

# OWNERSHIP CONCENTRATION AND FIRM VALUE

## A Panel Data Analysis on The Impact of Ownership Concentration on Firm Value

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*This study examines the impact of ownership concentration on firm value. This study finds a negative and significant relationship between ownership concentration (measured by aggregate substantial shareholdings and the presence of controlling shareholders) and firm value. This suggests that large or controlling shareholders can extract the private benefits of control which in turn leads to lower firm value. The results support the rent extraction hypothesis, but not the agency relationship.*



**Keywords:** ownership concentration, firm value, panel regression

**Abstract**

The seminal study of Berle and Means (1932) noted the prevalence of widely held corporations in the US and set the image of the modern corporation as one operated by managers responsible to the shareholders. Their notion of diffuse ownership has also had profound influence on modern financial thinking as can be seen in the seminal contributions of Jensen and Meckling (1976) and Grossman and Hart (1980). Much of the focus of extant studies is on conflict between diffuse shareholders and professional managers. In the mid-1980s, however, researchers began to realise that some U.S. public corporations had majority or large shareholders, many of whom were the managers or directors (e.g., Demsetz and Lehn, 1985; Holderness and Sheehan, 1988). Indeed, recent international evidence shows that the Berle and Means paradigm does not capture the reality of many corporations around the world. For example, La Porta *et al.* (1999) showed that concentrated and dispersed ownership varies greatly across countries. For example, while dispersed ownership is prevalent in the U.S. and the U.K., large shareholder controls are dominant in the countries of continental Europe.

The presence of large shareholders with greater controlling interest may solve the free rider problem encountered by dispersed shareholders. Since large shareholders hold significant percentage of firm equity, they have an incentive to collect information and monitor management (Shleifer and Vishny, 1986) and also have enough voting power to force management to act in the interest of shareholders (La Porta *et al.*, 1999).

Therefore, the classic owner-manager conflict described by Berle and Means (1932) or Jensen and Meckling (1976) should be lower in closely held firms. Financial researchers, however, perceive a second type of agency problem. Specifically, Fama and Jensen (1983) observed that combining ownership and control allows concentrated shareholders to exchange profits for private rents. Shleifer and Vishny (1997) argued that when large shareholders gain nearly full control of a corporation, they may extract private benefits at the expense of the minority shareholders. Therefore, ownership concentration could have a positive or negative impact on firm value. Prior studies that examine this issue have been inconclusive. A positive impact is reported by, for instance, Shleifer and Vishny (1986), Mikkelson and Ruback (1985), Holthausen *et al.* (1990), Barclay and Holderness (1991) and Minguez-Vera (2007), while a negative impact is reported by Dann and DeAngelo (1983), Pound (1988), Brickley *et al.* (1988), Burkart (1995), Barclay and Holderness (1989), Zwiebel (1995).

This study attempts to investigate the relationship between ownership concentration and firm value using an Australian panel data. The Australian setting offers an important advantage. Australia is a common law country with a relatively strong system of legal shareholder protection (La Porta *et al.*, 1999) akin to that of the U.S. and the U.K., but has a capital market characterized by high ownership concentration (Claessens *et al.*, 2002) which exhibit unusually high private benefits of

control (Lamba and Stapledon, 2001; Nenova, 2003). Barclay and Holderness (1989) were the first to quantify private benefits of control for large shareholders. They found that on average, large blocks of stock typically traded at a premium of around 20 per cent to the post-trade market price. They interpret these premiums as suggesting that in most firms, the net private benefits of large block ownership are positive. In a study on the determinants of corporate ownership structure, Lamba and Stapledon (2001) reported a significant positive relationship between ownership structure and private benefits of control for Australia measured by the level of related party transactions (p. 26). In a cross-country study on the value of corporate voting rights and control, Nenova (2003) also reported significantly higher mean and median values of control-block votes for Australia compared to other common law countries (i.e., Canada, Hong Kong, South Africa, the U.K. and the U.S.), suggesting that controlling shareholders of Australian firms are able to extract private benefits of control from minority shareholders.

