РАЗДЕЛ 3 КОРПОРАТИВНОЕ УПРАВЛЕНИЕ В АВСТРАЛИИ

SECTION 3 CORPORATE GOVERNANCE IN AUSTRALIA

MANAGERIAL SHARE OWNERSHIP AND DISCRETIONARY ACCRUALS IN AUSTRALIA: DO INDEPENDENT AND EXECUTIVE DIRECTORS HAVE DIFFERENT INCENTIVES?

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Abstract

We examine the relation between managerial share ownership (MSO) and discretionary accruals in Australia. We find a positive relation between MSO and discretionary accruals up to a certain level of MSO followed by a negative relation (inverse U-shaped). We suggest that these unique results are a result of certain Australian institutional features that are markedly different to those in the US and the UK and imply that the ownership-discretionary accruals relation is context specific with the wider corporate governance systems influencing the theorised incentive effects. We also posit that executive directors and independent directors have different ownership-discretionary accruals incentives and report results consistent with this proposition.

Keywords: Managerial Share Ownership, Discretionary Accruals, Incentive Alignment, Entrenchment

JEL classification: G32, G34, M41

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1. Introduction

It is argued that increased levels of managerial share ownership (hereinafter MSO) in a firm helps to align the interests of owners and managers, therefore, mitigating agency problems (Jensen and Meckling 1976). Arguing that such incentive alignment has contracting implications, Warfield, Wild and Wild (1995), posit that corporate stakeholders impose more restrictive contractual constraints denominated in accounting numbers as MSO and therefore, incentive alignment, declines. The presence of accounting based constraints in turn provides managers with incentives to use accounting discretion to help alleviate these constraints. An alternative theoretical argument, not considered by Warfield et al. (1995), is that high MSO may result in managerial entrenchment (Demsetz, 1983; Fama and Jensen, 1983). The argument is that the extra voting power enables

them to secure their position in the firm thereby insulating them from certain disciplining mechanisms which in turn creates agency problems. The potential for entrenchment as MSO increases may also have contracting implications. Accordingly, this paper explores the relation between MSO and discretionary accruals in Australia during the period 2000-2006.

Extant research suggests that managers have incentives to manage earnings to avoid reporting earnings decreases and losses since various contracts are based on accounting numbers (see for example, Healy and Wahlen, 1999 for a survey of this literature). Warfield et al. (1995) posit and find that MSO in the US and the magnitude of discretionary accruals are inversely related. They attribute this to a posited inverse relationship between MSO and accounting based contractual constraints. Similarly, Yeo, Tan, Ho and Chen (2002) find that at low levels of MSO, the level of income increasing discretionary accruals has a negative relation with MSO in Singapore. However, at higher levels of MSO the relation reverses suggesting that stakeholders contracting with firms recognise the potential for managerial entrenchment and contract accordingly. In a related study, Gabrielsen, Gramlich and Plenborg (2002) fail to find any statistically significant relation between MSO and discretionary accruals in Danish firms. In short, there is no consistent evidence on the relation between MSO and earnings management measured by discretionary accruals.

Several factors motivate this study. First, it is argued that features of the Australian legal system, market for corporate control, ownership characteristics and other corporate governance features means that the Australian corporate governance system is markedly different from that of the US and the UK. For example, Australian companies have high levels of ownership concentration with La Porta, Lopez-de-Silanes, Shleifer and Vishny (1999) reporting that 45% of a sample of the largest Australian companies had a shareholder holding more than 10% of the equity whilst only 10% of the largest companies in the UK and 20% of the largest US companies had a shareholder owning more than 10% of the equity. Moreover, Australian block holders are relatively passive in monitoring of management (Dignam and Galanis, 2004). The market for corporate control is an important mechanism to discipline management but the Australian market for corporate control is less active than those in the US and UK.[1] Additionally, the proxy voting by the shareholders in Australian companies is lower than the US and the UK companies (Bethel and Gillan, 2002).[2] In view of the above, it is suggested that Australian shareholders do not need a particularly large shareholding to maintain "practical control" (Lamba and Stapledon, 2001). These institutional differences may have an effect on the relation between MSO and discretionary accruals, for example, managerial entrenchment effects associated with "practical control" may take place at lower levels of ownership. In spite of the differences, there is no recent study that directly examines the relation between MSO and discretionary accruals in Australia.[3]

Second, prior research that suggests managerial incentives to manage earnings does not distinguish between the incentives of executive and non-executive directors, in particular the independent directors. We argue that executive and independent directors have different incentives that are likely to influence their behaviours. For example, the executive directors are responsible for the day to day operation of the business and it is likely that their reputation in the managerial labour market is more closely tied to the firm's profitability and value maximising activities. On the other hand, there are economic incentives for independent directors to focus on their monitoring role in order to enhance the value of their human capital in the managerial labour market (Fama and Jensen, 1983). It is likely that these reputation effects will overshadow any incentive alignment or entrenchment effects that may otherwise arise as a result of their owning shares in the firm.[4]

Third, it is possible that the levels of MSO may be endogenously determined as part of the firm's broader operating and financing arrangements (Demsetz, 1983).[5] Accordingly, firms with larger and/or less reliable accruals and/or greater earnings volatility may choose governance structures, such as higher levels of MSO to reduce agency costs. The inconsistent results reported by prior studies may be the result of their failure to address the possibility that MSO is endogenously determined.

