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Governance Problems in Closely Held Corporations

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Abstract

A major governance problem in closely held corporations is the majority shareholders' expropriation of minority shareholders. As a solution, legal and finance research recommends that the main shareholder surrender some control to minority shareholders via ownership rights. We test this proposition on a large data set of closely held corporations. We find that shared-ownership firms report a substantially larger return on assets and lower expense-to-sales ratios. These findings are robust to institutionally motivated corrections for endogeneity of ownership structure. We provide evidence on the presence of governance problems and the effectiveness of shared ownership as a solution in settings characterized by illiquidity of ownership.

I. Introduction

The corporate finance and governance literature with very few exceptions has focused on two extreme ownership structures: i) exclusively atomistic shareholders, and ii) atomistic shareholders and a single large shareholder (see Laeven and Levine's (2008) extensive review). It is only recently that studies are beginning to explore the intermediate ownership structure with multiple large shareholders. Most of the empirical studies in this emerging literature examine European public firms (Laeven and Levine (2008), Lehmann and Weigand (2000), Faccio, Lang, and Young (2001), and Maury and Pajuste (2005)).[1] However, a recent body of analytical research suggests that multiple large owners are particularly relevant to governance when ownership is illiquid (e.g., Bennedsen and Wolfenzon (2000)).

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[1] A notable exception is Faccio and Lang (2002), who document the ownership patterns of both public and private western European firms.

We therefore examine the role of multiple large shareholders in an important illiquid ownership setting: closely held corporations in the United States.

The vast majority of firms in the United States are closely held corporations.[2] The latest U.S. Census indicates 7 million corporate tax filers, of which only about 8,000 are public firms. Closely held corporations are also vitally important to the economy: They produce 51% of the private sector output and employ 52% of the labor force.[3] Closely held corporations are also an important part of the business landscape in other countries, constituting the private corporation in Britain, the close corporation in Japan, the GmbH firm in Germany, and the SARL firm in France (Armour, Hansmann, and Kraakman (2009)). As a result, governance problems in closely held corporations constitute an important economic problem.

Firms in general face two types of governance problems: the governance problem between managers and shareholders, and the governance problem between majority and minority shareholders (Shleifer and Vishny (1997)). While both governance problems exist in private firms, legal scholars and practitioners argue that the main governance problem in closely held corporations is the squeeze-out of minority shareholders by the controlling shareholder (Clark (1986), O'Neal and Thompson (1985)). As a solution, both the legal (O'Neal and Thompson, chap. 9) and the finance literature (Bennedsen and Wolfenzon (2000), Gomes and Novaes (2005), and Pagano and Roell (1998)) recommend that the main shareholder surrender some control to minority shareholders at the outset. With shared control rights, no shareholder can take unilateral actions for her own benefit at the expense of the firm and other shareholders. These studies suggest shared ownership as a simple way to implement shared control.

Shared ownership reduces any one shareholder's power to unilaterally expropriate by granting other owners more rights, but the owners' correspondingly lower ownership stakes also reduce their incentive to apply the requisite monitoring effort. The previous models do incorporate these opposing forces and resolve them in their analytical settings, but they cannot prove that this resolution holds in reality. As a result, the *real* effectiveness of a shared-ownership governance scheme is a question to be resolved empirically. Yet, little empirical evidence exists on governance problems in closely held corporations and the effectiveness of the shared-ownership solution.[4] This evidence is what we provide in this study.

A key difficulty in studying governance problems between controlling and minority shareholders in closely held corporations is the lack of data. Barring some regulated industries, closely held corporations report little information to

[2]Closely held corporations are typified by: i) a small number of shareholders; ii) no ready market for corporate stock; and iii) substantial majority shareholder participation in the management, directions, and operations of the corporation (*Donahue v. Rodd Electrotype Co.,* 367 Mass. 578, 586, 328 NE2d, 505, 511 (1975)).

[3]U.S. Census Bureau data and the U.S. Small Business Administration, Office of Advocacy contract, *The Small Business Share of GDP, 1998–2004,* submitted by Kathryn Kobe, Economic Consulting Services, LLC (April 2007).

[4]For example, prior studies such as Ang, Cole, and Lin (2000) and Ke, Petroni, and Safieddine (1999) focus on ownership and managerial incentives in closely held corporations, but not on the benefits of shared control. Other studies on closely held corporations such as Brav (2009) focus on the capital structure considerations, while Bennedsen, Nielsen, Perez-Gonzalez, and Wolfenzon (2007) focus on management transitions in privately and publicly held firms.

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the public. We circumvent this issue by using a large cross-sectional data set of operating and financing patterns of closely held corporations in the year 1992. This data set is based on a large-scale survey called the 1993 National Survey of Small Business Finances (NSSBF). Cosponsored by the Federal Reserve Board and the U.S. Small Business Administration, the survey was conducted during 1994–1995 to collect and disseminate information on small business credit availability as required by Section 477 of the Federal Deposit Insurance Corporation (FDIC) Improvement Act of 1991. The information collected by the survey constitutes one of the comprehensive general-purpose databases on small businesses available in the public domain. The survey was compiled from 5,356 completed interviews of a random sample of small businesses, with stratification by firm size, geographic region, and other Census characteristics. The survey targeted enterprises with fewer than 500 full-time employees, excluding agriculture, financial institutions, not-for-profit institutions, government entities, and subsidiaries of other corporations.[5] This data set has been central to studies on small-business financing (e.g., Petersen and Rajan (2002)) and contains sufficient information on ownership and performance to enable an extensive set of empirical analyses.

We first use the NSSBF to create a measure of shared ownership. Specifically, we assume that a firm has control dilution if no owner has a share greater than or equal to 50% of the outstanding equity (Dyck and Zingales (2004), Tab. III).[6] We then measure the benefits of shared ownership through several accounting measures of performance.[7] In the body of the paper, we motivate in detail both our ownership and performance measure choices, as well as the (potentially nonlinear) associations between them.

Our results support our main prediction. Net income before interest expense, tax expense, depreciation, and amortization (EBITDA) scaled by total assets is significantly and substantially higher for firms with diluted control relative to firms with 1 controlling shareholder and other minority shareholders. The magnitude of this gap is 14 percentage points. Importantly, this result also holds when we allow the association between performance and ownership to be nonlinear.

The gap of 14 percentage points is economically significant. The mean EBITDA for the sample is 47% of assets, and the standard deviation is 113%; the 14 percentage point drop is greater than 1/10th of the standard deviation. In dollar terms, this improvement in performance translates to about $52,500 per year for the median firm. This may seem like a small figure to a reader familiar with public firm data, but it is a significant dollar amount for firms in our sample, which are much smaller.[8] Further note that this is a *one*-period effect—the actual

[5]Price Waterhouse (1996) provides a detailed description of the survey methodology.

[6]Data limitations prevent us from computing more complex ownership structure measures such as Shapley values (Zingales (1994)). However, our sample firms are incorporated under various statutes, some of which place restrictions on the classes of shares that can be issued. We exploit such features of the data to further explore ownership patterns.

[7]In expropriation studies, the standard performance measure used to capture the return to investors is the stock price (see Dyck and Zingales (2004) and the references therein). However, public stock prices are not available for closely held corporations, by definition.

[8]For comparison, the median asset base in our NSSBF sample is $375,000, whereas the median asset base for Compustat firms is $743 million.

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valuation effect (i.e., the net present value (NPV) over several periods) is likely to be much larger.

