I include proxies for the search cost hypothesis. The search cost hypothesis predicts that larger firms and firms in which managerial input is more productive should be less likely to hire locally. Both Murphy and Zabojnik (2007) and Gabaix and Landier (2008) develop models of the market for CEOs in which managerial input is productive. Empirically, Bertrand and Schoar (2003) provide evidence that managers affect firm performance. Consistent with this theory, the estimated marginal effect on R&D expense is negative and significant at the 0.01 level, but firm size as measured by $Assets$ is not related to hiring locally. For the remaining models I include both Assets and R&D in order to control for these firm characteristics.

The agency theories of cronyism and shirking suggest that board characteristics should influence the firm's decision to hire locally. The model in column (2) includes the percentage of outside directors on the board in the year prior to the hiring decision ($PctOutsideDir$). According to the cronyism theory, greater board independence should decrease the probability that a firm hires locally since independent boards may be more objective in their decision-making. As predicted by the cronyism theory, the marginal effect of $PctOutsideDir$ is estimated to be significantly negatively related to hiring locally. For the average firm a

[22] Two other empirical specifications have been used by the literature to estimate similar decisions. Borokhovich et al. (1996) use a bivariate probit model that adjusts for the selection bias of only observing the boards preference for CEOs when turnover occurs and Parrino (1997) and Agrawal et al. (2006) use a multinomial logit specification. In unreported analysis I estimate each of these models. For the bivariate probit I find that the coefficient estimates are nearly identical to those of the probit specification and I fail to reject that the equations are independent for the specification in column (10) of table VII. For the multinomial logit specification, I include as choices the four combinations of internal and local hires. The main results are unaltered using this empirical specification.

one standard deviation increase in $PctOutsideDir$ (0.166) is associated with a 0.06 decline in the probability of hiring locally. This is nearly a 24% decrease in the probability that the average firm hires locally. The shirking theory predicts that boards whose incentives are more aligned with shareholders will exert more effort in the search process, thus will be less likely to hire local CEOs. The model in column (3) of the table includes a dummy variable that equals one if the collective ownership of all outside board members is greater than one percent in the fiscal year preceding the hiring decision ($OutsideDirOwnDum$). As predicted by the shirking theory, the probability that the average firm hires locally falls by 0.080 for firms where outside board members have strong incentives.

Since the incumbent CEO often has significant influence in the hiring process, an alternative test of the cronyism theory is to test whether the previous CEO's origin has any bearing on whether the new CEO is local. If this is the case, then he may influence the board to hire a friend or family member. This could also be a test of cultural matching or search costs since firms that find it optimal to hire locally may be likely to find this choice optimal again in the future. In column (4) I test this prediction by including a dummy variable that is equal to one if the previous CEO is local ($PrevCeoLocal$). I find that the average firm has a 0.067 higher probability of hiring locally if the previous CEO is local. This could be supportive of cronyism, search costs, or cultural matching.

In columns (5) and (6) I test whether CEO geographic preferences influence the probability that firms hire local CEOs. The geographic preference theory predicts that firms in more desirable locations will be able to attract CEO talent more easily, thus will be less likely to hire locally. It also predicts that members of the CEO labor supply from less desirable locations will be more willing to relocate, which suggests that CEOs from undesirable locations are less likely to be locally hired. I find evidence of both of these effects. The marginal effect of the desirability of the firm location is estimated significantly negative and the marginal effect of the desirability of the CEOs origin is significantly positively related to firms hiring locally. The magnitude of both of these effects is surprisingly large as I will discuss in the next paragraph.

In column (7) I test all five theories jointly by including all of the independent variables from models (1) through (6) in the probit regression. I find that the results from models (1) through (6) continue to hold and that these models are able to explain a fair amount of the variation in local hiring practices across firms. The pseudo r-squared for the model in column (7) is 0.129. As stated earlier, a surprising result is the magnitude of marginal effect of the desirability of firm location on market for CEOs. The estimated marginal effects in column (7) on $FirmHQPctClear$ suggests that for the average firm in the sample, a one standard deviation increase in the average percentage of clear days (0.086) decreases its probability of hiring locally by 0.05, this is nearly a 20% decrease in the probability of hiring locally. Another interpretation, is that if the average

firm in the sample is located in Cleveland, Ohio where the average percentage of clear days is 18.1%, the predicted probability that the firm hires a local CEO is 0.323. If that same firm is located in Los Angeles, California where on average 40.3% of days are clear, the predicted probability of hiring a local CEO is only 0.187. In this case, geographic preferences of the CEO supply make it 73% more likely that a firm located in Cleveland, Ohio must hire locally, than a similar firm located in Los Angeles, California.

In columns (8) and (9) I test the robustness of these results to controlling for external hires and family successions, respectively. As detailed earlier, I control for internal hiring decisions by including a dummy variable that equals one if the new CEO was hired from within the firm ($InsideHire$). Including this variable does not significantly alter the inferences made in the previous analysis, but consistent with the previous analysis I find that internally hired CEOs are significantly more likely to be locally hired. I attempt to control for those hiring decisions that are family successions by including a dummy variable that equals one if the newly hired CEO owns five percent or more of the firm at the time of the hiring decision ($CeoBlockholder$). It is likely that CEOs who own large stakes in their firms at the time of the hiring decision are family members or are at least firm insiders. I find that the estimated marginal effect from this variable is large and significant. The probability that a hired blockholder CEO is local is nearly double that of a non-blockholder. However, even after controlling for family successions in this way, I find that the previous inferences are unaltered.

Splitting the sample between firms that hire internally versus externally could provide additional insights into what motivates firms to hire locally since some of the proposed theories should not be applicable to firms that hire CEOs from within the firm. The shirking, search costs, and geographic preference theories are not likely to drive the observed hiring home bias among internal candidates. Neither the required level of board effort nor search costs should differ between local and non-local candidates when hiring from within the firm and most likely the geographic preferences of the internal CEO labor pool were already revealed by its members through their decisions to accept positions as senior-level managers. If support is found for these theories within the sample of internally hired candidates, then most likely this reveals information about what drives the supply of internal candidates. In other words, it reveals information about how the labor market for senior-level managers functions. If for example, I find that firms with high R&D expenditures are less likely to hire internal local CEOs, then this may be because high R&D firms have fewer locally hired senior-level managers, since for these firms the benefits of searching for talented senior-level managers outweighs the costs of the search. Similarly, if I find that firms located in more desirable locations are less likely to hire locally, then this may be because these firms have fewer local senior-level managers as a result of senior-level managers' preferences for nice locations. It may be more likely that the theories of cronyism or cultural matching are direct causes of the hiring home bias among internal CEO labor markets, since boards

may derive additional benefits from local CEOs over a non-local CEOs or local CEOs may improve efficiency through their cultural match.

The model estimated in columns (10) through (12) includes additional firm-specific control variables and omits *PctOutsideDir* and industry fixed effects. In column (10), the model is estimated for the full sample of hiring decisions for comparison purposes and shows that the estimated marginal effects on the variables of interest are similar to those estimated in column (7). Of the additional control variables included, only the marginal effects of the dividend-payor dummy (*Dividend*) and the return on market (*MktRet*) are estimated significantly. The marginal effects suggest that firms are more likely to hire local CEOs after the stock market performs well and if the firm pays dividends.

In column (11), the model is estimated for the sample of internally hired CEOs. The results are consistent with findings for the full sample, showing support for each of the five theories. However, as discussed previously, the interpretation of these results is different from that of the full sample. The negative and significantly estimated marginal effects of *RD* and *FirmHQPctClear* are supportive of the existence of search costs and geographic preferences playing a role in the senior-level executive labor market, thus affecting the composition of the internal CEO labor supply. In addition, for internally hired CEOs, the significance of the marginal effect of *OutsideDirOwnDum* is more likely indicative of the cronyism theory than the shirking theory, since there should be no difference in the amount of effort required by the board to hire a local insider compared to a non-local insider. The positive and significantly estimated marginal effect of *PrevLocalCeo* is additional evidence that cronyism plays a role in the internal CEO labor market. As discussed earlier this finding may also be evidence of cultural matching.

The regression results for the sample of externally hired CEOs show some support for three of the five theories. Support for the geographic preference theory and and search costs theories are found in the external CEO labor market, as evidenced by the significantly negatively estimated marginal effects of *FirmHQPctClear* and *RD*. At first glance the lack of significance of the marginal effect of *PrevLocalCeo* suggests that cronyism may be ruled out as an explanation for firms' tendency to hire local external CEOs. However, external hires may be more likely to occur as a result of poor performance, thus the selection committee may be less inclined to seek advice from the incumbent CEO, eliminating the effect of *PrevCeoLocal*. Thus, cronyism is likely to be observed only after the firm has performed well. This rationale is supported in the analysis by the positive significantly estimated marginal effect on the interaction of the firm's industry-adjusted stock market performance (*FirmExRet*) and *PrevCeoLocal*. Firms are more likely to hire locally when the incumbent CEO is local only after their stock performs well. The estimates in column (12) provide no evidence for the shirking theory as shown by lack of significance of the marginal effects of

OutsideDirOwnDum. This result may not be surprising since a firm's commitment to hire externally could signal greater effort on the part of the board, rendering the shirking theory unlikely. Another interesting finding is that the marginal effect of *FirmExRet* is significantly negatively estimated. This suggests that firms are more likely to hire locally after their stock performs poorly. This may be because non-local CEOs may be less willing than local CEOs to risk their professional reputations by accepting positions with firms that are expected to perform poorly in the future. This possibility raises some questions later in the paper when I investigate the relationship between changes in firm performance and changes in CEO origin.

When considering the full sample of hiring decisions, the analysis thus far suggests that each of the five proposed theories plays a role in why firms tend to hire local CEOs. However, when the distinction is made between firms that choose to hire internal to the firm versus external to the firm, further insights are gained. The shirking theory is not likely to play a role in the internal CEO labor market and there is no evidence of shirking for firms that hire externally. There is evidence of search costs in both the external and internal CEO labor markets, however the finding that high R&D firms are less likely to hire locally among internally hired CEOs more likely provides evidence that search costs play a role in the market for senior executives which affects the internal CEO labor pool. In a similar vein, the geographic preferences of senior executives most likely drives the estimated marginal effects on the proxies for firm desirability for the sample of internal hires, and geographic preferences also appear to have an effect on the matching of external CEO candidates to firms. Cronyism is supported by findings in both the internal and external market for CEOs. Local candidates are more likely to be hired as CEO if the previous CEO is local among internally hired CEOs. Since former CEOs often play a role in the selection process this is evidence of cronyism. However, this should only occur if the previous CEO leaves the firm on good terms. Among externally hired CEOs this is exactly the case. If the previous CEO is local then the new CEO is more likely to be local only when the firm's stock has performed well relative to that of its industry peers. In this portion of the analysis the cultural matching theory is difficult to test. Nonetheless, the positively estimated coefficient on *PrevLocalCeo* could be interpreted as weakly supportive of this theory, since firms for which cultural matching is important are likely to hire locally over and over again. I next turn to the theories' predictions for executive compensation in order gain further insights.

VI CEO compensation

Several theories predict differences in the level of compensation for local versus non-local CEOs. In this section I test these predictions both cross-sectionally and by exploring changes in CEO compensation. The

geographic preference theory predicts that CEOs hired with geographic preferences for their firms' locations will accept lower compensation than similar ability members of the labor pool with aversions to their firms' locations. If on average CEOs prefer to live and work in their home states, then the observed compensation of locally hired CEOs should be lower than that of similar non-local CEOs. This implies that the compensation of locally hired CEOs should be lower than what a benchmark model of compensation would predict. The search cost and shirking theories make similar predictions on CEO compensation. For both of these theories CEOs that are hired locally may signal that those CEOs are of lower ability. If this is the case, then low ability CEOs should be paid less than high ability CEOs. The cultural matching theory suggests that local CEOs may be more productive than similar ability non-local CEOs, therefore these local CEOs should be compensated for their additional productivity as long as there is adequate competition for the candidates' cultural traits and the supply of CEOs with these traits is not perfectly elastic. The prediction regarding CEO wage for the cronyism theory is ambiguous. It could be that the selection committee may want to pay their "cronies" more highly, but it also could be that the only way they can rationalize their choice to shareholders is by offering a lower wage.

In order to test these predictions, I estimate a regression model, for which the dependent variable is CEO total compensation during the first full fiscal year of the newly appointed CEO's tenure and the regressors include variables that the literature has shown to effect CEO compensation plus a dummy variable that equals one if the hired CEO is local ($LocalCeo$). The CEO geographic preference, shirking, and search cost theories suggests that the coefficient on $LocalCeo$ should be significantly negative and the cultural matching theory predicts that this coefficient may be positive.

In conducting the analysis, I measure CEO compensation using total annual compensation from S&P's Execucomp database ($TotalComp$), which includes salary, bonuses, restricted stock grants, and the Black-Scholes value of stock options grants. I convert compensation into 2003 dollars, by adjusting these amounts using the GDP deflator. In the regressions I use the natural logarithm of these compensation measures, since executive compensation is right-skewed and because the previous literature has shown that executive compensation follows a power function with regard to firm size.[23]

I follow mainly Core et al. (1999) in the development of my benchmark model of CEO compensation. I include proxies for firm size, growth opportunities, performance, firm risk, and corporate governance. It is well documented that executive compensation increases with firm size. I proxy for size with the natural log of the book value of assets computed in 2003 dollars ($Assets$). Prior empirical work documents a positive

[23]See Gabaix and Landier (2008) for a complete list of references on the relationship between executive compensation and firm size.

relationship between growth opportunities and executive compensation (Smith and Watts, 1992). I proxy for growth opportunities using a measure of Tobin's Q (Q). Firm performance is measured using both accounting and a market measures, which are expected to be positively related to CEO compensation. ROA is operating income before depreciation over lagged assets. The expected sign on the coefficient on firm risk is unclear as theoretical models make competing predictions on the sign of this variable. I proxy for firm risk with the standard deviation of daily stock market returns over the fiscal year ($StockVol$). Firm governance has also been found to be related to executive compensation (Core et al., 1999). Firms with weaker governance tend to pay executives more highly. I measure governance using measures of board composition and incentives previously discussed ($PctOutsideDir$ and $OutsideOwnDum$). All control variables are measured one year prior to the hiring decision. Since earlier I found that firms headquartered in more desirable locations have a lower probability of hiring locally, finding that locally hired CEOs have lower compensation than non-local CEOs could be due to differences in the cost of living across firms' headquarters locations. I control for differences in the cost of living across areas by including the natural log of the median home value in the county of the firm's headquarters ($log(MedHmVal)$).[24]

In addition to these control variables, I also include in all specifications both year and industry (by 2 digit SIC code) fixed effects. Coefficient estimates are estimated using ordinary least squares and standard errors are robust to heteroscedasticity and are clustered by industry. So that the sample is not affected by partial-year compensation, compensation is measured during each CEO's first full year of tenure. CEOs who do not hold office for at least one full fiscal year are excluded from the sample. This reduces the sample of hiring decisions to 1,018. Limitations on board data further reduce the sample used in the analysis.

