

## WHAT MOTIVATES BLOCK SHARE OWNERSHIP?

Asjeet S. Lamba\*, Geoff Stapledon\*\*

### Abstract

Diffuse share ownership is not as pronounced in the U.S. as many would assume. This has led to a body of research examining large shareholders, or blockholders. Issues addressed include whether firms with a blockholder perform better or worse than widely-held firms; whether firms with a blockholder pay their executives differently to widely-held firms; and whether the presence of a blockholder increases or decreases the incidence takeovers. Another issue, which this paper explores, is what motivates block share ownership. Bebchuk (1999a, 1999b) develops a model which predicts that a firm is more likely to have a controlling blockholder if the anticipated private benefits of control at that firm are comparatively large. This paper examines the factors associated with ownership structure among publicly traded Australian firms. Our results indicate that private benefits of control are a significant factor in explaining the differences in ownership structure among Australian firms. As importantly, we also find that the relationship between the existence of a blockholder and private benefits of control is endogenous. That is, the presence of a controlling blockholder strongly influences the prevalence of these private benefits of control.

**JEL classification:** G30, G32, G34

**Keywords:** Corporate Governance, Blockholders, Related Party Transactions, Australia, Simultaneous Equations

\* *Department of Finance, Faculty of Business and Economics, University of Melbourne, Victoria 3010, Australia*

*Tel.: (+61 3) 8344-7011*

*Fax: (+61 3) 8344-6914*

*Email: [asjeet@unimelb.edu.au](mailto:asjeet@unimelb.edu.au)*

\*\* *Melbourne Law School, University of Melbourne, Victoria 3010, Australia*

*Tel.: (+61 3) 8344-8916*

*Fax: (+61 3) 8344-9971*

*Email: [g.stapledon@unimelb.edu.au](mailto:g.stapledon@unimelb.edu.au)*

### 1. Introduction

Several studies have addressed issues relating to large-block shareholders and corporate control (see, for example, Shleifer and Vishny, 1986; Holderness and Sheehan, 1988; Barclay and Holderness, 1989, 1991; and Allen and Phillips, 2000, among others). As highlighted in a survey by Holderness (2003), a key underlying motivation for this research is the fact that diffuse share ownership is not as pronounced in the U.S. as many would assume. Issues addressed in these prior studies include whether firms with a blockholder perform better or worse than widely-held firms (Demsetz and Lehn, 1985; Morck, Shleifer and Vishny, 1988; Holderness and Sheehan, 1988; McConnell and Servaes, 1990; Himmelberg, Hubbard and Palia, 1999; and Coles, Lemmon and Meschke, 2006); whether firms with a blockholder compensate their executives differently to widely-held firms (Holderness and Sheehan, 1988; Mehran, 1995; and Bates, Jandik and Lehn, 2000); and whether the

presence of a blockholder increases or decreases the incidence of takeovers (Walkling and Long, 1984; Holderness and Sheehan, 1988; and Mikkelsen and Partch, 1989). Another issue, one of the “fundamental questions” about blockholders addressed in the literature reviewed by Holderness (2003), is: “What motivates block ownership?”

Bebchuk (1999a, 1999b) develops a model which predicts that, when private benefits of control are large, a founder is very unlikely to relinquish control after the initial public offering (IPO). Therefore, in those firms and industries where private benefits of control are comparatively large, large blockholdings should be relatively more common. This prediction is supported by the finding of Barclay and Holderness (1989) that trades of large blocks of shares are commonly priced at substantial premiums to the post-announcement exchange price. Barclay and Holderness interpret the block premiums as reflecting the anticipated private benefits of control.

Our paper contributes to the literature on blockholders and corporate control by addressing the issue of what motivates block ownership. Our main research question relates to investigating the determinants of ownership structure in publicly traded Australian firms. Australia provides a useful testing ground because there is a good mixture of firms with, and firms without, large blockholders listed on its stock market. Also, Australia's accounting standards require detailed disclosure of "related party transactions". Information about transactions between a firm and its related parties can be used to estimate the size of private benefits of control. We use a new dataset constructed from these disclosures to examine the relationship between the existence of blockholders and private benefits of control. Our results indicate that private benefits of control do help explain the differences in ownership structure among listed firms in Australia. In addition, we find that the relationship between the existence of a blockholder and private benefits of control is, in fact, endogenous. That is, the presence of a blockholder also strongly influences the prevalence of private benefits of control as measured by the value of related party transactions.

The remainder of this paper is organized as follows. Section II reviews the theories and evidence explaining different ownership structures among publicly traded firms. Section III explains our choice of related party transactions as a measure of private benefits of control. Section IV describes our data and methodology, followed by the results in Section V, and the conclusion in Section VI.

## **2. Motivations Underlying Block Ownership: Theory and Prior Evidence**

### **2.1 What Are the Benefits From Controlling a Public Corporation?**

A blockholder with a controlling shareholding in a publicly traded firm may secure two types of benefits from its large shareholding: shared benefits of control and private benefits of control (Holderness, 2003). Shared benefits of control are those improvements to firm value that are brought about by the blockholder, but are enjoyed by minority shareholders as well. Shared benefits may stem from the blockholder's role in monitoring management (Shleifer and Vishny, 1986; Burkart, Gromb and Panunzi, 1997; and Bethel, Liebeskind and Opler, 1998), improving the flow of information from inside the firm to capital owners (Stein, 1989), and making value-enhancing implicit contracts with employees, suppliers and other non-shareholder stakeholders (Shleifer and Summers, 1988). In addition, in the case of blockholders that are themselves corporations, the block ownership may align the incentives of both firms if they are involved in product-market alliances or joint ventures, resulting in reduced contracting and monitoring costs to the benefit of all shareholders (Allen and Phillips, 2001

and Moon and Khanna, 1995). Private benefits of control, on the other hand, are those benefits that a blockholder enjoys to the exclusion of other shareholders. These include misappropriating corporate assets at the expense of minority shareholders, such as through a business transaction between the firm and the blockholder on non-arm's length terms that are significantly advantageous to the blockholder. However, not all private benefits are harmful to minority shareholders. A blockholder that is itself a corporation could generate not only shared benefits (as outlined above) but also private benefits. For example, a blockholder may be able to obtain synergies in production or asset complementarities for its own business that are not enjoyed by the firm in which it has its large holding. Also, non-pecuniary private benefits (such as the "amenities" associated with controlling a firm that owns a professional sports team, for example) do not necessarily have a negative impact on minority shareholders.

### **2.2 Theory and Prior Evidence on the Determinants of Ownership Structure**

Bebchuk (1999a, 1999b) develops a model in which the extent of ownership concentration in publicly traded firms depends on the size of private benefits of control. In particular, Bebchuk demonstrates that, when private benefits of control are large, a founder is very unlikely to relinquish control after the IPO. So, in those firms and industries where private benefits of control are comparatively large, large blockholdings should be relatively more prevalent.

Bebchuk argues that if, at the IPO stage, private benefits of control are large, fear of a control grab will often lead the pre-IPO controlling shareholder to maintain a lock on control by retaining a large block shareholding. This may occur even where a widely-held ownership structure would be more efficient. This is because, while being more efficient is a necessary condition for a widely-held structure to be chosen, it is not a sufficient condition. The reason for this, in turn, is that setting a widely-held structure does not ensure that the firm remains in a widely-held structure. A rival might seek to wrest control by acquiring a controlling block through market purchases or a takeover bid. As Bebchuk points out, when a widely-held structure can be expected to unravel in this way, it would not rationally be chosen in the first place.