Prior studies also attest to the economic significance of our results. Ang et al. (2000) study the agency problem between a manager and an owner in closely held corporations and estimate an annual improvement of $65,000 when this agency cost is eliminated (p. 92). Our findings are at a similar order of magnitude. More important, understanding risk-return tradeoffs in *private* firms is of considerable interest to economists (see, e.g., Heaton and Lucas (2000), Hamilton (2000)). For example, Moskowitz and Vissing-Jorgensen (2002) find little evidence of risk premia in private firms. Speculating various explanations for their finding, Moskowitz and Vissing-Jorgensen (Sec. V) argue that private pecuniary benefits of control are a viable explanation only if they are in the order of around 10% accounting returns (recall that these firms have no stock price). Our finding suggests that this can very well be the case; earnings of firms with one controlling shareholder and minority shareholders, which is where pecuniary control benefits are maximized, are lower by 14 percentage points.

A common concern in studies that seek to establish a causal relationship between ownership and measures of performance is that of the endogeneity of ownership. For example, one could argue that better performing firms are more likely to attract more suitors and thus more likely to be diluted. This is precisely Demsetz and Lehn's (1985) point. They argue that ownership structure is endogenous to performance, precluding any inference from ownership-performance regressions.[9]

The critical assumption underlying Demsetz and Lehn's (1985) argument is the presence of a liquid stock market that makes ownership structure an endogenously adjusting choice variable. Witness the robust U.S. market for corporate control; if management in a public firm were to start expropriating, raiders would try to buy controlling ownership stakes from existing investors and increase firm value by eliminating expropriation and related dead-weight losses. However, a key distinguishing feature of closely held corporations is the absence of a market for their shares. As a result of this illiquidity, investors in closely held corporations have no easy way to adjust the ownership structure as conditions change and unanticipated events arise.[10] This makes ownership a predetermined state variable, which is sufficient to motivate its use as an independent variable in a performance regression.[11]

For reasons that we detail in the next section of the paper, the predetermined nature of ownership is a more valid assumption for older firms. Accordingly, we split our sample by median firm age and find, as expected, a positive and

[9]Studies such as Laeven and Levine (2008) therefore examine ownership-performance associations with an instrumental variables estimator.

[10]Barringer (2002) gives the example of Freedom Communications, a closely held corporation that owned newspapers such as the *Orange County Register*. Heirs who were minority investors wanted to get out of the firm, but the closely held nature of the corporation prevented them from doing so. The majority shareholders would neither buy out the minority shareholders nor agree to go public (which would have enabled minority shareholders to sell their stake in the open market).

[11]Studies that use high trading costs to argue for the exogenous and predetermined nature of ownership are Gorton and Schmid (2000), Stiglitz ((1994), chap. 10), and Core and Larcker (2002).

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significant effect of diluted ownership in older firms but not in younger firms. We also conduct other ownership exogeneity tests, and these findings collectively suggest that our main result is robust to ownership endogeneity concerns.

Section II motivates and develops the hypotheses based on prior theoretical and empirical literature, and discusses our empirical methods. Section III describes the data set and the results. Section IV concludes.

II. Hypothesis Development and Empirical Methods

A. Hypothesis Development

A fundamental feature of closely held corporation ownership is that shareholders are typically few in number, knowledgeable about firm operations, and involved in management. The key governance conflict is the abuse of power by the controlling shareholder. Trial evidence suggests that the majority shareholders in closely held corporations are especially imaginative in their squeeze-out techniques. The Appendix includes a list of squeeze-out techniques taken from court cases.

To the extent minority investors have the sophistication and the foresight to rationally anticipate the extent of expropriation, they can negotiate a low buy-in price (Shleifer and Wolfenzon (2002)). This limits the controlling shareholder's ability to raise enough capital. More importantly, to the extent the expropriation technology is inefficient, there are dead-weight losses that will be priced as well, further reducing the controlling shareholder's welfare. This shareholder therefore has incentives to mitigate expropriation.

Theoretical research suggests that having multiple large shareholders is effective in mitigating the expropriation problem (Bennedsen and Wolfenzon (2000), Gomes and Novaes (2005), and Pagano and Roell (1998)). The main intuition behind Pagano and Roell's model is that other large shareholders help mitigate agency costs by monitoring the controlling shareholder. In Bennedsen and Wolfenzon's model, no individual shareholder has sufficient votes to control the firm unilaterally. Therefore shareholders interact to form a coalition to control the firm. This coalition improves firm performance, since no individual shareholder is able to take any actions without the consent of other shareholders. In Gomes and Novaes's model, disagreement among controlling shareholders produces deadlocks that prevent them from taking actions that hurt minority shareholders.[12] Consistent with these theoretical arguments, legal scholars extensively recommend that the main shareholder surrender some control to minority shareholders at the outset in order to improve overall firm performance (O'Neal and Thompson (1985), chap. 9).

Shared ownership is clearly not the only feasible solution; contractual arrangements limiting expropriation are a potential alternative. From an institutional perspective, however, our firms are not looking to go public in the near

[12]However, deadlocks can also cause the firm to miss valuable investment opportunities, resulting in low payoffs. This alternative scenario runs counter to our expropriation argument and is thus testable.

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future and thus rarely have sophisticated investors such as venture capitalists who can design complex contracts to mitigate expropriation.[13] Legal evidence also suggests little use of shareholder contracts among such firms. Legislatures in most states provide basic protection for minority investors in the form of boilerplate shareholder agreements that firms can choose by electing close corporation status. Electing this status is not particularly onerous for firms.[14] However, empirical evidence indicates that only around 5% of corporations elect to be covered under close corporation statutes, even though around 90% of the corporations in the United States are eligible.[15] Of course, failure to elect close corporation status does not necessarily imply the absence of explicit contracts among shareholders, because they could write special firm-specific contracts. However, as La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) point out, the advantages of choosing standard statutes is that lawyers and judges better understand the standard statutes, and minority investors have a better chance of obtaining legal relief in case of oppression by the controlling shareholder.[16] The likelihood of explicit contracting solutions thus does not appear to be a critical concern in our setting.

What is critical, however, is monitoring because the putative benefits of shared ownership rest heavily on the monitoring efforts of all shareholders. If these shareholders find monitoring an onerous task (they may not have the relevant expertise), or if the number of shareholders is sufficiently large to render monitoring a public good subject to collective action problems, shared ownership will not be an effective mechanism to prevent expropriation. Analytical models argue that shareholders in closely held corporations are typically few in number and deeply involved with firm operations, so monitoring costs are not especially onerous. However, this is an assumption whose veracity can only be validated empirically.[17]

The previous considerations suggest that the effectiveness of shared control is fundamentally an empirical question. We therefore propose our first hypothesis.

Hypothesis 1. All else being equal, there should be less squeeze-out of minority shareholders in firms with shared control.

According to Hypothesis 1, the governance problem with the controlling owner is that she can use her control to expropriate from the firm, reducing overall

[13]Of the 2,776 firms in the NSSBF sample, only 125 firms had attempted to raise additional equity from sources other than existing shareholders in the past 3 years.

[14]Companies can tailor these boilerplate agreements by amending them in their bylaws. In fact, O'Neal and Thompson (1985) argue that the main advantage of electing close corporation status is that it provides minority shareholders with a comprehensive checklist of agreements, which they can subsequently adjust for their specific situations.

[15]Surveys of incorporation filings by O'Neal and Thompson ((1985), 1.19) indicate that Wisconsin has 5,101 *statutory* close corporations out of 98,602 incorporations. This ratio is 5,324 to 155,198 in Alabama, 24,000 to 580,000 in Pennsylvania, 863 to 82,694 in Missouri, 828 to 97,009 in Montana, 742 to 63,172 in Nevada, and 753 to 12,422 in Wyoming.

