SECTION OA1: VARIABLE DESCRIPTIONS

VARIABLE	DESCRIPTION
	Dependent variable
Firm value	The ratio of the market value of assets to its book value where the market value of assets is defined as the book value of assets plus the market value of equity minus the book value of equity minus deferred taxes
	Ownership variables
Insider own	The percentage of voting rights controlled by the firm's officers and directors as a group
Insider own05	*Insider own* if less than 5%; set to 5% if *Insider own* ≥ 5%
Insider own525	*Insider own* - 5% if 5% < *Insider own* < 25%; set to 20% if *Insider own* ≥ 25%; set to 0 if *Insider own* < 5%
Insider own25	*Insider own* - 25% if *Insider own* ≥ 25%; set to 0 if *Insider own* < 25%
	Control variables
Ln(Firm size)	The natural logarithm of the book value of total assets
R&D	The ratio of R&D to sales
Leverage	The ratio of book value of long term debt to total assets
Advertising	The ratio of advertising expenses to sales
PPE	The ratio of total property, plant, and equipment to the book value of total assets
CAPEX	The ratio of capital expenditures to sales
Industry median firm value	Median *Firm value* for all COMPUSTAT firms in the same year and Fama-French 48 industry group
	Additional control variables for replications
Morck, Shleifer, and Vishny (1988)	
RD/A	The ratio of R&D to the net assets
ADV/A	The ratio of advertising expenses to the net assets
D/A	The ratio of market value of long-term debt to the net assets
SIC3(I)	3-digit SIC code fixed effects
McConnell and Servaes (1990)	
DEBT/RV	The ratio of the market value of debt to the net assets
R&D/RV	The ratio of R&D expenses to the net assets
ADV/RV	The ratio of advertising expenses to the net assets
Agrawal and Knoeber (1996)	
RDA	The ratio of R&D expenses to total assets
ADVA	The ratio of advertising expenses to total assets
LASSET	The natural log of book value of total assets in millions of dollars

Himmelberg, Hubbard, and Palia (1999)

LN(S)	The natural logarithm of sales
$(LN(S))^2$	The squared natural logarithm of sales
K/S	The ratio of total property, plant, and equipment to sales
$(K/S)^2$	The squared ratio of total property, plant, and equipment to sales
Y/S	The ratio of operating income to sales
SIGMA	The standard error of the residuals from a CAPM model estimated over the 250-trading day period ending on the last trading day before the fiscal year end
SIGDUM	Dummy variable equal to 1 when *SIGMA* is non-missing, and 0 otherwise.
R&D/K	The ratio of R&D to property, plant, and equipment
RDUM	Dummy variable equal to 1 if *R&D/K* is missing, and 0 otherwise
A/K	The ratio of advertising expenses to property, plant, and equipment
ADUM	Dummy variable equal to 1 if *A/K* is missing, and 0 otherwise
I/K	The ratio of capital expenditures to property, plant, and equipment

SECTION OA2: COMPLETE SET OF RESULTS WITH ALL CONTROL VARIABLES

In Figures OA1 to OA10, we present the results of the semi-parametric estimation of the ownership-firm value relationship for the full sample of firms as well as for all subsamples using a complete set of control variables. Robinson's semi-parametric regression estimator is used for all estimations. While the semi-parametric results reported in the paper (Figures 7 to 11) include only firm size and firm size squared as control variables, for each estimation in this section, the complete set of control variables employed includes those most frequently used in the ownership-firm value literature:[30]

- firm size (Gompers, Ishii, and Metrick, 2010; Coles et al., 2012)
- industry-median Q (Miller et al., 2007), asset tangibility (Cui and Mak, 2002)
- R&D (Demsetz and Lehn, 1985; Cui and Mak, 2002; Miller et al., 2007)
- advertising (Gompers, et al., 2010)
- capital expenditures (Demsetz and Lehn, 1985; Miller et al., 2007)
- leverage (Kim and Lu, 2011).

[Figures OA1 to 0A10 here]

In this section, we also present the results of additional subsample analysis. In Table OA1, we provide the distribution of insider ownership for these additional subsamples based on firm age (using time since incorporation), index constituency, year of observation, and dual class status. Insider ownership distribution details for all other subsamples are provided in Table 3 of the paper.