Others have also argued that private benefits of control provide an explanation for different ownership patterns among firms. Barclay and Holderness (1989) examine the pricing of 63 trades of large block shareholdings in U.S. firms between 1978 and 1982. They argue that if all shareholders receive corporate benefits in proportion to their ownership, large-percentage blocks will trade at the exchange price, or at a discount if blockholders incur costs that that smaller shareholders do not. If, however, large-block

shareholders anticipate using their influence to secure benefits not available to other shareholders, then blocks should trade at a premium to the exchange price – with the premiums approximating the discounted value of the net private benefits. They find that trades of large-percentage blocks of common stock are commonly priced at substantial premiums to the post-announcement exchange price (mean premium 20%; median 16%).<sup>1</sup>

Demsetz and Lehn (1985) examine determinants of ownership concentration in 511 publicly traded U.S. firms. They use three alternative measures of concentration: percentage of shares held by the 5 largest shareholders; percentage of shares held by the 20 largest shareholders; and an approximation of a Herfindahl measure of ownership concentration. They find that ownership concentration is inversely related to firm size, consistent with the prediction that purchasing a large holding in a large firm is more expensive than purchasing a blockholding in a smaller firm. They also find ownership concentration to be positively related to risk variables (including the standard deviation of monthly stock returns) proxying for an unstable operating environment. This is consistent with their prediction that the more unstable a firm's operating environment the greater the payoff to owners in maintaining tighter control, including through a large blockholding. Demsetz and Lehn also find that ownership concentration is significantly lower, on average, in regulated firms than other firms. That is, the scope for managerial discretion is smaller in regulated firms, and therefore the benefits that a blockholder provides in terms of monitoring management are smaller for such firms. This finding is confirmed in Holderness, Kroszner and Sheehan (1999). Finally, Demsetz and Lehn (1985) find that ownership concentration is significantly higher, on average, in media firms than in other firms. Their use of a dummy variable for media firms is essentially a proxy for private benefits of control. They argue that the potential for consumption of firm-specific perks should be higher in firms that own professional sports teams and in mass media firms. As they note: "Winning the World Series or believing that one is systematically influencing public opinion plausibly provides utility to some owners even if profit is reduced from levels otherwise achievable. These consumption goals arise from the particular tastes of owners, so their achievement requires owners to be in a position to influence managerial decisions. Hence, ownership should be more concentrated in firms for which this type of amenity potential is greater." In essence, their hypothesis, and evidence from media

firms, is that high private benefits of control are a determinant of concentrated ownership. Crespí-Cladera (1998) makes similar observations to Demsetz and Lehn's first two findings in a study of Spanish firms, but finds no significant link between regulated firms and ownership concentration.

Other studies have focused specifically on insider ownership, that is, ownership by directors and senior managers. For example, Himmelberg, Hubbard and Palia (1999) use a panel data approach, and find that managerial ownership decreases as firm size increases, in line with other studies including Demsetz and Lehn (1985). They also introduce a number of additional explanatory variables designed to proxy for the scope for managerial discretion, including the ratio of fixed capital to sales (capital intensity), the ratio of R&D spending to capital (R&D intensity), the ratio of advertising spending to capital (advertising intensity), and the ratio of operating income to sales (as a measure of market power or free cash flow). They assert that the greater the scope for managerial discretion, the higher the optimal level of managerial ownership. They find that managerial ownership decreases as capital intensity increases, which reflects the fact that investments in fixed capital are observable and more easily monitored, leaving less scope for managerial discretion. Other findings consistent with their thinking on managerial discretion are that greater advertising intensity, and a larger ratio of operating income to sales, are associated with higher managerial ownership. Conversely, they find that R&D intensity is negatively related to managerial ownership. They also find that a large fraction of the cross-sectional variation in managerial ownership is explained by unobserved firm heterogeneity.

It is plausible that any relationship between a controlling shareholder structure and a high level of private benefits reflects ownership structure driving private benefits, rather than the other way around. The theory would be that there should be a statistical link between these two variables because, having acquired its controlling shareholding for some reason unrelated to private benefits, the new controlling shareholder realizes that its large equity holding gives it the ability to extract private benefits – and so it proceeds to do so. Barclay and Holderness (1989) study the determinants of premiums paid in transfers of 5% and larger shareholdings in U.S. firms. They find that the fraction of the firm's common stock in the block trade is positively and significantly related to the value of private benefits. Barclay and Holderness interpret this as ownership being a driver of private benefits rather than the reverse. To more fully explore the potential endogeneity in the relationship between the existence of a controlling shareholder structure and the level of private benefits we use a simultaneous equation approach similar to that used by Lowry and Shu (2002) who examine the relationship between litigation risk and IPO underpricing.

<sup>1</sup> Subsequent studies of block trades have produced broadly consistent results. For example, Mikkelsen and Regassa (1991) examine 37 block trades between 1978 and 1987 and find a mean premium of 9.2% and median premium of 5.5%. In their study of block trades in Italian publicly traded firms, Nicodano and Sembenelli (2000) also find substantial premiums (mean premium 27%; median 8.3%).

### 3. Using Related Party Transactions to Estimate Private Benefits of Control

We use related party transactions, as disclosed in company annual reports, as the measure of private benefits of control. The disclosures are mandated under Australian Accounting Standard AASB 1017: *Related Party Disclosures* and the information appears in the footnotes to the financial statements. This is broadly comparable to the information disclosed by U.S. corporations in their annual proxy statements under headings like “Transactions with Management” or “Related Transactions”. Although related party transactions data is not disclosed in a uniform or easily accessible fashion in either Australia or the U.S., it is a rich source of information and enables us to produce and use a novel dataset.

Few studies have used data on related party transactions to proxy for the private benefits of control. Gordon, Henry and Palia (2004) examine the relationship between the related party transactions of a sample of 112 U.S. firms. They find that although related party transactions are common they are less common in firms that have relatively stronger corporate governance mechanisms in place. They also find a negative relationship between the dollar value of related party transactions and the market performance of firms. They conclude that their results support the view that related party transactions result in conflicts of interest between managers/board members and their shareholders. Kohlbeck and Mayhew (2004) use a much larger sample of 1261 U.S. firms and more refined econometric techniques to reach similar conclusions.

Under AASB 1017, the related parties of a listed firm are defined to include, among others, any entity that controls the firm, and each director of the firm and their associates. At a general level, AASB 1017 requires disclosure of all “material” information concerning related party transactions. Information about any dealing with directors is deemed material regardless of the quantum of the amounts involved. Information concerning transactions with related parties other than directors and their associates (e.g., its controlling shareholder) is material if its omission or misstatement has the potential to adversely affect: (a) decisions about the allocation of scarce resources made by users of the accounts, or (b) the discharge of accountability by the directors.<sup>2</sup>

Before turning to some important issues associated with using related party transactions as a proxy for private benefits of control, we acknowledge

<sup>2</sup> While there is a lack of uniformity in the manner in which these disclosures are made the most common categories of related party transactions are: (a) a related party supplying goods or services to, or leasing property from, a publicly traded firm; (b) a publicly traded firm supplying goods or services to, or leasing property from, a related party; (c) a publicly traded firm paying licensing fees to a related party; and (d) financing transactions between a related party and a publicly traded firm.

disclosed related party transactions are an imperfect measure of private benefits of control, as are the other proxies used in other studies. This is partly because some private benefits of control are intangible (e.g., prestige), and are therefore not picked up in disclosures of related party transactions. So in some respects our proxy will underestimate the actual level of private benefits. But in other respects our proxy is likely to overestimate the true level of private benefits. This is because some transactions between a publicly traded firm and a blockholder (the related party) will not confer any private benefits on the blockholder, possibly because the transactions are on arm’s length terms. However, if these transactions are disclosed in the financial statements they will be included in our data. We believe that this is unlikely to lead to a significant overestimation of the actual level of private benefits of control. This is because we believe that private benefits of control is appropriately defined to include not only those related party transactions where a blockholder is effectively misappropriating minority shareholders, but also transactions which are on an arm’s length basis. This includes situations where the minority shareholders’ wealth is *not* being misappropriated and the blockholder enters into a contract either solely or partly *because of its controlling shareholding*. That is, where it would not have secured the business contract in the absence of its controlling shareholding.<sup>3</sup>

Our hypothesis is that the level of private benefits of control is a key determinant of ownership structure. Specifically, that if private benefits of control are comparatively high at a particular firm, that firm is likely to have a controlling shareholder. Given this hypothesis, it is clearly important to include disclosures concerning transactions between the public corporation and any controlling shareholder it may have. For a sample firm that has a controlling shareholder, we treat the related party transactions with that blockholder as the measure of private benefits of control at that firm. Not all the sample firms have a controlling shareholder. But there may still be private benefits to be enjoyed from having some degree of control over the affairs of a firm, even if one is not a large shareholder. Our hypothesis is that the board and senior managers enjoy “routine states” control of widely-held firms in Australia

<sup>3</sup> Another potential limitation is that the private benefit component of a particular related party transaction will be some amount less than the total value of the transaction. For example, a firm might pay \$50 million to a related party for goods supplied, where those goods would have cost the firm only \$35 million if purchased from an arm’s length supplier. Here, the private benefit is \$15 million, not \$50 million. The difficulty for us is that there is publicly available information on the total value of related party transactions, but no publicly available information on the private benefit component, if any, included in each transaction. Thus, our use of this variable assumes that, across the many related party transactions entered into by the sample firms, the private benefit component of the transaction is *proportionately* the same size.