[16]La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000) argue that investors can protect themselves from expropriation by forcing the firm to disgorge free cash flows as dividends. However, such techniques may not prevent the expropriation techniques mentioned previously, as they can occur before the accounting system reports the numbers such as free cash flow. La Porta et al. (1998) make a similar point on the ineffectiveness of laws mandating dividend payments.

[17]We explore monitoring in more detail in Sections III.C and III.D.

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performance. But what if this majority shareholder has almost full ownership? Then any expropriation by the majority shareholder would simply be stealing from herself. If there are dead-weight and other execution costs to expropriation, this activity could actually reduce this owner's welfare. In addition, monitoring by other shareholders and the associated public-good collective action dilemma, which were important considerations in Hypothesis 1, become less important problems; the large ownership stake of the controlling owner provides the necessary incentive to maximize firm performance even without monitoring efforts from other shareholders. These considerations lead to Hypothesis 2, which is a more explicit nonlinear version of Hypothesis 1.

Hypothesis 2. There should be less squeeze-out of minority shareholders in firms with shared control as well as in firms with *highly concentrated* control. It is only in firms with a medium-sized controlling shareholder that squeeze-out of minority shareholders is most prevalent.[18]

The previous discussion raises the question of why firms would ever have nonshared control. One answer is that minority investors in such firms correctly anticipate the equilibrium level of expropriation and buy in at low enough prices to still receive an adequate rate of return.[19] Ex post, expropriation occurs in these firms, and this is precisely our Hypothesis 1. However, as the Appendix shows, minority investors are surprised at the ex post level of expropriation and take steps to counter it. This outcome is not limited to investors in "mom-and-pop" small business concerns. Sorkin (2005) provides an excellent example where financially sophisticated minority investors in the closely held Gabelli Group Capital Partners (the owners of the successful mutual fund Gamco Investments) failed to anticipate the cleverness with which Mario Gabelli, the majority investor, would squeeze them.

A similar situation occurs in public firms as well. Investors may have some initial expectations of agency problems, but in the future, expropriation and the resulting dead-weight losses could be far higher than anticipated. However, these situations will likely attract the attention of raiders who will try to acquire controlling stakes and unlock value. As a result, ownership structure in public firms is a continuously adjusting endogenous variable, and there is no reason to expect a particular ownership structure to offer superior governance benefits (Demsetz and Lehn (1985)).

The previous observations suggest that it is difficult to make an inference from an empirical test showing the benefits of a particular ownership structure unless that test accounts for how that ownership structure came to be in the first place. Prior literature has used several methods to deal with ownership structure endogeneity.[20] The first method is to fit an explicit structural model of ownership

[18]Morck, Shleifer, and Vishny (1988) make a similar observation and demonstrate that the association between controlling ownership stake and performance is nonlinear.

[19]The equilibrium level of expropriation could depend on a variety of factors such as expropriation technologies and monitoring/litigation costs. However, buy-in price data are not available for our sample, so we cannot test this hypothesis directly.

[20]Some older papers ignore the endogeneity issue completely (Morck et al. (1988), McConnell and Servaes (1990)).

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(Himmelberg, Hubbard, and Palia (1999)). However, this method suffers from weak instruments and low power (Angrist and Kruger (2001), Zhou (2001)). The second method is to choose a sample in which ownership is not adjusted on an ongoing basis. This is the approach taken by Gorton and Schmid (2000) and Stiglitz ((1994), chap. 10). The idea here is that when the costs of adjusting ownership are high, owners will be reluctant to adjust their stakes. As a result ownership becomes an exogenous predetermined variable. Gorton and Schmid use the illiquidity of the German stock market to argue for the exogeneity of ownership in their cross-sectional ownership-performance regressions.[21]

These arguments apply to our sample as well because by their very nature, there is no liquid market for the shares of closely held corporations, making it difficult for shareholders to adjust their holdings in response to ongoing conditions. We can thus, as a first pass, assume that the ownership structure in Hypothesis 1 is predetermined.

This assumption is consistent with Olley and Pakes ((1996), p. 1274) and Levinsohn and Petrin ((2003), p. 319), who argue that illiquid regressors have less bias in an ordinary least squares (OLS) regression and model them as predetermined state variables in a given period. Those authors then model the evolution of the state variables over time and the associated survivorship effects using time-series regressions. Data unavailability in our setting of closely held corporations precludes such tests. We therefore follow an alternative route suggested by Laeven and Levine (2009) and used by John, Litov, and Yeung (2008).

Specifically, we argue that although our firms cannot adjust ownership on a continuous basis, they are likely to have chosen their *initial* ownership structure optimally. That is, predetermined ownership should be more valid an assumption for older firms because their initial ownership structures are more likely to have arisen in response to *past* conditions rather than *current* conditions.[22] We therefore estimate Hypothesis 1 separately for older and younger firms.

B. Measuring Squeeze-Out of Minority Shareholders

Researchers typically cannot directly measure majority shareholders' gain from squeezing minority shareholders (Dyck and Zingales ((2004), p. 541), Laeven and Levine (2008)). The standard procedure, therefore, is to use some performance measure of returns to all investors (e.g., stock prices) to infer this gain, and to use control variables and comparative statics to rule out alternative explanations.[23] The reasoning is that if squeeze-out indeed happens (e.g., as described in the Appendix), the reported performance for the firm as a whole should

[21]Gorton and Schmid ((2000), p. 51) argue, "The [cross-sectional regression] assumes that the equity ownership structure . . . is exogenous or at least partly predetermined with respect to firm performance. . . . By definition, illiquidity is a central feature of a bank-based economy and the exogeneity of ownership structure follows from this fact."

[22]For example, Hannan ((2005), p. 63) states: "New organizations have the luxury of choosing designs that fit the current social, cultural and political environments; old organizations find themselves trapped by their origins. . . . If inertial forces are strong, then the prospects of adapting to changing environments are limited, with the result that older cohorts of organizations have lower fitness—a 'liability of obsolescence'."

[23]Laeven and Levine (2009) call this the "many controls" approach.

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be low. Because no single accounting measure can capture performance comprehensively, we use several measures. Note again that we cannot use aggregate NPV measures of returns to investors such as stock prices. Instead, we use the accounting fundamentals that are available for our sample.[24]

Our first measure of performance is earnings before interest, taxes, and depreciation, scaled by total assets (EBITDA). Our EBITDA measure is a comprehensive measure that reflects both expropriation in the balance sheet and in the income statement. That is, EBITDA will be low if revenues are low or expenses are high, or if the booked assets are unproductive.

An added advantage of EBITDA is that it is an operational measure that sidesteps issues such as income tax or depreciation choices that could be very different across firms (we discuss tax issues in more detail in Section II.B). However, it is indeed possible that expropriation could be happening in line items excluded from EBITDA. For example, the controlling shareholder may lend to the firm at exorbitant rates, which would show up in financing expenses rather than operating expenses. Consequently, we also rerun our tests with reported net income scaled by assets. Finally, we decompose operating income and compute operating expenses to sales (OPEXP).

We do not decompose OPEXP even further into components such as costs of goods sold or selling, general, and administrative (SG&A) expenses because the wide variety of expropriation and shirking mechanisms suggests that narrower performance measures are much less likely to *systematically* capture expropriation in the cross section. Further, it is easier to write contracts preventing such narrow and specific expropriation techniques. Consistent with this conjecture, Bertrand, Mehta, and Mullainathan (2002) also find stronger evidence of expropriation with overall performance measures compared to narrower ones.

