

PERFORMANCE IN FINANCIAL SERVICES: DOES INSTITUTIONAL OWNERSHIP MATTER?

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Abstract

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Institutional investor ownership has often been considered a corporate governance variable, typically used to proxy those investors' ability to influence managers and to expropriate wealth from smaller shareholders. Large institutional investors have developed common holdings across numerous firms within industries. We consider the effects of institutional investor ownership on the performance of banks and insurance companies. Using a generalized autoregressive conditional heteroscedasticity model with firm- and year-fixed effects, we find strong statistical relation between performance and individual firm's ownership stakes by Blackrock, Inc. and Fidelity Investments. Moreover, we find a positive and statistically significant relation between performance and the percentage of the industry's equity owned by the Blackrock, Fidelity, State Street and Vanguard. The findings suggest that organizations like Blackrock are successful in obtaining long-term returns by exerting influence over the management of their invested firms, which is consistent with recent statements by the CEO of Blackrock but is also consistent with a "bet on the winners" strategy.

Keywords: Institutional Ownership, Performance, Risk, Insurance, Banking

1. INTRODUCTION

The study of wealth inequality among individuals has received a great deal of discussion in news, trade, and academic publications since the financial crisis, especially as wealth continues to accumulate to the top societal earners.¹³ There has also been a growing body of literature on the concentrated accumulation of corporate ownership among institutional investors. Azar et al. (2018) study the anti-competitive effects of institutional investor ownership in the airline industry and find evidence of reduced competition on selected air routes when common ownership is present. However, Patel (2018) argues that the presence of common ownership by institutional investors is not enough to show anticompetitive behavior; common ownership may simply be a result of investment choice.

Since the shift from defined benefit to defined contribution plans, the amount of investment capital

controlled by institutional investors has grown significantly.¹⁴ These institutional investors control significant stakes of many corporations and may exert a disproportionate influence on the management of invested firms through proxy votes and managerial engagement. For example, in January 2018, the CEO of Blackrock Capital (the largest asset manager in the world), citing a need for long-term growth and value creation by the firms in which Blackrock invests, issued a public letter that Blackrock would take a more active role in engaging with company management rather than simply using proxy votes to influence firm decisions (Morrell, 2018).

Our study examines the trends in institutional ownership in the publicly-traded U.S. banking and insurance industries. We specifically examine the relationship between firm performance and risk-taking, the presence of concentrated institutional investor ownership. We focus our sample on the banking and insurance industries partly due to their

¹³ A recent article in the *Quarterly Journal of Economics* notes that the top 0.1% of society owned 22% of private wealth in 2012 – nearly the same levels as 1929 (Saez & Zucman, 2016).

¹⁴ According to Willis Towers Watson (Willis, 2016), the world's 300 largest pension schemes invested \$15.7 trillion in 2016. In this same period, Blackrock Capital held assets under management of more than \$5 trillion.

economic significance; according to the Brookings Institute, finance and insurance represented seven percent of U.S. GDP in 2014 (Bailey, 2016). Additionally, these firms operate in highly regulated arenas. Bank oversight is largely performed by the Federal Reserve System and insurers by state regulators; in addition, as publicly traded entities, our sample firms also face scrutiny by the Securities Exchange Commission. Closer monitoring of firm risk-taking – especially the limiting of downside risk in these industries – results in smaller performance variation than would be found in less regulated industries. Finding the cause of performance variation in this smaller variation range allows us to draw inferences from the sample with a higher level of credibility.

Our analysis first examines the relation between firm performance, which we measure as Tobin's q , and firm financial, risk, and governance variables. We then add institutional investor holdings of both the firm and industry to our model. We find that holdings of institutional investors in a firm have a significant impact on performance results. We also find a positive impact when a selected combination of investors holds a large share in the industry.

Common ownership and its effects on firm performance have caught the attention of researchers just recently. Empirical works by Azar et al. (2018) and Azar et al. (2016) focus on product specific issues. This paper examines the overall performance of firms under common ownership.

The structure of the paper follows. Section 2 summarizes the literature and set-up of common ownership of companies. Section 3 describes the sampled data, followed by the methodology and variable selection in Section 4. The empirical results and inferences are reported in Section 5. The conclusion is presented in Section 6, along with a discussion of the limitations of the work, and suggestions for future research.

2. PRIOR LITERATURE AND THEORY

The role of institutional investors in the governance of firms is changing. A 2000 review of the prior 20-year period claimed, “despite the substantial growth of institutional ownership of U.S. corporations ... there is little evidence that institutional investors have acquired the kind of concentrated ownership positions required to be able to play a dominant role in the corporate governance process” (Edwards & Hubbard, 2000, p. 92). A more recent study observes that data on institutional ownership is consistent with a hypothesis that common ownership is used to coordinate firm behavior in some airline routes (Azar et al., 2018). Others have been more specific: “mutual funds and other institutional investors may cause softer competition among product market rivals because of their significant ownership stakes in competing firms in concentrated industries” (Posner et al., 2017, p. 1).

Consistent with Azar et al.'s (2018) product-specific study, industry-specific studies also find a statistical correlation between ownership patterns by an institutional investor and performance (Pooser et al., 2017). Industrial Organization studies note that it is often difficult to distinguish between competition and monopolistic competition because

both drive excess profit to zero. Similarly, it is difficult when examining institutional investors to distinguish between skilled stock selection and exertion of a coordinating influence because each can be a cause of good performance.

The possibility of firm coordination through common ownership has long been recognized but its researchers have opined that “significant legal obstacles discourage institutional investors both from taking large block positions and from exercising large ownership positions to control corporate managers” (Edwards & Hubbard, 2000, p. 92). That observation may have been accurate in 2000 but, fewer than 20 years later, we observe that four systemically significant institutional investors own large blocks of many firms in the financial sector; in fact, we find the same block of firms involved as those mentioned by legal scholars (Baker, 2016). While one study suggests that monopoly rents were being earned (Azar et al., 2018), recent reconsiderations argue that evidence of such an effect is imperfect (Kennedy et al., 2017). Yet, no one questions the logic of a possible exploitation of individual firms in an industry for the good of the industry. We are left with a choice of bad alternatives if we do not accept the Azar observation: either those with common ownership are blind to the possibility of benefit, or they are executing poorly. This study provides the support underpinning the logic of a benefit from common ownership. It then seeks evidence of such a benefit by comparing two sub-sectors of the financial services industry: Banking and Insurance. Finally, we consider the question of how an institutional investor can successfully influence a firm to behave in an industry-performance-maximization, rather than a firm-performance-maximization manner. More specifically, we suggest that firms with higher than average institutional ownership have higher than average risk levels. A relevant question, which we return to below, is how to measure risk.

As the importance of institutional investors increased,¹⁵ agency theorists argued that external monitors counter managerial incentives to appropriate firm value for personal gain (Pound, 1991; Black, 1992). Empirical support for the monitoring argument is not strong; investments by large investors tend to be persistent over time, providing support for management rather than posing a threat in the face of poor performance. And corporate expenses, such as CEO compensation, tend to be higher in the presence of blockholder involvement (Mehran, 1995).