(Berle and Means, 1932 and Jensen and Meckling, 1976). That is, any private benefits from control of a widely-held firm will accrue to directors and senior managers. Therefore, we include related party transactions with directors as the measure of private benefits of control at a widely-held firm.<sup>4</sup>

## 4. Data and Methodology

### 4.1 Data and Sample Selection

Our analysis includes the top 200 firms listed on the ASX during 2000 – 2004, which comprise over 80 percent of the market's capitalization. We exclude non-firms and overseas-based firms from the analysis. The non-firms are publicly listed property trusts, while the overseas-based firms are mainly New Zealand firms. It is necessary to exclude foreign firms because their disclosure regime for related party transactions does not mirror the disclosure regime in Australia. We predict that firms having relatively valuable related party transactions are likely to have a controlling blockholder. Where related party transactions are not particularly valuable, we predict that the firm is likely to have a widely-held shareholder base.

Ownership structure is the dependent variable. In the empirical analysis described later in the paper, we use a dummy variable for ownership structure. The two main control thresholds examined are 10% and 20%. We define a dummy variable corresponding to a control threshold of 10% (20%) which equals 1 if the firm has a 10% (20%) or larger blockholder, and 0 if the firm lacks such a blockholder.

The main control thresholds (10% and 20%) adopted for the dependent variable reflect the thresholds used by La Porta, Lopez-de-Silanes and Shleifer (1999), Faccio, Lang and Young (2001), and Roe (2000). Twenty percent is also, in effect, the control threshold adopted in Australia's takeover regulations.<sup>5</sup> It might be argued that these thresholds

are too low to establish practical control. However, the evidence on proxy voting by institutional and individual shareholders in Australian firms suggests otherwise. A study conducted around the start of our sample period found that, in firms lacking a blockholder, only 37% of the share capital was voted on director-election resolutions. The average figure for resolutions deemed controversial was only 35% (Stapledon, Easterbrook, Bennett and Ramsay, 2000). Although the level of voting had increased to 58% by 2006 (RiskMetrics, 2007), even this degree of shareholder participation indicates that a blockholder does not need a particularly large holding in order to maintain practical control; at least in the absence of a crisis in the firm's governance or performance.

It is important to note that although we have data on the exact size of all 5% or larger blockholdings (as mandated under Part 6C.1 of Australia's Corporations Act) we deliberately use a dummy variable in the analysis. The reason stems from the theory we are testing – that a firm is more likely to have a controlling blockholder when the private benefits of control are large. The theory predicts that, if there is a comparatively high level of private benefits of control to be enjoyed, the firm's largest shareholder should have a controlling stake. The theory does *not* predict that the largest shareholder's percentage stake will be greater the higher the level of private benefits. If that were the prediction, then the dependent variable would have been measured as the precise shareholding of the largest shareholder, rather than using a dummy variable.

Data on ownership is from "substantial holding" (5% and above) disclosures in company annual reports, which are obtained either in hard copy form or on-line from the Connect4 database. Importantly, "substantial holding" is defined extremely broadly in the Australian Corporations Act. The breadth of the definition means that, for example, shares held by a relative or associate of the person in question must be taken into account in calculating that person's voting power. The requirement to include associates' votes catches the situation where two or more large holders are acting in concert, or have some form of formal or informal voting agreement. Therefore, there was no need for us to consider whether in a particular case it might be necessary to aggregate the holdings of, say, the top two substantial shareholders on the basis that they may be acting in concert. If they were acting in this way, the legislation would have required the two holdings to be aggregated for disclosure purposes. Also, as we collect the ownership data directly from annual reports, our analysis is not encumbered with

<sup>4</sup> For firms that have a blockholder, we include related party transactions with directors as well as transactions with the controlling shareholder. We do this because, even where a firm has dealings with its controlling shareholder, the transaction is very often recorded under the subheading of "Transactions with Directors". This is because: (a) AASB 1017 requires directors' disclosures to include transactions involving any of the directors' *associates* (which includes any person or entity for whom the director is a nominee on the board), and (b) a large proportion of firms appear to have adopted the practice of including transactions with the controlling shareholder under the "Transactions with Directors" subheading, rather than under the controlling shareholder subheading, presumably due to the boilerplate disclosure templates used by the major accounting firms.

<sup>5</sup> Chapter 6 of the Australian Corporations Act contains a general prohibition on acquiring more than 20% of the voting rights in a publicly listed company, or an unlisted company with more than 50 shareholders. There are several exemptions, including an acquisition under a formal takeover bid. Australia's accounting standards also contain a definition of "control", for use in producing consolidated financial statements: "the capacity of an entity to dominate decision-

making, directly or indirectly, in relation to the financial and operating policies of another entity so as to enable that other entity to operate with it in pursuing the objectives of the controlling entity". To verify whether our results are sensitive to the definition of the control thresholds used we also examined control thresholds of 15% and 25% with results similar to those reported here.

the data integrity issues identified by Dlugosz, Fahlenbrach, Gompers and Metrick (2006).

Our measure of the level of private benefits of control is the total value of related party transactions. The variable is computed as the natural logarithm of one plus the dollar value of related party transactions disclosed by the firm, although the results using the dollar value of related party transactions as a percentage of the firm's market value of equity are qualitatively similar. Data on related party transactions are obtained from company annual reports.

Data for all other independent variables (which are described in the next section) other than firm age come from company annual reports which are obtained either in hard copy form or on-line from the Connect4 database. Data on firm age is obtained from the ASX and various company histories. Where a firm is the product of a merger, we take the age of the dominant merger partner as the firm's age. Where it was a "merger of equals", we take the age of the older merger partner as the firm's age.

#### 4.2 Methodology

As mentioned above, to fully explore the potential endogeneity in the relationship between the existence of a controlling shareholder structure and the level of private benefits we use a simultaneous equation approach similar to that used by Lowry and Shu (2002) who examine the relationship between litigation risk and IPO underpricing. The relationship between the magnitude of related party transactions and blockholder presence is estimated using the following system of equations.

$$Block = \alpha_1 RPT + \delta_1 X + \beta_1 X_1 + \varepsilon_1, \quad (1)$$

and

$$RPT = \alpha_2 Block + \delta_2 X + \beta_2 X_2 + \varepsilon_2, \quad (2)$$

where *Block* is probability that firm *j* has a controlling blockholder and *RPT* is the dollar value of related party transactions for firm *j*. *X* represents the vector of exogenous control variables that are expected to be related to both the dollar value of related party transactions and blockholder presence. *X*<sub>1</sub> represents the vector of exogenous variables that are expected to be uniquely related to blockholder presence, but not to the dollar value of related party transactions. Similarly, *X*<sub>2</sub> represents the vector of exogenous variables that are expected to be uniquely related to the dollar value of related party transactions, but not to blockholder presence. Thus, *X*<sub>1</sub> and *X*<sub>2</sub> comprise the vector of identifying variables in the above system.

Using equation (1) we examine whether the dollar value of related party transactions influences the probability of a blockholder being present. We cannot estimate this equation using a probit model because it is possible that the presence of a blockholder may result in a higher level of related party transactions. In this case, blockholder presence

is not exogenously determined. Similarly, equation (2) cannot be estimated using an OLS model because it is possible that the level of related party transactions may influence the existence of a blockholder, as discussed above. Thus, to take these potential interdependencies between the presence of a blockholder and the level of related party transactions into account, we estimate equations (1) and (2) as a system of simultaneous equations.