[Table OA1 here]

[30] Prior studies have used different combinations of these variables or their variants and our unreported tests indicate that the exact choice (and definitions) of the variables is related to the conclusions. Similarly, the choice of methodology is an important consideration in its own right. While we certainly recognize the importance of these two issues, a detailed discussion of the myriad specifications and variables used in the literature is a substantial exercise that is beyond the scope of this paper.

Table OA1
Distribution of insider ownership for additional subsamples
This table provides the distribution of insider ownership for additional subsamples based on firm age (based on time since incorporation), index constituency, year of observation, and dual class status. In Panel A, the sample is split into equal-sized terciles (for each year). The percentages within each subsample indicate the proportion of observations in each ownership category.

Own category	***0-5%***	***5-10%***	***10-20%***	***20-30%***	***30-40%***	***40-50%***	***50-60%***	***60-70%***	***70-80%***	***80-90%***	***>90%***
Panel A: Time since incorporation											
Young	19.2%	20.9%	21.8%	12.3%	8.8%	6.2%	4.5%	3.0%	1.9%	0.8%	0.7%
Medium age	29.4%	18.8%	17.9%	11.0%	7.4%	4.8%	4.0%	3.5%	1.7%	0.9%	0.5%
Old	44.3%	16.1%	12.2%	7.7%	5.0%	4.2%	3.5%	2.6%	3.0%	1.1%	0.3%
Panel B: Index listing subcategory											
S&P 500	77.1%	8.7%	6.4%	2.2%	1.2%	1.5%	0.3%	0.7%	1.2%	0.3%	0.3%
S&P 400 Midcap	54.5%	21.9%	8.0%	5.5%	3.3%	1.8%	1.3%	1.7%	1.4%	0.5%	0.0%
S&P 600 Small cap	33.8%	30.0%	19.0%	7.4%	4.1%	2.2%	0.7%	1.1%	0.9%	0.5%	0.1%
Panel C: Year of observation											
2004	21.6%	19.3%	19.1%	12.2%	9.0%	6.1%	5.1%	3.6%	2.2%	1.1%	0.6%
2009	31.4%	19.3%	17.9%	9.8%	6.6%	5.0%	3.7%	2.8%	2.4%	0.9%	0.3%
2014	46.9%	16.5%	13.3%	7.8%	4.4%	3.1%	2.4%	2.4%	2.0%	0.7%	0.4%
Panel D: Dual class											
Single	32.0%	19.7%	18.3%	10.7%	6.9%	4.9%	3.6%	2.2%	1.1%	0.4%	0.2%
Dual	13.8%	3.3%	4.8%	5.3%	9.6%	7.7%	9.6%	14.6%	17.7%	8.4%	5.2%

Figure OA1

Semi-parametric estimation of the ownership-firm value relationship for the full sample of firms

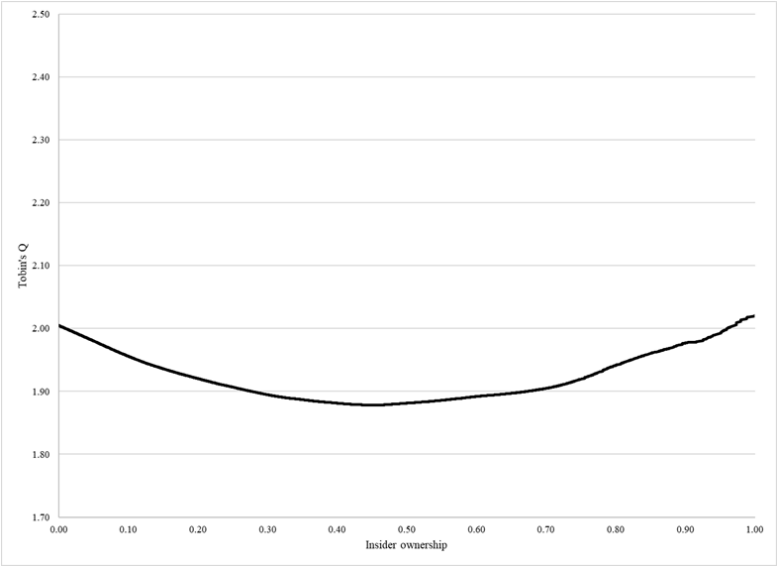


Figure OA2

Semi-parametric estimation of the ownership-firm value relationship for subsamples based on firm size

Subsamples are formed by dividing the full sample into terciles based on firm size (as measured by the book value of assets).