Additionally, literature has been developing about a topic that has come to be known as common ownership. The literature focuses on ownership by institutional investors of a collection of firms that compete in the same industry. In this common ownership literature, researchers have identified BlackRock and a few legal journals have extended the linkage to groupings of institutional investors; specifically, BlackRock, State Street, Vanguard, and Fidelity (Eckstein, 2018). This study considers a wider range of ownership types. Though the number

¹⁵ “Over the years, the influence of institutional investors over public companies has grown dramatically, with the number of U.S. corporate shares managed by institutional investors ballooning to 67 percent in 2010 from a mere 5 percent in 1945, according to a study conducted by professors at the Wharton School of the University of Pennsylvania” (Financial Industry Regulatory Authority, 2015).

of bank and insurance firms in the sample of this study is approximately matched, the number of family-controlled insurer observations, 211, far exceeds the number of family-controlled bank observations, 70.

The behavior of institutional investors gives rise to another ownership behavior pattern that is only recently being studied. Individuals who invest with mutual funds or institutional investors are less interested in the performance of a specific firm than in the aggregate performance of a grouping of firms represented in the fund portfolio. The large concentration of wealth held in these funds gives limited opportunities for the funds to concentrate on any one firm; instead, they diversify their holdings and hope that the sectors will perform well. A question considered in this study is whether the fund managers do more than hope for sector performance. Freeman (2018) states that “common ownership could induce firms to interact differently than they would if each firm was seeking individual value maximization” (p. 4). She defines common ownership as the extent to which firms are held by the same institutional investors and finds evidence that the relationship between common ownership and vertical relationship strength is causal. Consistent with this theory, a hypothesized noncompetitive market effect associated with ownership of corporate competitors by a diversified institutional investor is found by Azar et al. (2018). They determined that airline ticket prices on selected routes were 10 percent higher due to common ownership by a specific institutional investor. The authors argue that this diversified institutional owner of most of the firms in an industry focuses on industry performance as opposed to firm specific performance. However, due to their ability to devote resources toward research and expertise in choosing investments, it is also possible that institutional investors may invest in firms expected to outperform others in their industry.

Literature on Institutional owners is rapidly evolving. Existing studies note that Institutional owners affect the corporate policies of those firms in which they invest in R&D (Bushee, 1998; Aghion et al., 2013), in corporate governance and payout policy (Aggarwal et al., 2011; Appel et al., 2016; Grinstein & Michaely, 2005; Crane et al., 2016), in corporate leverage policies (Michaely et al., 2015), and recent studies consider the effect that institutional investors have on the interaction between companies when these investors hold equity stakes in both firms. The latter grouping includes the effect of common ownership on mergers and acquisitions (Hansen & Lott, 1996; Matvos & Ostrovsky, 2008; Harford et al., 2011) and on industry competition (He & Huang, 2014; Azar et al., 2018; Azar et al., 2016). Freeman (2018) observes that the underlying theme of the literature is that common ownership can have negative real effects. “Matvos & Ostrovsky (2008) argue common ownership can lead to bad acquisitions. Azar et al. (2018) and Azar et al. (2016) find that common ownership reduces product market competition” (p. 1). But the study of Freeman (2018) suggests a bright side in that common ownership lengthens customer-supplier relationships.

Let's shed a light on common ownership by setting:

Y_i – a goal for optimization, such as firm profit or value;

X – a vector of production inputs;

P – a vector of input prices;

C – state of industry competition;

G – corporate governance conditions;

F – a vector of fund ownership shares;

λ – constraints; and

i – a firm in industry I ; and

j – industry.

For a firm, i , in industry j , the firm's goal is to maximize Y given X , P , C , F , G , λ . But each institutional investor's goal is to maximize their return on investments from all firms in the industry. This strategy does not preclude betting on a single company but that implies a monopolistic industry. The following goal is consistent with the full range of competitive industry structures: $Inv\Pi_j = \sum Y_{ij} * F_{ij}$.

The larger the institutional investor, the more likely they own diversified shares of the industry. We speculate that it is the diversification of ownership in the industry that makes each investor have an industry rather than a firm focus. Put simply, a particular firm's managers will be more sensitive to the opinion of a significant investor if they know that investor also holds a large share of its competitors.

3. DATA DESCRIPTION

Our sample consists of U.S. publicly traded insurance companies and banks spanning the years 2006 through 2016. One governance variable identified by Pooser et al. (2017) is Family Control (see Section 4), which is more frequently observed in the banking and insurance industries than in others. Another reason these two industries are selected is that both industries are heavily regulated, unlike other industries. The starting year was selected because the current format of reporting compensation information, required by the SEC, began in 2006. Our sample considers all firms in the NAICS Financial Services sector, banks and insurers, and extends through 2016. The final sample for this study has 1,683 observations from 164 firms, including 84 banks and 82 insurers, over the eleven years (2006-2016).¹⁶

The insurer subsample was identified by selecting all firms in the Compustat database reporting a NAICS code of 524xx; 212 firms. From this identified set of insurance-related firms, the following groups were excluded: foreign based (ADR trading), health care providers; low-volume traded companies; penny stocks; mortgage guarantee companies, and companies that had insufficient data in the Compustat or CRSP databases.¹⁷ Banks were identified following the procedure in Cornett et al (2010). We identify the top 150 FDIC bank holding companies for the 2006 through 2016 period and exclude alien-owned banks, acquired banks, privately owned banks, and banks for which there

¹⁶ One firm, ticker AFSI, is counted twice here because the firm includes both insurance and banking activities in its SEC filings. The firm is treated as an insurer because that is its predominant business. The reduction in insurers between 2014 and 2016 is attributable to consolidation in the industry.

¹⁷ CRSP data is used to compute a measure of risk.

was no Compustat data. The remaining 88 insurance firms and 89 banks were trimmed to the final sample of 84 insurers and 82 banks because information gathered from the DEF 14A (Proxy Statement), described below, was not available.

Our study data is from Compustat, 10-K statements, DEF 14A statements, and FactSet. We use Compustat to gather income statement and balance sheet items for the identified firms in our sample. If any of this data is not available through Compustat, we look for it in the 10-K Annual report. Data for the Focus variable, our measure of line of business concentration, was collected directly from the 10-K statements. We gathered executive compensation, family ownership, director and officer ownership, and our duality variables from the DEF 14A (Proxy) Statements. Institutional investor ownership is only reported in the DEF 14A if an institutional investor owns at least 5% of the firm's shares. To measure institutional investor ownership more granularly than this, we use FactSet ownership data which reports the share of each firm owned by institutional investors.¹⁸

In both our banking and insurance samples, we note that four large institutional investors frequently holding stakes in most firms: Blackrock Capital, Vanguard, Fidelity, and State Street Bank. Therefore, much of our analysis considers the ownership stakes of these largest institutional investors.

