Why Are Firms With More Managerial Ownership Worth Less?

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This paper: Managerial ownership and Tobin’s $q$

Three contributions:

1. Gather a large sample of U.S. publicly listed firms over the period 1988 - 2015. Following earlier work, examine the association between managerial ownership and Tobin’s $q$.

2. **Main finding**: Relation for this broader sample is negative over most of the range of managerial ownership.
   - Compare to earlier evidence for a hump-shaped relation for large firms (Morck, Shleifer, and Vishny (1988)).

3. Provide a potential economic framework to explain the empirical finding:
   - *Liquidity and firm performance as drivers of managerial ownership and Tobin’s $q*
Main finding

Prior studies hump-shape relation

Tobin’s $q$ and managerial ownership under different specifications for the 500 largest firms by total sales (paper Figure 3)
Main finding

Prior studies hump-shape relation

Tobin’s q and managerial ownership under different specifications for the 500 largest firms by total sales (paper Figure 3)

New evidence

The relation between Tobin’s q and managerial ownership under different specifications for all sample firms (paper Figure 2)

- Managerial ownership defined as the vested (or soon vesting) equity ownership of officers and directors
Lagged performance & liquidity shape managerial ownership and q

- Economic framework linking lifecycle theory of managerial ownership to past performance and liquidity:
  i) Strong (poor) past performance leads to high (low) Tobin’s q
  ii) Strong (poor) past performance also leads to lower (higher) illiquidity
  iii) Insiders can (cannot) sell due to low (high) illiquidity
  ⇒ Illiquid firms have lower Tobin’s q and high managerial ownership
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- The authors provide analyses meant to study this framework:
  1. Negative relation between Tobin’s q and managerial ownership is concentrated in firms with a history of stock illiquidity
     - High/low liquidity is based on a firm’s entire history of liquidity
     - Firms with a history of low liquidity: association between Tobin’s q and managerial ownership is negative
     - Firm with a history of high liquidity: no evidence of a negative relation between Tobin’s q and managerial ownership
Lagged performance & liquidity shape managerial ownership and \( q \)

Firms whose managerial ownership fell more since the IPO / initial sample observation have a higher Tobin’s \( q \)

- The decline in ownership since the IPO is associated with a higher Tobin’s \( q \)
- Result holds for both young and mature firms
- Why a level on changes regression?
Lagged performance & liquidity shape managerial ownership and $q$

2. Firms whose managerial ownership fell more since the IPO / initial sample observation have a higher Tobin’s $q$
   - The decline in ownership since the IPO is associated with a higher Tobin’s $q$
   - Result holds for both young and mature firms
   - Why a level on changes regression?

3. Firms with more years of past high liquidity have lower current managerial ownership
   - Dependent variable is the fraction of years that a company spent in the high liquidity quartile. Strong evidence that past liquidity is associated (negatively) with current ownership level
   - Two exogenous shocks to liquidity and impact on managerial ownership:
     - (a) Nasdaq market reforms in 1997 that increased liquidity for Nasdaq-listed firms
       Nasdaq firms see 1.4% lower managerial ownership in the three years post reform relative to firms on other exchanges
     - (b) Decimalization on the NYSE, Amex, and Nasdaq in 2000 to 2001
       Assign firms in the top (bottom) market capitalization tercile to the treatment (control) groups. Find that managerial ownership of treated firms drops in the year of decimalization and the following year
Lagged performance & liquidity shape managerial ownership and q

- Firms whose performance was more often in the top quartile of firms during their lives have more liquid stocks today
  - Create a normalized measure of performance history. Count number of years a firm was in a high performance state and divide by number of years of firm-year observations.
  - Companies with persistent lagged presence among top quartile performers have higher liquidity today. Similarly, companies experiencing persistently low sales growth are more illiquid today.
4. Firms whose performance was more often in the top quartile of firms during their lives have more liquid stocks today
   - Create a normalized measure of performance history. Count number of years a firm was in a high performance state and divide by number of years of firm-year observations
   - Companies with persistent lagged presence among top quartile performers have higher liquidity today. Similarly, companies experiencing persistently low sales growth are more illiquid today

5. Firms whose performance was more often in the top quartile of firms during their lives have higher (forward looking) firm value today
   - Use the normalized measure of performance history to show that strong performance is associated with high Tobin’s q
How should we think about optimal managerial ownership and how it varies across firms and time?