To estimate this system of equations, we need to identify both equations (1) and (2). That is, *X*<sub>1</sub> needs to contain at least one variable not in *X*<sub>2</sub>, and vice versa. Before describing the independent variables that we use to identify the above system we first describe the control variables that we expect to be related to both the dollar value of related party transactions and blockholder presence. The first control variable we use is firm size measured as the natural logarithm of the total market value of the firm's equity. It might be expected that larger firms would be less likely to have a controlling shareholder. This would reflect the fact that purchasing a controlling stake in a large firm is more expensive than purchasing a controlling stake in a medium-sized or small public corporation. Large firms could also be expected to have issued more shares than smaller firms. The empirical studies by Demsetz and Lehn (1985) – using U.S. data – and Crespi-Cladera (1998) – using Spanish data – find that firm size is inversely related to ownership concentration. The size of the firm may also influence the level of private benefits of control with controlling shareholders of larger, more heavily scrutinized firms being less able or willing to exercise their power.

The second control variable used is a mining sector dummy which equals 1 for a mining sector company and 0 otherwise. It may be that certain industries lend themselves to a controlling shareholder structure and to systematically different levels of private benefits of control. For example, where the nature of a business presents relatively more opportunities for engaging in self-dealing transactions and in the taking of corporate business opportunities. One possibility is the mining industry. As an example, in a leading Canadian case on the directors' duty to avoid taking personal advantage of corporate opportunities, the mining company in question was receiving two to three offers per week to buy claims from prospectors. The case concerned the purchase by the firm's CEO of one such claim.<sup>6</sup>

The third control variable used is a banking sector dummy which equals 1 for a financial services sector company and 0 otherwise. As Australian banks and insurance firms are subject to relatively close regulation, this variable is analogous to Demsetz and Lehn's (1985) regulated firms dummy variable. This close regulation and scrutiny may systematically

<sup>6</sup> See *Peso Silver Mines Ltd v Cropper* (1966) 58 DLR (2d) 1. See also *Queensland Mines Ltd v Hudson* (1978) 18 ALR 1.

restrict the level of private benefits of control. At the same time, Australian laws place tighter ownership restrictions on financial firms than on non-financial firms, and hence we predict that this variable will also be related to lower incidence of blockholders.

The last control variable we use is financial leverage which is measured as the book value of debt to the book value of assets in the sample year. This variable is suggested by Barclay and Holderness (1989) who find that individuals pay significantly larger block premiums for firms with greater leverage, consistent with the hypothesis that firms with higher leverage are associated with more valuable private benefits of control. Finally, in addition to the above control variables we also include dummy variables corresponding to the five years over which our data spans.

To identify equation (1),  $X_1$  includes firm age, the book-to-market ratio and the standard deviation of returns on the firm's stock. Firm age is the number of years a firm's shares have been traded on the ASX. It might be expected that, the longer the period of time that has elapsed since a firm first traded on the stock exchange, the more likely the firm is to have a widely-held share ownership structure. Several studies have shown that, in several countries, there is a considerable sell-down by the pre-IPO shareholders in the years following a firm's IPO (Brennan and Franks, 1997 and Goergen and Renneboog, 2005). On the other hand, a strong link between the age of public companies and their ownership structures would run counter to the main prediction being tested in this paper: that the size of private benefits of control is an important driver of ownership structure. Under this theory, if a mature public corporation has a widely-held ownership structure but high private benefits of control would be available to a controlling shareholder, the current ownership structure is not a stable equilibrium. The widely-held ownership structure is likely to unravel following the acquisition of a control block either by an outsider or, defensively, by incumbent management (Bebchuk, 1999a, 1999b).

The book-to-market ratio is measured as the ratio of the book value of equity to its market value and is used to proxy for a firm's growth prospects. It is predicted that the greater a firm's growth prospects, the more likely it is that the firm will have a widely-held ownership structure. Kahn and Winton (1998) predict that the percentage holding of pre-IPO shareholders will diminish at a faster rate in fast-growing firms due to these firms' need for more external finance. Goergen and Renneboog's (2005) study of shareholding changes in the six years following German and UK IPOs confirms that prediction.

The standard deviation of the firm's average monthly stock returns over the three years leading up to the sample year is used as a measure of risk and uncertainty. So, for a firm appearing in the sample in

2000 this variable was computed as the monthly standard deviation of returns over 1997-99, and so on. It may be expected that, in the case of high-risk firms, the trade-off for a potential blockholder between the potential benefits of being a blockholder (e.g., from close monitoring of management) and the potential costs would often see them opting not to purchase (or retain) the blockholding; but instead to diversify (Kahn and Winton, 1998 and Bolton and von Thadden, 1998). Goergen and Renneboog's (2005) study of shareholding changes in the six years following German and UK IPOs shows that initial owners of high-risk firms retain less ownership than those of low-risk firms. On the other hand, Demsetz and Lehn (1985) predict that the more unstable a firm's operating environment (e.g., in terms of unstable prices, technology and market shares) the greater the payoff to owners in maintaining tighter control. The reason being that tighter ownership control will result in greater rewards from managerial monitoring compared to in firms where (due to their stable operating environment) management's performance is more obvious to the market. Hence, Demsetz and Lehn predict that unstable environments should give rise to more concentrated ownership structures. Using risk variables (including the standard deviation of monthly stock returns) as a proxy for an unstable operating environment, Demsetz and Lehn find that instability is significantly and positively related to ownership concentration.

Similarly, to identify equation (2),  $X_2$  includes the firm's past performance and the level of cash and marketable securities. Firm performance is measured as the average of the excess return on the sample firm relative to the return on firms in its industry over the three years leading up to the sample year (that is, 1997-99 for the sample firms in 2000, and so on). It captures the relative performance of the firm to its industry peers. The prediction is that better performing firms are associated with a higher level of private benefits, consistent with Barclay and Holderness (1989). The total cash and marketable securities available to the firm represents the funds available to the firm to pay out as private benefits and is measured as the ratio of cash and marketable securities and the book value of assets in the sample year.

Estimating the above system of equations is not straightforward since the dependent variable in the first equation (that is, the existence or not of a blockholder) is binary, while the dependent variable in the second equation (that is, the value of related party transactions) is continuous. As Maddala (1983, p. 244) shows, in this case we are unable to fully recover the parameters in equations (1) and (2). The system of equations estimated is as follows:

$$Block = \alpha_1 \sigma_2 RPT + \delta_1 X + \beta_1 X_1 + \varepsilon_1, \quad (3)$$

and

$$RPT = \frac{\alpha_2}{\sigma_2} Block + \frac{\delta_2}{\sigma_2} X + \frac{\beta_2}{\sigma_2} X_2 + \frac{\varepsilon_2}{\sigma_2}, \quad (4)$$

where  $\sigma_2^2 = Var(\varepsilon_2)$ . We use a two stage estimation method where in the first stage we regress the blockholder dummy variable and the dollar value of related party transactions on the exogenous variables in the system (that is, the variables in  $X$ ,  $X_1$ , and  $X_2$ ), using probit and OLS regressions, respectively. In the second stage, we substitute the predicted values from the first stage estimation as explanatory variables in equations (3) and (4). Equation (3) is estimated using a probit regression while equation (4) is estimated using an OLS regression.<sup>7</sup> Also, since we cannot separately estimate  $\alpha_1$  and  $\alpha_2$ , the focus of our empirical analysis is on the sign of the two coefficients and their statistical significance.

## 5. Empirical Results and Discussion

Table 1 provides a summary of the blockholdings of non-institutional investors that we use in our analysis. As Panel A shows, over the sample period 2000-04 between 39% – 45% of the sample firms have a 10% or larger blockholder and between 22% – 30% have a 20% or larger blockholder. As shown in Panel B, between 8% – 9% of the sample firms have an absolute controlling shareholder (that is, a 50%+ blockholder). Table 2 provides some summary statistics for the independent variables analyzed.

Table 3 shows the regression results for the relationship between the existence of blockholders and the level of private benefits of control without controlling for the potential existence of simultaneity. We report the results for the two main controlling blockholder thresholds of 10% and 20%. We find that the presence of a 10% or 20% blockholder is significantly related to the dollar value of related party transactions as well as to all the control variables (other than financial leverage in the case of the 20% blockholder regression). For the regression of the dollar value of related party transactions on the presence of a 10% or 20% blockholder we only find a significant relationship between the presence of a blockholder and the cash ratio. We note, however, that drawing any conclusions from this analysis is premature because of the potential endogeneity problem mentioned earlier.