4. VARIABLE SELECTION AND METHODOLOGY

This study seeks to relate the effects of institutional investor holdings with firm performance and risk. We measure firm-level performance by Tobin's q , a practice also used by other papers in the area (see Boyd & Solarino, 2016, for a survey of the corporate ownership literature). Theoretically, Tobin's q is the ratio of a firm's market value to the replacement cost of its assets (Brainard & Tobin, 1968), and is often interpreted as measure of managerial performance (Lang et al., 1989), which is the focus of this study. A set of factors expected to have an influence on performance are included in the analysis, in addition to the institutional investor ownership constructs. Our control variables include financial factors (size, leverage, liquidity, risk), governance constructs (compensation structure, board-management structure, i.e. duality, family ownership, and non-family director and officer ownership), as well as risk variables. Summary statistics for our variables are presented in Table 1, along with expected signs of control variables.

4.1. Financial variables

Our financial control variables are standard for any firm-level empirical study, with data coming from Compustat. We include a measure of size (the

natural logarithm of a firm's assets) because size may indicate potential economies of scope or scale and because size is frequently linked to firm performance in empirical studies. We use the logarithm value of assets in this investigation to remedy the distribution skewness, as typical of similar studies. The average value of Size of firms in the sample is 9.729, translated to about \$16.8 million dollars. Size is expected to be negatively related to the dependent variable, as can be seen from the formula of Tobin's q . Leverage represents the extent to which a firm utilizes debt to finance its operations and is often also considered a governance measure based on a theory that debt-holders can exert a risk dampening influence that may enhance their ability to obtain repayment of loaned funds. We use the DuPont Leverage measure, which estimates the effective use of debt rather than its quantity. DuPont Leverage is equal to the difference between ROE and ROA, which will be zero when a firm does not hold debt (Smith, 1999). We prefer the DuPont Leverage measure over other leverage values because insurers and banks almost completely finance their operations through borrowing - banks through deposits and insurers through premiums. The values of assets and liabilities are very skewed in these industries. Leverage is hypothesized to positively related to the dependent variable. The mean of Leverage in the sample is 0.081, suggesting the firms take advantage of equity more effective than debt.

We include the ratio of cash and short-term equities to total assets as a measure of liquidity. When liquidity is low, a firm may have trouble financing operations and obligations if a loss event occurs. On the other hand, too high liquidity may suggest the firm need to identify quality investment opportunities. The sampled firms report a wide range of percentage of cash and equivalent to assets, with the minimum close to zero while the maximum about 84%. Our final financial control variable is "business focus". We measure this variable with a Herfindahl index of reported segment revenues. Higher HHI values suggest greater focus on a specific segment (the maximum HHI, a value of 1, occurs when there is only 1 segment). Most firms sampled diversify their business portfolio, but we do observe at least one firm relies on a single sector. While the greater focus is associated with greater potential volatility in earnings, prior studies have found a negative relation between line of business diversification and firm performance. The effect of Focus on firm performance is mixed.

4.2. Governance variables

We collect data for executive compensation, family ownership, director and officer ownership, and duality variables from the DEF 14A (Proxy) Statements filed with SEC by publicly traded companies. We consider the effect of CEO compensation using both total compensation, and the portion of total compensation that is sensitive to the future performance of the firm. Total compensation is in logarithm value, with a minimum value of zero and the maximum 4.758. Future compensation is equal to the ratio of stock and option compensation to total compensation. The

¹⁸ For each year from 2006 through 2016, and for each insurer and bank, we obtain from the FactSet database the voting percentage of each institutional. This generated 164,902 observations and 12,349 different investors. Principal component analysis identified commonalities among these investors and the rotated factor patterns reveal a structure involving BlackRock, Vanguard, State Street, and a less strong relationship with Wells Fargo (i.e., rotated factor loadings are 80, 72, 83, and 46, respectively). Arguments made in other papers lead to the consideration of a different grouping, but the overlap is substantial. Eckstein (2018) calls attention to BlackRock, State Street, Vanguard, and Fidelity, which we use in our study.

majority of sampled firms report that 38.9% of total CEO compensation are paid in stocks or options, with zero and 100% on two extremes. This future-looking compensation variable is expected to be positively associated with firm performance. We also consider CEO-Board Chair Duality: a binary measure identifying cases where one person is both the CEO and Board Chair. A CEO was simultaneously Board chairperson in almost half of the observations, 787 firm-years; this simultaneity is more common in banking (445 banks and 342 insurers have a dual leadership structure). This typical governance measure yields conflicting evidence in the literature. Some argue it is a bad governance feature because the structure stifles criticism; others suggest that it speeds the ability of the firm to enjoy opportunistic gains that might be lost if more extensive board review were required. Another source of

concentrated ownership, for some firms, is the family-controlled firm. We identify family-controlled firms with a binary measure when a family has at least a 15 percent interest and, typically, if a founding family member has a seat on the board. Family control is seen in 270 firm-year observations; 70 firm-year observations are banks and 200 are insurers. Insurance family firms fell from a peak of 19 in the 2008-12 period to 16 in 2016. The effect of family control is mixed in the literature (see the literature review of Pooser et al. (2017) for details). We also consider the percentage of the firm owned by non-family directors and officers. We conjecture this variable is positively related to firm performance in that the interest of management is more align with stockholders when directors and officers hold a higher stake of the firm.

Table 1. Variables and descriptive statistics

Variable	Description	Expected sign	Mean	Std. Dev	Min.	Max.
Performance	Tobin's q	NA	1.044	0.115	0.533	1.826
Size	Ln(Assets)	-	9.729	1.970	2.243	14.761
Leverage	DuPont Leverage measure	+	0.081	0.068	0.000	1.030
Liquidity	Cash and Short term investments / Assets	+/-	0.096	0.098	0.001	0.839
Focus	Herfindahl Index of revenue by sector	+/-	0.609	0.277	0.010	1.000
LnTotComp	Natural logarithm of Total Compensation	+	3.538	0.492	0.000	4.758
CompFut	Stock & option component/Total compensation	+	0.389	0.262	0.000	1.000
Duality	1 if CEO is also Board Chair	+/-	0.468	0.499	0.000	1.000
Family	1 if family ownership > 15%	+/-	0.160	0.367	0.000	1.000
DO_Pct	Ownership % of the Directors and Officers	+	10.97	17.628	0.000	98.0000
RiskOp	Standard deviation of ROA over 8 quarters	-	0.003	0.006	4.7e-5	0.074
RiskInv	CV of daily stock price over the year	-	11.367	10.849	0.478	163.345
BlackRock	Blackrock ownership % of firm <i>i</i>	+	5.632	2.706	0.000	15.750
State Street	State Street ownership % of firm <i>i</i>	+	3.059	1.934	0.000	14.770
Vanguard	Vanguard ownership % of firm <i>i</i>	+	3.716	2.561	0.000	11.280
Fidelity	Fidelity ownership % of firm <i>i</i>	+	1.863	2.745	0.000	15.000

4.3. Risk variables

Descriptions of risk in the context of business are often vague about the kind of risk referred to; two of the usual alternatives are the possible operational outcomes of the firm and the alternative values one can realize from selling an ownership interest in the firm (i.e., stock). Some theories attempt to link the two concepts. The efficient market hypothesis, for example, suggests that any negative or positive operational possibilities will be incorporated into the stock price of the firm.