Do compensation committees take illiquidity into account?
- “In illiquid firms, insiders typically hold more shares than they would like because it is costly for them to reduce their stake without incurring a significant price impact. It follows that managerial ownership is higher in illiquid firms” (page 28)
- Authors hint at the board’s role in their tests on decimalization (Section 7.2.2)

Why is it optimal to constrain insiders? Alternative mechanisms to alleviate this constraint?
If the board finds it optimal to use illiquidity as a constraint on ownership then subsequent to an exogenous increase (decrease) to liquidity the board should counteract that by increasing (decreasing) managerial ownership
- Frictions on adjustment to compensation policy?

Does management anticipate these dynamics? What does a risk averse insider prefer as illiquidity goes up?
Implications for forward looking Tobin’s $q$?
Jayaraman & Milbourn (2012)


We explore the role of stock liquidity in influencing the composition of CEO annual pay and the sensitivity of managerial wealth to stock prices. We find that as stock liquidity goes up, the proportion of equity-based compensation in total compensation increases while the proportion of cash-based compensation declines. Further, the CEO’s pay-for-performance sensitivity with respect to stock prices is increasing in the liquidity of the stock. Our main findings are supported by additional tests based on shocks to stock liquidity and two-stage least squares specifications that mitigate endogeneity concerns. Our results are consistent with optimal contracting theories and contribute to the ongoing debate about the increasing trend of both equity-based over cash-based compensation and the sensitivity of total CEO wealth to stock prices rather than earnings.

- Higher liquidity leads CEOs to demand more equity-based compensation
- higher liquidity leads to improved price informativeness and thus more reliance on equity-based compensation
Proxies for historical liquidity. Authors measure how many years each firm has experienced in a high liquidity state. Go back to 1963. Same approach for proxies for past performance:

- What are the implicit assumptions about managerial turnover and the incentives that are set for new members of the management team?
- Implications for Tobin’s q?

Firm fixed effects?
   - Non-classical measurement error can lead to bias, not only increase standard errors
   - Do not advocate total Q as a solution to potential bias. They propose to:
     “discard any attempt to scale the outcome variable of interest by a noisy estimate for
     the replacement cost of assets.” [...] “we recommend abandoning the denominator
     of Tobin’s q.” (page 46).
   - Propose calculating the elasticity of MV to BV in the regression itself

7. Is percentage ownership a good measure to capture managerial incentives?
   “Even though CEOs’ percentage stakes are small, the dollar values of those stakes are not.
   As a result, the typical CEO stands to gain millions from improving firm performance. This
   leads Hall and Liebman to propose the dollar change in wealth for a percentage - not dollar
   - change in firm value as measure of incentives.”
Causal link from managerial ownership to Tobin’s $q$. Authors recognize that association is a result of optimal contract choice and performance, both of which jointly determined by underlying firm level productivity and managerial characteristics.

- Clearly challenging to find exogenous variation
- Causal link between liquidity and ownership: The Nasdaq reforms and Decimalization
  Should the resulting changes in ownership lead to changes in Tobin’s $q$? Does liquidity have a direct impact on Tobin’s $q$?
  Same as before - why don’t boards react?
- Earlier research finds “largest percentage reduction in average quoted spreads before and after decimalization are for more actively traded large capitalization stocks.” Authors therefore set their tests by comparing firms in the top market capitalization tercile to those in the bottom tercile
  Yet, later in the paper, the authors state that “These frictions [illiquidity] are unimportant for the largest firms, but they become a first order consideration for small firms.” (page 28)
  This view seems inconsistent with the tests looking at the effect of decimalization
- Section 6. “Taken at face value, these results run counter to decades of agency research: Reducing managerial ownership and thus the alignment of incentives between managers and shareholders is associated with increases in firm value. (page 19)
  Isn’t this a causal statement?