Table VIII reports results of the analysis. In the first model specification, the coefficient on $LocalCeo$ is estimated significantly negative, consistent with the theories of geographic preference, search costs, and shirking. The estimate on the coefficient suggests that in their first year of tenure, local CEOs earn 16.0 percent less total compensation than non-local CEOs. The coefficient estimate is significantly different from zero at the one percent level. Given that the compensation for the average hired CEO in the sample is \$2.7 million, this implies that local CEOs earn on average \$432,000 less than non-local CEOs in their first year of tenure. The second model specification includes an interaction term between $LocalCeo$ and the population of the state of the firm headquarters ($PctPop$). The reason for including this interaction term is to try to differentiate between the geographic preference theory and the search cost and shirking theories. The search cost and shirking theories predict a lower wage for local CEOs because these CEOs may be less talented due

[24]The results are unchanged using fixed effects for the state in which the firm is headquartered to control for differences in the cost of living.

to limiting the talent pool. It is more likely that a local hire is a result of limiting the talent pool in states where the population is small. Local hires in larger states draw from a larger talent pool. Thus, on average local hires from larger states should be of higher ability than local hires from small states, which implies that they should be paid more. Consistent with this idea, I find that the interaction term is significantly positively related to total compensation.

Murphy and Zabojnik (2007) show that CEOs hired from within the firm are paid less than CEOs hired from outside the firm. The model estimated in columns (3) controls for inside hiring decisions, by including the dummy variable $InsideHire$. Consistent with the previous literature, I find that CEOs hired from within the company are paid significantly less. The coefficient estimate on $InsideHire$ implies that CEOs hired from within the firm are paid 13.2 percent less than those hired external to the firm. However, including this control for internally hired candidates has no effect on the coefficient estimate for $LocalCeo$, which remains negative and significant. This suggests the relationship between wage and hiring locally is separate from that of wage and hiring internally. If this is the case, then there should also be a relationship between wage and $LocalCeo$ when the sample is split between internally and externally hired candidates. In columns (4) and (5), I estimate the model using the subsample of CEOs that are hired internally and externally, respectively. For both subsamples the results are consistent with those of the full sample. In both cases the coefficient estimates on $LocalCeo$ are significantly negatively estimated. For externally hired candidates there is evidence that local hires are a signal of limiting the talent pool, however among internally hired candidates there is not. This is not necessarily surprising since firms that decide to hire internally have already limited the talent pool to internal candidates.

In order to more adequately control for unobservable firm characteristics, I investigate changes in wages from predecessor to successor CEOs. In Table IX, I examine changes in executive compensation between newly hired CEOs and their predecessors for the sample of 1,018 hiring decisions. The change in executive compensation is measured as the compensation of the newly hired CEO in his first full fiscal year of tenure minus the compensation of the previous CEO in his last full year of tenure. CEOs who do not hold office for at least one full fiscal year are excluded from the sample. The table reports means and medians of the natural logarithm of compensation of the predecessor, successor, and their difference, for various sample splits. In addition, I test whether the changes in compensation from the successor to the predecessor CEO are significantly different from zero, since the geographic preference, shirking, and search cost theories all predict that executive compensation should increase (decrease) for firms that replace local (non-local) CEOs with non-local (local) CEOs. Results in the table report significance levels of two-sided t-tests testing for the differences in means and for the non-parametric Wilcoxon-Mann-Whitney test. Panel A of the table reports

the results for the full sample of hiring decisions, panel B reports the results for the subsample of internally hired CEOs, and panel C reports the results for the subsample of externally hired CEOs.

Column (1) of the table shows that for the full sample, total compensation does not change significantly from predecessor to successor CEO. However, when broken down between internally hired CEOs and externally hired CEOs, I find that on average wages significantly decrease (increase) from predecessor CEO to successor CEO when a the new CEO is hired internally (externally), so for the full sample these two effects net out. In columns (2) and (3) the sample is split by the origin of the new CEO. When spitting the sample in this manner, the results of the tests for changes in compensation are identical to those in column (1) for the full sample and the sample of internal hires, but among external hires a significant increase in wage is limited to non-locally hired CEOs. The lack of significance for the increase in wage of externally hired local CEOs however, could be driven by the limited sample size of this partition. In fact, the results in column (4), which shows the results of tests of differences in the sample of firms that hire local versus non-local CEOs, shows that changes in wage between predecessor and successor CEOs are not significantly different between the two samples.

In columns (5) through (7) the sample is split into specific transitions between predecessor and successor CEO origin. The test of means in column (5) shows that compensation does not change significantly between predecessor and successor CEOs when there is no change in local status between the two. The most striking result for the full sample of hires is found in the column (6), which shows the change in compensation from a locally hired predecessor to a non-locally hired successor. Total compensation increases substantially for this transition according to both the test of means and medians. For the median paid executive a non-local predecessor receives $2.57 million in total compensation in his first year of tenure, while his local successor only received $1.83 million in compensation during his last year in office. This is a $740,000 premium over the previous CEO's pay. Interestingly, column (7) shows that when the transition occurs from a non-local CEO to a local CEO the newly hired local CEO does not accept a discount. When breaking these results down between internally and externally hired CEOs, I find the results for the full sample in column (6) are driven by external hires. When an externally hired non-local CEO replaces a local CEO the new CEO commands a significantly positive pay premium over the previous CEO. Both the test of means and medians corroborate this result at the 0.01 significance level. Only the test of means provides evidence of this same result in the subsample of internally hired CEOs. The strongest result among internally hired CEOs is that when a local CEO replaces a non-local CEO he accepts a significant discount in pay. However, this is also true for hiring decisions where there is no change local status among internally hired CEOs.

It may be better to test for differences in the wage changes between treatment groups and a control

group of CEO turnovers in order to more adequately control for environmental changes that could effect wage changes around CEO turnover. In columns (8) and (9) I report results of tests of differences in the samples that have changes in local status between predecessor and successor CEOs (treatment groups) and those that do not (control group). The results from this difference-in-difference analysis are generally supportive of the findings from the previous analysis. When non-local CEOs replace local CEOs the change in wage is significantly greater than the change in wage in turnover cases where there is no change in CEOs' local status. This difference in the wage change is significant at the one percent level for all three samples under both the tests of means and medians. Column (9) shows that in general for transitions from local to non-local CEOs wage differences are not different from those transitions where there is no difference between the predecessor and successor CEO status.

These findings are supportive of the existence of geographic preferences, search costs, and shirking, but indicate also that sticky wages may also play a role in the determination of CEO compensation among externally hired candidates. It may be beneficial to conduct the analysis in a framework that controls for other firm characteristics that may change around CEO turnover and that could affect changes in CEO compensation.

I further explore the changes in compensation using a multiple regression framework. Table X shows the estimation results of regressing changes in CEO compensation on control variables as well as changes in CEO origin from predecessor to successor CEOs. Control variables include changes in the lagged variables described in Table VIII, as well as, the level of lagged assets ($Assets$) and the percentage of outside directors on the board in the year prior to the hiring decision ($PctOutsideDir$). The variable of interest is $LocalCeoChg$, which is equal to one if the new CEO is local and the previous CEO is non-local, is -1 if the new CEO is non-local and the previous CEO is local, and is zero otherwise. In addition, asymmetric effects on $LocalCeoChg$ are isolated using the variables $NonLocToLoc$, which is a dummy variable that equals one if the previous CEO is non-local and the new CEO is local, and $LocToNonLoc$, which is a dummy variable that is equal to one if the previous CEO is local and the new CEO is non-local. The dependent variable is the change in the natural logarithm of compensation from the previous CEO to the new CEO.

In column (1) I estimate the model without including the control variables. The coefficient estimate on $LocalCeoChg$ is -0.172 and is significant at the 0.01 significance level. This is supportive of the earlier findings using levels in compensation as well as the findings using changes in the compensation in the univariate setting. When control variables are included in the model in column (2) the estimated coefficient on $LocalCeoChg$ remains significant and decreases to -0.191. Agrawal et al. (2006) find that changes in compensation from predecessor to successor CEO are greater for externally hired CEOs than those hired

internally. In column (3), I control for changes in inside hiring status. Consistent with the findings of Agrawal et al. (2006) the estimated coefficient on this variable significantly negatively estimated, but the coefficient estimate on *LocalCeoChg* is virtually unchanged and remains statistically significant at the 0.01 level.

In columns (4) through (6) I allow for asymmetric effects from changes in local status, since the univariate analysis suggests that when a non-local CEO replaces a local CEO, the new CEO receives an increase in compensation, but when a local CEO replaces a non-local CEO, the local CEO does not receive lower compensation than his predecessor. I find this result to also hold in the current analysis. Column (6) shows that this result is robust to controlling for changes in firms' practices of hiring internally or externally.

In columns (7) through (12), I estimate the models in columns (4) thorough (6) conditional on firms hiring internally and externally. The previous univariate analysis provided only weak evidence that non-local CEOs command a premium over local CEOs. However, the estimates in columns (7) through (9) show that when changes in firm specific characteristics are controlled for this result is quite robust. For all three specifications the coefficient on *LocToNonLoc* is estimated significantly positively at the 0.05 significance level. For the sample of externally hired CEOs this same result is corroborated.

The findings from the analysis of CEO compensation are generally supportive of the search costs, shirking, geographic preferences, and sticky wages and are do not support the theory of cultural matching.[25] The level of CEO total compensation is sixteen percent lower for local CEOs than predicted by a benchmark model. In addition, the analysis of the changes in CEO compensation indicates that when non-local CEOs replace locals, the new CEOs require additional compensation, but that when local CEOs replace non-local CEOs, these new CEOs do not accept lower compensation. After adequately controlling for changes in firm specific variables around CEO turnover this finding is true for subsamples of both internally and externally hired CEOs and is robust to findings in the literature that CEOs hired from within the firm are paid less than externally hired CEOs.

VII CEO turnover

I next examine CEO turnover. Several theories suggest that local CEOs should have lower turnover than non-local CEOs. In this section I test these predictions in a probit regression framework. Both the search cost and shirking theories predict that CEO turnover should be decreasing in the magnitude of search costs or of the shirking, but suggest that whether a CEO is local or not should have no effect on CEO turnover.

[25] This does not mean that cultural matching is not present in the market for CEOs, merely that the effect on wage from the other theories may outweigh the effect of cultural matching or that limited demand or perfectly elastic supply do not allow local CEOs to demand a premium for the additional productivity that they provide to the firm.

The geographic preference, cronyism, and cultural matching theories all predict that turnover should be lower for local CEOs than non-local CEOs. Why might this be? For the geographic preference theory, if managers prefer to live in the geographic location of their firms' headquarters, then they are less likely to retire early or leave their companies for jobs in other locations. Local CEOs may tend to prefer firms located in their states of origin since they are more likely to have networks of family, friends, and business contacts in those states. Thus, this labor supply effect may cause CEO turnover to be lower for local CEOs. For the cronyism theory, it is possible that the board is less likely to discipline their friends for poor performance. This implies that not only should turnover be lower for local CEOs under the cronyism theory, but also performance sensitivity of turnover should be lower for local CEOs.[26] The cultural matching theory could also lead to lower turnover for local CEOs than non-local CEOs since the cultural matching theory suggests that local CEOs may facilitate the production process and better firm performance leads to lower turnover (Huson, Malatesta, and Parrino, 2004). However, after controlling for performance, the cultural matching theory suggests no difference between turnover rates of local and non-local CEOs.

I test these predictions for local CEOs on CEO turnover by estimating a probit regression for the panel of 10,920 firm-year observations between the years 1998 and 2007, where the dependent variable is a dummy variable that is equal to one in year t if the firm's CEO is different from the firm's CEO in year $t-1$. Turnover occurs in 1,129 (10.33%) of the firm-year observations.[27] The variable of interest is $LocalCeo$, which is a dummy variable that equals one if the CEO at time $t-1$ is from the same state as the firm's headquarters. The geographic preference and cronyism theories predict that the coefficient on $LocalCeo$ should be negative.

The baseline model specification is similar to that of Kaplan and Minton (2006), but instead of using the S&P 500 as the market return, I use the CRSP value-weighted index. The literature on CEO turnover has shown that poor stock market performance increases the likelihood of CEO turnover (Warner, Watts, and Wruck, 1988). I control for firm stock market performance by decomposing stock market returns as in Kaplan and Minton (2006). I include the firm's return in excess of its industry's return ($FirmExRet$) over the fiscal year, the firm's industry's return in excess of the market return ($IndExRet$), and the buy-and-hold return on the market over the fiscal year ($MktRet$). I control for CEO retirement by including a dummy variable that equals one if the firm's CEO in year $t-1$ is 60 years of age ($Age60Dum$) or older. Weisbach (1988) shows that firms with greater board independence have higher CEO turnover, for this reason I include

[26] Although both these theories suggest that turnover should be lower for local CEOs, the reasons are different. The geographic preference theory has implications for the rate of normal turnover, but the cronyism theory's implications are for forced turnover. Currently, I do not have adequate data to make these distinctions. In future versions of this paper I will attempt to collect this information. For now I rely on performance sensitivity of turnover to measure the CEOs immunity to poor performance and the age of the incumbent CEO when leaving office as a proxy for normal turnover.

[27] The number of observations falls from 11,054 due to missing values for the control variables.

PctOutsideDir in my baseline specification.

Table XI displays the estimated marginal effects and their heteroscedasticity-consistent standard errors, clustered at the firm-level for nine different specifications. Consistent with the previous literature (Warner et al., 1988; Kaplan and Minton, 2006; Fahlenbrach et al., 2008), I find that turnover is higher in firms with poor industry-adjusted stock market performance. Consistent with the predictions of the geographic preference and cronyism theories, the estimated marginal effect of *LocalCeo* is -0.022 for the model in column (1) and is significant at the 0.01 percent significance level for every model specification estimated using the full sample of hires. For the average firm in the sample if the CEO is not local, then the predicted probability of CEO turnover is 0.102, if that same firm has a local CEO the predicted probability of turnover falls to 0.080. This is a 22 percent decrease in the probability of turnover.

In column (2) I test whether the relationship between turnover and CEO origin is driven by local CEOs being more powerful than non-local CEOs, thus more immune to discipline by the board. I proxy for powerful CEOs by including dummy variables that are equal to one if the CEO at time $t-1$ is chairman of the board (*CeoChair*) or founder of the company (*Founder*). Although the estimated marginal effects on both proxies imply a significant negative relationship between CEO power and turnover, the coefficient on *LocalCeo* is unchanged. Interestingly, the estimated marginal effect of CEOs being from the same states as their firms has the same magnitude as CEOs being founders of their companies.