Investor risk, which we measure as the coefficient of variation (CV) of daily stock price, represents dispersion in the market's understanding of a firm's value. For the owner of a firm, this may be the most relevant risk measure because great volatility in stock price increases the likelihood that an investor's return will be lower than anticipated. Stock price volatility will also be high in times of great growth or recession. Operational risk implies a volatility that has a potentially negative consequence for the operation of the firm.¹⁹ Both risk measures are expected to relate to firm performance in a negative manner. We compute both financial and

operational risk measures using data collected from Compustat and CRSP. In our sample, the standard deviation of ROA over 8 quarters (operational risk) is about 0.003, with the highest of 0.074 and the lowest almost zero. The daily stock price displays a much more volatile behavior, with the maximum value being more than 300 times the minimum.

4.4. Institutional ownership variables

Data for institutional ownership is collected from FactSet. Table 1 reports that Blackrock holds an average of 5.63% of each sampled firm throughout the 11-year period. Table 2 presents the trend in industry-wide ownership by the four institutional investors. At the end of 2016, the combined investments of the four cited institutional investors (Blackrock Capital, Fidelity, State Street Bank, and Vanguard) accounts for about 20 percent of banking industry ownership and 22 percent of insurance industry ownership. We hypothesize that firm performance is positively related to institutional ownership.

Of the four institutions, Fidelity is committed to steady investment in both industries in the period of observation, after a minor decrease in the first several years studied. Over the same period, State Street maintained its investment position in the banking industry but almost doubled its ownership in the insurance industry. Blackrock was the largest

¹⁹ We also considered the CV of quarterly operating activities net cash flow. The CV of operating cash flow is a rough approximation of operating risk because a very "risky" firm, say a company with millions riding on the introduction of a new drug, can lose everything if it does not obtain FDA approval, yet its cash management may be excellent, and it may never have experienced a negative cash flow.

single investor across firms in both industries at any time; its stake in both the banking and insurance industries increased during the 11-year period. Vanguard's stake in both industries had the highest rate of investment, from less than 1 percent in 2006 to about 7 percent in 2016 in each industry. When institutional investors increase their ownership in

both industries, however, the investment in individual firms is not evenly distributed. Starting in 2015, Blackrock held a stake in every publicly traded insurance firm, at various percentages with the highest, 15.55 percent, in UIHC (United Insurance Holding Corp). A similar pattern is observed in Blackrock's banking investments.

Table 2. Average ownership percentages, by year and institutional investor

Year	Insurers				Banks				Totals			
	Black Rock	State Street	Vanguard	Fidelity	Black Rock	State Street	Vanguard	Fidelity	Black Rock	State Street	Vanguard	Fidelity
2006	3.56	1.93	0.16	2.27	4.86	2.26	0.10	1.35	4.23	2.10	0.13	1.79
2007	3.90	2.18	0.17	1.79	5.23	2.30	0.10	1.28	4.58	2.25	0.14	1.53
2008	4.45	2.35	2.43	1.75	5.78	3.29	2.97	1.50	5.12	2.82	2.70	1.62
2009	4.78	2.37	2.88	1.71	5.79	3.16	3.43	2.06	5.29	2.77	3.16	1.89
2010	4.76	2.43	3.15	1.75	5.79	3.38	3.93	2.25	5.28	2.90	3.54	2.00
2011	4.80	2.58	3.50	1.76	5.76	3.51	4.08	1.79	5.29	3.05	3.79	1.77
2012	4.90	2.73	4.04	1.87	5.85	3.81	4.71	2.21	5.38	3.28	4.38	2.04
2013	5.51	2.76	4.23	2.05	6.70	4.30	5.16	2.13	6.11	3.54	4.70	2.09
2014	5.75	2.83	4.73	1.75	6.82	4.43	5.69	2.19	6.28	3.63	5.21	1.97
2015	6.29	2.90	5.44	1.66	7.29	4.04	6.42	2.30	6.79	3.48	5.94	1.98
2016	6.90	3.16	6.32	1.48	8.18	4.38	7.55	2.09	7.53	3.76	6.92	1.78
Total	5.07	2.57	3.41	1.80	6.18	3.54	4.02	1.93	5.63	3.06	3.72	1.86

4.5. Methodology

Our analysis consists of two primary empirical tests: a base model specification of firm performance and our primary model with institutional investor variables.

All control variables are interacted with a banking dummy variable to separate potential industry effects between insurance companies and banks. We also include firm- and year-fixed effects as additional controls. The base model takes the form:

$$y_{it} = \sum_{j=1}^J \beta_j x_{itj} + \sum_{j=1}^J \beta_{j,B}(x_{itj} * Bank) + \alpha_i Firm_i + \delta_t Year_t + \varepsilon_{it} \tag{1}$$

While the primary model is specified as:

$$y_{it} = \sum_{j=1}^J \beta_j x_{itj} + \sum_{j=1}^J \beta_{j,B}(x_{itj} * Bank) + \sum_{k=1}^K \gamma_k z_{itk} + \alpha_i Firm_i + \delta_t Year_t + \tilde{\varepsilon}_{it} \tag{2}$$

where $\sum_{k=1}^K \gamma_k z_{itk}$ is our vector of institutional investor effects.

variable in an effort to capture the effect of institutional investors' ownership of the industries. Specifically, Big4Ind is the sum of the four organization's ownership of the insurance and banking industry, separately. For all insurers:

The vector of institutional investor variables is employed to capture the effects of ownership by Blackrock, Fidelity, Vanguard, and State Street on firm performance. In addition, we also include a

$$Big4Ind = \left(\sum_f \sum_{i=1}^4 Investor\ i's\ Ownership\%_f * MarketValue_f \right) / \sum_f MarketValue_f \tag{3}$$

where the summation with respect to f runs through all publicly traded insurers while the summation with respect to i aggregates across the four institutional investors.

following set of specifications of our primary model's residuals:

$$\tilde{\varepsilon}_{it} = v_{it} - \lambda_1 \tilde{\varepsilon}_{i,t-1} - \lambda_2 \tilde{\varepsilon}_{i,t-2} \tag{4}$$

$$v_{it} = \sqrt{h_{it}} e_{it} \tag{5}$$

$$h_{it} = \omega + \rho v_{i,t-1}^2 + \phi h_{i,t-1} \tag{6}$$

$$e_{it} \sim iid\ N(0,1) \tag{7}$$

Preliminary analysis based on ordinary least square estimation method indicates strong autocorrelation among residuals of the dependent variable, Tobin's q. In fact, the order 1 autocorrelation coefficient of the Ordinary Least Squares (OLS) residuals from the base model are 0.3547. Therefore the OLS error terms in equations (1) and (2) are not independent and the estimation results from OLS are not efficient, although unbiased. We apply a generalized autoregressive conditional heteroscedasticity (GARCH) model to correct the autocorrelation and potential heteroscedasticity problem. In specific, we test the

The specification combines an autoregressive with order two error model with a GARCH(1,1) variance model. The coefficients $\lambda_1, \lambda_2, \omega, \rho, \phi$ are estimated simultaneously with those in equations (1) or (2) together using maximum likelihood estimation method.