In contrast, other common law countries with strong systems of legal shareholder protection and high levels of ownership concentration such as the U.K., Canada, New Zealand and South Africa do not exhibit such high levels of private benefits (Nenova, 2003). It should be noted that legal protection of minority shareholders is not the only institutional variable that determines levels of private benefits of control (Dick and Zingales, 2001). Other variables such as market for corporate control and institutional investor

activism may also be associated with levels of private benefits of control. In addition, not all private benefits of control involve blockholders misappropriating assets at the expense of minority shareholders which is strictly constrained by Australian corporate laws. For example, some private benefits are intangible (e.g., prestige, preferences for power, family recognition, etc) (Lamba and Stapledon, 2001).

Using panel data over an eleven-year period from January 1994 to December 2004, this study finds a negative and significant relationship between ownership concentration (measured by aggregate substantial shareholdings and the presence of controlling shareholder) and firm value. This suggests that although Australia has a strong legal protection, large or controlling shareholders in Australian firms still can extract the private benefits of control which in turn leading to lower firm value.

### Ownership Structure

The relationship between agency problems and ownership structure can be explained by Jensen and Meckling's (1976) theory. Jensen and Meckling theorized that ownership structure may be chosen to minimise the sum of agency costs and diversification costs. Agency problems will be lower when the interests of agents (i.e., managers) and principals (i.e., shareholders) are more aligned through higher managerial share ownership. Accordingly, Jensen and Meckling implied that an owner's direct involvement in the management of the firm would reduce the cost of mitigating information asymmetries

and the accompanying moral hazard. This notion is based on two assumptions. First, owner management is an efficient substitute for the costly control mechanisms that non-owner managed firms use to control the agency costs of managerial discretion. Second, the separation of ownership and control is the source of agency costs (Alchian and Woodward, 1988).

The possibility that outside shareholders serve to monitor and limit management's self-serving behaviours, hence reducing agency costs, is also suggested by Jensen and Meckling (1976). The effectiveness of these actions, however, depends upon the power and incentive of outside shareholders. In corporations with a dispersed ownership structure, shareholder control over managers is weak due to poor shareholder monitoring caused by the free-rider problem. Diffuse shareholders are not keen on monitoring because they bear all the monitoring costs but only share a small proportion of the benefits (Grossman and Hart, 1980). Even if outside shareholders can obtain sufficient information, the spread of ownership makes it difficult for them to take serious collective action. Outside shareholders would only engage in managerial monitoring efforts if they perceive that the monitoring benefits are higher than the costs (Shleifer and Vishny, 1986). The primary agency problem in this type of firm is conflict between shareholders and managers.

Therefore, ownership concentration may have a positive impact on firm value because the presence of large shareholders with

greater controlling interest may solve the free-rider problem encountered by dispersed shareholders. When larger shareholders are families, they are almost always directly involved in the firm's management (e.g., Holderness and Sheehan, 1988). The classic owner-manager conflict should be lower in closely-held firms than in widely-held firms. Shleifer and Vishny (1986) are among a number of theoretical models that predict the positive impact of large shareholdings. These models are supported by early empirical studies that examine the impact of secondary market transactions involving large blocks of shares.

The literature, however, suggests that combining ownership and control allows large or concentrated shareholders to exchange profits for private rents (e.g., Fama and Jensen, 1983; Shleifer and Vishny, 1997). Indeed, in countries in which controlling shareholders are prevalent, such controllers often maintain control while retaining substantially less than a majority of the cash flow rights (i.e., deviation from the one-share-one-vote principle). This can be done through the use of a controlling-minority structure such as pyramid structures, cross-holdings and dual-class stocks (La Porta *et al.* 1999).

A model presented by Bebchuk (1999) predicted that larger private benefits of control are more common with the use of voting-cash flow right separation. In particular, Bebchuk suggested that separation of cash flow rights and voting rights tends to be used in conjunction with controlling shareholder structures

but not with non-controlling shareholder structures. Such schemes enable controlling shareholders to maintain a lock on control without having to bear the cost of owning a large fraction of the cash flow rights. In contrast, in non-controlling shareholder structures, where the owner is giving up a lock on control, creating such separation will not produce value to the owner.