The cronyism theory suggests that local CEOs may be more immune to disciplinary actions by the board for poor performance. In column (3), I test whether performance sensitivity of turnover is different for local CEOs than non-local CEOs by interacting *LocalCeo* with the decomposed measures of stock market performance. I find no evidence supporting this prediction of the cronyism theory. The model developed by Hermalin (2005) predicts lower turnover for internally hired CEOs than those hired externally. I control for this possibility in column (4) by including *InsideHire* in the specification. Not only do I find that the results are unaltered, but when excluding *LocalCeo* from the specification in column (4), I find that there is no relationship between *InsideHire* and CEO turnover (unreported).

If a labor supply effect is present in the market for CEOs, then we may expect that CEOs located in more desirable locations are less likely to retire. I test this theory by estimating the model in column (5), which includes an interaction term between *Age60Dum* and *FirmHQPctClear*. If CEOs are less likely to retire from firms located in desirable locations, then the coefficient on this interaction term should be significantly negatively estimated. I find that this is in fact the case. This finding provides further evidence that CEOs' geographic preferences play a role in the market for CEOs.

In columns (6) through (9) I estimate the models from columns (3) and (4) partitioning the sample by

internally and externally hired CEOs at time $t-1$. I find that for both internally and externally hired CEOs that local CEOs have a significantly lower probability of turnover. The coefficient estimate for the external hire subsample suggests that the probability of turnover is 0.038 lower for local CEOs than for non-local CEOs. Given that the probability of turnover for the sample is 0.104, this is a 37 percent decrease in the probability of turnover for local CEOs among externally hired CEOs. For the internally hired sample the marginal effect is more modest, decreasing the probability of or turnover by 0.016.

In summary, I find that local CEOs have a lower probability of turnover than do non-local CEOs. This finding is consistent with geographic preferences and cronyism. However, cronyism also predicts that performance sensitivity of turnover should be lower among local CEOs and the data does not support this prediction. Additional support for the role of CEO geographic preferences in the market for CEOs is evidenced by the fact that CEOs in more desirable locations are less likely to retire. Overall these findings lend additional support to the labor supply theory of geographic preferences and are weakly supportive of the agency theory of cronyism.

VIII Firm performance

I next investigate changes in firm performance around CEO hiring decisions, both in a univariate setting and in a multiple regression framework. The cultural matching theory predicts that locally hired CEOs may be more effective managers since their cultural match with the firm facilitates the production process. The agency theories of cronyism and shirking, as well as the search cost theory suggest that hiring locally may be a signal of lower ability CEOs. Similar to the idea of Bennedsen et al. (2007), where family firms may limit the talent pool to only family members, these theories predict that the talent pool may be limited to only local candidates. If this is the case, then firms that replace non-local CEOs with local CEOs may experience erosion in performance and firms that replace local CEOs with non-local CEOs may experience increases in operating performance.

I assess the effects of local hires on firm operating performance by testing whether changes in operating performance around hiring events are different for different transitions between local and non-local predecessor and successor CEOs. This method of assessing the relationship between firm performance and CEO transitions is attractive because it provides an estimate of the impact of CEOs on operating performance that is unaffected be time-invariant firm characteristics. Specifically, I calculate the difference between the average firm performance for the three years after the hiring event minus firm performance two years prior to the hiring event. If the hiring event occurs in time $t = 0$, then firm performance after the hiring event is

measured as the average performance from years $t = 1$ through $t = 3$ and the firm's performance prior to the hiring event is the average of the firm's operating performance in years $t = -1$ and $t = -2$. Since Compustat data is only currently available through June of 2008 and the average operating performance calculation requires that operating performance is available for time $t + 3$, the sample for this portion of the analysis is limited to those hiring decisions occurring prior to fiscal year 2005 for firms with fiscal year-end of July or later and to decisions prior to fiscal year 2006 for firms with fiscal year-end of June or earlier. In addition, the hired CEO is required to be in office during the years in which post-hiring operating performance is measured (in this case for at least three years). These data requirements reduce the sample to 585 hiring decisions.

I measure operating performance in year t as the firm's operating income minus depreciation over the one-year lagged book value of assets (ROA). Barber and Lyon (1996) show that in order to accurately assess changes in operating performance, these changes should be measured relative to an appropriate benchmark. Therefore, I investigate changes in firm ROA relative to several different benchmarks. Specifically, I create three different measures of adjusted ROA: Industry-adjusted ROA, industry and size-adjusted ROA, and industry, size, and prior performance-adjusted ROA. For each of these measures I subtract from the firm's ROA the ROA of a benchmark firm. For industry adjusted ROA, the benchmark firm is the median firm in the universe of all Compustat firms with the same two-digit SIC code. For industry and size adjusted ROA the benchmark firm is the median firm from the universe of Compustat firms with the same two-digit SIC code that are within +/- 30% of the size of the benchmarked firm as measured by book value of total assets in year $t - 2$. If no firm meets this criteria, then I enlarge the size universe by including all firms in the same two-digit SIC code that have assets that are greater than 0.7^2 and less than 1.3^2. If again, no firms meet this criteria then I increase the size range again by squaring these "size-matching factors."[28] For the sample, 317 (54.2%) of the 585 matches are made in the first iteration and 527 (90.1%) are matched within three iterations. The third methodology used for benchmarking operating performance is by matching firms based on industry, size, and pre-event performance. The methodology follows that of the industry, size-adjusted ROA, but in addition, the universe of benchmark firms is limited to those firms with ROA in year $t - 2$ within +/- 10% of the benchmarked firm's ROA in year $t - 2$. For firms where an initial match does not occur, both the "size-match factor" and the "prior performance-match factor" are squared until a match occurs. Note that for all three matching methodologies, the firm that is being benchmarked is excluded from the universe of benchmark firms.

Table XII displays means (Panel A) and medians (Panel B) of the four different measures of operating performance before and after the hiring decision, as well as the change in operating performance for the full

[28]This squaring procedure, in the limit produces the same matches as the industry matches.

sample and the subsamples of internally and externally hired CEOs for various partitions based on CEO origin transitions. Panel A shows that for the full sample, unadjusted ROA, industry-adjusted ROA, and industry, size-adjusted ROA, all fall after the hiring decision, but that once prior performance is controlled for, there is a significant increase in operating performance among sample firms for the full sample. Focusing on this change in industry, size and prior performance-adjusted performance, evidence from partitioning the sample into firms that hire local versus non-local CEOs indicates that this increase is due to the increase in operating performance that is experienced by firms after hiring non-local CEOs. Adjusted operating performance increases by 0.0169 after a non-local CEO is hired. Given that mean unadjusted ROA for the sample prior to the hiring decision is 0.1726, this is an increase of 9.8%. When testing for differences in the changes in operating performance between the samples of firms that hire local versus non-local CEOs I find no difference between the two.

In columns (5) through (7) I decompose the changes in operating performance even further to specific changes in origin from predecessor to successor CEOs. When adjusting for size and industry, operating performance significantly decreases when a non-local CEO is replaced with a local CEO. The mean adjusted operating performance falls by 0.0310 in this case and is significant at the one percent level. This finding is robust to the subsamples of internally and externally hired candidates. For no other transitions does operating performance change significantly under this measure of operating performance. Turning to industry, size, and performance-adjusted ROA, I find that when non-local CEOs replace local CEOs that average operating performance increases significantly under the test of medians but not under the test of means. This result seems to be driven by the externally hired CEOs, which is not surprising since it is unlikely that hiring locally internally is due to theories that suggest that the talent pool is being limited to local candidates.

In columns (8) and (9), I test for differences between the samples of hiring decisions with changes in local status between predecessor and successor CEOs and the control sample of hiring decisions with no change in CEOs' local status. This difference-in-difference approach is used to control for factors beyond the adjustments to ROA that may influence changes in performance around CEO turnover. The main result from this analysis becomes clear when investigating changes in operating performance in this way. For all four measures of operating performance, the test of means indicates that the change in firm performance is significantly worse than that of the control firms for firms that replace non-local CEOs with local CEOs. The average change in performance for these firms when using the industry and size-adjusted measure of operating performance is 2.75% lower than that of the sample of firms with no change in local status and is significant at the ten percent significance level. The test of medians is not as supportive of this finding. Only the test using industry-size adjusted ROA supports this same result. When testing for a difference in changes

in operating performance between hiring decisions where firms replace local CEOs with non-local CEOs and those where there is no change in CEOs' local status, in most cases the test of means indicates that there is no significant difference. However, the test of medians indicates that among externally hired CEOs there is evidence that replacing local CEOs with non-local CEOs can improve operating performance over that of the control firms.

Although this evidence is in no way conclusive, it at least suggests that local CEOs on average may be of lower ability than non-local CEOs and lends some support to the theories that suggest that hiring locally may be a signal of limiting the talent pool. An alternative story is that local CEOs are more likely to be chosen when firms are expected to perform poorly in the future. Some support for this theory was provided earlier when I found that external hires are more likely to be local when past industry-adjusted stock market performance is poor. If the market for non-local CEOs is more competitive, then firms that are expected to perform well in the future may have an advantage in hiring these candidates. In addition, local CEOs may be more willing to take on the risk of working for local firms that are expected to do poorly. This may be because local CEOs have greater interest in the local economy, for example.

Although the univariate approach previously employed controls for time invariant firm-specific variables as well as size, industry, and prior performance, it may be important to control for other firm characteristics that could influence changes in firm value. For this reason I further explore the changes in firm performance using a multiple regression model. Table XIII displays the estimated coefficients and standard errors for several models, where the dependent variable is the change in industry, size, and prior performance-adjusted ROA. The sample of performance changes is the same as those used in the previous tests. Control variables mainly follow those used in Fahlenbrach et al. (2008) and are measured as the average of these variables in event years -2 and -3. Firm Age ($FirmAge$) is measured in event year -1 and is constructed using data from Loughran and Ritter (2004) and Fahlenbrach (2008). Several studies have shown that firms run by founders have superior performance or higher market valuations (Anderson and Reeb, 2003; Pérez-González, 2006; Villalonga and Amit, 2006; Fahlenbrach, 2008). I control for this by including an indicator variable that is equal to one if the previous CEO is the founder of the firm ($PrevCeoFounder$). The variables of interest are the same as those used earlier in analysis of changes in CEO compensation. If hiring a local CEO is a signal of limiting the talent pool, then the estimated coefficient on $LocalCeoChg$ should be negative. When testing for asymmetric effects, the estimated coefficient on $LocToNonLoc$ ($NonLocToLoc$) should be positive (negative).

The first model, shows that after controlling for additional firm characteristics, that the estimated coefficient on $LocalCeoChg$ is negative and significant at the 10% level. The model estimated in column

(2) allows for asymmetric effects in the transitions between local and non-local successor and predecessor CEOs. I find that the coefficient on $NonLocToLoc$ is significantly, negatively estimated, while the estimated coefficient on $LocToNonLoc$ is not significant. This indicates that firms that replace non-local CEOs with local CEOs experience decreases in adjusted operating performance, but those that replace local CEOs with a non-local CEOs do not experience significant changes in operating performance. This finding is consistent with those in the univariate analysis.

In column (3), I examine whether changes in the firms' practices of hiring insiders is driving the negative relationship between changes in adjusted operating performance and $NonLocToLoc$. The estimated coefficient on $LocToNonLoc$ is very similar to that estimated in column (2) and the coefficient remains significant at the five percent significance level. The coefficient on $InsideHireChg$ is not significantly estimated. In column (4), I test whether the changes in operating performance are associated with firms with poor board incentives. If this is the case, then I should find a positive coefficient on the interaction between $NonLocToLoc$ and $OutsideDirOwnDum$, since firms with better board incentives may choose local CEOs when it is optimal to do so. The estimates indicate that this is not the case. This finding weakens the evidence that the agency theories of shirking or cronyism are driving the relationship between changes in CEO origin and firm performance. In columns (5) through (7) I examine the subsamples of internally and externally hired CEOs. I find that the results from the full sample hold for the subsample of internally hired CEOs, but that for the sample of external hires, although the coefficients of the variables of interest have the predicted signs, they lack significance.

Overall, the results from the analysis of changes in operating performance are supportive of theories that suggest that hiring locally could be a signal of limiting the talent pool (shirking, cronyism, and search costs). That these findings are supportive of the agency theories of local hiring is weakened by the fact that stronger board incentive alignment does not weaken the relationship between changes in CEO origin and changes in operating performance. This points toward the search cost theory as the cause of the observed relationship. One problem with the search cost theory is that for internally hired candidates search costs should not be an issue, yet I find that the relationship holds among internally hired candidates when controlling for firm specific variables. A potential reason for observing a relationship between changes in firm performance and CEO origin among internally hired candidates is that search costs are affecting the hiring process for senior executives, thus affecting the internal pool of CEO candidates. Although among the proposed theories, the search cost theory is the most likely to be driving this result, an alternative story which cannot be ruled out is that firms have difficulty hiring non-local CEOs when their performance is expected to be poor in the future.

IX Conclusion

I began this paper with a simple question, "Is the market for CEOs geographically segmented and if so why is this the case?" In conducting the analysis, I provide conclusive evidence that geography does play a role in the labor market for top executives. Over thirty percent of non-regulated, non-financial S&P 1,500 firms are run by local CEOs. When examining hiring decisions, firms hire CEOs from their own state five times more frequently than would be expected if geography plays no role in the hiring process. Even among the subsamples of CEOs hired external to the firm and external to the firm's industry, I reject the null hypothesis of perfect labor market integration, finding that in both subsamples firms hire locally nearly three times more than expected if geography plays no role in the hiring process.

Trying to answer why this is the case, I propose five theories: search costs, cultural matching, shirking, cronyism, and geographic preferences. I then test how well these theories predict local hiring decisions as well as their predictions for CEO compensation, CEO turnover, and changes in firm operating performance. I find some support for each of the proposed theories when estimating the probability of hiring locally for the full sample, but I find evidence only for the search costs, cronyism and geographic preference theories among the subsample of externally hired CEOs. Neither search costs, shirking, nor geographic preferences should play a role in the matching process for internal CEO markets, however I find evidence for all three of these theories in the subsample of internally hired CEOs. I conclude that these findings reveal a role for these theories in the labor market for senior executives, which ultimately determines the supply of internal CEO candidates. In addition, there is some evidence of cronyism in the internal CEO labor market.