5. RESULTS

5.1. Base model results

Table 3 reports the estimates of the AR(2)-GARCH(1,1) model when institutional investor ownership information is not included, referred to hereafter as the base model.

The bottom section of Table 3 suggests the model specification is able to remedy the autoregressive and heteroscedasticity problem. The error term in equation (1) for base model displays autocorrelation at order 2. The non-zero values of ρ , φ indicate un-equal variance of residuals from equation (1).

The effects of independent variables on firm performance are reported in the top section, with heteroskedasticity corrected standard errors. The

top-left panel of Table 3 displays the results of firm characteristics variables, while the right panel reports the results of firm characteristics interacted with bank indicator. Those in the right thus reflect the incremental effects on banks. Of the characteristics considered, only focus and Duality appear insignificant for insurers, but the incremental analysis shows that Size, Leverage, Future compensation, and duality are the only factors that affect bank performance. Size, Leverage, Liquidity, the two executive compensation measures (LnTotComp and CompFut), and Family ownership all have significant and positive effects on insurers. The net effect on banks (not reported), for example, can be determined by the combined effects of these variables and their interaction with Bank dummy.

The results reinforce the appropriateness of considering separately the two financial service sectors.

Table 3. Base model results: Determinants of firm performance (dependent variable = Tobin's q)

	Common to insurers and banks			Bank incremental		
	Est	Std.	Pr.> t	Est	Std.	Pr.> t
Size	0.015	0.005	0.003	-0.042	0.006	<0.001
LevDP	0.066	0.018	<0.001	0.087	0.027	0.001
Liquidity	0.062	0.030	0.042	-0.045	0.043	0.298
Focus	0.016	0.011	0.139	-0.017	0.014	0.244
LnTotComp	0.022	0.005	<0.001	-0.021	0.006	<0.001
CompFut	0.007	0.005	<0.001	-0.016	0.007	0.014
Duality	-0.001	0.003	0.636	-0.007	0.004	0.075
Family	0.014	0.007	0.036	-0.035	0.031	0.241
DO_Pct	-0.072	0.008	<0.001	0.058	0.026	0.025
RiskOp	-1.319	0.319	<0.001	1.436	0.537	0.008
RiskInv	2.2e-4	1.1e-4	0.057	-1.8e-4	1.2e-4	0.148
λ_1	-0.285	0.032	<0.001			
λ_2	-0.035	0.025	0.148			
ω	6.3e-5	1.6e-5	<0.001			
ρ	1.375	0.099	<0.001			
φ	0.170	0.023	<0.001			

Note: Total R-square = 0.720, AIC = -6115. Firm dummies and Year dummies are included in the analysis, but the results are omitted in this table.

5.2. Firm performance and institutional ownership – omitted variables identified

To test for the presence of the hypothesis of omitted variables, investor ownership. We compute the correlation between each institutional investor's ownership stake in individual firm (as well as the percentage of each industry owned by the four institutions altogether in each year) and the residuals from the base model, $\hat{\varepsilon}_{i,t}$. Table 4 presents the Pearson correlation coefficients. The results

suggest that residuals from the base model are significantly related to Blackrock's ownership at a 1% significance level (with a coefficient of 0.092 with p -value of less than 0.001). The residual from the base model is also significantly related to firm ownership held by Vanguard and State Street. We can also see that Blackrock ownership in insurers and banks is positively correlated with ownership by the other three organizations. It is this cross-ownership correlation that supports the supplemental study of a group effect.

Table 4. Pearson correlation coefficients between base model residual and institutional ownership percentages

	Blackrock	Fidelity	Vanguard	State Street	Big4 Own the Industry
Residual	0.092 (<0.001)	0.028 (0.253)	0.073 (0.003)	0.103 (<0.001)	-0.004 (0.862)
Blackrock	1.000	0.141 (0.001)	0.573 (0.001)	0.499 (0.001)	0.101 (0.001)
Fidelity		1.000	0.177 (0.001)	0.201 (0.001)	6.8e-4 (0.978)
Vanguard			1.000	0.523 (0.001)	0.482 (0.001)
State Street				1.000	0.024 (0.338)

Note: P-values are in the parentheses.

5.3. Primary model results

The results are reported in Table 5. The autoregressive structure of the residuals is now valid at order one (the autoregressive structure is valid at order one with the coefficient of -0.27 and is statistically significant at a 1% significance level). The residual variances are also corrected; coefficients ρ and ϕ are non-zero and significant. Finally, the fit of the primary model has improved over that of the base model, reflected by the values of Total R-square and AIC.

Consistent with Table 3, the effects of the control variables are reported in the top section of the table. The left panel displays the effects on bank and insurance companies and the right one are the incremental effects on banks only. The net effects on banks can be obtained by combining the results in the left and the right.

Of all control variables (those reported in Table 3), the results presented on the left side of Table 5 show a positive effect on Tobin's q for Leverage and Liquidity, consistent with the hypotheses. Specifically, when Leverage increases by one unit, the firm's performance (be it insurer or bank) is 0.053 better and the effect is statistically significant. Combining the result for Leverage in the right column, we see that a bank's performance increases even greater, indicated by the coefficient of 0.135 (statistically significant at 1% level). This

finding is opposite to that of Pooser et al. (2017) where leverage is measured as the ratio of liability to assets. While previous research report mixed findings on Liquidity and Family Control, our results suggest positive effects of these two variables on insurer performance. The Family effect on insurers is consistent with Pooser et al. (2017). The net Liquidity effect on banks is not significant (a test was run to examine whether the sum of coefficients of Liquidity and that of Liquidity*Bank dummy is zero. The null hypothesis could not be rejected. The same procedure was performed on other control variables except for institutional ownership). The net effect of Family on banks is significant but negative, perhaps another indicator that the two financial industries should be treated differently. Ownership by Directors and Officers and the level of operational risk are negatively related to insurer performance (consistent with our conjecture), but not significantly related to banks' performance measure. Variables that are insignificant in explaining insurer performance include Size, Focus (business concentration), two compensation variables, Duality and Investor risk. Among these factors, Size, the percentage of stock based compensation in the total (CompFut) and Duality are negatively and significantly related to bank performance. The net effects of Focus, total compensation, and Investor Risk on bank performance are all insignificant.