Tables 4 and 5 show the results from the two stage regression analysis for the relationship between the existence of a blockholder and the level of private benefits of control where we control for the potential existence of simultaneity. In Table 4 we present the results for a 10% controlling blockholder while in

Table 5 the corresponding results for a 20% controlling blockholder are presented. Note that our focus is on the second stage regressions which correspond to the results presented in Table 3 except that we now explicitly take into account the potential endogeneity in the relationship between the existence of a 10% or 20% blockholder, respectively, and the dollar value of related party transactions. That is, in the blockholder regressions our variable of interest is the related party transactions instrument variable, which is measured as the fitted values of this variable from the corresponding first stage regressions. Similarly, in the related party transactions regressions our variable of interest is the 10% or 20% blockholder instrument variable, which is measured as the fitted values of this variable from the first stage regression.

As the tables show, regardless of whether we use a 10% or 20% blockholder threshold our results are highly significant implying that dollar value of related party transactions is an important determinant of the existence of a blockholder. That is, the higher the dollar value of related party transactions the higher the likelihood is that the firm will have a large blockholder. We also find that the relationship between the existence of a blockholder and related party transactions is, in fact, endogenous. That is, the presence of a 10% or 20% blockholder strongly and positively influences the prevalence of private benefits of control as measured by the value of related party transactions.

Among the control variables we find some differences in the results for the 10% versus 20% blockholder regressions. Where a 10% blockholder exists, we find that the banking sector dummy and the book-to-market ratio are statistically significant with the latter having the expected sign. However, where a 20% blockholder exists, we find that firm size and financial leverage now become significant while the book-to-market ratio loses its significance. Noting that the 20% blockholder sample implicitly includes the 10% blockholder sample we suggest that a change in the level of block ownership appears to influence the relationship between the existence of a blockholder and the exogenous variables analyzed. We also note that year dummies are all statistically significant implying that there are significant differences in the existence of blockholders in our sample over time.

For the regressions analyzing the relationship between the value of related party transactions and the existence of a 10% or 20% blockholder we find that most of the control variables are not significant other than the banking sector dummy in the 10% blockholder regression and firm size for the 20% blockholder regression. Interestingly, the year dummies all become statistically significant in the 20% blockholder regression. This suggests that there may be significant changes in our sample firms moving from being classified as having a 10% blockholder to a 20% blockholder over time.

<sup>7</sup> The regression coefficients from the second-stage regression are consistent, but the standard errors are underestimated since the explanatory variables include two generated regressors. We adjust the standard errors using the methodology in Maddala (1983, p. 245).



**Table 1.** Summary Information on Blockholdings*Panel A: Incidence of Firms with a Controlling Shareholder*

| <b>Control Threshold</b>  | <b>2000</b>   |                | <b>2001</b>   |                | <b>2002</b>   |                | <b>2003</b>   |                | <b>2004</b>   |                |
|---------------------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|
|                           | <i>Number</i> | <i>Percent</i> | <i>Number</i> | <i>Percent</i> | <i>Number</i> | <i>Percent</i> | <i>Number</i> | <i>Percent</i> | <i>Number</i> | <i>Percent</i> |
| No Blockholder            | 81            | 44.8           | 87            | 46.8           | 87            | 47.0           | 87            | 47.3           | 93            | 51.7           |
| 5% or Larger Blockholder  | 100           | 55.2           | 99            | 53.2           | 98            | 53.0           | 97            | 52.7           | 87            | 48.3           |
| 10% or Larger Blockholder | 77            | 42.5           | 83            | 44.6           | 81            | 43.8           | 75            | 40.8           | 70            | 38.9           |
| 15% or Larger Blockholder | 62            | 34.3           | 66            | 35.5           | 62            | 33.5           | 59            | 32.1           | 56            | 31.1           |
| 20% or Larger Blockholder | 54            | 29.8           | 53            | 28.5           | 47            | 25.4           | 43            | 23.4           | 39            | 21.7           |
| 25% or Larger Blockholder | 44            | 24.3           | 47            | 25.3           | 43            | 23.2           | 40            | 21.7           | 38            | 21.1           |
| <b>Total</b>              | <b>181</b>    | <b>100.0</b>   | <b>186</b>    | <b>100.0</b>   | <b>185</b>    | <b>100.0</b>   | <b>184</b>    | <b>100.0</b>   | <b>180</b>    | <b>100.0</b>   |

*Panel B: Breakdown of Blockholdings*

| <b>Range of Blockholding</b> | <b>2000</b>   |                | <b>2001</b>   |                | <b>2002</b>   |                | <b>2003</b>   |                | <b>2004</b>   |                |
|------------------------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|
|                              | <i>Number</i> | <i>Percent</i> | <i>Number</i> | <i>Percent</i> | <i>Number</i> | <i>Percent</i> | <i>Number</i> | <i>Percent</i> | <i>Number</i> | <i>Percent</i> |
| Less than 5%                 | 81            | 44.8           | 87            | 46.8           | 87            | 47.0           | 87            | 47.3           | 93            | 51.7           |
| 5% to less than 10%          | 23            | 12.7           | 16            | 8.6            | 17            | 9.2            | 22            | 12.0           | 17            | 9.4            |
| 10% to less than 15%         | 15            | 8.3            | 17            | 9.1            | 19            | 10.3           | 16            | 8.7            | 14            | 7.8            |
| 15% to less than 20%         | 8             | 4.4            | 13            | 7.0            | 15            | 8.1            | 16            | 8.7            | 17            | 9.4            |
| 20% to less than 25%         | 10            | 5.5            | 5             | 2.7            | 4             | 2.2            | 3             | 1.6            | 1             | 0.6            |
| 25% to less than 30%         | 7             | 3.9            | 10            | 5.4            | 10            | 5.4            | 8             | 4.3            | 10            | 5.6            |
| 30% to less than 35%         | 4             | 2.2            | 6             | 3.2            | 7             | 3.8            | 7             | 3.8            | 5             | 2.8            |
| 35% to less than 40%         | 8             | 4.4            | 8             | 4.3            | 5             | 2.7            | 3             | 1.6            | 2             | 1.1            |
| 40% to less than 45%         | 4             | 2.2            | 3             | 1.6            | 2             | 1.1            | 2             | 1.1            | 4             | 2.2            |
| 45% to less than 50%         | 4             | 2.2            | 6             | 3.2            | 3             | 1.6            | 4             | 2.2            | 3             | 1.7            |
| Above 50%                    | 17            | 9.4            | 15            | 8.1            | 16            | 8.6            | 16            | 8.7            | 14            | 7.8            |
| <b>Total</b>                 | <b>181</b>    | <b>100.0</b>   | <b>186</b>    | <b>100.0</b>   | <b>185</b>    | <b>100.0</b>   | <b>184</b>    | <b>100.0</b>   | <b>180</b>    | <b>100.0</b>   |

This table contains summary information on blockholdings analyzed during 2000 – 2004. It contains information on the number and proportion of firms with a controlling shareholder as well as the breakdown of blockholders by blockholder size over the sample period.

**Table 2.** Summary Statistics for the Independent Variables Analyzed

|                                | <b>Mean</b> | <b>Median</b> | <b>Minimum</b> | <b>Maximum</b> | <b>Standard Deviation</b> |
|--------------------------------|-------------|---------------|----------------|----------------|---------------------------|
| Related Party Transactions     | \$26.77     | \$0.15        | \$0.00         | \$2,722.90     | \$178.12                  |
| Book Value of Equity           | \$1,640.00  | \$341.00      | -\$1,481.00    | \$47,595.00    | \$4,543.00                |
| Market Value of Equity         | \$3,343.00  | \$599.00      | \$2.29         | \$87,236.00    | \$9,245.00                |
| Total Assets                   | \$9,387.00  | \$765.00      | \$5.00         | \$411,309.00   | \$41,301.00               |
| Mining Sector Dummy            | 0.16        | 0.00          | 0.00           | 1.00           | 0.37                      |
| Banking Sector Dummy           | 0.09        | 0.00          | 0.00           | 1.00           | 0.29                      |
| Firm Age                       | 18.54       | 12.00         | 0.00           | 133.00         | 22.16                     |
| Book-to-Market Value of Equity | 0.68        | 0.57          | -2.68          | 5.03           | 0.57                      |
| Standard Deviation of Returns  | 0.11        | 0.09          | 0.00           | 0.51           | 0.07                      |
| Firm Performance               | -4.90%      | 0.00%         | -289.10%       | 50.90%         | 48.40%                    |
| Financial Leverage             | 51.60%      | 51.00%        | 1.00%          | 186.90%        | 24.00%                    |
| Cash and Marketable Securities | \$257.34    | \$33.48       | \$0.00         | \$11,358.00    | \$946.43                  |

This table contains summary statistics for the independent variables included in the analysis during 2000 – 2004. The figures for related party transactions, book value of equity, market value of equity, total assets and cash and marketable securities are in millions of Australian dollars.