When investigating the relationship between executive compensation and local hiring decisions, I find that local CEOs are paid less than non-local CEOs, but after examining changes in CEO compensation I uncover that non-local CEOs require a premium when hired, but that local CEOs do not accept a discount. These findings are consistent with the geographic preference, search costs, and shirking theories and may be inconsistent with the cultural matching theory. The results also suggest a role for sticky wages when modeling the executive labor market.

I then examine CEO turnover and find that it is significantly lower for local CEOs, which is consistent with geographic preferences, and cronyism. However, I do not find that performance sensitivity of turnover is lower for local CEOs as the cronyism theory predicts. The analysis of changes in operating performance is supportive of the theories that suggest that hiring locally is a signal of limiting the talent pool (search costs, shirking, and cronyism). Adjusted operating performance decreases significantly after a local CEO replaces a non-local CEO, but I find that changes in operating performance are not sensitive to board characteristics.

This raises concerns as to whether the agency theories are driving the performance results. This points to the search cost theory driving the results but there is some empirical support for the alternative story that local CEOs are more likely to be hired when firms are expected to perform poorly. If this is the case, then results of the performance analysis do not support the theories that suggest that local CEOs are of lower ability than non-locally hired CEOs.

When consolidated, these results suggest that the role of geography in the market for CEOs is driven by a complex combination of several of these theories. Some theories, however, seem to play a larger role than others. For instance, the results of all tests are supportive of the geographic preference and search costs theories and in general there is little support for the cultural matching theory. In addition, there is no evidence which supports the shirking theory in the external CEO labor market. These results have implications for two main areas of the finance literature. First, they suggest that the market for CEOs is not a frictionless competitive market. Including elements uncovered by this empirical analysis may enrich competitive assignment models used in the executive compensation literature. Second, there are several recent papers that focus on the role of geography in corporate policies.[29] Evidence from this paper suggests that geography also plays a substantial role in the matching of top executives to firms. Finally and most generally, this paper contributes to our understanding of the determinants of labor supply by providing evidence that even among some of the most motivated and talented economic agents in the U.S. economy the old saying that "Money isn't everything" rings true.

[29]See for example Kedia and Rajgopal (2009) and Almazan, De Motta, Titman, and Uysal (2008).

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Appendix: Variable Definitions

The data appendix provides definitions of variables used in the study. All accounting variables and CEO compensation variables are winsorized at the 0.50% level in both tails. Variable names are given in the first column, definitions are provided in the second column, and the data source is provided in the third column.

Variable	Definition	Source
CEO Characteristics		
CEO state of origin	The state in which the CEO's social security card was issued	Lexis Nexis
Foreign-born CEO	Any CEO, who received his social security card after 21 years of age	Lexis Nexis
$LocalCeo$	A dummy variable that equals one if the CEO's state of origin is the same as the state in which the firm is headquartered and is zero otherwise	
$PrevCeoLocal$	A dummy variable that is equal to one if the previous CEO is local and zero otherwise	
$LocToNonLoc$	A dummy variable that is equal to one if the previous CEO is local and the new CEO is non-local and is zero otherwise	
$NonLocToLoc$	A dummy variable that is equal to one if the previous CEO is non-local and the new CEO is local and is zero otherwise	
$InsideHire$	A dummy variable that is equal to one if the CEO worked for the firm for more than 365 days prior to being hired as CEO	Execucomp
$CeoBlockholder$	A dummy variable that is equal to one if the CEO owns 5% or more of the firm	Execucomp
$Age60Dum$	A dummy variable that is equal to one if the CEO is greater than 59 years old	Execucomp
$PrevCeoFounder$	A dummy variable that is equal to one previous CEO is a founder of the firm	Fahlenbrach (2008)
CEO Compensation		
$TotalComp$	Total compensation in (Thousands of 2003 $), which includes salary, bonuses, restricted stock grants, and the Black-Scholes value of stock options grants	Execucomp
$TotalCashComp$	Total cash compensation (Thousands of 2003 $), which includes salary and bonuses	Execucomp
Firm Characteristics		
Firm headquarters location	Historical location of firm headquarters determined using SEC filings.	Compact Disclosure
$Assets$	The natural log of the book value of assets (Millions of 2003 $)	Compustat

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Variable	Definition	Source
RD	R&D expenditures / lagged assets. Missing values are substituted with zero unless indicated.	Compustat
Q	Tobin's Q - (Assets - book equity + market value of equity - deferred taxes) / assets	Compustat
ROA	Return on Assets - Operating income before depreciation / lagged assets	Compustat
$FirmExRet$	Buy-and-hold return on the firm's stock for the fiscal year minus the return on the equal-weighted portfolio return of the firm's industry (by 2-digit SIC code).	CRSP
$IndExRet$	Industry excess return - the difference between the fiscal year buy-and-hold return of the equal-weighted industry portfolio for which the firm is a member (by 2 digit SIC code) minus $MktRet$	CRSP
$MktRet$	Buy-and-hold return on the CRSP value-weighted index for the firm's fiscal year	CRSP
$StockVol$	Daily volatility of the firm's stock return for the fiscal year	CRSP
$FirmAge$	Fiscal year minus founding year	Loughran and Ritter (2004) & Fahlenbrach (2008)
$DividendDum$	A dummy variable that is equal to one if the firm pays a dividend during the fiscal year	Compustat
$Capex$	Capital expenditures / lagged assets	Compustat
$CapIntense$	Net PPE / sales	Compustat
$SalesGrwth$	Current sales / lagged sales	Compustat
Board Characteristics		
$PctOutsideDir$	The percentage of outsiders on the board	Riskmetrics
$OutsideDirOwnDum$	A dummy variable that equals one if the outside directors on the board cumulatively own at least one percent of the firm and is zero otherwise	Riskmetrics
$CeoChair$	A dummy variable that equals one if the CEO is chairman of the board	Riskmetrics
Geographical		
$FirmHQPctClear$	The average percentage of clear days per year in the city of the firm headquarters	National Climatic Data Center
$CeoOriginPctClear$	The average percentage of clear days in CEO's state of origin	National Climatic Data Center
$PctPop$	The state's percentage of the U.S. population 36 years prior to the hiring decision	1960, 1970 U.S. Census
$log(MedHmVal)$	The natural log of the median home value in 2005 in the county in which the firm is headquartered.	2005 American Community Survey

Table I:

Theories of Geographic Segmentation

This table presents five theories of geographic segmentation in the market for CEOs. For each theory the general form of the objective function is shown for the maximization problems that result in labor demand and labor supply. The models consist of heterogeneous agents and firms, however subscripts are omitted for notational simplicity. Firm value is represented by Π and in all models depends negatively on wage (w) and positively on managerial ability (a). Managerial utility is represented by U and in all models depends positively on w. The outside option of managers is denoted by $\bar{U}$ and depends positively on a. The search costs model includes a search cost function C, which is dependent on some geographical attribute g and it is assumed that Π is decreasing in C. For the cultural matching theory, Π is positively related to the cultural match between the firm and the manager (c). For the shirking and cronyism theories, the preferences of the search committee (V) are formally modeled. For the shirking theory, these preferences are increasing in Π, but decreasing in the selection committee's efforts in the selection process (e). For the cronyism theory, V is positively related to Π and positively related to a managerial characteristic (b), which has no value in the production process. The utility of managers under the geographic preference theory depends not only on w, but also on the geographic location of the firm g. In addition, manager's outside option depends on some baseline measure of geography $\bar{g}$. In the last three columns of the table, the theories' predictions for CEO compensation, turnover, and firm performance are listed for local CEOs relative to non-local CEOs.

				Local vs. Non-local CEOs		
Theory	Demand	Supply		Comp	Turn	Perf
baseline	$\Pi(w,a)$	$U(w)$	$\bar{U}(a)$			
search costs	$\Pi(w,a,C(g))$	$U(w)$	$\bar{U}(a)$	$<$		$<$
cultural matching	$\Pi(w,a,c)$	$U(w)$	$\bar{U}(a,c)$	$>$	$<$	$>$
shirking	$V(\Pi(w,a(e)),1-e)$	$U(w)$	$\bar{U}(a)$	$<$		$<$
cronyism	$V(\Pi(w,a),b)$	$U(w)$	$\bar{U}(a)$		$<$	$<$
geographic preference	$\Pi(w,a)$	$U(w,g)$	$\bar{U}(a,\bar{g})$	$<$	$<$	

Table II:

Firm Location and CEO Origin

The table reports the joint distribution of CEO state of origin and the state in which the firm is headquartered for the sample of 12,974 firm-year observations of non-regulated S&P 1,500 firms covered by the ExecuComp database for the years 1997 through 2007. CEO state of origin is defined as the state in which the CEO's social security card was issued. Foreign-born CEOs are defined as any CEO, who received his social security card after 21 years of age. Firm location is the state in which the firm is currently headquartered according to the Compustat database. State abbreviations follow U.S. postal code abbreviations and the abbreviation FB is used to indicate foreign-born CEOs.

	Firm headquarters Location																																														
CEO Origin	AK	AL	AR	AZ	CA	CO	CT	DC	DE	FL	GA	HI	IA	ID	IL	IN	KS	KY	LA	MA	MD	ME	MI	MN	MO	MS	MT	NC	NE	NH	NJ	NM	NV	NY	OH	OK	OR	PA	RI	SC	SD	TN	TX	UT	VA	WA	WI	TOTAL
AK	0	0	0	7	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
AL	0	56	0	0	1	0	0	0	0	2	4	0	0	0	7	0	1	1	0	0	4	0	0	0	0	8	0	4	0	0	0	0	0	0	0	0	0	0	0	0	6	3	0	0	0	0	0	97
AR	0	0	57	0	0	0	0	0	0	3	0	0	0	0	7	0	0	0	0	0	0	5	2	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	20	0	0	0	1	98
AZ	0	0	0	16	16	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	5	0	0	0	0	6	3	0	0	0	0	0	55
CA	0	0	0	20	515	22	3	0	0	19	0	0	0	12	30	1	0	3	0	32	6	0	2	3	18	0	0	1	2	0	1	0	25	34	28	0	20	29	0	0	2	1	39	2	5	27	6	908
CO	0	0	0	7	15	30	0	0	0	8	0	0	0	0	0	0	0	10	0	0	1	0	0	0	0	0	0	0	4	0	13	0	0	0	0	0	7	0	9	0	0	6	13	0	0	0	0	123
CT	0	0	0	2	18	10	40	0	0	18	0	0	0	0	1	8	0	0	0	6	0	6	8	17	6	8	0	0	0	0	10	0	0	25	0	0	1	11	0	0	0	0	2	0	4	0	0	201
DC	0	0	0	0	4	1	3	0	0	0	4	0	0	0	0	0	0	0	0	11	3	0	0	0	0	0	0	0	11	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	43
DE	0	0	0	0	6	0	0	0	1	0	6	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	29
FL	0	0	0	0	22	4	2	0	0	99	34	0	0	0	6	0	3	4	10	7	0	0	6	4	0	0	0	3	0	0	10	0	0	10	0	0	11	0	8	7	0	10	9	1	6	3	7	286
GA	0	4	0	0	6	1	4	0	0	8	114	0	0	0	11	0	0	0	0	0	2	0	0	0	5	2	0	10	0	0	3	0	6	0	7	9	0	8	0	0	0	5	7	0	14	0	0	226
HI	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	0	11
IA	0	0	0	0	36	2	10	0	0	0	6	0	47	0	25	0	0	0	0	0	0	0	7	0	7	11	3	0	0	0	1	0	0	0	0	0	6	6	0	0	0	4	33	0	0	4	0	208
ID	0	0	0	0	4	0	0	0	0	4	0	0	0	14	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	2	0	35
IL	0	3	0	24	133	9	17	9	3	63	16	0	0	0	230	0	0	0	0	0	0	0	15	34	17	0	0	18	6	7	15	0	0	15	31	1	0	12	0	0	0	0	61	0	0	22	43	843
IN	0	0	0	0	33	12	14	0	0	16	7	0	0	0	31	98	0	14	0	0	4	0	19	14	0	0	0	0	0	0	3	0	6	2	26	0	3	4	0	3	0	5	4	0	11	0	35	364
KS	0	4	8	0	4	0	0	0	0	0	0	0	1	0	0	0	13	0	0	6	7	0	1	3	9	3	0	2	7	0	0	0	3	11	8	4	0	6	0	0	0	0	20	0	0	0	0	120
KY	0	0	0	0	9	6	0	0	0	0	10	0	0	0	3	0	0	30	0	15	0	0	0	0	4	0	0	0	0	0	0	0	0	10	6	0	0	0	1	0	0	19	0	0	0	0	0	113
LA	0	0	11	0	17	4	0	0	0	0	10	0	0	0	11	0	0	0	39	3	0	0	5	0	0	0	0	0	0	0	3	0	0	8	0	0	0	0	0	0	0	3	38	0	0	0	4	156
MA	0	5	0	4	95	1	19	0	1	3	16	0	0	0	19	4	0	0	3	179	14	0	13	14	3	0	0	0	0	8	28	0	0	55	1	11	0	11	8	0	0	1	35	0	7	7	8	573
MD	0	0	0	0	10	0	0	7	10	14	3	2	0	0	5	0	0	0	0	12	18	0	0	0	0	0	0	1	0	4	14	0	1	10	5	0	0	3	0	0	0	2	4	2	0	1	0	128
ME	0	0	0	0	4	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	2	0	0	0	0	0	18	0	0	0	0	6	0	0	0	0	39
MI	0	0	0	3	69	10	0	0	4	13	19	0	1	0	27	2	8	0	0	4	0	0	118	9	6	0	0	4	0	0	12	0	1	15	15	0	8	13	0	6	0	0	34	0	0	16	13	430
MN	0	0	0	1	60	0	0	0	0	2	9	0	15	0	10	8	8	0	0	0	0	0	0	108	2	0	0	0	0	0	0	0	0	13	0	0	3	0	0	0	0	0	19	0	3	0	3	264
MO	0	4	5	0	8	7	2	0	0	0	0	0	0	0	14	2	3	8	0	12	0	0	9	9	79	0	0	0	0	0	0	0	0	10	21	3	2	0	0	0	0	1	44	0	8	0	6	257
MS	0	0	6	4	8	0	0	0	0	0	1	0	0	0	4	0	0	0	0	0	0	0	6	0	10	8	0	0	0	0	0	0	3	9	0	0	0	0	0	0	0	14	28	0	7	0	0	108
MT	0	0	0	0	5	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	6	0	0	2	0	18
NC	0	1	0	0	5	0	20	0	0	16	2	0	0	0	0	0	0	0	0	11	0	0	6	1	3	0	0	81	0	0	0	0	0	0	9	0	0	0	0	4	0	6	1	0	0	0	0	166
ND	0	0	0	0	4	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	5	0	0	3	0	0	0	0	0	0	3	0	0	0	0	2	4	0	2	0	43
NE	0	0	0	0	16	15	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	7	0	0	0	0	18	5	0	0	0	4	0	0	0	0	0	0	0	0	5	0	0	3	0	77
NH	0	0	0	0	9	5	0	0	0	0	0	0	0	0	4	0	0	0	0	10	11	0	2	0	0	0	0	0	0	0	6	0	0	0	1	0	0	0	0	0	0	0	7	0	0	1	0	56
NJ	0	0	0	0	50	8	14	0	0	15	16	0	0	0	29	5	0	0	0	11	0	1	3	24	12	0	0	15	0	10	78	3	2	55	10	0	7	30	10	5	0	19	9	0	9	4	0	454
NM	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	12	0	5	11	0	41
NV	0	0	0	0	0	0	0	0	0	4	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0	4	0	0	0	0	34
NY	11	12	1	30	235	11	89	2	4	60	22	0	0	5	66	13	0	11	7	104	8	3	36	35	40	0	0	13	3	8	141	0	10	468	38	6	17	52	1	0	0	5	130	0	33	18	16	1,764
OH	0	0	0	14	100	7	38	0	1	9	29	0	3	3	35	9	0	3	0	31	3	0	16	30	5	0	0	3	0	3	12	0	0	12	306	0	6	22	0	0	0	4	43	0	22	9	5	783
OK	0	0	0	0	8	15	7	0	0	0	2	0	0	0	0	0	0	0	5	5	0	0	0	0	11	0	0	0	0	0	0	0	0	0	11	48	0	0	0	7	0	3	56	0	8	0	5	191
OR	0	0	0	4	15	1	0	0	0	0	1	0	0	0	4	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	7	0	23	5	0	0	0	0	0	0	0	0	75
PA	0	0	0	4	48	0	12	2	0	27	16	9	0	0	35	1	0	5	5	39	9	0	9	14	9	0	0	24	0	9	13	0	1	34	57	0	0	204	0	3	0	11	69	2	17	15	10	713
RI	0	0	0	0	1	0	5	0	0	1	0	0	0	0	1	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	15	0	0	0	0	0	0	0	3	53
SC	0	1	0	0	0	0	0	0	0	3	14	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	13	0	0	0	0	0	5	2	0	0	3	0	23	0	7	5	0	0	0	0	81
SD	0	0	0	0	9	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	25
TN	0	1	0	0	2	14	2	0	3	0	13	0	0	0	14	0	0	0	0	0	0	0	0	9	0	0	0	11	0	0	0	0	0	5	4	0	0	0	0	0	0	111	6	0	0	0	0	195
TX	0	0	1	1	23	9	3	0	0	4	0	0	0	5	14	2	9	0	2	3	11	0	0	6	0	0	0	6	0	0	0	0	0	0	9	7	4	1	0	0	0	8	302	0	2	2	1	435
UT	0	0	0	19	7	0	0	0	0	0	0	0	0	0	8	5	0	0	0	0	11	0	0	0	0	0	7	0	0	0	0	0	0	5	0	0	10	0	0	0	0	0	16	29	0	0	0	117
VA	0	0	4	0	23	5	3	0	0	6	0	0	0	0	12	0	0	0	0	1	0	0	8	5	5	0	0	14	0	0	0	0	0	5	13	0	0	28	10	0	0	1	9	5	133	7	0	297
VT	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	22
WA	0	0	0	0	56	8	1	0	0	7	0	0	10	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0	0	0	12	0	3	4	0	0	2	13	0	0	0	0	6	0	0	56	0	183
WI	0	4	0	1	47	2	5	0	0	0	1	0	7	0	11	0	0	0	0	6	0	0	11	20	9	0	0	7	0	0	1	0	0	0	18	0	11	0	0	0	0	2	21	0	3	5	102	294
WV	0	0	0	0	13	0	4	0	0	0	4	0	7	0	0	0	0	5	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	6	0	0	3	0	0	0	8	0	0	8	0	3	64
WY	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	10	0	0	0	0	16
FB	0	0	0	26	339	1	39	0	1	34	40	0	0	6	59	10	0	5	0	53	20	0	21	34	15	0	0	19	11	0	49	1	1	73	30	0	16	55	0	3	0	10	66	1	2	4	10	1,054
TOTAL	11	95	93	187	2,115	225	361	20	28	470	424	11	91	49	760	177	45	99	71	623	143	15	323	453	275	29	7	254	63	54	431	6	86	906	681	91	157	558	62	65	2	278	1,216	51	310	221	282	12,974