Table 5. Empirical results with institutional investor ownership: Determinants of performance (dependent variable = Tobin's q)

	Expected sign	Common to Insurers and banks			Bank Incremental		
		Est	Std.	Pr.> t	Est	Std.	Pr.> t
Size	-	0.009	0.006	0.107	-0.030	0.007	<0.001
Leverage	+	0.053	0.016	0.001	0.135	0.028	<0.001
Liquidity	+/-	0.096	0.029	0.001	-0.073	0.042	0.081
Focus	+/-	0.012	0.010	0.238	-0.023	0.013	0.072
LnTotComp	+	0.008	0.005	0.124	-0.007	0.006	0.252
CompFut	+	0.008	0.005	0.115	-0.019	0.006	0.002
Duality	+/-	0.001	0.003	0.601	-0.010	0.004	0.011
Family	+/-	0.015	0.007	0.031	-0.097	0.022	<0.001
DO_Pct	+	-0.060	0.007	<0.001	0.023	0.031	0.473
RiskOp	-	-1.365	0.272	<0.001	2.049	0.514	<0.001
RiskInv	-	1.3e-4	1.1e-4	0.250	-2.8e-4	1.4e-4	0.051
Blackrock	+	0.003	4.7e-4	<0.001			
Fidelity	+	0.001	3.6e-4	<0.001			
Vanguard	+	-2e-4	6.5e-4	0.721			
State Street	+	5e-4	6.7e-7	0.438			
Big4Industry	+	0.003	6e-4	<0.001			
λ_1		-0.276	0.034	<0.001			
λ_2		-0.026	0.025	0.299			
ω		5.5e-5	1.6e-5	<0.001			
ρ		1.384	0.103	<0.001			
ϕ		0.177	0.024	<0.001			

Note: Total R-square = 0.739, AIC = -6125. Firm dummies and Year dummies are included in the analysis, but the results are omitted in this table.

Our variables of interest are institutional ownerships by each of the four named investors, and the combined percentage of all four together. The ownerships held by two institutional investors, Blackrock and Fidelity, are indeed associated with an individual firm's performance in a positive manner. When Blackrock's ownership in an insurance company or bank increases by one percentage, the firm's performance measured by Tobin's q, increases by at least 0.003. In the case of Fidelity, the increase in Tobin's q is at least 0.001 for one percentage point increase in Fidelity's ownership of the firm.

Vanguard and State Street are not observed to exert any direct and significant effects on the performance of firms they invest in. This may suggest that all institutional investors do not adopt the same strategy. However, and interestingly, the aggregate ownership by the Big Four investors is found to be positively related to an individual firm's performance, possibly driven by that of Blackrock and Fidelity. The use of the term "at least" above is because a one percent increase in ownership of a firm by, say, Blackrock, would also increase the percent of the industry owned by Blackrock, the

Big4Industry variable. When the Big Four increase their investment in insurance or banking industry by one percentage point, Tobin's q of individual insurer or bank is found to increase by 0.0032 and the effect is significant at 1% level. The real question would be how? What is the mechanism that institutional investors' investment in an industry affects the performance of individual firms? We could follow Azar et al. (2016, 2018) and speculate that the Big4Industry relationship reflects an anticompetitive effect – either explicit or tacit collusion – but there is no a priori reason to assume this causal relationship. It is possible that the relationship exists because the investors have an ability, over time, to reward better performing firms. Some research suggests that funds rewarded by new money use the funds to bet on winners and, for a time, the strategy continues to beat the market (Zheng 2002). We speculate that this type of investment behavior could also result in a positive effect. We take no position about the cause of the positive relations but the puzzle, which runs counter to the efficient market hypothesis, remains.

6. CONCLUSION

Control of a stock corporation can range from wholly owned to very small stock percentages held by a large and diverse group of owners. A large part of the focus of modern financial theory is on the consequence of diverse ownership and the consequent need to align owner-manager incentives. Strains of the governance literature consider the effect on firms when identified blocks of shares are held by an individual or small group (e.g., directors and officers, families, or block holders). This focus of this paper is on situations where the control of the firm may be implied from ownership blocks, either a controlling block in the hands of a family or through the coordinated ownership of a group of institutional investors. An assumption in almost all studies is that the goals of the firm include value or profit maximization. Family-control oriented studies question whether the stewardship nature of such ownership modifies the short-term profit maximization goal. The director and officer perspective questions whether value maximization is affected by managerial expropriation influences. Recent studies of institutional investors yield conflicting evidence of an empirically significant effect on industry performance, implicitly at the expense of firms in the industry though that has not been a part of any studies to-date.

We perform two major empirical analyses: a base model which regresses firm financial, risk, and

governance factors on Tobin's q and our primary model which includes institutional investor ownership variables. We note that four major institutional investors consistently appear in our sample as major holders of banks and insurers: Blackrock Capital, Fidelity, State Street Bank, and Vanguard. To determine if any of these holders may influence firm performance, we correlate their ownership stake in each firm with the estimated residuals from our base model. The primary model includes institutional ownership information added to the base model.

The results of our two models are consistent across our control variables. Size, leverage, and line of business focus are positively related to Tobin's q, although the effects for size and focus are lessened or negated for banks. Both total and future compensation are positively related to performance (again, future compensation's effect is negated for banks). Related to ownership and control, insurers with a dual CEO/Board Chair have higher associated Tobin's q. A greater ownership stake by non-family directors and officers is associated with a lower q for all firms. Our measure of operational risk is negatively associated with Tobin's q. However, the investor's risk measure is positively associated with q for insurers.

Our institutional holder results show that larger holdings by Blackrock and Fidelity, respectively, are positively associated with Tobin's q. Also positively and significantly related to a firm's performance is the combined holding of the firm by all four institutions examined.

Our findings indicate that large institutional investors are not necessarily invested in higher Tobin's q firms. However, a higher Tobin's q is associated with the coincidence of greater risk and a stake by the institutional investor. Perhaps these large investors use their influence with management or through proxy votes to support riskier firm initiatives. This would support the classical notion of the diversified investor holding a balanced portfolio of risk-neutral firms seeking to increase risk and returns.

We believe that this paper contributes to a large and growing body of research examining the effects of common ownership. While much of the existing literature focuses on antitrust and anticompetitive behaviors, we also see a need to examine the performance outcome of these large investors. We realize that the findings are limited to two regulated industries only while large institutions invest in all industries. A study of more industries will likely reveal more about the relationship between institutional ownership and firm performance.