One concern is that tax considerations could drive the variation in reported earnings, with some firms reporting low earnings to avoid taxes. Under the U.S. federal income tax system, investment income that shareholders receive from a C corporation is subject to so-called "double taxation." As a result, shareholders of C corporations have higher incentives to increase compensation, interest, or rent payments to shareholders to mitigate double taxation. To account for this potential variation due to tax-induced determinants of owner salary, we compute EBITDAS, which is EBITDA *before* owner salary expense, and use this alternative performance measure as an additional dependent variable. Further, we also use an S or a C corporation indicator variable as a control. Because S corporation income is not subject to double taxation, we expect tax avoidance to be less of an issue for S corporations.

C. Measuring Control Dilution

Control dilution occurs in the context of interactions among the shareholders, each owning a certain stake in the firm. Our goal is to come up with a sufficient statistic of control dilution that is theoretically motivated and empirically feasible

[24]For public firms, these accounting fundamentals form a basis for computing stock price measures.

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given the limited ownership data (e.g., the number of shareholders and the ownership share of the primary owner) provided by the NSSBF.

Following Dyck and Zingales ((2004), Tab. III), we identify firms in which the largest shareholder owns less than 50% of the shares as firms with diluted control. In these firms, no one shareholder has absolute control. This definition raises several questions. First, ownership of shares does not imply control, because shares may have differential voting rights. However, our sample contains a significant number of S corporations, and the Internal Revenue Code §1361(b)(1)(D) requires S corporations to issue only one class of stock. We therefore repeat our analysis for the S corporation subsample to mitigate differential voting rights concerns.[25]

Second, the initial owner can dilute her control by using other mechanisms as an alternative to selling more than 50% of the votes. For example, she can contractually guarantee a seat on the board to minority shareholders, allow the use of cumulative voting, etc. Thus a firm might have a shareholder with, say, 75% of the votes, but still have shared control if an appropriate mechanism is in place. Because we cannot observe the presence of these mechanisms, we would *not* classify this firm as having shared control. However, we believe that this measurement problem does not invalidate our results. It is very clear from the legal literature (e.g., Clark (1986)) and the recommendations to practitioners (O'Neal and Thompson (1985)) that whenever these types of mechanisms exist in closely held corporations, they are in place to dilute control over and above the dilution provided by votes. We have not found any recommendation for a contract or an example of a contract in a court case that gives absolute control to 1 shareholder despite her not having more than 50% of the votes. Therefore, firms we classify as having diluted control are likely to be such. But we cannot rule out the possibility that some of the firms that we classify as having a shareholder with absolute control are, in reality, firms with diluted control. However, such misclassification will only make it more difficult to find significant differences across ownership categories.

Third, our measure of the ownership stake of the largest owner does not account for how the remaining ownership stake is spread out. If there are a large number of dispersed shareholders, they may face collective action problems in supplying a public monitoring good. As a result, an owner can gain *effective* control with a relatively low ownership stake. Since we have information only on the

[25]To explore the prevalence of single-class shares in closely held C corporations, we hand-collected a complete sample of property-casualty insurers domiciled in the state of Michigan that are closely held C corporations. Insurers must file a regulatory report Schedule Y that details ownership information of all owners holding more than a 10% stake. We examined all of the approximately 790 annual reports for property-casualty insurers for the year ended December 31, 1998, available at the Michigan Insurance Bureau Library. We retained all stock insurers that are not i) publicly traded or 100% owned by a company that was publicly traded; ii) 100% owned by a mutual insurer or other nonprofit organization types; or iii) 100% owned by a company located outside of the United States. For the insurers with incomplete data, we used the description in Best's Insurance Reports of each insurer to supplement the Schedule Y to the extent possible. Based on the Schedule Y and Best's we identified 51 insurers that met our selection criteria. All of these insurers were C corporations, and only 4 of these insurers had dual-class shares (e.g., nonvoting common stock or voting preferred stock). This result gives us some confidence in connecting ownership stakes to control rights in C corporations as well.

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ownership stake of the largest owner, data limitations prevent us from computing Zingales's (1994) Shapley value-like measures that better account for collective-action/coalition effects. However, we include the number of owners as a regressor in our regressions to control for the dispersal/coordination effect and conduct a series of analyses to further investigate the monitoring effects.

Finally, Hypothesis 2 requires a measure of concentrated ownership. We identify firms with a controlling shareholder with a stake between 75% and 100% as having a high concentration owner. Because the 75% cutoff is not grounded in theory, we also perform several sensitivity analyses on the choice of the 75% cutoff.

D. Control Variables

We include several other measures to control for cross-sectional variation in performance. The reported performance of firms can exhibit cross-sectional variation due to risk. We cannot directly control for volatility because we do not have panel data, but volatility does vary by industry and size. In addition, Dyck and Zingales ((2004), p. 558) argue that extraction of private benefits by majority shareholders can vary across industries. We therefore use industry indicators and size as controls. We also control for capital structure by measuring the total liability-to-asset ratio. Finally, to control for the manager-owner agency problem effects on firm performance, we include a variable indicating whether the manager of the firm is an owner.

III. The NSSBF Sample: Data and Results

A. Sample Selection and Descriptive Statistics

As explained in Section I, our sample is drawn from the 1993 NSSBF. This survey constitutes a standard data set for closely held corporations and has been used in several prior studies (e.g., Ang et al. (2000), Petersen and Rajan (2002)). The survey is a cross-sectional database of various performance, ownership, and financing measures of a representative sample of closely held firms in 1992 (excluding agriculture, financial institutions, government agencies, and nonprofit organizations). Since our theory is related to corporations, we limit our sample to private S and C corporations, excluding all partnerships and proprietorships. This elimination reduces the sample size to 2,776, but it still accounts for approximately 73% of the total assets of all firms in the NSSBF database, with the median annual sales of the firms in the subsample being about $1 million. Also, as Table 1 shows, the sample spans a large set of industries.

The NSSBF provides 3 ownership measures: the ownership share of the primary owner, whether a family owns more than 50% of the firm, and the number of shareholders. Table 2 provides frequency statistics on the number of owners. The majority of the firms have few owners, with firms with up to 4 owners comprising 84% of the sample.

Table 3 presents the ownership data stratified by number of shareholders. The ownership stake of the largest owner is grouped into 3 categories: The (0%, 50%)

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TABLE 1
Industry Distribution

Table 1 lists the industries included in the 1993 National Survey of Small Business Finances (NSSBF) for our sample of C and S corporations, the industry SIC codes, and the percentage of the sample that is comprised of each industry. Industries that comprise more than 4% of the sample are listed explicitly and total approximately 50% of the sample; the remaining 50% of the sample is comprised of industries that individually make up less than 4% of the sample.

Industry	2-Digit SIC Code	No. of Firms as a % of the Total Sample
Wholesale trade-durables	50	7.46
Business services	73	6.81
Eating and drinking	58	6.41
Special trade contractors	17	6.16
Engineering and management services	87	5.69
Miscellaneous retail	59	5.08
Health services	80	4.29
Wholesale trade-nondurables	51	4.21
Real estate	65	4.18
All other industries		<4

TABLE 2
Distribution of the Number of Owners

Table 2 describes the distribution of the number of owners in 1992 for the NSSBF sample of C and S corporations. The sample is dominated by very closely held firms, with 84.2% of companies having 4 owners or fewer.