Table III:

The Hiring Home Bias

The table reports statistics and test results on the hiring home bias for the sample of 1,162 hiring decisions made by non-financial S&P 1,500 firms between 1998 and 2007. In columns (1) and (2) the hiring home bias is displayed for each state as well as for the entire sample. The hiring home bias for a given sample is defined as $B = (N_L - E(N_L)) \div N$, where N is the number of hiring decisions in the sample, N_L is the observed number of local CEOs hired in the sample, and $E(N_L)$ is the expected number of locally hired CEOs for the sample. A hiring decision is considered "local" if the state in which a firm's headquarters is located is the same as the hired CEO's state of origin. Columns (1) and (2) differ in their assumptions regarding the distribution of CEO origin. The hiring home bias in column (1) is the difference between the percentage of observed local hiring decisions displayed in column (3) minus the expected percentage of local hiring decisions displayed in column (4). In column (4), the expected percentage of local hiring decisions is computed under the assumption that CEO talents are spread uniformly across the U.S. adolescent population. Using state-level population data from the U.S. Decennial Census for the years 1960 and 1970, I compute the proportion of the U.S. population living in each state. I proxy for the probability that a firm selects a CEO from its own state by the percentage of the U.S. population living in the state in which the firm is headquartered 36 years prior to the hiring decision, using the Census data closest to 36 years prior to the date of hire. The computation of the hiring home bias in column (2) relaxes the assumption of CEO talent uniformity and assumes that the distribution of the observed CEO origin for the sample of 12,974 firm-year observations of CEOs of non-financial S&P 1,500 firms is representative of the distribution of CEO talents in the U.S. adolescent population. The expected percentage of local hires under this distributional assumption is shown in column (5). So the home bias in column (2) is just the difference between columns (3) and (5). Column (6) lists the number of hiring observations included in the estimation of the hiring home bias. For columns (1) and (2) stars indicate the results of testing the hypothesis that the observed number of local hires comes from a binomial distribution where the probability of hiring a local CEO is given in column (4) for the tests in column (1) and column (5) for the tests in column (2) and the number of trials is given in column (6). Panel B of this table shows statistics for the hiring home bias for all hires in each sample year and tests whether the time series average is different from zero using a two-sided t-test. Panel C shows results for various subsamples. Significance levels in panel C are reported for exact binomial tests for the subsamples. Hiring decisions are external to the firm for CEOs promoted to the position of CEO within two years of joining the company. Note that I am able to categorize 1,046 (90%) of the observations as internal or external to the firm. Hiring decisions are external to the industry based on two-digit SIC codes of the CEOs' previous and new employers. Note that I am able to categorize 185 (51%) of the external hiring decisions as internal or external to the industry. The subsample, "common surname filter", excludes all observations where the surname of the hired CEO is among the 1,000 most common surnames in the 2000 U.S. Census. Significance levels are denoted by *, **, ***, which correspond to 10, 5, and 1 percent levels, respectively.

	CEO Hiring Home Bias		Pct. Local CEO			Num. of Hires
			Obs	Exp_1	Exp_2	
State	(1)	(2)	(3)	(4)	(5)	(6)
		Panel A				
LA	0.553***	0.558***	57.1	1.8	1.3	7
IA	0.541***	0.538***	55.6	1.5	1.7	9
DE	0.497***	0.498***	50.0	0.3	0.2	2
AR	0.490***	0.492***	50.0	1.0	0.8	4
UT	0.424***	0.419***	42.9	0.5	1.0	7
WI	0.357***	0.355***	37.9	2.2	2.5	29
NY	0.321***	0.264***	41.2	9.1	14.8	85
OK	0.320**	0.317**	33.3	1.3	1.6	3
OH	0.318***	0.306***	37.1	5.3	6.6	70

Table III continued on the following page.

Table III continued from the previous page.

State	CEO Hiring Home Bias (1)	(2)	Pct. Local CEO Obs (3)	Exp_1 (4)	Exp_2 (5)	Num. of Hires (6)
AL	0.316***	0.325***	33.3	1.7	0.8	9
NV	0.298***	0.297***	30.0	0.2	0.3	10
PA	0.280***	0.281***	34.0	6.1	6.0	47
TN	0.272***	0.275***	29.2	2.0	1.6	24
KY	0.269***	0.276***	28.6	1.6	0.9	7
MA	0.252***	0.233***	28.1	2.8	4.8	57
SC	0.237***	0.243***	25.0	1.3	0.7	8
MO	0.236***	0.238***	25.9	2.3	2.2	27
WA	0.234***	0.235***	25.0	1.6	1.5	16
MD	0.232***	0.239***	25.0	1.8	1.1	8
MI	0.229***	0.237***	27.3	4.4	3.6	33
IL	0.189***	0.173***	24.4	5.5	7.1	86
NJ	0.177***	0.174***	21.2	3.5	3.8	33
NC	0.175***	0.186***	20.0	2.5	1.4	20
GA	0.173***	0.176***	19.5	2.2	1.9	41
RI	0.162**	0.162**	16.7	0.5	0.4	6
CA	0.134***	0.152***	22.9	9.4	7.6	175
VA	0.131***	0.129***	15.4	2.3	2.5	26
IN	0.108*	0.103*	13.3	2.6	3.1	15
TX	0.106***	0.124***	16.0	5.4	3.6	100
MN	0.090***	0.087***	10.9	1.9	2.2	46
OR	0.049	0.053	5.9	1.0	0.6	17
CT	0.038	0.036	5.3	1.5	1.7	38
CO	0.033	0.033	4.3	1.0	1.0	23
NH	-0.003	-0.005	0.0	0.3	0.5	6
HI	-0.004	-0.001	0.0	0.4	0.1	1
ID	-0.004	-0.003	0.0	0.4	0.3	2
FL	-0.004	0.003	2.7	3.1	2.4	37
ME	-0.005	-0.003	0.0	0.5	0.3	1
NM	-0.005	-0.003	0.0	0.5	0.3	3
NE	-0.007	-0.006	0.0	0.7	0.6	3
AZ	-0.008	-0.005	0.0	0.8	0.5	15
MS	-0.011	-0.009	0.0	1.1	0.9	3
KS	-0.011	-0.010	0.0	1.1	1.0	3
ALL	0.188***	0.186***	23.4	4.6	4.8	1,162
Mean (Full)	0.190***	0.190***				
T-Stat. (Full)	7.816	7.885				
Mean (20)	0.185***	0.182***				
T-Stat. (20)	8.198	8.596				

Table III continued on the following page.

Table III continued from the previous page.

	CEO Hiring Home Bias		Pct. Local CEO			Num. of Hires
			Obs	Exp_1	Exp_2	
year	(1)	(2)	(3)	(4)	(5)	(6)
Panel B: Full Sample						
1998	0.239	0.238	27.8	4.0	4.1	79
1999	0.209	0.207	25.3	4.3	4.6	99
2000	0.162	0.157	20.5	4.3	4.8	122
2001	0.184	0.182	22.8	4.4	4.6	158
2002	0.214	0.211	25.8	4.4	4.7	120
2003	0.199	0.198	25.0	5.1	5.2	112
2004	0.181	0.181	22.4	4.3	4.3	98
2005	0.154	0.154	20.4	5.0	5.0	137
2006	0.169	0.166	21.8	4.9	5.3	119
2007	0.194	0.192	24.6	5.1	5.4	118
Mean	0.190***	0.189***				
T-Stat.	23.269	22.743				
Panel C: Robustness Samples						
S&P 500 firms	0.181***	0.175***	23.0	4.9	5.4	309
External hires	0.089***	0.088***	13.9	5.0	5.1	367
Industry external hires	0.093***	0.088***	14.0	4.8	5.2	121
Common surname filter	0.188***	0.184***	23.5	4.7	5.1	859
External hires of S&P 500 firms	0.108***	0.100***	15.8	5.0	5.8	76
Industry external hires of S&P 500 firms	0.072***	0.061*	11.8	4.5	5.6	34

Table IV:

CEO Hire Sample Summary Statistics

This table reports summary statistics for 1,142 firm-year observations for the sample of non-financial S&P 1,500 firms that experienced CEO turnover during the years 1998 through 2007. The sample is constructed by identifying changes in the executive who is considered the CEO for all or most of the fiscal year by S&P's Execucomp database. The turnover event occurs ($t = 0$) in the first year that a new CEO is considered the CEO for all or most of the fiscal year by the Execucomp database. Summary statistics on firm and previous CEO characteristics are measured at t=-1 and new CEO characteristics are measured at time $t = 0$. All variables are defined in the appendix.