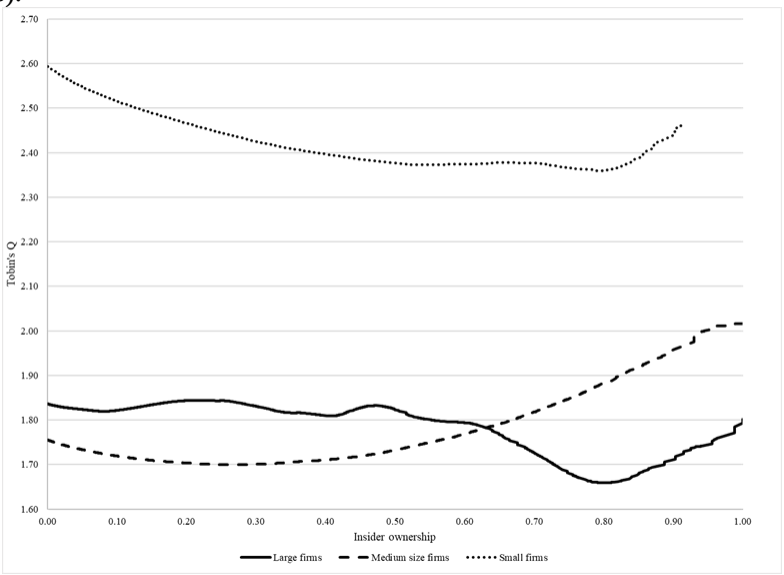


Figure OA3

Semi-parametric estimation of the ownership-firm value relationship for subsamples based on time since IPO

Subsamples are formed by dividing the full sample into terciles based on firm age (as measured by the number of years since IPO).

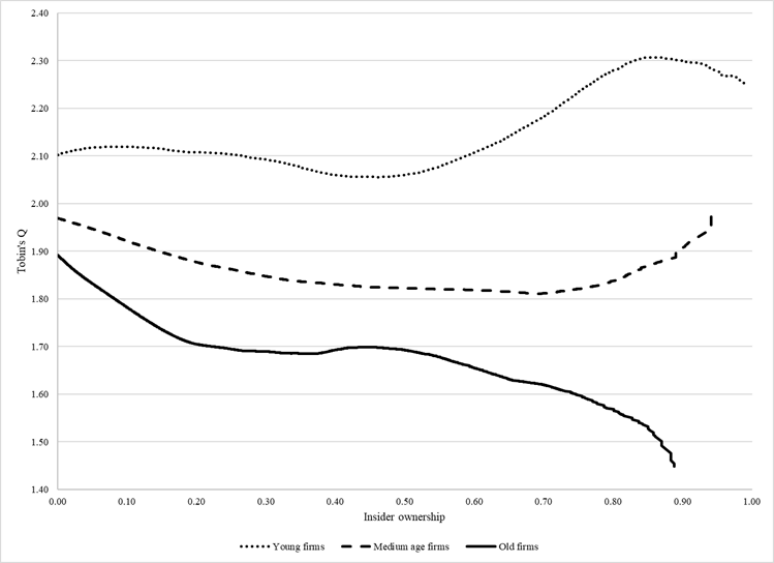


Figure OA4

Semi-parametric estimation of the ownership-firm value relationship for subsamples based on time since incorporation

Subsamples are formed by dividing the full sample into terciles based on firm age (as measured by the years since incorporation).