No. of Owners	No. of Firms	No. of Firms as a % of the Total Sample
1	850	30.6%
2	919	33.1%
3	359	12.9%
4	211	7.6%
5	114	4.1%
6	72	2.6%
7	35	1.3%
8	28	1.0%
9	12	0.4%
10	22	0.8%
>10	154	5.5%
Total	2,776	100.0%

TABLE 3
Distribution of Ownership Stakes

Table 3 presents the distribution of ownership in 1992 for the NSSBF C and S corporations, stratified by number of shareholders. The ownership stake of the largest owner is grouped into 3 categories. The (0%, 50%) category, labeled DILUTE, represents firms with diluted ownership. The [50%, 75%) category represents those firms where the largest shareholder has control through a medium-sized ownership stake. The [75%, 100%] category, labeled HIGHCON, is the high concentration category, in which a single owner has complete control as well as a very large stake in firm performance.

		Ownership Stake of the Primary Owner		
No. of Owners	*N*	(0%, 50%) DILUTE	[50%, 75%)	[75%, 100%] HIGHCON
All	2,776	20.5%	38.0%	41.5%
1	850			100.0%
2	919	6.7%	75.7%	17.5%
3	359	41.5%	38.1%	20.3%
4	211	42.7%	42.2%	15.2%
5	114	45.6%	40.3%	14.0%
≥6	323	67.2%	26.9%	5.9%

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category, labeled DILUTE, represents firms with diluted ownership. The [50%, 75%) category represents those firms where the largest shareholder has control but a medium-sized ownership stake. The [75%, 100%] category, labeled HIGHCON, is the high concentration category.[26]

Table 3 indicates that concentrated ownership is the dominant ownership structure. However, this result is largely driven by single- and 2-owner firms.[27] For 3 and more owners, more than 40% of the firms have diluted ownership, with this figure reaching 67.2% for firms with 6 or more owners. Overall, firms appear to be reasonably spread across diluted and nonshared ownership, even in firms with many owners.

Table 4 provides descriptive statistics on the performance measures and the independent variables used to control for differences in performance. The first observation is that the firms are small. The median asset base is $375,000 (the corresponding figure is $743 million for the Compustat database). Another difference from Compustat firms in Table 4 is that sales are larger than assets (the median Compustat sales are $431 million), suggesting that, relative to public firms, a closely held corporation is more likely to be a service-based business, which does not require as much capital investments (and consequent public financing).

Even though EBITDA is scaled, it has extreme observations in both tails. To prevent these observations from dominating the regressions, we delete 1% of each tail (Chen and Dixon (1972)).[28] As another alternative, we reduce the extremity of the dependent variable by making the monotonic transformation from y to $\text{sign}(y)\log(1 + |y|)$, denoted as ln(EBITDA). Since $\log(1 + y) \approx y$ for small y, this transformation preserves the observations close to 0, while attenuating extreme observations.[29]

MANAGE is a dummy variable that measures whether the manager is an owner. Table 4 indicates that nearly 75% of the managers are owners. NOWNER is the number of owners, which we use to control for monitoring coordination effects. Because there are likely to be marginal diminishing returns in the performance effects of the number of owners, we assign NOWNER = 10 for all firms that have more than 10 owners.

NOWNER may overstate the number of owners because from a coalition perspective, family members in a firm can behave as 1 individual shareholder. To control for this effect, we use the NSSBF question on family ownership, which inquires whether 1 family controls more than 50% of the firm. The corresponding

[26]The NSSBF database provides information on the ownership stake of the primary owner. We assume that the primary owner is the largest owner. This assumption appears to be largely valid. For instance, for the 2-owner firms, Table 3 shows that the primary owner is the largest owner in 93% of these firms. Within the remaining 7%, the primary owner has 38% ownership or more in all but 13 firms.

[27]Diluted 2-owner firms probably represent survey errors. Our main results are robust to deleting these and single-owner firms.

[28]In addition, we lose observations on EBITDA and OPEXP because tax expense, which is needed to calculate these variables for C corporations, is not reported separately by several C corporation survey respondents.

[29]The truncated max EBITDA of 8.68 is reasonable for Table 1 sectors such as business services firms (Standard Industrial Classification (SIC) code 63) that have few tangible physical assets. The top 5 EBITDAs in the Compustat universe for the fiscal year 1992 range from 7.8 to 10.4.

TABLE 4

Descriptive Performance and Ownership Statistics

Table 4 provides performance and ownership statistics in 1992 for our sample of NSSBF C and S corporations. EBITDA$ is earnings before interest, corporate income tax if any, depreciation, and amortization. EBITDA is EBITDA$ scaled by total assets. ln(EBITDA) is sign(EBITDA) × ln(1 + |EBITDA|). EBITDAS$ is earnings before interest, corporate income tax if any, depreciation, amortization, and owners' salary. EBITDAS is EBITDAS$ scaled by total assets. ln(EBITDAS) is sign(EBITDAS) × ln(1 + |EBITDAS|). NI$ is net income. NI is NI$ scaled by total assets. ln(NI) is sign(NI) × ln(1 + |NI|). EBITDA, EBITDAS, and NI are trimmed at the upper and lower 1% to reduce extreme observations; because logs reduce the impact of extreme observations, the corresponding log measures are not trimmed. OPEXP is operating expenses (total expenses less interest, corporate income tax if any, depreciation, and amortization) scaled by sales. ASSETS$ is total assets. SALES$ is total sales. SALES is ln(SALES$). MANAGE equals 2 if a hired manager who is not an owner runs the firm, and 1 if an owner runs the firm. FAMILY equals 2 if 1 family controls $\geq$ 50% of the firm, and 1 otherwise. NOWNER is the number of owners, and is coded 10 if the number of owners exceeds 10. SCORP is unity if the firm is an S corporation, and 0 if the firm is a C corporation. CAPSTRUC is the total liabilities-to-assets ratio. Sample size can vary across variables, as missing variables are not imputed.

Independent Variables	*N*	Mean	Std. Dev	Min	Median	Max
EBITDA$	2,292	468,984	1,890,991	–14,882,765	87,865	38,852,187
EBITDA	2,248	0.47	1.13	–3.11	0.19	8.68
ln(EBITDA)	2,292	0.28	0.59	–3.28	0.18	4.18
EBITDAS$	2,291	636,131	2,021,527	–14,089,914	156,425	39,852,187
EBITDAS	2,248	0.87	1.69	–2.35	0.35	14.16
ln(EBITDAS)	2,291	0.45	0.66	–3.15	0.30	4.80
NI$	2,774	260,896	1,697,603	–25,610,255	38,869	37,962,187
NI	2,719	0.37	1.25	–3.82	0.09	11.54
ln(NI)	2,774	0.20	0.65	–4.06	0.09	4.08
OPEXP	2,287	0.92	0.38	–0.49	0.93	10
ASSETS$	2,776	2,053,624	4,970,301	0	375,000	79,589,249
SALES$	2,776	5,325,843	13,712,507	0	1,100,000	335,660,000
SALES	2,770	13.95	1.90	6.91	13.91	19.63
MANAGE	2,776	1.25	0.43	1.00	1.00	2.00
FAMILY	2,776	1.76	0.43	1.00	2.00	2.00
NOWNER	2,776	2.92	2.56	1.00	2.00	10.00
SCORP	2,776	0.40	0.49	0.00	0.00	1.00
CAPSTRUC	2,776	0.56	0.31	0.00	0.55	1.00

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dummy variable is called FAMILY. Another indicator variable we use is SCORP, which takes a value of unity if the firm is an S corporation. Forty percent of the firms in the sample are S corporations. Finally, CAPSTRUC is the total liability-to-asset ratio, and SALES is the log of sales.