**Table 3.** Regression Results for the Relationship Between the Existence of Blockholders and the Level of Private Benefits of Control Without Controlling for Simultaneity

| Independent Variable                                   | 10% Blockholding |             | Related Party Transactions |             | 20% Blockholding |             | Related Party Transactions |             |
|--|------------------|-------------|----------------------------|-------------|------------------|-------------|----------------------------|-------------|
|  | Coefficient      | z-Statistic | Coefficient                | t-Statistic | Coefficient      | z-Statistic | Coefficient                | t-Statistic |
| <i>Related Party Transactions</i>                      | 0.06***          | 7.97        | –                          | –           | 0.059***         | 6.98        | –                          | –           |
| <i>Blockholding</i>                                    | –                | –           | 4.23***                    | 9.05        | –                | –           | 4.31***                    | 8.19        |
| <i>Firm Size</i>                                       | 0.07*            | 1.72        | -0.11                      | -0.77       | 0.15***          | 3.52        | -0.22                      | -1.50       |
| <i>Mining Sector Dummy</i>                             | -0.40**          | -2.07       | 0.16                       | 0.18        | -0.484**         | -2.05       | 0.06                       | 0.06        |
| <i>Banking Sector Dummy</i>                            | -1.54***         | -4.60       | 0.06                       | 0.05        | -1.59***         | -3.34       | -0.44                      | -0.35       |
| <i>Financial Leverage</i>                              | 0.75***          | 2.85        | 1.14                       | 1.02        | 0.44             | 1.48        | 1.54                       | 1.37        |
| <i>Firm Age</i>  | -0.01**          | -2.42       | –                          | –           | -0.01**          | -2.13       | –                          | –           |
| <i>Book-to-Market Ratio</i>                            | 0.19*            | 1.88        | –                          | –           | 0.41***          | 3.66        | –                          | –           |
| <i>Std Deviation of Returns</i>                        | 3.27***          | 3.68        | –                          | –           | 2.41***          | 2.51        | –                          | –           |
| <i>Firm Performance</i>                                | –                | –           | 0.50                       | 1.05        | –                | –           | 0.38                       | 0.80        |
| <i>Cash Ratio</i>                                      | –                | –           | -3.88**                    | -2.21       | –                | –           | -4.53**                    | -2.56       |
| <b>Fixed Effects</b>                                   |                  |             |                            |             |                  |             |                            |             |
| <i>2000 Dummy</i>                                      | -2.74***         | -3.22       | 8.66***                    | 2.82        | -4.81***         | -5.05       | 11.23***                   | 3.66        |
| <i>2001 Dummy</i>                                      | -2.76***         | -3.23       | 9.20***                    | 2.99        | -4.91***         | -5.11       | 11.89***                   | 3.86        |
| <i>2002 Dummy</i>                                      | -2.78***         | -3.24       | 9.03***                    | 2.93        | -5.12***         | -5.29       | 11.83***                   | 3.84        |
| <i>2003 Dummy</i>                                      | -2.82***         | -3.29       | 9.42***                    | 3.07        | -5.10***         | -5.28       | 12.19***                   | 3.98        |
| <i>2004 Dummy</i>                                      | -2.78***         | -3.25       | 9.20***                    | 2.95        | -4.96***         | -5.16       | 11.97***                   | 3.83        |
| <i>McFadden's R<sup>2</sup>/Adjusted R<sup>2</sup></i> | 0.14             |             | 0.09                       |             | 0.15             |             | 0.07                       |             |
| <i>LR statistic/F-statistic</i>                        | 137.07***        |             | 8.79***                    |             | 116.51***        |             | 7.41***                    |             |

This table shows the relationship between the existence of a 10% or 20% blockholder and the level of private benefits of control without controlling for the potential simultaneity in the relationship. The blockholder dependent variable takes a value of 1 if the firm has a 10% (20%) or larger blockholder, and 0 otherwise. The private benefits of control are measured using the value of *related party transactions* measured as the natural logarithm of one plus the dollar value of related party transactions disclosed. *Firm size* is the natural logarithm of the firm's total market value of equity. The *mining sector dummy* equals 1 for a mining sector firm, and 0 otherwise. The *banking sector dummy* equals 1 for a financial services sector firm, and 0 otherwise. *Firm age* is the number of years a firm's shares have been traded on the ASX. The *book-to-market ratio* is the ratio of the book value of equity to its market value and is used to proxy for a firm's growth prospects. *Standard deviation of returns* is measured as the standard deviation of the firm's average monthly stock returns over the three years leading up to the sample year (that is, 1997-99 for the sample firms in 2000, and so on). *Financial leverage* is measured as the book value of debt to the book value of assets in the sample year. *Firm performance* is measured as the average of the excess return on the sample firm relative to the return on firms in its industry over the three years leading up to the sample year (that is, 1997-99 for the sample firms in 2000, and so on). The *cash ratio* is measured as the ratio of cash and marketable securities and the book value of assets in the sample year. The year dummies capture any fixed effects that may exist across the five years of our sample. The likelihood ratio statistic tests the joint null hypothesis that all slope coefficients are zero, and is analogous to the *F*-statistic in linear regression models.

\*, \*\* and \*\*\* indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

**Table 4.** Regression Results for the Relationship Between the Existence of a 10% Blockholder and the Level of Private Benefits of Control After Controlling for Simultaneity

| Independent Variable                                   | 10% Blockholding |             |              |             | Related Party Transactions |             |              |             |
|--|------------------|-------------|--------------|-------------|----------------------------|-------------|--------------|-------------|
|  | First Stage      |             | Second Stage |             | First Stage                |             | Second Stage |             |
|  | Coefficient      | z-Statistic | Coefficient  | z-Statistic | Coefficient                | t-Statistic | Coefficient  | t-Statistic |
| <i>Related Party Instrument</i>                        | –                | –           | 0.22***      | 29.58       | –                          | –           | –            | –           |
| <i>Blockholding Instrument</i>                         | –                | –           | –            | –           | –                          | –           | 11.42***     | 24.47       |
| <i>Firm Size</i>                                       | 0.07*            | 1.79        | 0.02         | 0.40        | 0.25                       | 1.28        | 0.02         | 0.11        |
| <i>Mining Sector Dummy</i>                             | -0.41**          | -2.18       | -0.21        | -1.06       | -0.90                      | -0.94       | 0.69         | 0.77        |
| <i>Banking Sector Dummy</i>                            | -1.53***         | -4.78       | -1.01***     | -3.00       | -2.49*                     | -1.88       | 2.93**       | 2.38        |
| <i>Financial Leverage</i>                              | 0.77***          | 2.89        | 0.02         | 0.21        | 3.68**                     | 2.59        | 0.03         | 0.03        |
| <i>Firm Age</i>  | -0.01***         | -3.02       | 0.00         | -0.93       | -0.04***                   | -3.02       | –            | –           |
| <i>Book-to-Market Ratio</i>                            | 0.22**           | 2.19        | -0.09**      | 1.97        | 1.56***                    | 2.89        | –            | –           |
| <i>Std Deviation of Returns</i>                        | 4.07***          | 4.54        | 1.75         | 0.09        | 10.68**                    | 2.23        | –            | –           |
| <i>Firm Performance</i>                                | 0.06             | 0.54        | –            | –           | 0.72                       | 1.20        | 0.48         | 1.00        |
| <i>Cash Ratio</i>                                      | -1.42***         | -2.88       | –            | –           | -5.47**                    | -2.25       | -1.77        | -1.01       |
| <b>Fixed Effects</b>                                   |                  |             |              |             |                            |             |              |             |
| <i>2000 Dummy</i>                                      | -2.22***         | -2.65       | -2.44***     | -2.87       | 0.47                       | 0.11        | 3.33         | 1.08        |
| <i>2001 Dummy</i>                                      | -2.20***         | -2.62       | -2.58***     | -3.02       | 1.25                       | 0.28        | 3.99         | 1.30        |
| <i>2002 Dummy</i>                                      | -2.24***         | -2.64       | -2.59***     | -3.01       | 1.08                       | 0.24        | 3.90         | 1.27        |
| <i>2003 Dummy</i>                                      | -2.29***         | -2.70       | -2.62***     | -3.05       | 0.94                       | 0.21        | 3.99         | 1.30        |
| <i>2004 Dummy</i>                                      | -2.22***         | -2.62       | -2.56***     | -3.00       | 1.05                       | 0.23        | 3.78         | 1.21        |
| <i>Adjusted R<sup>2</sup>/McFadden's R<sup>2</sup></i> | 0.08             |             | 0.08         |             | 0.03                       |             | 0.04         |             |
| <i>F-statistic/LR statistic</i>                        | 79.56***         |             | 78.53***     |             | 2.97***                    |             | 3.52***      |             |