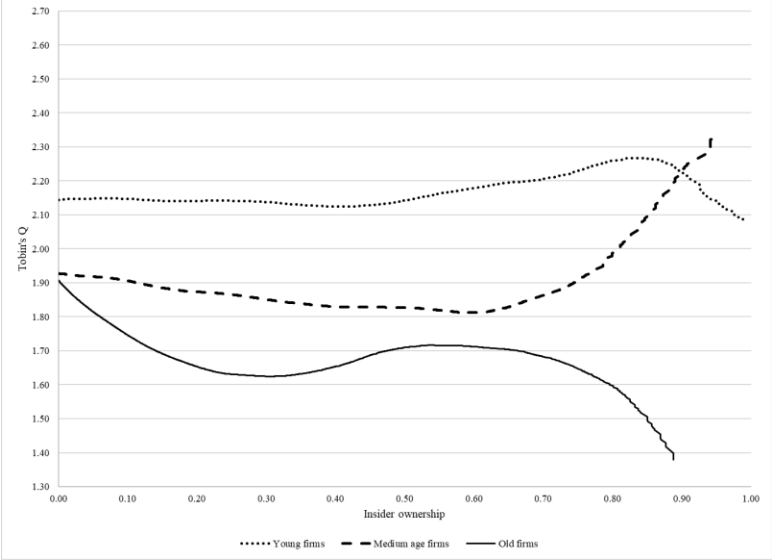


Figure OA5

Semi-parametric estimation of the ownership-firm value relationship for subsamples of index-listed and off-index firms

Index listed firms are firms that are listed in one of in any of the three main S&P indexes viz. the S&P 500 (large cap), the S&P 400 (mid cap), and S&P 600 (small cap) indexes. Off-index firms are those that appear in CRSP and Compustat but are not a member of one of these indexes.

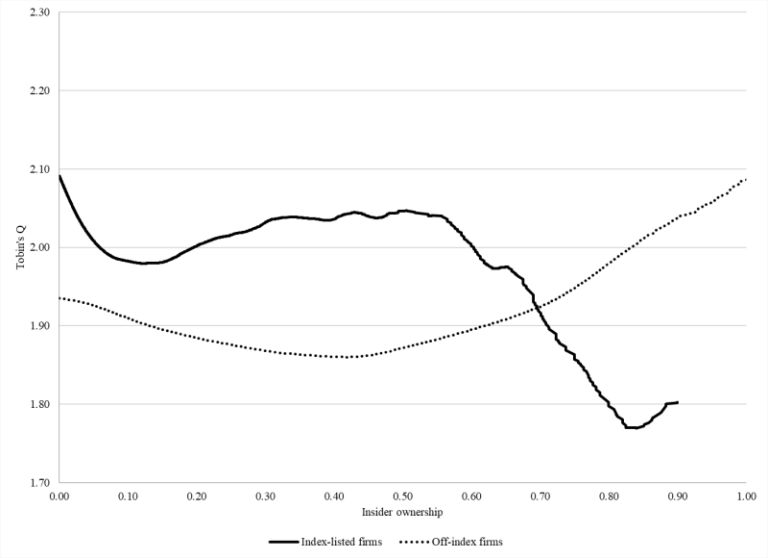


Figure OA6

Semi-parametric estimation of the ownership-firm value relationship for subsamples based on index constituency

The sample of firms used is the index-listed group from Figure 10. These are subdivided into those listed in the S&P 500 index, the S&P 400 midcap index, and the S&P 600 small cap index.

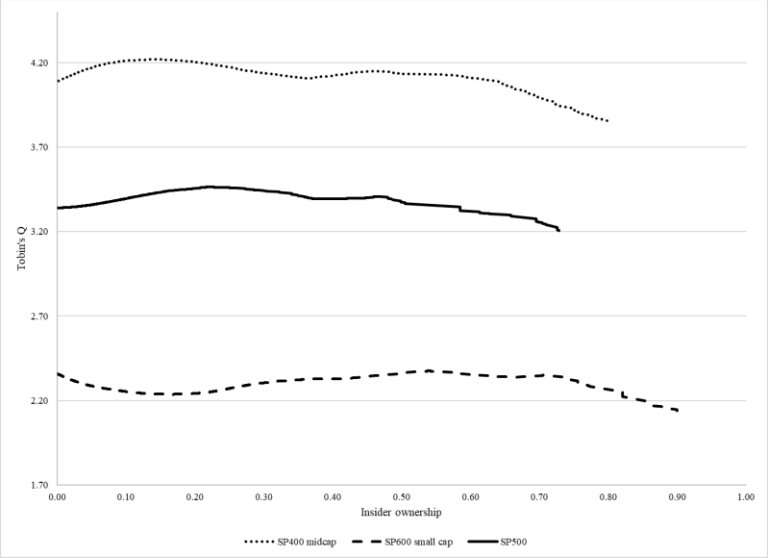


Figure OA7

Semi-parametric estimation of the ownership-firm value relationship for subsamples based on the level of institutional ownership

Subsamples are formed by dividing the full sample into terciles based on the level of total institutional ownership reported in the Thomson Reuters 13F database.