B. Effects of Control Dilution

We first present the results in a univariate correlation matrix in Table 5. The performance measures are not directly correlated with DILUTE. However, Dyck and Zingales ((2004), p. 558) indicate that the benefits of control vary across industry, so a multivariate regression is a more appropriate research design to test our hypothesis. The magnitudes of the correlations in Table 5 among the independent variables are less than 0.55. This is below the 0.8 cutoff suggested by Kennedy ((1992), p. 180). Further alleviating multicollinearity concerns, the variance inflation factors (VIF) for all coefficients in our regressions are far below the standard cutoff of 10 (Kennedy, p. 183). Our regressions also include dummy variables to denote industry affiliation according to SIC codes. We use 2-digit codes for those industries that comprise 4% or more of the sample, and 1-digit otherwise.

The results of the multivariate regressions to test our Hypothesis 1 are in Table 6. Consistent with Hypothesis 1, columns (1) and (2) of Table 6 indicate that the EBITDA and ln(EBITDA) of diluted firms are higher than those of other firms. The coefficient on DILUTE of 0.14 demonstrates that the EBITDA of diluted firms is higher than those of other firms by 14 percentage points. This is a substantial improvement given that the sample standard deviation of EBITDA is 113% (the sample mean is 47%). Likewise, columns (3)–(5) indicate that shared-control firms have significantly higher net income and lower expenses.

Columns (6) and (7) of Table 6 report results with the dependent variable EBITDAS and ln(EBITDAS), where EBITDAS is EBITDA *before* owner's salaries. As stated earlier, C corporations are taxed at both the firm and the shareholder level, while S corporations are taxed only at the shareholder level. This double taxation creates clear incentives for C corporations to engage in strategies such as shifting income to shareholders via salaries and reporting lower earnings at the corporate level. Our first approach to control for the tax effect is to include SCORP. And indeed, the coefficient on SCORP is significantly positive while the coefficient on DILUTE remains significant. So, at the first blush, our results are robust to tax issues.

However, one can argue that SCORP is not sufficient to control for tax issues; the marginal tax rates of owners, corporations, and the alternative ways in which the corporation can transfer income to shareholders need not be constant across the sample. We therefore replicate our analysis using EBITDAS, because paying higher salaries to owners is a common way for C corporations to distribute income to owners while reducing the corporate tax bill.

There are two results worth noting on EBITDAS. First, DILUTE is still a significant positive predictor. Second, and more importantly, the coefficient on

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TABLE 5

Correlations among Performance and Ownership Measures

Table 5 presents univariate correlations between NSSBF C and S corporations' ownership concentrations, provided in Table 3, and the performance and ownership statistics provided in Table 4. DILUTE and HIGHCON are indicator variables set to 1 if the firm is in the DILUTE or HIGHCON category, and 0 otherwise (see Table 3 for ownership definitions). All other variables are defined in Table 4. * and ** signify that the result has 2-tailed significance at the 5% and 1% levels, respectively.

Independent Variables	EBITDA	ln(EBITDA)	EBITDAS	ln(EBITDAS)	NI	ln(NI)	OPEXP	DILUTE	HIGHCON	NOWNER	FAMILY	SCORP	MANAGE
ln(EBITDA)	0.939**												
EBITDAS	0.783**	0.737**											
ln(EBITDAS)	0.776**	0.857**	0.909*										
NI	0.975**	0.916**	0.772**	0.752**									
ln(NI)	0.916**	0.977**	0.703**	0.822*	0.938**								
OPEXP	–0.401**	–0.511**	–0.287**	–0.428**	–0.409**	–0.498**							
DILUTE	–0.022	–0.022	–0.006	–0.014	–0.030	–0.018	–0.015						
HIGHCON	0.034	0.048*	0.054**	0.062**	0.058**	0.042*	0.024**	–0.428**					
NOWNER	–0.087**	–0.076**	–0.095**	–0.092**	–0.088**	–0.073**	0.009	0.550**	–0.471**				
FAMILY	0.020	0.031	–0.022	–0.019	0.049**	0.042*	–0.038	–0.326**	0.268**	–0.255**			
SCORP	0.060**	0.071**	0.046*	0.045*	0.033	0.046*	–0.026	–0.067**	0.000	–0.097**	0.054**		
MANAGE	–0.044*	–0.032	–0.019	–0.030	–0.016	–0.021	0.021	0.055**	0.061**	0.057**	–0.041*	–0.029	
SALES	–0.093**	–0.063**	–0.158**	–0.132**	–0.057**	–0.027	–0.034	0.199**	–0.108**	0.332**	–0.058**	–0.065**	0.114**

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TABLE 6

Regressions of Performance Measures on Ownership Structure

Table 6 reports the coefficients and *t*-statistics in parentheses from OLS multivariate regressions testing for the benefits of shared ownership. Performance statistics are regressed on ownership and firm characteristics, including the DILUTE indicator variable, for NSSBF C and S corporations in 1992 (see Table 3 for ownership definitions). SIZE is defined as total assets. All other variables are defined in Tables 4 and 5. Indicator variables are included for industry representation, with 2-digit codes for industries comprising more than 4% of the sample and 1-digit codes for other industries. *, **, and *** represent 2-tailed significance at the 10%, 5%, and 1% levels, respectively.

Independent Variables	EBITDA (1)	ln(EBITDA) (2)	NI (3)	ln(NI) (4)	OPEXP (5)	EBITDAS (6)	ln(EBITDAS) (7)
Intercept	0.988***	0.347***	0.551**	0.153	1.149***	2.722***	0.965***
	(4.21)	(2.89)	(2.31)	(1.26)	(14.70)	(7.91)	(7.33)
DILUTE	0.140*	0.063*	0.126*	0.074**	–0.043*	0.265**	0.080*
	(1.93)	(1.66)	(1.73)	(1.99)	(–1.73)	(2.47)	(1.93)
NOWNER	–0.036***	–0.017***	–0.043***	–0.022***	0.005	–0.064***	–0.025***
	(–2.97)	(–2.72)	(–3.41)	(–3.39)	(1.32)	(–3.55)	(–3.61)
FAMILY	0.031	0.035	0.113*	0.055*	–0.043**	–0.065	–0.021
	(0.51)	(1.13)	(1.89)	(1.79)	(–2.12)	(–0.74)	(–0.61)
SCORP	0.099**	0.064**	0.061	0.050**	–0.015	0.105	0.040
	(2.06)	(2.57)	(1.24)	(1.97)	(–0.90)	(1.47)	(1.45)
CAPSTRUC	–0.027	–0.032	–0.068	–0.057	0.058**	–0.040	–0.033
	(–0.35)	(–0.81)	(–0.88)	(–1.44)	(2.24)	(–0.35)	(–0.76)
MANAGE	–0.073	–0.026	–0.016	–0.022	0.024	–0.034	–0.034
	(–1.29)	(–0.90)	(–0.29)	(–0.76)	(1.26)	(–0.42)	(–1.07)
SIZE	–0.032**	–0.005	–0.017	0.004	–0.013***	–0.095***	–0.024***
	(–2.29)	(–0.75)	(–1.21)	(0.53)	(–2.89)	(–4.63)	(–3.01)
SIC indicators	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.03***	0.02***	0.02***	0.02***	0.01***	0.05***	0.05***
N	2,242	2,286	2,713	2,768	2,287	2,242	2,285

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SCORP now becomes insignificant, suggesting that tax-induced differences in performance are ameliorated in the EBITDAS construct.[30]

As discussed in Section II, DILUTE does not account for how much the remaining ownership is dispersed. We control for the dispersal effect using the number of owners as a control. NOWNER is significantly negatively associated with performance in Table 6, consistent with the collective action idea that it is more difficult for dispersed owners to supply the public-good monitoring that prevents expropriation. We explore monitoring in greater detail in Sections III.C and III.D.