	Mean	Median	St. Dev.	10^{th}	90^{th}	N
Firm Characteristics						
Ln(Assets) (*Assets*)	7.268	7.190	1.598	5.384	9.556	1142
Firm age (*FirmAge*)	52.514	37.000	40.053	12.000	110.000	1108
R&D expense ratio (*RD*)	0.042	0.006	0.085	0.000	0.120	1141
Total debt to assets (*Lev*)	0.159	0.123	0.155	0.000	0.375	1125
Dividend payor (*Dividend*)	0.505	1.000	0.500	0.000	1.000	1139
Capital expenditures (*Capex*)	0.063	0.043	0.072	0.014	0.124	1128
Capital intensity (*CapIntense*)	0.362	0.204	0.523	0.064	0.729	1140
Sales growth (*SalesGrwth*)	1.098	1.059	0.372	0.842	1.361	1140
Industry-adj FY stock return (*StockRet*)	-0.003	-0.077	0.622	-0.582	0.558	1129
FY stock return volatility (*StockVol*)	0.032	0.027	0.018	0.015	0.055	1131
Pct. of outside directors (*PctOutsideDir*)	0.652	0.667	0.166	0.418	0.857	962
Outside directors own more than 1% (*OutsideDirOwnDum*)	0.106	0.000	0.308	0.000	1.000	1142
Pct. clear days in HQ city (*FirmHQPctClear*)	0.291	0.269	0.086	0.200	0.438	1142
Tobin's q (Q)	2.154	1.564	1.809	0.968	3.743	1131
ROA (*ROA*)	0.141	0.137	0.156	0.003	0.293	1136
New CEO Characteristics						
CEO is local (*LocalCEO*)	0.233	0.000	0.423	0.000	1.000	1142
Foreign born CEO (*Foreign*)	0.090	0.000	0.287	0.000	0.000	1142
CEO Age (*Age*)	52.159	52.000	7.089	43.000	61.000	1142
log(CEO compensation ($1000s)) (*TotalComp*)	7.902	7.890	1.126	6.474	9.330	1131
CEO owns 5% of firm (*CeoBlockholder*)	0.031	0.000	0.173	0.000	0.000	1101
CEO is chairman of the board (*CeoChair*)	0.421	0.000	0.494	0.000	1.000	1142
CEO is hired from within the company (*InsideHire*)	0.651	1.000	0.477	0.000	1.000	1029
Pct clear days in CEO state of origin (*CeoOriginPctClear*)	0.272	0.252	0.065	0.193	0.363	1039
Previous CEO Characteristics						
CEO is local (*PrevLocalCEO*)	0.264	0.000	0.441	0.000	1.000	1142
Foreign born CEO (*PrevForeign*)	0.077	0.000	0.267	0.000	0.000	1142
CEO Age (*PrevAge*)	58.871	60.000	8.139	48.000	68.000	1142
log(CEO compensation ($1000s)) (*PrevTotalComp*)	7.721	7.700	1.175	6.228	9.245	1132
CEO owns 5% of firm (*PrevCeoBlockholder*)	0.128	0.000	0.334	0.000	1.000	1049
CEO is chairman of the board (*PrevCeoChair*)	0.626	1.000	0.484	0.000	1.000	1142
CEO is hired from within the company (*PrevInsideHire*)	0.736	1.000	0.441	0.000	1.000	1003
CEO is a founder of the company (*Founder*)	0.088	0.000	0.283	0.000	0.000	1142

Table V:

Difference of Means Tests

This table displays results of unconditional difference of means tests for various firm, new CEO, and previous CEO characteristics for the sample of 1,142 hiring decisions of non-financial S&P 1,500 firms between 1998 and 2007 covered by S&P's Execucomp database. New CEO characteristics are measured in event time 0, where the event time is as explained in Table IV, and firm and previous CEO characteristics are measured in event time -1. Column (1) displays variable means for non-local hiring decisions and column (2) reports variable means for local hiring decisions. A hiring decision is considered local if the new CEO's state of origin is the same as the state in which the firm's headquarters is located. Column (3) displays t-statistics of the two-sided test for differences between the two groups. Significance levels are denoted by *, **, ***, which correspond to 10, 5, and 1 percent levels, respectively.

	Hire Type		t-stat
	Non-Local (1)	Local (2)	(1)-(2) (3)
Observations	876	266	
Firm Characteristics			
Ln(Assets) (*Assets*)	7.283	7.216	0.644
Firm age (*FirmAge*)	52.427	52.805	-0.136
R&D expense ratio (*RD*)	0.046	0.030	3.090***
Total debt to assets (*Lev*)	0.161	0.151	0.948
Dividend payor (*Dividend*)	0.487	0.564	-2.212**
Capital expenditures (*Capex*)	0.063	0.064	-0.191
Capital intensity (*CapIntense*)	0.365	0.352	0.400
Sales growth (*SalesGrwth*)	1.102	1.085	0.844
Industry-adj FY stock return (*StockRet*)	-0.007	0.010	-0.395
FY stock return volatility (*StockVol*)	0.032	0.032	-0.444
Pct. of outside directors (*PctOutsideDir*)	0.667	0.604	4.874***
Outside directors own more than 1% (*OutsideDirOwnDum*)	0.116	0.071	2.347**
Pct. clear days in HQ city (*FirmHQPctClear*)	0.294	0.283	1.832*
Tobin's q (Q)	2.183	2.058	1.113
ROA (*ROA*)	0.138	0.151	-1.294
New CEO Characteristics			
CEO Age (*Age*)	52.341	51.560	1.414
log(CEO compensation ($1000s)) (*TotalComp*)	7.959	7.717	3.056***
CEO owns 5% of firm (*CeoBlockholder*)	0.021	0.062	-2.557**
CEO is chairman of the board (*CeoChair*)	0.426	0.406	0.574
CEO is hired from within the company (*InsideHire*)	0.606	0.793	-5.970***
Pct clear days in CEO state of origin (*CeoOriginPctClear*)	0.268	0.282	-2.670***
Previous CEO Characteristics			
Previous CEO is local (*PrevCeoLocal*)	0.236	0.357	-3.690***
CEO Age (*PrevAge*)	58.468	60.199	-2.818***
log(CEO compensation ($1000s)) (*PrevTotalComp*)	7.743	7.646	1.139
CEO owns 5% of firm (*PrevCeoBlockholder*)	0.108	0.190	-2.993***
CEO is chairman of the board (*PrevCeoChair*)	0.621	0.643	-0.649
CEO is hired from within the company (*PrevInsideHire*)	0.714	0.808	-3.071***
CEO is a founder of the company (*Founder*)	0.076	0.124	-2.148**

Table VI:

Local Hires by Industry

The table reports the percentage of local hires by two-digit Standard Industry Classification (SIC) code for the sample of 1,142 hiring decisions of non-regulated S&P 1,500 firms followed by the Execucomp database from 1998 through 2007. The definition of "local" CEOs is found in the Appendix and in Table III.

SIC Code	Industry Description	Percent Local	Num. Obs.
44	Transportation by water	66.7	3
70	Hotels and other lodging places	66.7	3
22	Textile mill products	50.0	10
24	Lumber and wood products	50.0	10
99	Conglomerates	50.0	4
23	Apparel and other textile products	45.5	11
30	Rubber and miscellaneous plastic products	45.5	11
55	Auto dealers and service stations	44.4	9
75	Auto repair, services, and parking	42.9	7
25	Furniture and fixtures	40.0	10
52	Building materials and gardening	40.0	5
79	Amusement and recreation services	40.0	10
72	Personal services	37.5	8
48	Communications	34.6	26
39	Miscellaneous manufactruing products	33.3	9
47	Transportation services	33.3	3
50	Wholesale trade–durable goods	32.3	31
58	Eating and drinking places	30.4	23
27	Printing and publishing	29.6	27
56	Apparel and accessory stores	29.4	17
42	Trucking and warehousing	28.6	7
80	Health services	27.8	18
26	Paper and allied products	26.7	30
31	Leather and leather products	25.0	4
33	Primary metal industries	23.8	21
28	Chemical and allied products	23.7	97
73	Business services	23.2	142
57	Funiture and home furnishings	23.1	13
59	Miscellaneous retail	22.6	31
20	Food and kindred products	22.0	41
35	Industrial machinery and equipment	21.0	105

Table VI continued on next page.

Table VI continued from previous page.

SIC Code	Industry Description	Percent Local	Num. Obs.
13	Oil and gas extraction	20.0	30
37	Transportation equipment	20.0	45
82	Educational services	20.0	5
51	Wholesale trade–nondurable goods	18.8	16
34	Fabricated metal products	18.2	22
38	Instruments and related products	17.5	63
36	Electronic and other electrical equipment	17.2	116
10	Metal mining	16.7	12
16	Heavy construction, except buildings	14.3	7
45	Transportation by air	10.0	10
53	General merchandise stores	5.9	17
12	Bituminous coal mining	0.0	1
14	Mining non-metal minerals	0.0	2
15	General building contractors	0.0	4
21	Tobacco products	0.0	3
29	Petroleum and coal products	0.0	6
32	Stone, clay, and glass products	0.0	3
40	Railroad transportation	0.0	5
41	Transit and passenger transit	0.0	2
54	Food stores	0.0	7
78	Motion pictures	0.0	1
87	Engineering and management services	0.0	19

Table VII:

Explaining the Hiring Home Bias

This table examines the ability of the search cost, cultural matching, shirking, cronyism, and geographic preference theories to explain why firms hire local CEOs. Reported are the results of probit regressions testing these hypotheses using 1,142 hiring decisions for non-financial S&P 1,500 firms covered by the Execucomp database between 1998 and 2007 in columns (1) through (10) and using only those hiring decisions determined as internal and external to the firm in columns (11) and (12), respectively. The dependent variable is a dummy variable that is equal to one if the firm hires a local CEO. The definition of a "local" CEO is found in Table III. The table reports estimated marginal effects and their standard errors (in parenthesis) for ten different models. All models in columns (1) through (9) include both year and industry (using 2-digit SIC codes) fixed effects (estimates and standard errors not reported). Models in columns (10) through (12) include only year fixed effects. *PctPop* is equal to the proportion of the U.S. population living the state of the firm headquarters in 1960. Firm-level accounting and board structure variables are measured in event time -1 and are defined in the appendix. *PrevCeoLocal* is a dummy variable that is equal to one if the previous CEO at the time of the hiring decision is local and zero otherwise. *FirmHQPctClear* is the average percentage of clear days per year in the city of the firm headquarters. *CeoOriginPctClear* is the average percentage of clear days in the hired CEO's state of origin. *InsideHire* is a dummy variable that is equal to one if the newly hired CEO worked for the firm for more than 2 years prior to becoming CEO. *CeoBlockholder* is a dummy variable that is equal to one if the hired CEO owns 5% or more of the firm in the first year of the hiring decision. The remaining control variables are defined in the appendix. Also reported are the number of observations used in the estimation as well as the pseudo adjusted R^2. The table reports White (1980) heteroscedasticity-consistent standard errors, clustered at the industry-level. Significance levels are denoted by *, **, ***, which correspond to 10, 5, and 1 percent levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
PctPop	1.486***	1.776***	1.463***	1.440***	1.858***	1.616***	2.335***	2.514***	2.430***	2.524***	2.638***	2.964***
	(0.420)	(0.466)	(0.416)	(0.402)	(0.446)	(0.442)	(0.544)	(0.539)	(0.540)	(0.511)	(0.640)	(0.611)
Assets	-0.008	-0.012*	-0.010	-0.008	-0.011	-0.010	-0.019***	-0.024***	-0.017**	-0.025**	-0.033**	-0.028**
	(0.008)	(0.007)	(0.008)	(0.007)	(0.008)	(0.009)	(0.007)	(0.009)	(0.007)	(0.011)	(0.016)	(0.012)
RD	-0.442***	-0.284**	-0.438***	-0.417***	-0.353***	-0.524***	-0.256	-0.238	-0.237	-0.518***	-0.546***	-0.443*
	(0.085)	(0.132)	(0.088)	(0.086)	(0.097)	(0.098)	(0.176)	(0.146)	(0.176)	(0.153)	(0.203)	(0.244)
PctOutsideDir		-0.318***					-0.317***	-0.304***	-0.324***			
		(0.072)					(0.084)	(0.081)	(0.097)			
OutsideDirOwnDum			-0.080**				-0.089**	-0.091**	-0.085**	-0.112**	-0.188***	-0.030
			(0.031)				(0.033)	(0.034)	(0.035)	(0.039)	(0.053)	(0.042)
PrevCeoLocal				0.067**			0.062**	0.067**	0.046*	0.128***	0.131***	0.084
				(0.028)			(0.029)	(0.030)	(0.028)	(0.042)	(0.050)	(0.067)
FirmHQPctClear					-0.396***		-0.583***	-0.502***	-0.656***	-0.718***	-0.716***	-0.584**
					(0.107)		(0.166)	(0.169)	(0.175)	(0.182)	(0.236)	(0.300)
CeoOriginPctClear						0.513***	0.654***	0.429*	0.685***	0.741***	0.403	0.789***
						(0.193)	(0.234)	(0.221)	(0.232)	(0.234)	(0.266)	(0.271)
InsideHire								0.131***				
								(0.023)				
CeoBlockholder									0.207***			
									(0.088)			
PrevLocalCeoXFirmExRet										-0.024	-0.073	0.180**
										(0.046)	(0.064)	(0.080)
PrevLocalCeoXIndusExRet										-0.082	-0.061	0.107
										(0.096)	(0.126)	(0.164)
PrevLocalCeoXMktRet										-0.240	-0.193	0.098
										(0.167)	(0.245)	(0.312)
Q										0.003	0.000	0.013
										(0.007)	(0.011)	(0.015)
Dividend										0.069*	0.097*	0.075
										(0.037)	(0.051)	(0.053)
FirmExRet										0.022	0.004	-0.078**
										(0.019)	(0.033)	(0.041)
IndusExRet										-0.020	-0.078	-0.127
										(0.057)	(0.089)	(0.100)
MktRet										0.285*	0.440*	0.101
										(0.168)	(0.231)	(0.216)
StockVol										1.058	2.450	0.500
										(1.108)	(2.094)	(1.161)
FirmAge										-0.001	-0.008	-0.010
										(0.018)	(0.027)	(0.019)
Pseudo AdjR^2	0.077	0.097	0.082	0.082	0.083	0.086	0.129	0.167	0.141	0.066	0.068	0.141
N	1,141	962	1,141	1,141	1,141	1,038	879	804	852	987	599	296
Hire Sample	All	All	All	All	All	All	All	All	All	All	Internal	External

Table VIII:

Local Hires and CEO Compensation Levels

This table tests whether executive compensation for locally hired CEOs is different from that of non-local CEOs during their first year of tenure. Reported are ordinary least squares regression results of hired CEO compensation on executive compensation determinants for 1,053 hiring decisions for non-financial S&P 1,500 firms covered by the Execucomp database between 1998 and 2007. Columns (1) through (3) use all hiring decisions in the estimation and columns (4) and (5) use only internal and external hires, respectively. Executive compensation is measured during the first full fiscal year of the newly appointed CEO's tenure. The dependent variable is the natural logarithm of one plus the hired CEO's total compensation ($TotalComp$), in his first full year of tenure with the firm. $TotalComp$ is includes salary, bonuses, restricted stock grants, and the Black-Scholes value of stock options grants. The determinants of CEO compensation include firm size ($Assets$), firm performance (ROA & $StockRet$), growth opportunities (Q), stock market volatility ($StockVol$), governance control variables ($PctOutsideDir$ and $OutsideDirOwndum$), a dummy variable that equals one if the hired CEO came from within the firm $InsideHire$ and the natural logarithm of the median home value in 2005 in the county of the firm headquarters location ($log(MedHmVal)$. Definitions of these variables are found in the Appendix and in the previous tables. All firm accounting and governance variables measured in event time -1, where event time 0 is the fiscal year in which the hiring event takes place. The variable of interest in the regressions is $LocalCeo$, which is a dummy variable that equals one if the newly hired CEO is local. The definition of a "local" CEO is found in Table III. The table reports coefficients and standard errors (in parenthesis) for various models. Each model includes year and industry (using 2-digit SIC codes) fixed effects (coefficient estimates and standard errors not reported). Also reported are the number of observations used in the estimation as well as the pseudo adjusted R^2. The table reports White (1980) heteroscedasticity-consistent standard errors, clustered at the industry-level. Significance levels are denoted by *, **, ***, which correspond to 10, 5, and 1 percent levels, respectively.