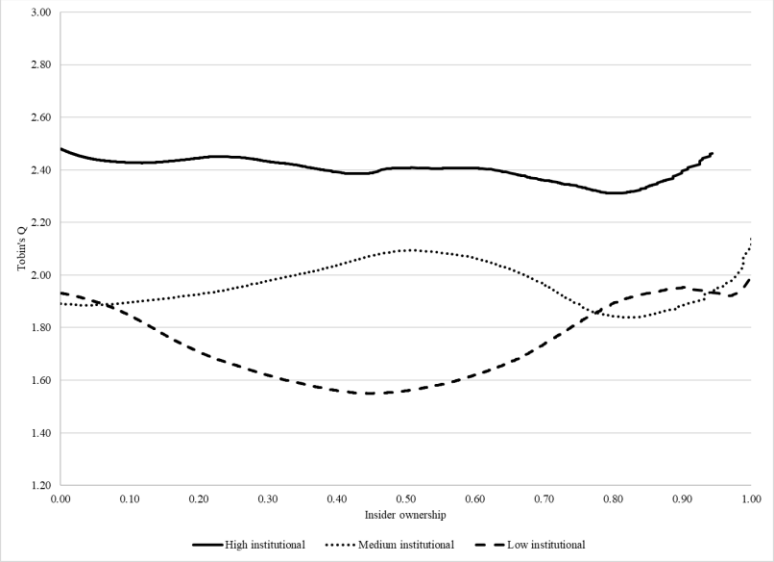


Figure OA8

Semi-parametric estimation of the ownership-firm value relationship for subsamples based on the year of observation

Subsamples are formed by the year in which the proxy statement (that provides information on ownership) is filed.

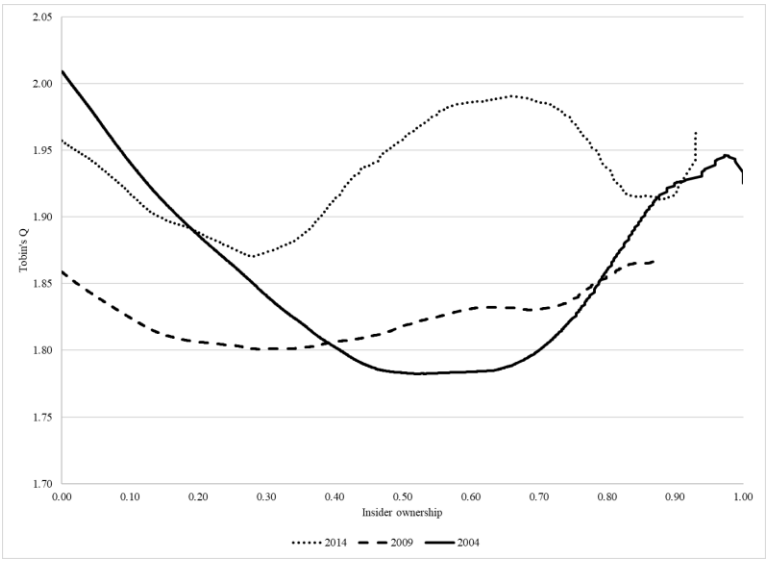


Figure OA9

Semi-parametric estimation of the ownership-firm value relationship for subsamples based on industry

Subsamples results are reported for each individual Fama-French industry for which we have more than 1,000 observations.