We conduct a series of robustness tests on the regressions reported in Table 6. Because single-owner firms are by definition undiluted, DILUTE could be picking up cross-sectional variation across these firms and other firms. Further, our definition of DILUTE assumes that if a shareholder has exactly 50% ownership, he has control. While this is a plausible assumption for firms with 3 or more owners, it may not be when the firm has 2 owners, each of whom owns 50%. We therefore rerun the regression in column (1) of Table 6 dropping single-owner firms and equally owned 2-owner firms. The (untabulated) coefficient on DILUTE is 0.126 (t-statistic = 1.76). Our main result thus continues to hold.[31]

Another key concern about DILUTE is that ownership structures can be regulated for financial institutions (Laeven and Levine (2009)). As stated before, the NSSBF excludes financial institutions (Price Waterhouse (1996), p. 2), but to be certain, we eliminated all firms whose 2-digit SIC codes indicate depository and nondepository financial institutions, insurance carriers, holding and other investment offices, and utilities. We lost 20 observations in total (approximately 1% of the sample), and the results are identical to those reported in Table 6.

C. Nonlinear Effects

Table 7 reports tests on the nonlinear performance Hypothesis 2, which states that when the ownership level of the controlling shareholder is very high, her incentives are better aligned with those of the minority shareholders. To test Hypothesis 2, we include the variable HIGHCON, indicating 1 very large owner, as an additional regressor in our model. Note that a firm in the sample can have either DILUTE or HIGHCON coded as 1, or neither coded as 1. Consequently, the way these regressions are structured, the coefficients on DILUTE and HIGHCON measure the performance of the diluted and highly concentrated firms, respectively, *relative* to firms that are neither (i.e., are in the [50%, 75%) ownership category). These firms in the medium category are firms where the largest owner has enough control but her stake is lower than 75%.

The coefficients on HIGHCON are positive in all but 1 of the regressions, but only significantly so in column (4) of Table 7. However, the positive impact that dilution has on firm performance continues to hold, with the magnitudes and

[30]Ke (2001) argues that C corporations in which the owner is also the manager are more likely to report lower income for tax avoidance purposes. To test this theory, we include an interaction term of MANAGE and SCORP. The interaction term (not tabulated) is uniformly insignificant.

[31]Deleting all single- and 2-owner firms yields a DILUTE coefficient (t-statistic) of 0.131 (1.99).

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TABLE 7

Regressions of Performance Measures on Ownership Structure to Test Nonlinear Effects

Table 7 reports the coefficients and *t*-statistics in parentheses from multivariate OLS regressions testing for the nonlinear performance effects of ownership structure. Performance statistics were regressed on ownership and firm characteristics, including the DILUTE and HIGHCON indicator variables, for NSSBF C and S corporations in 1992, in order to identify performance differences between firms with shared or high concentration of ownership and firms where the primary shareholder has a medium-sized stake (see Table 3 for ownership definitions). All variables are defined in Tables 4–6. Indicator variables are included for industry representation, with 2-digit codes for industries comprising more than 4% of the sample and 1-digit codes for other industries. *, **, and *** represent 2-tailed significance at the 10%, 5%, and 1% levels, respectively.

Independent Variables	EBITDA (1)	ln(EBITDA) (2)	EBITDAS (3)	ln(EBITDAS) (4)
Intercept	0.987***	0.340***	2.701***	0.954***
	(4.20)	(2.84)	(7.84)	(7.24)
DILUTE	0.142*	0.071*	0.293***	0.094**
	(1.91)	(1.85)	(2.68)	(2.23)
HIGHCON	0.007	0.033	0.108	0.056*
	(0.12)	(1.10)	(1.27)	(1.72)
NOWNER	–0.036***	–0.015**	–0.057***	–0.021***
	(–2.78)	(–2.25)	(–2.99)	(–2.91)
FAMILY	0.030	0.030	–0.081	–0.029
	(0.49)	(0.96)	(–0.91)	(–0.85)
SCORP	0.100**	0.066***	0.111	0.043
	(2.06)	(2.65)	(1.56)	(1.58)
CAPSTRUC	–0.027	–0.033	–0.042	–0.034
	(–0.36)	(–0.83)	(–0.37)	(–0.79)
MANAGE	–0.073	–0.030	–0.046	–0.040
	(–1.30)	(–1.01)	(–0.55)	(–1.25)
SIZE	–0.032**	–0.006	–0.096***	–0.024***
	(–2.30)	(–0.79)	(–4.68)	(–3.08)
SIC indicators	Yes	Yes	Yes	Yes
Adj. R^2	0.03***	0.02***	0.05***	0.05***
N	2,242	2,286	2,242	2,285

the significance of the coefficients of DILUTE largely unchanged. We change the category of HIGHCON from the [75%, 100%] range of ownership for the largest owner to [70%, 100%] as well as [80%, 100%]. The untabulated results are virtually unchanged for both these alternative specifications. We also estimate nonlinearities in the ownership-performance relation by using the actual ownership share of the largest owner and its squared value. In contrast to DILUTE, both these continuous ownership terms are insignificant (the results are not tabulated). So there does appear to be a clear discontinuous effect at the 50% ownership level, but little evidence of an uptick at high ownership concentrations.[32]

While there are many plausible reasons for the insignificant performance effects of HIGHCON, Hypothesis 2 predicts a positive association between firm performance and HIGHCON based on the argument that a HIGHCON owner's high ownership stake aligns her with the firm as a whole; as a result, she gains less by expropriation and also needs little explicit monitoring from other shareholders to improve firm performance. However, a key assumption behind Hypothesis 2 is that the HIGHCON owner is actively involved in managing the firm; otherwise, her ownership has limited bearing on firm performance. Although shareholders of

[32]Incidentally, Morck et al. ((1988), Tab. 2) also find weak evidence of the high ownership effect in public firms.

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closely held firms are far more likely to be involved in firm operations than their public-firm counterparts, the weak results on HIGHCON in Table 7 suggest that it would be beneficial to test this assumption explicitly. Unfortunately, our variable MANAGE indicates whether the manager is an owner, but not if he or she is the largest owner (except for the trivial case of single-owner firms). MANAGE can thus represent a situation where the majority owner is the financier and the minority owner the supplier of management skills. We are therefore hesitant to make extensive use of MANAGE to identify situations where monitoring plays an insignificant role (also note that MANAGE is insignificant in Tables 6 and 7).

D. Shareholder Monitoring

To further explore the monitoring role of shareholders, we turn to 2-owner firms. We argue that 2-owner firms are especially interesting from a monitoring perspective. In these firms, the single minority owner is likely to be closely involved in firm operations and also faces no collective action problem. As a result, in the 2-owner universe, concentrated ownership firms should not be too much worse off than firms where both shareholders have equal ownership. Column (1) of Table 8 reports exactly this result. There is no significant difference between the performance of equally owned firms and concentrated ownership firms.[33]

Next, our maintained assumption is that monitoring through ownership stakes is effective because ownership yields control. This is less likely if there are multiple classes of shares. As stated in Section II, S corporations can issue only one class of stock, a regulatory requirement that confers equal economic rights for all shares and ameliorates concerns about the separation of ownership rights from control rights. Column (2) of Table 8 reports the analyses for S corporations only, eliminating 1 and 2 owners from the subsample. Given the pass-through nature of S corporations, we focus on the EBITDAS measure. The coefficient on DILUTE is positive and significant. More importantly, the magnitude of the DILUTE coefficient of 0.317 is close to the 0.265 coefficient for the overall sample in column (6) of Table 6, suggesting that the governance effect of diluted ownership in the overall sample is similar to the S corporation subsample.[34]

In sum, we find that shared-control firms outperform other firms robustly in a variety of specifications. However, the relatively large coefficient on DILUTE, combined with a large fraction of firms choosing *not* to be in the DILUTE category (see Table 3), raises the question as to why so many firms would choose underperforming ownership structures. We turn to this issue next.