This table shows the relationship between the existence of a 10% blockholder and the level of private benefits of control after controlling for the potential simultaneity in the relationship. The blockholder dependent variable takes a value of 1 if the firm has a 10% or larger blockholder, and 0 otherwise. The private benefits of control are measured using the value of *related party transactions* measured as the natural logarithm of one plus the dollar value of related party transactions disclosed. *Firm size* is the natural logarithm of the firm's total market value of equity. The *mining sector dummy* equals 1 for a mining sector firm, and 0 otherwise. The *banking sector dummy* equals 1 for a financial services sector firm, and 0 otherwise. *Firm age* is the number of years a firm's shares have been traded on the ASX. The *book-to-market ratio* is the ratio of the book value of equity to its market value and is used to proxy for a firm's growth prospects. *Standard deviation of returns* is measured as the standard deviation of the firm's average monthly stock returns over the three years leading up to the sample year (that is, 1997-99 for the sample firms in 2000, and so on). *Financial leverage* is measured as the book value of debt to the book value of assets in the sample year. *Firm performance* is measured as the average of the excess return on the sample firm relative to the return on firms in its industry over the three years leading up to the sample year (that is, 1997-99 for the sample firms in 2000, and so on). The *cash ratio* is measured as the ratio of cash and marketable securities and the book value of assets in the sample year. The year dummies capture any fixed effects that may exist across the five years of our sample. The likelihood ratio statistic tests the joint null hypothesis that all slope coefficients are zero, and is analogous to the *F*-statistic in linear regression models.

\*, \*\* and \*\*\* indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

**Table 5.** Regression Results for the Relationship Between the Existence of a 20% Blockholder and the Level of Private Benefits of Control After Controlling for Simultaneity

| Independent Variable                                   | 20% Blockholding     |             |                       |             | Related Party Transactions |             |                      |             |
|--|----------------------|-------------|-----------------------|-------------|----------------------------|-------------|----------------------|-------------|
|  | First Stage          |             | Second Stage          |             | First Stage                |             | Second Stage         |             |
|  | Coefficient          | z-Statistic | Coefficient           | z-Statistic | Coefficient                | t-Statistic | Coefficient          | t-Statistic |
| <i>Related Party Instrument</i>                        | –                    | –           | 0.31 <sup>***</sup>   | 36.21       | –                          | –           | –                    | –           |
| <i>Blockholding Instrument</i>                         | –                    | –           | –                     | –           | –                          | –           | 13.84 <sup>***</sup> | 26.30       |
| <i>Firm Size</i>                                       | 0.17 <sup>***</sup>  | 3.96        | 0.09 <sup>**</sup>    | 2.10        | 0.25                       | 1.28        | -0.29 <sup>**</sup>  | -2.01       |
| <i>Mining Sector Dummy</i>                             | -0.47 <sup>**</sup>  | -2.06       | -0.20                 | -0.84       | -0.90                      | -0.94       | 0.71                 | 0.79        |
| <i>Banking Sector Dummy</i>                            | -1.69 <sup>***</sup> | -3.67       | -0.93 <sup>*</sup>    | -1.95       | -2.49 <sup>*</sup>         | -1.88       | 1.97                 | 1.60        |
| <i>Financial Leverage</i>                              | 0.52 <sup>*</sup>    | 1.69        | -0.62 <sup>**</sup>   | -2.08       | 3.68 <sup>**</sup>         | 2.59        | -0.13                | -0.26       |
| <i>Firm Age</i>  | -0.01 <sup>***</sup> | -2.72       | 0.00                  | 1.44        | -0.04 <sup>***</sup>       | -3.02       | –                    | –           |
| <i>Book-to-Market Ratio</i>                            | 0.50 <sup>***</sup>  | 4.46        | 0.01                  | 0.12        | 1.56 <sup>***</sup>        | 2.89        | –                    | –           |
| <i>Std Deviation of Returns</i>                        | 3.58 <sup>***</sup>  | 3.61        | 0.33                  | 0.34        | 10.68 <sup>**</sup>        | 2.23        | –                    | –           |
| <i>Firm Performance</i>                                | 0.25 <sup>**</sup>   | 2.05        | –                     | –           | 0.72                       | 1.20        | 1.69                 | 1.51        |
| <i>Cash Ratio</i>                                      | -1.54 <sup>**</sup>  | -2.36       | –                     | –           | -5.47 <sup>**</sup>        | -2.25       | -1.60                | -0.90       |
| <b>Fixed Effects</b>                                   |                      |             |                       |             |                            |             |                      |             |
| <i>2000 Dummy</i>                                      | -4.69 <sup>***</sup> | -4.90       | -4.78 <sup>***</sup>  | -5.02       | 0.47                       | 0.11        | 9.70 <sup>***</sup>  | 3.16        |
| <i>2001 Dummy</i>                                      | -4.72 <sup>***</sup> | -4.91       | -5.05 <sup>***</sup>  | -5.26       | 1.25                       | 0.28        | 10.57 <sup>***</sup> | 3.43        |
| <i>2002 Dummy</i>                                      | -4.97 <sup>***</sup> | -5.12       | -5.25 <sup>***</sup>  | -5.42       | 1.08                       | 0.24        | 11.32 <sup>***</sup> | 3.68        |
| <i>2003 Dummy</i>                                      | -4.99 <sup>***</sup> | -5.14       | -5.22 <sup>***</sup>  | -5.41       | 0.94                       | 0.21        | 11.21 <sup>***</sup> | 3.66        |
| <i>2004 Dummy</i>                                      | -4.80 <sup>***</sup> | -4.95       | -5.07 <sup>***</sup>  | -5.26       | 1.05                       | 0.23        | 10.69 <sup>***</sup> | 3.42        |
| <i>Adjusted R<sup>2</sup>/McFadden's R<sup>2</sup></i> | 0.09                 |             | 0.15                  |             | 0.03                       |             | 0.05                 |             |
| <i>F-statistic/LR statistic</i>                        | 73.95 <sup>***</sup> |             | 116.51 <sup>***</sup> |             | 2.97 <sup>***</sup>        |             | 4.25 <sup>***</sup>  |             |

This table shows the relationship between the existence of a 20% blockholder and the level of private benefits of control after controlling for the potential simultaneity in the relationship. The blockholder dependent variable takes a value of 1 if the firm has a 20% or larger blockholder, and 0 otherwise. The private benefits of control are measured using the value of *related party transactions* measured as the natural logarithm of one plus the dollar value of related party transactions disclosed. *Firm size* is the natural logarithm of the firm's total market value of equity. The *mining sector dummy* equals 1 for a mining sector firm and 0 otherwise. The *banking sector dummy* equals 1 for a financial services sector firm, and 0 otherwise. *Firm age* is the number of years a firm's shares have been traded on the ASX. The *book-to-market ratio* is the ratio of the book value of equity to its market value and is used to proxy for a firm's growth prospects. *Standard deviation of returns* is measured as the standard deviation of the firm's average monthly stock returns over the three years leading up to the sample year (that is, 1997-99 for the sample firms in 2000, and so on). *Financial leverage* is measured as the book value of debt to the book value of assets in the sample year. *Firm performance* is measured as the average of the excess return on the sample firm relative to the return on firms in its industry over the three years leading up to the sample year (that is, 1997-99 for the sample firms in 2000, and so on). The *cash ratio* is measured as the ratio of cash and marketable securities and the book value of assets in the sample year. The year dummies capture any fixed effects that may exist across the five years of our sample. The likelihood ratio statistic tests the joint null hypothesis that all slope coefficients are zero, and is analogous to the *F*-statistic in linear regression models.