**Hypothesis.** To sum up, the relationship between ownership concentration and firm value can be positive or negative. On the one hand, agency relationship argument predicts that ownership concentration may enhance firm value. On the other hand, rent extraction argument suggests that ownership concentration may destroy firm value. Since neither of these two alternative relationships can be ruled out, a two-tailed hypothesis is presented which tests relationship between ownership concentration and firm value in Australia. Therefore, the corresponding testable hypothesis is:

*Hypothesis 1: Ownership concentration is significantly associated with firm value.*

### Data and Methodology

The research design includes annual panel data over an eleven-year period from January 1994 to December 2004. The sampling frame consists of a population of all non-financial companies listed on the Australian Stock Exchange (ASX) in 1994 (i.e., 1,144 firms). I exclude observations with incomplete ownership or accounting data. The final sample consists of 829 companies or 6,665 firm-year observations.

The accounting data is from Datastream and FinAnalysis databases, respectively. The ownership data was collected manually from company annual reports on the DatAnalysis and Connect-4 databases. All data collected from FinAnalysis were validated by conducting cross checks with CompanyAnalysis, another annual reports database. If any discrepancies were found, the company's actual report (downloaded from DataAnalysis) was used to determine the correct figure.

### Description and Construction of ownership data

This study employs several measures of ownership concentration. We categorize firms into closely-held and widely-held based on whether a single shareholder controls at least 20% of equity. 20% of the voting rights is considered to be sufficient for effective control and is used in prior ownership studies (La Porta *et al.*, 1999; Faccio *et al.*, 2001). 20% is also the control threshold adopted in Australia's takeover regulations.

A closely-held firm is defined as a firm that has at least one shareholder controlling 20% or larger equity, whereas a widely-held firm is defined as a firm with no shareholder controlling at least 20% of equity. Dummy variable CLOSELY-HELD (equals 1 for closely-held firm and 0 for widely-held firm) is used in the regression analysis to capture the impact of closely-held versus widely-held firms on dividend policy. The CLOSELY-HELD data is collected from "substantial shareholding" disclosures in annual reports. Under the Australian Corporations Act 2001,

the company must list all of its substantial shareholders (i.e. investors who own five percent or larger of equity). This includes both those held directly and through other relevant interests, (where they have the power to dispose or vote shares held by the corporation in which the individual controls at least 20%) (Burnett, 2001). For example, Oakton Limited's annual report shows Paul Holyoake with a 38.86% shareholding. Thus, Oakton Ltd is categorized as a closely-held company. In contrast, the then, Coles Myer Ltd's annual report lists two substantial shareholders: Myer Family Investment Pty Ltd and Maple Brown Abbot Ltd with 5.03% and 5% shares, respectively. Coles Myer Ltd is therefore classified as a widely-held firm.

Other ownership concentration measure includes the aggregate ownership of shareholders holding at least five percent of equity (hereafter, TOTAL-BLOCK). TOTAL-BLOCK and LARGEST-BLOCK data is collected from the "substantial shareholding" in annual reports and TOP20 is from its largest twenty shareholders list.

Ownership is traced back through layers where necessary (see La Porta *et al.*, 1999). For example, if the controlling block holder of Firm A is a publicly listed firm (i.e. Firm B), the ownership structure of Firm B will be analyzed before A is classified. If Firm B has a family, or individual, controlling 20% or larger of equity, Firm A will also be classified as family-controlled. If Firm B is widely-held, however, then Firm A is considered non-family-controlled. For example, New Hampton Goldfields Ltd shows Normandy

Mining Ltd as the largest shareholder with 34.17%. Normandy Mining Ltd itself is listed but has no substantial shareholder holding 20%. As a result, New Hampton Goldfields Ltd is considered a non family-controlled firm.