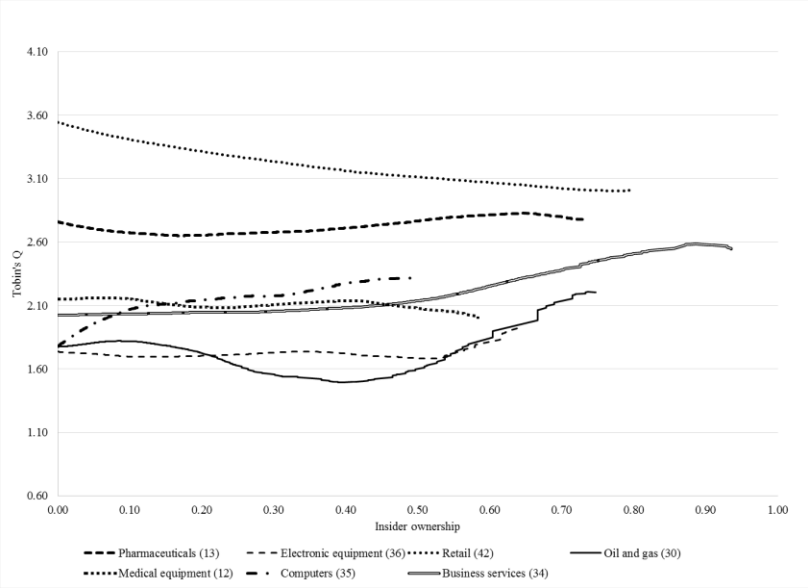
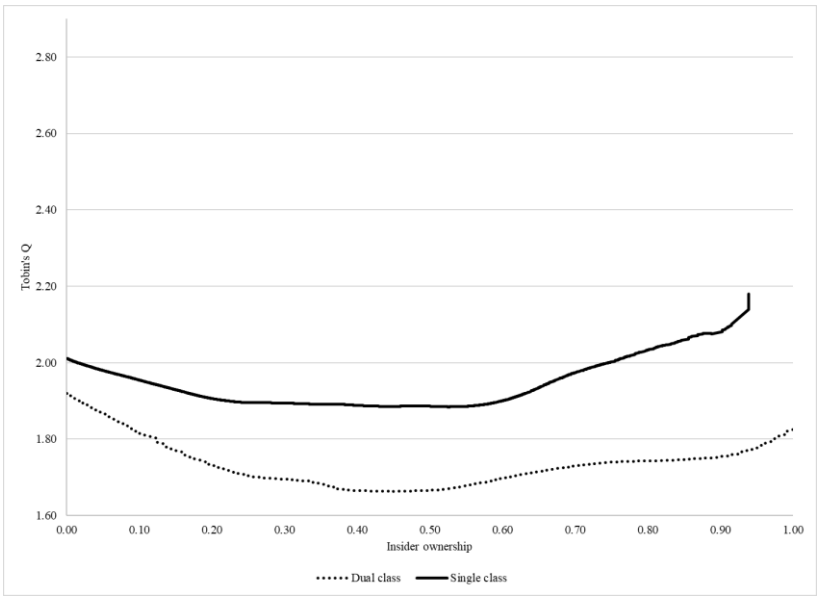


Figure OA10

Semi-parametric estimation of the ownership-firm value relationship for subsamples of single and dual-class firms

Subsamples are based on whether firms report multiple classes of stock in the description of beneficial ownership in the proxy statement (dual class) or do not do so (single class).



SECTION OA3: THE ROLE OF CONTROL VARIABLES

As part of our analyses, we attempt to identify the control variables most responsible for the significant differences in the OFV relationship we observe between Figures 2 and 7 in the paper. In particular, we replicate Figure 7 using one control variable at a time (from our starting set of control variables which include firm size, industry-median Q, asset tangibility, R&D, advertising, capital expenditures, and leverage). We find that the main control variables responsible for the observed differences between Figures 2 and 7 are firm size (at low and high levels of insider ownership) and industry controls (at high levels of insider ownership). This is clearly seen in Figure OA11, where we depict the observed OFV relationship for the full sample controlling only for firm size, for industry median Tobin's Q, and for all the other (less influential) control variables. The significant influence of the former two variables is not surprising given the evidence presented in Figures 3 and OA9. As noted above, there are differences not only in the intercept but also in the shape of the observed OFV relationship between firms of various sizes and industries.

Figure OA11
Semi-parametric estimation of the OFV relationship for the full sample with different control variables
The OFV relationship is estimated for the full sample of CRSP and Compustat firms using Robinson's semi-parametric regression estimator.