\*, \*\*, and \*\*\* indicate statistical significance at the 0.10, 0.05 and 0.01 levels, respectively.

## 6. Conclusions

There are several theories as to the drivers of different corporate ownership structures. One strand of thought is that private benefits of control are an important determinant of ownership structure. This paper addresses the research question of what determines the ownership structure of publicly traded Australian firms in this specific context. We find that, among publicly traded Australian firms, the level of private benefits of control does indeed appear to be an important driver of ownership structure. In particular, where private benefits are comparatively high, the firm is more likely to have a blockholder with a controlling stake. Our analysis also shows that the relationship between the existence of a blockholder and related party transactions is, in fact, endogenous. That is, the presence of a blockholder strongly influences the prevalence of private benefits of control as measured by the value of related party transactions.

## References

- Allen, J., Phillips, G. M., 2000. Corporate equity ownership, strategic alliances and product market relationships, *Journal of Finance*, 55, 2791-2815.
- Barclay, M. J., Holderness, C. G., 1989. Private benefits from control of public corporations, *Journal of Financial Economics*, 25, 371-395.
- Barclay, M. J., Holderness, C. G., 1991. Negotiated block trades and corporate control, *Journal of Finance*, 25, 861-878.
- Bates, T., Jandik, T., Lehn, K., 2000. Promotion incentives and executive compensation in family firms, Working Paper, University of Western Ontario.
- Bebchuk, L. A., 1999a. A rent-protection theory of corporate ownership and control, Working Paper, Harvard University.
- Bebchuk, L. A., 1999b. The evolution of ownership structure in publicly traded companies, Working Paper, Harvard University.
- Bergström, C., Rydqvist, K., 1990. The determinants of corporate ownership: An empirical study on Swedish data, *Journal of Banking and Finance*, 14, 237-253.
- Berle, A. A., Means, G. C., 1932. *The Modern Corporation and Private Property*. Macmillan, New York.
- Bethel, J. E., Liebeskind, J. P., Opler, T. C., 1998. Block share purchases and corporate performance, *Journal of Finance*, 53, 605-634.
- Black, B. S., 1992. The value of institutional investor monitoring: The empirical evidence, *UCLA Law Review*, 39, 895-939.
- Bolton, P., von Thadden, E., 1998. Liquidity and control: A dynamic theory of corporate ownership structure, *Journal of Institutional and Theoretical Economics*, 154, 177-211.
- Brennan, M. J., Franks, J. R., 1997. Underpricing, ownership and control in initial public offerings of equity securities in the UK, *Journal of Financial Economics*, 45, 391-413.
- Burkart, M., Gromb, D., Panunzi, F., 1997. Large shareholders, monitoring, and the value of the firm, *Quarterly Journal of Economics*, 112, 693-728.
- Coles, J. L., Lemmon, M. L., Meschke, J. F., 2006. Structural models and endogeneity in corporate finance, The link between managerial ownership and corporate performance, Working Paper, Arizona State University.
- Crespi-Cladera, R., 1998. Determinants of ownership structure: A panel data approach to the Spanish case, Working Paper, Universitat Autònoma de Barcelona.
- Demsetz, H., Lehn, K., 1985. The structure of corporate ownership: Causes and consequences, *Journal of Political Economy*, 93, 1155-1177.
- Dlugosz, J., Fahlenbrach, R., Gompers, P., Metrick, A., 2006. Large blocks of stock: Prevalence, size, and measurement, *Journal of Corporate Finance*, 12, 594-618.
- Faccio, M., Lang, L. H. P., Young, L. S. F., 2001. Dividends and expropriation, *American Economic Review*, 91, 54-78.
- Goergen, M., Renneboog, L., 2005. Insider retention and long-run performance in German and UK IPOs. In I. Filatotchev and M. Wright (eds), *The Life Cycle of Corporate Governance*, 123-143. Edward Elgar, Cheltenham.
- Gordon, E., Henry, E., Palia, D., 2004. Related party transactions: Associations with corporate governance and firm value, Working Paper, Rutgers University.
- Himmelberg, C., Hubbard, R. G. Palia, D., 1999. Understanding the determinants of managerial ownership and the link between ownership and performance, *Journal of Financial Economics*, 53, 353-384.
- Holmen, M., Hogfeldt, P., 2004. A law and finance analysis of initial public offerings, *Journal of Financial Intermediation*, 13, 324-358.
- Holderness, C. G., 2003. A survey of blockholders and corporate control, *FRBNY Economic Policy Review*, 9, 51-64.
- Holderness, C. G., Kroszner, R. S., Sheehan, D. P., 1999. Were the good old days that good? Changes in managerial stock ownership since the Great Depression, *Journal of Finance*, 54, 435-469.
- Holderness, C. G., Sheehan, D. P., 1988. The role of majority shareholders in publicly held corporations: An exploratory analysis, *Journal of Financial Economics*, 20, 317-346.
- Jensen, M. C., Meckling, W. H., 1976. Theory of the firm: Managerial behavior, agency costs, and ownership structure, *Journal of Financial Economics*, 3, 305-360.
- Kahn, C. M., Winton, A., 1998. Ownership structure, speculation, and shareholder intervention, *Journal of Finance*, 53, 99-130.
- Kohlbeck, M., Mayhew, B., 2004. Related party transactions, Working Paper, University of Wisconsin – Madison.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 1999. Corporate ownership around the world, *Journal of Finance*, 54, 471-518.
- Lowry, M., Shu, S., 2002. Litigation risk and IPO underpricing, *Journal of Financial Economics*, 65, 309-335.
- Mehran, H., 1995. Executive compensation structure, ownership, and firm performance, *Journal of Financial Economics*, 38, 163-184.
- Mikkelsen, W. H., Partch, M., 1989. Managers' voting rights and corporate control, *Journal of Financial Economics*, 25, 263-290.

33. Mikkelson, W. H., Regassa, H., 1991. Premiums paid in block transactions, *Managerial and Decision Economics*, 12, 511-517.
34. Moon, J. J., Khanna, T., 1995. Product market considerations and private equity sales, Working Paper, Harvard University.
35. Morck, R., Shleifer, A., Vishny, R. W., 1988. Management ownership and market valuation: An empirical analysis, *Journal of Financial Economics*, 20, 293-315.
36. RiskMetrics, 2007. Submission to the Parliamentary Joint Committee on Corporations and Financial Services. Available at: [www.aph.gov.au/Senate/Committee/corporations\\_ctte/sharehold/submissions/sub13.pdf](http://www.aph.gov.au/Senate/Committee/corporations_ctte/sharehold/submissions/sub13.pdf).
37. Roe, M. J., 2000. Political foundations for separating ownership from corporate control, *Stanford Law Review*, 53, 539-606.
38. Shleifer, A., Summers, L., 1988. Breach of trust in hostile takeovers, in A. Auerbach, ed.: *Corporate Takeovers: Causes and Consequences*. University of Chicago Press, Chicago.
39. Shleifer, A., Vishny, R. W., 1986. Large shareholders and corporate control, *Journal of Political Economy*, 94, 461-488.
40. Stapledon, G. P., 1996. *Institutional Shareholders and Corporate Governance*. Oxford University Press, Oxford.
41. Stapledon, G. P., Easterbrook, S., Bennett, P., Ramsay, I. M., 2000. Proxy voting in Australia's largest companies, Research Report, *Centre for Corporate Law and Securities Regulation, Melbourne*.
42. Stein, J., 1989. Efficient capital Markets, inefficient firms: A model of myopic corporate behavior, *Quarterly Journal of Economics*, 104, 655-669.
43. Walkling, R. A., Long, M. S., 1984. Agency theory, managerial welfare, and takeover bid resistance, *Rand Journal of Economics*, 15, 54-68.
44. Wruck, K., 1989. Equity ownership concentration and firm value: Evidence from private equity financings, *Journal of Financial Economics*, 23, 3-28.
45. Zingales, L., 1995. What determines the value of corporate votes?, *Quarterly Journal of Economics*, 110, 1047-1073.