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Appendix

Detail on each firm in the sample and on the variables assembled for each firm

#	Ticker	Firm Name	Bank	Period	Discussion of special circumstances
1	AAME	Atlantic American Corporation	0	6-16	Estate of Mack Robinson has over 60% for all years and at least one family member on the board.
2	ACGL	Arch Capital Group Ltd.	0	6-16	
3	AEL	American Equity Investment	0	6-16	
4	AET	Aetna Inc.	0	6-16	
5	AFG	American Financial Group Inc.	0	6-16	Linder family has over 20% until 2012, and 10-13% afterwards. Two family members on the Board throughout the period.
6	AFH	Atlas Financial Holdings Inc.	0	13-16	AFH started in 2010 as a joint venture of KFS and First trading day 2/2/13
7	AFL	AFLAC Incorporated	0	6-16	
8	AFSI	AmTrust Financial Services Inc.	1-1	6-16	Karfunkel family has over 20% all years; AFSI has bank and insurance divisions.
9	AGII	Argo Group International	0	6-16	
10	AHL	Aspen Insurance Holdings	0	7-16	
11	AIG	American International Group	0	6-16	US Treasury controlled 08-09
12	ALL	Allstate Corp.	0	6-16	
13	ALLY	Ally Financial Inc.	1	14-16	GMAC before 2009 (no Compustat data for GMAC) ... no good data until 2014
14	AMIC	American Independence Corp.	0	9-14	
15	AMP	Ameriprise Financial, Inc.	0	6-16	Ameriprise Financial was spun off from American Express in 2005 (Incomplete 05 data)
16	AMSF	Amerisafe, Inc.	0	6-16	First trading day 11/18/2005
17	ANAT	American National Insurance	0	6-16	Moody National Bank has over 40%. The bank is controlled by the Moody family.
18	ASB	Associated Banc-Corp.	1	6-16	
19	AWHH F	Allied World Assurance Co.	0	6-16	No SEC filing before 2007 (2006 data)
20	AXP	American Express	1	6-16	
21	AXS	Axis Capital Holdings Limited	0	6-16	
22	BAC	Bank of America	1	6-16	
23	BANR	Banner Corp.	1	6-16	
24	BK	Bank of New York Mellon	1	6-16	
25	BKU	BankUnited Financial Corp.	1	11-16	Firm was organized in 2009. Incomplete year for 2010 - start with 2011.
26	BOH	Bank of Hawaii Corporation	1	6-16	
27	BOKF	BOK Financial Corp.	1	6-16	George Kaiser has over 60% for the whole period.
28	BPOP	Popular Inc.	1	6-16	
29	BRK.B	Berkshire Hathaway Inc.	1	6-16	Buffet family held over 15% until 2009. Through a mix of A and B shares, Warren Buffet votes 30% of the voting shares.
30	BWINB	Baldwin & Lyons Inc.	1	6-16	Shapiro family has between 14 and 15 percent each year, plus at least one family member on the board.
31	BXS	BancorpSouth, Inc.	1	6-16	
32	C	Citigroup	1	6-16	
33	CATY	Cathay General Bancorp	1	6-16	
34	CB	Chubb Corp	0	6-16	
35	CBSH	Commerce Bancshares	1	6-16	
36	CBU	Community Bank System	1	6-16	
37	CFR	Cullen/Frost Bankers Inc.	1	7-16	Check for availability on SEC website, not on Compustat
38	CHCO	City National Bank	1	6-16	
39	CI	CIGNA Corporation	0	6-16	
40	CIA	Citizens, Inc.	0	6-16	
41	CINF	Cincinnati Financial Corp.	0	6-16	Schiff family has 8% each year - Not treated as a family.
42	CIT	CIT Group Inc.	1	9-16	Check for availability on SEC website, not on Compustat
43	CMA	Comerica	1	6-16	
44	CNA	CNA Financial Corp.	0	6-16	Loews Corp has ~90% each year (L, in turn, is a Tisch co.)
45	CNC	Centene Corp.	0	6-16	
46	CNO	CNO Financial Group Inc.	0	6-16	
47	COF	Capital One Financial	1	6-16	
48	CPF	Central Pacific Financial Corp.	1	6-16	US Treasury controlled 2010 & 11
49	CRBC	Citizens Republic Bancorp Inc.	1	11	No earlier price data available; then acquired by HBAN (which is in the sample)
50	DFG	Delphi Financial Group Inc.	0	6-10	Ticker delisted - no complete data found
51	DFS	Discover Financial Services	1	7-16	Discover - spun off from Morgan Stanley (first in sample in 2007)
52	DGICA	Donegal Group Inc.	0	6-16	Donegal Mutual has over 40% of Donegal Group shares. Not sure who votes the shares, likely DGICA management.
53	EIG	Employers Holdings, Inc.	0	7-16	First trading day 1/31/2007
54	EMCI	EMC Insurance Group Inc.	0	6-16	Employers Mutual Casualty holds more than 25% of Employers Holding stock. Cannot find EMC anywhere (internet takes you to the stock co.)
55	ENH	Endurance Specialty Holdings	0	6-16	
56	ETFC	E-Trade Financial	1	6-16	