**Model and Measurement of variables**

Panel study methodology is utilised as it provides more robust information, more variability, less collinearity among variables, more degrees of freedom and more efficiency (Baltagi, 1995). It also helps to control for unobserved firm heterogeneity. Specifically, I use pooled and random effects regressions. In a pooled tobit regression, non-spherical disturbances (i.e., serial correlation and heteroskedasticity) are controlled using the Huber-White/Sandwich estimator (clustered) for variance (Anderson and Reeb, 2003). The random effects panel data regression treats firm specific unobserved characteristics as a random variable and, therefore, they were a part of the error term. The regression used to test the impact of ownership concentration on firm value takes the following form:

$$\begin{aligned}
 \text{Tobin's } Q_{it} = & \beta_0 + \beta_i \text{Ownership structure}_{it} \\
 & + \delta_1 \text{Firm Size}_{it} + \delta_2 \text{Leverage}_{it} \\
 & + \delta_3 \text{Business Risk}_{it} \\
 & + \delta_{4-22} (\text{Industry}_{it}) + \delta_{23-32} (\text{Year}) \\
 & + \epsilon_{it} \qquad (1)
 \end{aligned}$$

The subscripts *i* and *t* represent firm and year, respectively. The natural logarithm of Tobin's Q is used to measure firm value. The actual definition of Tobin's Q is market value of the firm divided by the replacement cost of assets. However, as these replacement costs (the denominator) are not available in Australia, Tobin's Q is defined as the market value of equity plus the book value of all liabilities and preference shares scaled by total assets. This proxy is highly correlated with the actual definition of Tobin's Q and has been widely used in U.S. studies (e.g.,

Loderer and Martin, 1997; Demsetz and Villalonga, 2001). In Australia, Craswell et al. (1997) also use the market-to-book (equity) ratio as a proxy for Tobin's Q.

Ownership structure is our key variable and is addressed by two measures explained in Section 3.1. (i.e., CLOSELY-HELD and TOTAL-BLOCK). The model also includes some standard control variables expected to affect firm value such as firm size, leverage, business risk, industry dummies and year dummies. Firm size is measured by a natural

Table 1 Descriptive statistics

Variable	Definition	Mean	Std.Dev.	Min.	Max.
Closely-Held	Dummy variable; one if a firm has at least one shareholder controlling 20% or larger equity, zero otherwise	0.4650*	-	0	1
Total-Block	The aggregate ownership of shareholders holding at least 5% equity	0.4064	0.2439	0	1
Tobin's Q	Market to book value ratio	1.6290	2.6182	0.06	71.88
Firm size	Ln (total assets)	17.3737	2.1851	10.09	25.17
Leverage	Book value total debt / total assets	0.1791	0.3073	0	9.66
Business risk	Standard deviation of EBIT in the previous 5 years	9.0	30.1	1.60	80

\*This indicates proportion of firms, rather than the mean proportion for associated variables

**Table 2 Univariate test: Closely-held and widely-held firms**

Variable	Closely-held firms	Widely-held firms	t-stat
Tobin's Q	1.4134	1.8163	-6.28***
Total-Block	0.5768	0.2583	70.05***
Firm size	17.5152	17.2508	4.93***
Leverage	0.2123	0.1505	8.25***
Business risk	9.3	8.7	-0.73
Sample size	3,099	3,566	

logarithm of total assets. Leverage is defined as the book value of total debt divided by total assets. Business risk is measured by the standard deviation of earnings before interest and taxes in the previous 5 years. In addition, a two-way fixed effects model is used to assess variation in the dependent variable due to industry differences (Industry dummy vectors are based on two digit GICS codes), while year dummies remove any secular effects among the independent variables.

**Statistics Descriptive and Univariate Analysis**

Table 1 presents descriptive information for the entire sample. It shows the means, standard deviation, and maximum and minimum values.

Closely-held firms represent 46.50% of sample firms. The mean for substantial shareholdings (i.e., shareholders with at least five percent equity stake) of 40.64% of firm-year observations, indicates that Australian firms have relatively concentrated

ownership. The mean for Tobin's Q is 65.54%.

Table 2 presents the univariate tests for closely-held and widely-held firms.

Closely-held firms differ significantly from widely-held firms in several respects. Interestingly, the average Tobin's Q of closely-held firms is statistically significantly lower than for widely-held ones. This suggests that closely-held firms underperform widely-held firms and is consistent with the rent extraction argument. Closely-held firms also are larger and utilize higher debt level.

**Multivariate Analysis**

The univariate testing indicates that closely-held firms significantly underperform widely-held firms. It is possible, however, the result may be attributed to other factors such as firm size, leverage, business risk, industry and year. Table 3 presents regression estimates of these determinants based on Equation 1 using Tobin's Q as dependent variable.