	(1)	(2)	(3)	(4)	(5)
$Intercept$	3.092***	3.648***	4.078***	4.308***	2.106
	(0.429)	(0.577)	(0.577)	(0.631)	(1.324)
$LocalCeo$	-0.160***	-0.393***	-0.386***	-0.294*	-0.503*
	(0.050)	(0.114)	(0.122)	(0.158)	(0.269)
$LocalCeoXPctPop$		4.342**	4.139**	1.716	7.492*
		(1.808)	(1.846)	(2.340)	(3.896)
$PctPop$		0.554	0.929	2.840**	-3.108**
		(1.224)	(1.089)	(1.366)	(1.233)
$Assets$	0.397***	0.394***	0.406***	0.394***	0.476***
	(0.018)	(0.019)	(0.022)	(0.027)	(0.035)
ROA	-0.287	-0.236	-0.280	0.321	-1.473***
	(0.326)	(0.321)	(0.321)	(0.523)	(0.530)
$FirmExRet$	0.080**	0.078**	0.112***	0.256***	-0.058
	(0.039)	(0.039)	(0.040)	(0.065)	(0.092)
Q	0.194***	0.196***	0.198***	0.169***	0.267***
	(0.024)	(0.025)	(0.025)	(0.040)	(0.068)
$StockVol$	-2.311	-2.155	-2.387	0.656	-5.778
	(3.000)	(2.986)	(3.065)	(3.518)	(5.421)
$PctOutsideDir$	0.111	0.091	0.098	0.214	0.369
	(0.146)	(0.142)	(0.125)	(0.164)	(0.276)
$OutsideDirOwnDum$	-0.089	-0.097	-0.172	-0.196*	-0.119
	(0.105)	(0.108)	(0.113)	(0.100)	(0.215)
$log(MedHmVal)$	0.110***	0.065	0.033	-0.016	0.183*
	(0.034)	(0.043)	(0.044)	(0.053)	(0.098)
$InsideHire$			-0.132*		
			(0.068)		
$AdjR^2$	0.487	0.490	0.501	0.520	0.474
N	826	826	759	509	250
Hire Sample	All	All	All	Internal	External

Table IX:

Local Hires and Changes in CEO Compensation

This table examines changes in executive compensation between newly hired CEOs and their predecessor for the sample of 1,018 hiring decisions of non-financial S&P 1,500 firms between the years 1998 and 2007. The analysis in Panels A, B, and C differs by the sample that is used in the analysis. The analysis in panels A, B, and C utilizes the full sample of hires, only internal hires, and only external hires, respectively. The change in executive compensation is measured as the compensation of the newly hired CEO in his first full fiscal year of tenure minus the compensation of the previous CEO in his last full year of tenure. CEOs who do not hold office for at least one full fiscal year are excluded from the sample. In each column the natural logarithm of one plus the compensation of the predecessor, the successor, and the difference is reported. Stars on statistics in the "Change" rows refer to significance levels of the two-tailed tests testing whether the changes in CEO successor and predecessor pay are statistically different from zero. For means the test utilized is a t-test and for medians a Wilcoxon-Mann-Whitney test is used. CEO compensation is total compensation (*TotalComp*) as defined in Table VIII and in the appendix. Significance levels are denoted by *, **, ***, which correspond to 10, 5, and 1 percent levels, respectively. In column (1) statistics and test results are reported for the full sample of observations. Columns (2) and (3) split the sample by "local" and "non-local" successor CEOs. Column (4) tests for differences between the samples in columns (2) and (3). Columns (5) through (7) report results for specific transitions of predecessor to successor CEOs based on their local status. In columns (8) and (9) differences are tested between the CEO transitions in columns (6) and (7) and those of the control group (No Change in Local Status). Reported in these columns are the differences in means and medians.

						CEO Transition, From-To			
		New CEO							
	All	Local	Non-local	(2) - (3)	No Chg in Local Status	Local Non-local	Non-local Local	(6) - (5)	(7) - (5)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: All Hires									
Mean									
Predecessor	7.804	7.742	7.824	-0.082	7.867	7.601	7.780	-0.266***	-0.087
Successor	7.795	7.662	7.837	-0.175**	7.796	7.850	7.723	0.054	-0.073
Change	0.008	-0.051	0.027	-0.078	-0.056	0.277***	-0.045	0.333***	0.010
Median									
Predecessor	7.798	7.760	7.844	-0.084	7.883	7.510	7.779	-0.373***	-0.104
Successor	7.816	7.630	7.860	-0.231**	7.823	7.855	7.760	0.032	-0.063
Change	-0.024	-0.064	-0.016	-0.047	-0.060*	0.167***	-0.070	0.227***	-0.011
N	1,018	246	772		670	189	159		
Panel B: Internal Hires									
Mean									
Predecessor	7.955	7.808	8.016	-0.208**	8.006	7.813	7.913	-0.193	-0.093
Successor	7.853	7.620	7.951	-0.331***	7.868	7.986	7.674	0.118	-0.194
Change	-0.081**	-0.145**	-0.054	-0.090	-0.123**	0.195**	-0.200**	0.318***	-0.077
Median									
Predecessor	8.019	7.804	8.086	-0.282**	8.086	7.887	7.887	-0.198	-0.198
Successor	7.910	7.589	7.966	-0.377***	7.946	7.910	7.767	-0.036	-0.179
Change	-0.085***	-0.088**	-0.085*	-0.003	-0.103***	0.005	-0.169***	0.109***	-0.066
N	608	180	428		387	107	114		
Panel C: External Hires									
Mean									
Predecessor	7.618	7.599	7.621	-0.022	7.745	7.244	7.562	-0.502***	-0.184
Successor	7.750	7.791	7.743	0.048	7.752	7.648	7.969	-0.104	0.217
Change	0.134**	0.203	0.122*	0.081	0.001	0.444***	0.369*	0.444***	0.368*
Median									
Predecessor	7.524	7.436	7.531	-0.095	7.702	7.082	7.365	-0.620***	-0.338
Successor	7.714	7.630	7.720	-0.090	7.715	7.637	7.864	-0.079	0.149
Change	0.074**	0.053	0.089**	-0.036	-0.018	0.432***	0.241	0.450***	0.259
N	320	47	273		219	70	31		

Table X:

Changes in CEO Compensation

This table examines changes in executive compensation between newly hired CEOs and their predecessor in a multivariate setting for the sample of 1,018 hiring decisions of non-financial S&P 1,500 firms between the years 1998 and 2007 described in Table IX. The estimation in columns (1) through (6) utilizes the full sample of hires. In columns (7) through (9) only internal hires are used in the estimation and in columns (10) through (12) only the sample of external hires is used in the estimation. Control variables include changes in lagged variables described in table VIII as well as the level of lagged assets (*Assets*) and the percentage of outside directors on the board in the year prior to the hiring decision (*PctOutsideDir*). The variable of interest is *LocalCeoChg*, which is equal to one if the new CEO is local and the previous CEO is non-local, is -1 if the new CEO is non-local and the previous CEO is local, and is zero otherwise. In addition, asymmetric effects on *LocalCeoChg* are isolated using the variables *NonLocToLoc*, which is a dummy variable that equals one if the previous CEO is non-local and the new CEO is local, and *LocToNonLoc*, which is a dummy variable that is equal to one if the previous CEO is local and the new CEO is non-local. The dependent variable is the change in the natural logarithm of the total compensation (*TotalComp*) of the new CEO minus that of the previous CEO. Definitions of these variables are found in previous tables as well as in the appendix. The table reports coefficients and standard errors (in parenthesis) for six different models. Each model includes year fixed effects (estimates and standard errors not reported). Also reported are the number of observations used in the estimation as well as the adjusted R^2. The table reports White (1980) heteroscedasticity-consistent standard errors, clustered at the industry-level. Significance levels are denoted by *, **, ***, which correspond to 10, 5, and 1 percent levels, respectively.

	All Hires						Internal Hires			External Hires		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Intercept	0.206**	1.006***	0.848***	0.149	0.916***	0.726***	0.231**	0.889***	0.743**	-0.335**	0.451	0.363
	(0.096)	(0.214)	(0.246)	(0.100)	(0.222)	(0.257)	(0.112)	(0.290)	(0.313)	(0.149)	(0.386)	(0.411)
LocalCeoChg	-0.172***	-0.191***	-0.161***									
	(0.052)	(0.050)	(0.057)									
NonLocToLoc				0.001	-0.045	0.009	-0.092	-0.046	0.028	0.339	0.169	0.150
				(0.091)	(0.082)	(0.090)	(0.098)	(0.103)	(0.107)	(0.207)	(0.158)	(0.157)
LocToNonLoc				0.325***	0.320***	0.319***	0.291***	0.284***	0.299***	0.447***	0.355***	0.333**
				(0.075)	(0.078)	(0.088)	(0.098)	(0.102)	(0.108)	(0.119)	(0.130)	(0.147)
AssetsChg		0.218	0.205		0.208	0.190		0.094	0.122		0.209	0.252
		(0.169)	(0.193)		(0.170)	(0.193)		(0.240)	(0.257)		(0.284)	(0.292)
ROAChg		-0.025	0.162		-0.005	0.194		0.449	0.463		-0.183	-0.292
		(0.459)	(0.524)		(0.456)	(0.518)		(0.707)	(0.749)		(0.654)	(0.711)
FirmExRetChg		0.050	0.074		0.052	0.074		0.106	0.092		0.051	0.068
		(0.058)	(0.064)		(0.058)	(0.064)		(0.071)	(0.075)		(0.110)	(0.109)
QChg		0.028	0.019		0.026	0.016		0.090	0.068		-0.035	-0.026
		(0.044)	(0.046)		(0.044)	(0.046)		(0.067)	(0.069)		(0.059)	(0.062)
StockVolChg		-7.683*	-8.821*		-7.391	-8.341		-0.205	-2.438		-14.438*	-17.573**
		(4.655)	(5.083)		(4.645)	(5.068)		(5.645)	(5.920)		(7.939)	(8.094)
PctOutsideDir		-0.522***	-0.448**		-0.478**	-0.394*		-0.530**	-0.455*		-0.634*	-0.618*
		(0.185)	(0.202)		(0.187)	(0.204)		(0.233)	(0.248)		(0.345)	(0.368)
Assets		-0.062***	-0.048*		-0.061***	-0.046*		-0.055*	-0.039		-0.029	-0.025
		(0.022)	(0.025)		(0.022)	(0.025)		(0.029)	(0.031)		(0.041)	(0.044)
InsideHireChg			-0.137**			-0.136**			0.011			0.0409
			(0.064)			(0.063)			(0.114)			(0.1502)
$AdjR^2$	0.025	0.051	0.054	0.030	0.054	0.059	0.039	0.055	0.045	0.023	0.069	0.055
N	956	807	660	956	807	660	572	502	449	301	241	211

Table XI:

Local Hires and CEO Turnover

This table reports probit regression results for 10,920 firm-year observations for non-financial S&P 1,500 firms covered by the Execucomp database between 1998 and 2007. The regressions in columns (1) through (5) are estimated using all available hiring decision data. The regressions in columns (6) and (7) are estimated using data for only internally hired CEOs and in columns (8) and (9) the regressions are estimated using data for only externally hired CEOs. The dependent variable is a dummy variable that is equal to one in year t if the firm's CEO is different from the CEO in year $t-1$. The table reports coefficients and standard errors (in parenthesis) for eight different models. *LocalCeo* is a dummy variable that equals one if the CEO at time $t-1$ is from the same state as the firm's headquarters. *MktRet* is the buy-and-hold return on the CRSP value weighted index over fiscal year $t-1$. *IndExRet* is the difference between the fiscal year buy-and-hold return of the equal-weighted industry portfolio for which the firm is a member (by 2 digit SIC code) minus *MktRet* in $t-1$. *FirmExRet* is the fiscal year buy-and-hold return on the firm's stock minus the return on the equal weighted industry portfolio for the industry to which the firm belongs in year $t-1$. *Age60Dum* is a dummy variable that equals one if the firm's CEO in year $t-1$ is greater than 59 years of age. *PctOutsideDir* is the percentage of outsiders on the board at time $t-1$. *CeoChair* is a dummy variable that is equal to one if the CEO at time $t-1$ is chairman of the board. *Founder* is a dummy variable that equals one if the CEO at time $t-1$ is a founder of the firm. *InsideHire* is a dummy variable that is equal to one if the CEO at time $t-1$ was hired internally. *FirmHQPctClear* is the average percentage of clear days per year in the city of the firm headquarters. Also reported are the number of observations used in the estimation as well as the pseudo adjusted R^2. The table reports White (1980) heteroscedasticity-consistent standard errors, clustered at the firm-level. Significance levels are denoted by *, **, ***, which correspond to 10, 5, and 1 percent levels, respectively.