#	Ticker	Firm Name	Bank	Period	Discussion of special circumstances
57	EVER	EverBank Financial Corp.	1	12-15	No data before 2010; limited until 2012; acquired by TIAA in 2016.
58	EWBC	East West Bancorp Inc.	1	6-16	
59	FBC	Flagstar Bancorp Inc.	1	6-16	Hammond family (3 members) held more than 15% until 2009, then divested.
60	FBNC	First Bancorp	1	6-16	
61	FHN	First Horizon National Bancorp	1	6-16	
62	FIBK	First Interstate Bank	1	6-16	First trading day 3/24/2010
63	FITB	Fifth Third Bancorp.	1	6-16	US Treasury controlled 2008 & 09
67	FMBI	First Midwest Bancorp, Inc.	1	6-16	
68	FMER	Firstmerit Corp.	1	6-15	Purchased by HBAN (in sample)
69	FNB	F.N.B. Corp.	1	6-16	
70	FNHC	Federated National Holding Co.	0	6-16	
71	FRME	First Merchants Corp.	1	6-16	
72	FULT	Fulton Financial Corp.	1	6-16	
73	GBLI	Global Indemnity	0	8-16	Check for availability on SEC website, not on Compustat
74	GNW	Genworth Financial Inc.	0	6-16	
75	GS	Goldman Sachs	1	6-16	
76	HALL	Hallmark Financial Services	0	6-16	Newcastle Partners has more than 25% per year. Newcastle seems to be a father-son group (Lowden family) - http://www.newcastle-partners.com/
77	HBAN	Huntington Bancshares	1	6-16	
78	HBHC	Hancock Holding Company	1	6-16	
79	HCBK	Hudson City Bancorp	1	7-13	Merged with M&T Bank in 2014
80	HCI	HCI Group Inc.	0	8-16	First trading day: 9/15/2008
81	HGIC	Harleysville Group Inc.	0	6-10	
82	HIG	Hartford Financial Services	0	6-16	
83	HMN	Horace Mann Educators Corp.	0	6-16	
84	HRTG	Heritage Insurance Holdings Inc.	0	14-16	Do not know why data is limited. The website lists SEC filings only from 2014 First trading day 5/23/2014.
85	IBKC	Iberiabank Corp.	1	6-16	
86	IBOC	International Bankshares Corp.	1	6-16	Antonio Sanchez has over 15% to 2011, then 12-14%. He remains Chair of the Board.
87	IHC	Independence Holding Company	0	6-16	Over 50% Geneve Holdings; Geneve, in turn, is controlled by Edward Netter. Netter died in 2011 - unclear who votes those shares now (Geneve is private).
88	IPCC	Infinity Property and Casualty	0	6-16	
89	ISBC	Investors Bancorp.	1	6-13	Check for availability on SEC website, not on Compustat
90	JPM	JP Morgan Chase & Co.	1	6-16	
91	KCLI	Kansas City Life Insurance Co.	0	6-14	Check for availability on SEC website, not on Compustat
92	KEY	KeyCorp.	1	6-16	
93	KINS	Kingstone Companies Inc.	0	6-16	
94	KMPR	Kemper	0	6-16	
95	L	Loews Corporation	0	6-16	Tisch family has over 15% of L each year and multiple families on board.
96	LNC	Lincoln National Corporation	0	6-16	
97	M	Macy's	1	6-16	
98	MBFI	MB Financial, Inc.	1	6-16	
99	MCY	Mercury General Corporation	0	6-16	George family has over 30% of the stock.
100	MET	Metlife Inc.	0	6-16	MetLife Policyholder Trust has over 15% of voting stock. It is hard to tell who votes these shares; I thought management but cannot tell.
101	MKL	Markel Corporation	0	6-16	
102	MS	Morgan Stanley	1	6-16	
103	MTB	M&T Bank Corp.	1	6-16	
104	NAVG	Navigators Group Inc.	0	6-16	Terrence Deeks has over 20% throughout.
105	NBTB	NBT Bancorp Inc.	1	6-16	
106	NPBC	National Penn Bancshares Inc.	1	6-15	Purchased by BB&T
107	NSEC	National Security Group Inc.	0	6-16	Brunson family has over 15% throughout.
108	NTRS	Northern Trust	1	6-16	
109	NWLI	National Western Life Group Inc.	0	6-16	Robt. Moody has over 30% 2007-2015, then drops to 0 (sold out)
110	NYCB	New York Community Bancorp.	1	6-16	
111	ONB	Old National Bancorp.	1	6-16	
112	ORI	Old Republic International Corp.	0	6-16	
113	PB	Prosperity Bancshares Inc.	1	6-16	
114	PBCT	People's United Financial Inc.	1	6-16	
115	PFG	Principal Financial Group Inc.	0	6-16	
116	PFS	Provident Financial Services Inc.	1	6-16	
117	PGR	Progressive Corp.	0	6-16	
118	PIH	1347 Property Insurance Holdings	0	14-16	Incorporated in 2012. First completed data 2014
119	PNC	PNC Financial Services Group	1	6-16	
120	PRA	ProAssurance Corporation	0	6-16	
121	PRI	Primerica, Inc.	0	10-16	Primerica spun off from Citi in 2010.
122	PRK	Park National Corp.	1	6-16	
123	PRU	Prudential Financial Inc.	0	6-16	

#	Ticker	Firm Name	Bank	Period	Discussion of special circumstances
124	PVTB	PrivateBancorp.	1	6-16	
125	RE	Everest Re Group Ltd.	0	6-16	
126	RF	Regions Financial	1	6-16	US Treasury controlled 2008
127	RGA	Reinsurance Group of America	0	6-16	
128	RJF	Raymond James Financial Inc.	1	6-16	James family has over 15% until 2011, then 9-10% and a seat on the board (not management).
129	RLI	RLI Corp.	0	6-16	
130	RNR	RenaissanceRe Holdings Ltd.	0	6-16	
131	SAFT	Safety Insurance Group, Inc.	0	6-16	
132	SCHW	Charles Schwab Corp.	1	6-16	Charles Schwab has over 15% until 2011, then 11-15% and serves as Chair of the Board
133	SFG	StanCorp Financial Group, Inc.	0	6-14	Purchased by Yasuda Life in 2015. Caused 2015 stock to double - not a representative year.
134	SIGI	Selective Insurance Group	0	6-16	
135	SIVB	SVB Financial Group	1	6-16	
136	SNV	Synovus Financial Corp.	1	6-16	
137	STFC	State Auto Financial Corp.	0	6-16	
138	STT	State Street Corp.	1	6-16	
139	SUSQ	Susquehanna Bancshares Inc.	1	6-14	Purchased by BB&T in mid-2015
140	TACI	Transatlantic Holdings, Inc.	1	6-11	Has become a penny stock. Current price is 0.27 and volume is 100 shares. ?? No idea what happened. It seemed healthy in 2014. ... Too small a group - Keinan has over 20% until 2013, then Lucas and Griggs each have over 20%. ... Not treated as family.
141	TCF	TCF Financial	1	6-16	
142	THG	Hanover Insurance Group Inc.	0	6-16	
143	TMK	Torchmark Corporation	0	6-16	
144	TRMK	Trustmark Corp.	1	6-16	
145	TRV	Travelers Companies Inc.	0	6-16	
146	UBSI	United Bancshares, Inc.	1	6-16	
147	UCBI	United Community Banks, Inc.	1	6-16	
148	UFCS	United Fire Group, Inc.	0	6-16	
149	UIHC	United Insurance Holdings	0	7-16	First trading day: 11/7/2007 (incomplete 2007)
150	UMBF	UMB Financial Corp.	1	6-16	14-15% held by Kemper family until 2011; 9-13% thereafter with 2 family members on the 16-person board.
151	UMPQ	Umpqua Holdings Corp.	1	6-16	
152	UNAM	Unico American Corporation	0	6-16	Cheldin Family holds over 40%.
153	UNM	Unum Group	0	6-16	
154	USB	U.S. Bancorp.	1	6-16	
156	UVE	Universal Insurance Holdings	0	6-16	Bradley Meier family has over 30% until 2012; 10% in 2013 with family members on board, then negligible and no family.
157	VLY	Valley National Bank	1	6-16	
158	VR	Validus Holdings, Ltd.	0	7-16	Founded in 2005. First full data in 2007.
159	WAFD	Washington Federal, Inc.	1	6-16	
160	WBS	Webster Financial Corp.	1	6-16	
161	WFC	Wells Fargo & Co.	1	6-16	
162	WRB	W. R. Berkley Corp.	0	6-16	William Berkley has over 15% and is both CEO & Chair.
163	WTRF	Wintrust Financial Corp.	1	6-16	
164	WTM	White Mountains Insurance	0	6-16	
165	WTNY	Whitney Holding Corp.	1	6-9	Acquired by HBHC (in sample)
166	XL	XL Group	0	6-16	
167	Y	Alleghany Corporation	0	6-16	F.M. Kirby family held over 30% until 2012, then the ownership% fell to negligible
168	ZION	Zions Bancorp.	1	6-16	