**Table 3 The impact of ownership concentration on Tobin's Q**

Variable	Pooled Regression (Huber-White)		Random Effects Regression	
	(1)	(2)	(3)	(4)
Closely-held	-0.224*** (-3.02)	-	-0.168** (-2.24)	-
Total-Block	-	-0.407** (-1.97)	-	-0.273* (-1.67)
Firm Size	-0.392*** (-7.14)	-0.388*** (-7.03)	-0.511*** (-21.21)	-0.509*** (-21.04)
Leverage	0.800*** (4.44)	0.797*** (4.45)	0.831*** (7.85)	0.826*** (7.80)
Business Risk	0.000*** (3.87)	0.000*** (3.71)	0.000*** (5.57)	0.000*** (5.52)
Constant	8.392*** (8.36)	8.381*** (8.40)	10.601*** (20.70)	10.619*** (20.64)
Industry dummy	Included	Included	Included	Included
Year dummy	Included	Included	Included	Included
Adjusted R <sup>2</sup>	0.1212	0.1202	Included	-
Wald Chi-Square	-	-	-	679.22

The table reports results of regressions of ownership concentration on firm performance measured by Tobin's Q (i.e., market value of assets divided by the book value of assets). Closely-held is a dummy variable equal to one if a firm has at least one shareholder controlling 20% or larger equity, zero otherwise. Total-Block is the aggregate ownership of shareholders holding at least 5% equity. Firm size is a natural logarithm of total assets. Leverage is book value of total debt divided by total assets. Business risk is the standard deviation of earnings before interest and tax in the previous 5 years. Industry dummy variables are based on two digit GICS codes.

t-values are shown in parentheses, \*\*\*, \*\*, and \* denote significance at the 1, 5 and 10 percent level respectively in two-tailed tests.

Columns 1 and 2 of Table 3 show the pooled regression estimation for the relationship between ownership concentration and Tobin's Q. I use the Huber-White Sandwich estimator (cluster) for variance to calculate pooled regression standard errors. This estimator provides robust standard errors in the presence of violations of regression model assumptions such as heteroskedasticity and serial correlation (Wooldridge, 2002). The technique is appropriate when panel data have a

large number of subjects (i.e., firms), but a relatively small number of observations per subject.

In column 1 of Table 3, the coefficient on Closely-Held is negative and significant at the conventional level (coefficient = -0.224, p < 0.01). This suggests that closely-held firms, on average, have a lower Tobin's Q than widely-held firms. In column 2 of Table 3, the coefficient on Total-Block is also negative and significant at the conventional level

(coefficient = -0.407,  $p < 0.05$ ). This suggests that increase in substantial shareholdings leads to decrease in Tobin's Q. The results do not support the argument that ownership concentration enhances firm's governance. Instead, the results are consistent with the notion that large or controlling shareholder may collude with management to extract private benefits of control in expense of non-controlling shareholders.

Columns 3 and 4 of Table 3 show the random effects regression estimation for the relationship between ownership concentration and Tobin's Q. In column 3 of Table 3, the coefficient on Closely-Held remains negative and significant at the conventional level (coefficient = -0.168,  $p < 0.01$ ). While in column 4 of Table 3, the coefficient on Total-Block is negative but only significant at the 10 per cent level (coefficient = -0.168,  $p < 0.1$ ). In general, random effects regressions results confirm the pooled regression results. Therefore, there is a supporting evidence for the hypothesis that ownership concentration is significantly associated with firm value. Specifically, I find a negative and significant relationship between ownership

concentration and firm value, which supports the rent extraction hypothesis.

### Conclusion

This study has examined the effectiveness of the ownership concentration as an internal corporate control in the Australian capital market. Australia provides a unique research ground for this issue. Australia is a common law country with a relatively strong system of legal shareholder protection, but has a capital market characterized by high ownership concentration which exhibit unusually high private benefits of control.

This study finds a negative and significant relationship between ownership concentration (measured by aggregate substantial shareholdings and the presence of controlling shareholder) and firm value. This suggests that although Australia has a strong legal protection, large or controlling shareholders in Australian firms still can extract the private benefits of control which in turn leading to lower firm value. The results support the rent extraction hypothesis, but not the agency relationship argument. ■

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