	All Hires					Internal Hires		External Hires	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
LocalCeo	-0.022***	-0.022***	-0.022***	-0.021***	-0.021***	-0.016**	-0.015*	-0.038**	-0.035**
	(0.006)	(0.006)	(0.007)	(0.006)	(0.006)	(0.007)	(0.008)	(0.014)	(0.016)
CeoLocalXFirmExRet			0.003				-0.017		0.044
			(0.018)				(0.021)		(0.045)
LocalCeoXIndExRet			-0.038				-0.051		-0.037
			(0.026)				(0.031)		(0.066)
LocalCeoXMktRet			0.017				-0.003		-0.006
			(0.037)				(0.042)		(0.102)
FirmExRet	-0.034***	-0.032***	-0.033***	-0.032***	-0.032***	-0.025***	-0.020*	-0.052***	-0.059***
	(0.008)	(0.008)	(0.010)	(0.008)	(0.008)	(0.010)	(0.011)	(0.017)	(0.019)
IndExRet	-0.017	-0.018	-0.007	-0.019	-0.017	-0.005	0.011	-0.064**	-0.058*
	(0.012)	(0.012)	(0.015)	(0.013)	(0.012)	(0.014)	(0.017)	(0.026)	(0.029)
MktRet	-0.018	-0.017	-0.022	-0.022	-0.016	-0.016	-0.016	-0.034	-0.031
	(0.018)	(0.018)	(0.021)	(0.018)	(0.018)	(0.020)	(0.025)	(0.039)	(0.042)
Age60Dum	0.114***	0.118***	0.118***	0.117***	0.174***	0.124***	0.124***	0.097***	0.097***
	(0.007)	(0.007)	(0.007)	(0.008)	(0.029)	(0.009)	(0.009)	(0.016)	(0.016)
PctOutsideDir	-0.005	-0.010	-0.010	-0.028	-0.009	-0.034	-0.033	-0.017	-0.017
	(0.017)	(0.017)	(0.017)	(0.018)	(0.017)	(0.021)	(0.021)	(0.038)	(0.038)
CeoChair		-0.014**	-0.015**	-0.011	-0.014**	-0.012	-0.012	-0.011	-0.012
		(0.007)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)	(0.014)	(0.014)
Founder		-0.022**	-0.022**	-0.021**	-0.021**	-0.022**	-0.023**		
		(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)		
InsideHire				-0.003					
				(0.007)					
FirmHQPctClear					0.0355				
					(0.0482)				
Age60XFirmHQPctClear					-0.1465**				
					(0.0716)				
Pseudo AdjR^2	0.050	0.051	0.052	0.052	0.052	0.058	0.058	0.044	0.045
N	9,051	9,051	9,051	8,230	9,051	6,215	6,215	2,015	2,015

Table XII:

Local Hires and Changes in Operating Performance

This table examines changes in operating performance around CEO hiring decisions for various transitions between local and non-local predecessor and successor CEOs. The difference in operating performance is measured as the average of operating performance in event years 1, 2, and 3 minus the average operating performance of event years -2 and -3, where event year zero is the year of the hiring decision. The newly hired CEO is required to be in office for event years zero through three. This reduces sample period to hires between 1997 and 2005, which reduces the number of observations to 585 non-regulated S&P 1,500 hiring decisions. The analysis is conducted for the full sample, the sample of internally hired CEOs, and the sample of externally hired CEOs. Only the changes in operating performance are reported for the latter two samples. Four measures of operating performance are analyzed, Unadjusted ROA, industry-adjusted ROA, industry, size-adjusted ROA, and industry, size, and prior performance-adjusted ROA. For the latter three performance measures, the firm's unadjusted ROA is reduced by the ROA of a control firm in each event year prior to calculating the means for pre- and post-hire event performance. For industry-adjusted ROA the control firm is the firm with the median unadjusted ROA with the same two-digit SIC code. For industry and size-adjusted ROA the control firm is the median firm in each event year from the universe of firms in the same two-digit SIC code and whose book value of assets is within +/- 30% of the firm. For industry, size, and prior performance adjusted ROA, the control firm in each event period must have ROA in event time -2 within +/- 10% of the firms ROA in event time -2. If no firms exist in the same size and prior performance categories then the inclusion tolerance for size and prior performance are expanded in a systematic manner until at least one control firm is identified. Panel A reports means and Panel B reports medians. Stars on reported statistics refer to significance levels of the two-tailed tests testing whether these statistics are significantly different from zero. In panel A the test utilized is a *t*-test and panel B uses a Wilcoxon-Mann-Whitney test. Significance levels are denoted by *, **, ***, which correspond to 10, 5, and 1 percent levels, respectively. In column (1) statistics and test results are reported for the full sample of observations. Columns (2) and (3) split the sample by "local" and "non-local" successor CEOs. Column (4) tests for differences between the samples in columns (2) and (3). Columns (5) through (7) report results for specific transitions of predecessor to successor CEOs based on their local status. In columns (8) and (9) differences are tested between the CEO transitions in columns (6) and (7) and those of the control group (No Change in Local Status). Reported in these columns are the differences in means and medians in panels A and B, respectively.

						CEO Transition, From-To			
		New CEO			No Chg in	Local	Non-local		
	All	Local	Non-local	(2) - (3)	Local Status	Non-local	Local	(6) - (5)	(7) - (5)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Observations									
All hires	585	150	435		379	112	94		
Internal hires	369	116	253		232	68	69		
External hires	170	24	146		115	38	17		
Panel A: Mean ROA									
Unadjusted ROA									
Before	0.1726***	0.1801***	0.1700***	0.0102	0.1665***	0.1881***	0.1786***	0.0216	0.0122
After	0.1433***	0.1450***	0.1428***	0.0023	0.1424***	0.1570***	0.1310***	0.0146	-0.0113
Change (All hires)	-0.0292***	-0.0351***	-0.0272***	-0.0079	-0.0241***	-0.0311**	-0.0476***	-0.0070	-0.0235*
Change (Internal hires)	-0.0285***	-0.0315***	-0.0271***	-0.0044	-0.0187***	-0.0427***	-0.0476***	-0.0240	-0.0289*
Change (External hires)	-0.0377***	-0.0553**	-0.0349***	-0.0204	-0.0412***	-0.0159	-0.0633**	0.0253	-0.0222
Industry-adjusted ROA									
Before	0.0965***	0.1015***	0.0948***	0.0068	0.0918***	0.1038***	0.1066***	0.0120	0.0148
After	0.0799***	0.0811***	0.0794***	0.0017	0.0802***	0.0845***	0.0732***	0.0043	-0.0070
Change (All hires)	-0.0167***	-0.0204**	-0.0154**	-0.0051	-0.0117*	-0.0194	-0.0335***	-0.0077	-0.0218*
Change (Internal hires)	-0.0153***	-0.0177*	-0.0142**	-0.0035	-0.0048	-0.0333**	-0.0329**	-0.0285*	-0.0282**
Change (External hires)	-0.0253**	-0.0399*	-0.0229*	-0.0170	-0.0286**	-0.0016	-0.0557*	0.0270	-0.0272
Industry, size-adjusted ROA									
Before	0.0258***	0.0312***	0.0240***	0.0073	0.0226***	0.0330**	0.0303**	0.0105	0.0077
After	0.0164***	0.0123	0.0177***	-0.0054	0.0172***	0.0278**	-0.0007	0.0106	-0.0179
Change (All hires)	-0.0095*	-0.0189**	-0.0062	-0.0127	-0.0054	-0.0052	-0.0310***	0.0002	-0.0257**
Change (Internal hires)	-0.0102*	-0.0155*	-0.0078	-0.0077	-0.0025	-0.0181	-0.0285**	-0.0156	-0.0260*
Change (External hires)	-0.0117	-0.0285	-0.0090	-0.0195	-0.0159	0.0143	-0.0416*	0.0302	-0.0256
Industry, size, performance-adjusted ROA									
Before	-0.0041	-0.0001	-0.0054	0.0054	-0.0074	0.0123	-0.0103	0.0197**	-0.0030
After	0.0081	-0.0016	0.0114	-0.0131	0.0104	0.0240**	-0.0201*	0.0136	-0.0305**
Change (All hires)	0.0121*	-0.0016	0.0169*	-0.0184	0.0177*	0.0116	-0.0098	-0.0061	-0.0275*
Change (Internal hires)	0.0051	-0.0015	0.0082	-0.0098	0.0116	0.0002	-0.0118	-0.0114	-0.0234
Change (External hires)	0.0226	-0.0052	0.0272	-0.0324	0.0237	0.0306	-0.0023	0.0069	-0.0260

Table XII continued on the following page.

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		New CEO				CEO Transition, From-To			
	All	Local	Non-local	(2) - (3)	No Chg in Local Status	Local Non-local	Non-local Local	(6) - (5)	(7) - (5)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel B: Median ROA									
Unadjusted ROA									
Before	0.1668***	0.1713***	0.1645***	0.0068	0.1662***	0.1679***	0.1699***	0.0017	0.0038
After	0.1398***	0.1444***	0.1388***	0.0055	0.1405***	0.1418***	0.1339***	0.0014	-0.0065
Change (All hires)	-0.0195***	-0.0272***	-0.0178***	-0.0094	-0.0178***	-0.0178***	-0.0286***	0.0000	-0.0108
Change (Internal hires)	-0.0184***	-0.0248***	-0.0164***	-0.0084	-0.0145***	-0.0191***	-0.0278***	-0.0046	-0.0133
Change (External hires)	-0.0287***	-0.0461**	-0.0280***	-0.0181	-0.0390***	0.0003	-0.0389**	0.0394*	0.0001
Industry-adjusted ROA									
Before	0.0717***	0.0816***	0.0678***	0.0138	0.0660***	0.0606***	0.0949***	-0.0054	0.0289
After	0.0475***	0.0408***	0.0518***	-0.0110	0.0487***	0.0518***	0.0393***	0.0031	-0.0094
Change (All hires)	-0.0086***	-0.0106**	-0.0083***	-0.0023	-0.0059**	-0.0068	-0.0234**	-0.0009	-0.0175
Change (Internal hires)	-0.0043***	-0.0081	-0.0041**	-0.0040	-0.0020	-0.0128**	-0.0231**	-0.0108*	-0.0211
Change (External hires)	-0.0141*	-0.0202	-0.0122	-0.0080	-0.0193**	0.0017	-0.0241*	0.0210*	-0.0047
Industry, size-adjusted ROA									
Before	0.0226***	0.0286***	0.0186***	0.0099	0.0226***	0.0060	0.0311***	-0.0166	0.0085
After	0.0077***	0.0081	0.0068***	0.0014	0.0118***	0.0039**	-0.0004	-0.0079	-0.0122
Change (All hires)	-0.0076*	-0.0106**	-0.0059	-0.0047	-0.0072	-0.0022	-0.0108**	0.0050	-0.0036*
Change (Internal hires)	-0.0095*	-0.0099	-0.0095	-0.0004	-0.0087	-0.0103	-0.0106*	-0.0016	-0.0019
Change (External hires)	-0.0007	-0.0108	0.0012	-0.0120	-0.0031	0.0299*	-0.0110	0.0330*	-0.0079
Industry, size, performance-adjusted ROA									
Before	0.0003	0.0024	-0.0002	0.0026	-0.0003	0.0060	0.0002	0.0063*	0.0005
After	0.0012	0.0016	0.0009	0.0008	-0.0031	0.0145**	-0.0001	0.0176*	0.0031
Change (All hires)	0.0051*	-0.0002	0.0064**	-0.0066	0.0041	0.0067*	0.0022	0.0026	-0.0019
Change (Internal hires)	0.0022	-0.0014	0.0034	-0.0048	0.0041	-0.0048	-0.0010	-0.0089	-0.0050
Change (External hires)	0.0106	0.0009	0.0119	-0.0110	-0.0001	0.0250***	0.0119	0.0251**	0.0120

Table XIII:

Changes in Adjusted Operating Performance

This table examines changes in operating performance around CEO hiring decisions for various transitions between local and non-local predecessor and successor CEOs. The dependent variable is the change in industry, size, and performance-adjusted ROA. The details of constructing this measures is found in Table XII. The regressions in columns (1) through (4) are estimated using the full sample of hiring decisions, columns (5) and (6) use only observations where the newly appointed CEO is internally hired, and the estimation in column (7) uses only data in which the new CEO is externally hired. Control variables follow those used in Fahlenbrach et al. (2008) and are measured as the average of these variables in event years -2 and -3. *FirmAge* is measured in event year -1 and is constructed using data from Loughran and Ritter (2004) and Fahlenbrach (2008). *PrevCeoFounder* is a dummy variable that is equal to one if the CEO at time -1 is a founder of the company. Founder data are from Fahlenbrach (2008). The table reports coefficient estimates and standard errors (in parenthesis) from OLS regressions for seven regression models. Each of the models includes year fixed effects (coefficient estimates and standard errors not reported). Also reported are the number of observations used in the estimation as well as the adjusted R^2. The table reports White (1980) heteroscedasticity-consistent standard errors, clustered at the firm-level. Significance levels are denoted by *, **, ***, which correspond to 10, 5, and 1 percent levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Intercept	0.0787	0.0833	0.1062	0.0293	0.1049*	0.0441	0.1444
	(0.0581)	(0.0595)	(0.0691)	(0.0490)	(0.0561)	(0.0824)	(0.2040)
LocalCeoChg	-0.0151*						
	(0.0082)						
NonLocToLoc		-0.0341**	-0.0369**	-0.0353	-0.0253*	-0.0534	-0.0298
		(0.0162)	(0.0170)	(0.0429)	(0.0143)	(0.0432)	(0.0486)
LocToNonLoc		-0.0017	-0.0154	0.0599	-0.0107	0.0241	0.0053
		(0.0131)	(0.0168)	(0.0535)	(0.0132)	(0.061)	(0.0364)
Assets	-0.0033	-0.0037	-0.0052	-0.0077**	-0.0077*	-0.0105**	-0.0035
	(0.0039)	(0.0040)	(0.0040)	(0.0034)	(0.0042)	(0.0043)	(0.0117)
FirmAge	-0.0118	-0.0111	-0.0096	0.0097**	0.0028	0.0137*	-0.0312
	(0.0147)	(0.0144)	(0.0181)	(0.0048)	(0.0074)	(0.0071)	(0.0390)
DividendDum	-0.0026	-0.0023	-0.0012	0.0044	0.0054	0.0039	0.0043
	(0.0129)	(0.0128)	(0.0154)	(0.0108)	(0.0139)	(0.0138)	(0.0313)
RD	-0.0843	-0.0863	0.0131	0.0840	0.0026	-0.0453	-0.2453
	(0.1828)	(0.1820)	(0.1844)	(0.1468)	(0.2408)	(0.2536)	(0.3316)
Capex	-0.1799*	-0.1729	-0.1954	-0.1885*	-0.1821	-0.205*	-0.2101
	(0.1090)	(0.1093)	(0.1243)	(0.1042)	(0.1281)	(0.1194)	(0.2334)
CapIntense	0.0134	0.0126	0.0170	0.0314***	0.0201	0.0258*	-0.0028
	(0.0146)	(0.0147)	(0.0150)	(0.0107)	(0.0152)	(0.0134)	(0.0560)
SalesGrwth	0.0382	0.0386	0.0366	0.0285	-0.0274	0.0092	0.0729
	(0.0298)	(0.0300)	(0.0329)	(0.0183)	(0.0341)	(0.043)	(0.0550)
StockRet	-0.0402**	-0.0406**	-0.0483***	-0.0195*	-0.0206	-0.0053	-0.0839**
	(0.0163)	(0.0163)	(0.0170)	(0.0104)	(0.0129)	(0.0123)	(0.0413)
Q	-0.0012	-0.0012	-0.0004	-0.0002	0.0079	0.0073	-0.0165
	(0.0054)	(0.0054)	(0.0056)	(0.0041)	(0.0049)	(0.0051)	(0.0129)
PrevCeoFounder	0.0036	0.0060	-0.0046	0.0116	0.0083	0.0089	0.0286
	(0.0190)	(0.0184)	(0.0230)	(0.0149)	(0.0177)	(0.0202)	(0.0325)
InsideHireChg			-0.0162				
			(0.0193)				
PctOutsideDir				-0.0057		-0.0063	
				(0.0369)		(0.0462)	
PctOutsideDirXNonLocToLoc				0.0193		0.0563	
				(0.0694)		(0.0717)	
PctOutsideDirXLocToNonLoc				-0.0888		-0.049	
				(0.0852)		(0.0909)	
$AdjR^2$	0.0225	0.0232	0.0246	0.0285	0.0361	0.018	0.0064
N	556	556	454	501	353	321	158
Sample	All	All	All	All	Internal	Internal	External