E. Endogeneity Analyses

Hypothesis 1 relies on the high adjustment costs of ownership changes. To assess the reasonableness of this assumption, we directly analyze ownership turnover. Our survey indicates that only about 20% of the sample raised new equity either from existing or new owners in the past 3 years. By contrast, the

[33]The HIGHCON tests are insignificant for this subsample.

[34]The 2-firm subsample regression in column (1) of Table 8 does not change when we restrict it to S corporations only. The HIGHCON tests for S corporations are all insignificant.

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TABLE 8

Regressions of Performance Measures on Ownership Structure to Address Shareholder Monitoring and Endogeneity

Table 8 reports the coefficients and *t*-statistics in parentheses from regressions of selected subsamples of NSSBF C and S corporations' EBITDA in 1992 on ownership characteristics: firms with 2 owners; S corporations with more than 2 owners; firms that have not raised equity within the past 3 years; firms that are younger than 12 years (the sample median age); and firms that are older than 12 years. The regression for firms with 2 owners also includes an indicator variable set to 1 when ownership is split equally between the owners, and 0 otherwise, denoted EQUAL. All other variables are defined in Tables 4–6. Indicator variables are included for industry representation, with 2-digit codes for industries comprising more than 4% of the sample and 1-digit codes for other industries. *, **, and *** represent 2-tailed significance at the 10%, 5%, and 1% levels, respectively.

	EBITDA (1)	EBITDAS (2)	EBITDA (3)	EBITDA (4)	EBITDA (5)
Independent Variables	Sample with 2 Owners Only	S Corporations with > 2 Owners	Firms That Did Not Raise New Equity in the Past 3 Years	Firms Younger than 12 Years	Firms Older than 12 Years
INTERCEPT	1.146**	3.791***	1.291***	0.805**	1.231***
	(2.44)	(4.30)	(4.68)	(2.33)	(3.73)
DILUTE		0.317*	0.171**	0.089	0.189**
		(1.75)	(2.05)	(0.79)	(2.05)
EQUAL	–0.127				
	(–1.26)				
NOWNER		–0.027	–0.038***	–0.048**	–0.026*
		(–0.69)	(–2.64)	(–2.27)	(–1.82)
FAMILY	0.037	–0.118	0.081	0.039	0.027
	(0.32)	(–0.59)	(1.18)	(0.44)	(0.33)
SCORP	0.116		0.128**	0.055	0.139**
	(1.20)		(2.29)	(0.74)	(2.18)
CAPSTRUC	0.074	–0.359	–0.023	–0.128	0.069
	(0.49)	(–1.25)	(–0.26)	(–1.08)	(0.68)
MANAGE	0.019	–0.264	–0.075	–0.027	–0.104
	(0.15)	(–1.35)	(–1.16)	(–0.30)	(–1.51)
SALES	–0.045	–0.121**	–0.054***	–0.014	–0.055***
	(–1.65)	(–2.45)	(–3.26)	(–0.64)	(–2.86)
SIC indicators	Yes	Yes	Yes	Yes	Yes
N	731	348	1,754	1,161	1,081

annual turnover rate in the NYSE stock exchange is 99% (www.nyse.com). Ownership structure thus appears to be far more stable in our sample compared to public firms.

While this evidence could mean that owners of closely held corporations desire no changes to their holdings due to, for example, a very stable environment, it is also consistent with high adjustment costs. To further restrict the sample to stable ownership structures, column (3) of Table 8 repeats our primary regression, dropping all firms that had raised financing in the last 3 years. DILUTE continues to be a significant positive predictor of performance with coefficient magnitudes comparable to column (1) of Table 6, which provides some evidence that endogeneity is not likely confounding our analysis.

As we explained in Section II.A, the illiquidity of ownership structures implies that the effect of ownership can be better identified in a sample of older firms. We estimate our model separately for firms older than the sample median age of 12 years and firms that are younger. Columns (4) and (5) of Table 8 present the results. Strikingly, younger firms, which are more likely to have the optimal ownership structure, have *no* association between DILUTE and performance. However, older firms, which are more likely to have a predetermined ownership

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structure, have a significant positive association between DILUTE and performance, with the coefficient retaining a magnitude similar to that reported in column (1) of Table 6. This result suggests that our main findings are robust to endogeneity considerations.

IV. Conclusion

The main governance problem in closely held corporations is the squeeze-out of minority shareholders by the majority shareholders (O'Neal and Thompson (1985)). Theory suggests that shared ownership is a simple and effective mechanism to mitigate expropriation by the controlling shareholders in closely held corporations (e.g., Bennedsen and Wolfenzon (2000), Gomes and Novaes (2005), and Pagano and Roell (1998)). Using a large cross-sectional data set on closely held corporations, we provide one of the first empirical tests on the issue by demonstrating that performance is higher for private firms with diluted control.

Our study adds to the growing body of literature on the role of *multiple* large shareholders in mitigating expropriation and governance problems (e.g., Laeven and Levine (2008)). In particular, our study empirically validates theoretical arguments that multiple owners are key to governance when shares are illiquid (Bennedsen and Wolfenzon (2000)). While our sample of closely held corporations provides a natural setting to test these theories, our results have broader bearing in the current economic environment where liquidity in public securities markets is also small. Understanding the linkages between ownership liquidity, ownership structure, and governance thus continues to remain an area of fruitful research (Holmström and Tirole (2011)).

Appendix. Sample Expropriation Techniques by the Majority Shareholders in Closely Held Corporations in the United States

The Appendix lists several examples, drawn from court cases, of majority shareholder expropriation obtained from O'Neal and Thompson (1985).

Eliminating minority shareholders from directorate and excluding them from company employment to force their acquiescence: *Estep v. Werner*, 780 SW2nd 604 (Ky 1989).

High compensation to majority shareholders: *Orchard v. Covelli*, 590 F Supp 1548, 1557 (WDPa 1984).

Siphoning off earnings by having other enterprises perform services at high prices: *Bibo v. Jeffrey's Restaurant*, 770 P2nd 290 (Alaska 1989).

Siphoning off earnings by leases and loans favorable to majority shareholders: *Wometco Enterprises, Inc. v. Norfolk Coca-Cola Bottling Works, Inc*., 528 F2nd 1128 (CA4 1976).

Siphoning off earnings by other contractual agreements such as purchase of supplies, land, etc., at high prices; failure to enforce contracts for the benefit of the corporation: *Ferguson v. Tabah*, 288 F2nd 665 (CA2 1961).

Appropriation of corporate assets, contracts, or credits for personal use: *Brilliant v. Long Island Waste Co.*, 23 Misc 2d 788, 192 NYS2d 797 (1959).

Usurping corporate opportunities, whereby the majority shareholder privately enters into a transaction that would have otherwise belonged to the firm: *Carrington & McElroy*, 14 Bus Law 957 (1959) (an exhaustive discussion of the early cases in this area).

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Corporation's purchases of shares from majority shareholders at high prices: *Donahue v. Rodd Electrotype Co. of New England, Inc.*, 367 Mass 578, 328 NE2nd 505 (1975).

Dilution of minority shareholders' interests through issuance of stock: *Henry v. Klein*, 15 Conn App 496, 545 A2d 575 (1988).

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