Our principal tests shows a nonlinear (inverse U-shaped) relation between managerial ownership and the absolute value of discretionary accruals. Specifically, we find a positive relation between MSO and discretionary accruals up to a certain point followed by a negative relation. Our analyses reveal a similar relation between ownership and the value of discretionary accruals for executive directors as for managerial ownership as a whole. We also find that these results are driven by firms with income increasing, as opposed to income decreasing, discretionary accruals. However, we find no significant relation between share ownership by the independent directors and the value of discretionary accruals. Our results are robust to the alternative estimates of discretionary accruals, potential size effects, as well as concern for autocorrelation, heteroskedasticity and multicollinearity. Thus, in contrast to the US and Singapore, we find a positive relation between MSO and discretionary accruals at lower levels of ownership which is consistent with entrenchments

effects commencing at lower levels of MSO. After a certain level of ownership is attained, we see a negative relation consistent with reduced discretionary accrual adjustments associated with the incentive alignment.

We contribute to the literature in a number of ways. First, we report unique results which we argue is consistent with the wider Australian corporate governance setting that may allow managers to maintain "practical control" and gain private benefits at relatively low levels of ownership which is reflected in contracting behaviour. The fact that the results are driven by firms with income increasing discretionary accruals is consistent with the posited contracting behaviours. Our results remain consistent after addressing the possibility that MSO is endogenously determined. Second, whilst prior work focuses on MSO as a whole, we argue that executive and independent directors have different incentives. The results from examining the relation between executive director share ownership (hereinafter ESO) as well as independent director share ownership (hereinafter ISO) and discretionary accruals supports such differential incentives.

The paper is structured as follows: section 2 provides the theoretical background. Section 3 describes the research design, while section 4 reports the main results. Section 5 summarises and draws conclusions.

2. Theoretical background

MSO results in a manager who owns a fraction of a firm's share directly assuming the consequences of their actions thus aligning their incentives with other shareholders (Jensen and Meckling, 1976). Hence, managers owning shares in a firm are likely to strive to make better investment decisions and maximise value. It is also less likely that the managers will engage in opportunistic behaviour hence, as MSO increases, the demand for accounting based contractual constraints will decline (Warfield et al., 1995). However, after some point, high levels of MSO can result in managers becoming entrenched (Demsetz, 1983).[6] The argument is that the extra voting power helps secure their positions in the firm thereby protecting them from certain disciplining mechanisms (for example, the managerial labour market and the market for corporate control) which may have an adverse effect on their behaviour. Hence the initial theory largely developed in the ownership-performance literature would suggest a negative relation between MSO and discretionary accruals consistent with incentive alignment up to some turning point followed by a positive relation when the costs associated with entrenchment exceed the incentive benefits of managerial ownership (see for example, Morck, Shleifer and Vishny, 1988; McConnell and Servaes 1990). It is also possible that the previously discussed wider corporate governance system may have an effect on the relation between MSO and discretionary accruals. For example, managerial entrenchment effects associated with "practical control" may take place at lower levels of ownership in Australia.

Warfield et al. (1995) argue that there is a systematic relation between MSO and the levels of discretionary accruals and find an inverse relation between the levels of MSO and discretionary accruals in the US. They argue that firms with low MSO are subject to more accounting based contractual constraints as stakeholders perceive a lack of incentive alignment. These contractual provisions in turn provide incentives for managers to use accrual adjustments to circumvent such constraints. Whilst, Yeo et al. (2002) report similar results to Warfield et al. (1995) at low levels of MSO, they show that at higher levels of MSO the relation reverses suggesting that stakeholders contracting with firms recognise the potential for managerial entrenchment and contract accordingly.

Theory suggests some combination of incentive alignment and entrenchment effects and therefore, a nonlinear relation between MSO and discretionary accruals. Prior studies that identify an entrenchment effect in the ownership-performance literature document it commencing at varying levels – for example, MSO of 5% in the US (Morck et al., 1988) and 7% in the UK (Davies, Hiller and McClogan, 2005). Yeo et al. (2002) report an entrenchment effect commencing at an MSO of 25% when examining the ownership-discretionary accruals relation in Singapore. It was previously argued that features of the wider corporate governance system may mean that managers may achieve "practical control" at relatively low levels of MSO in Australia. Accordingly, whilst a precise pattern is hard to predict, we posit that entrenchment effects are likely to be present at lower levels of the MSO-discretionary accruals relation than previously documented.

Previous research in this area does not differentiate between the roles of the managers owning shares. We argue that executive directors and non-executive directors (particularly the independent directors) are likely to have different incentives as will the effect of any shares they hold. Executive directors are more closely involved in the operations of the business and it is likely that their reputational capital is more closely tied to their value maximising activities including strategic as well as operational decisions. Hence it is argued that for any given level of share ownership executive directors, in comparison to independent directors, are more susceptible to the effects of incentive alignment and entrenchment.

On the other hand, it is argued that the economics of the managerial labour market

provides incentives for the non-executive directors, more specifically the independent directors, to be effective monitors in order to enhance their reputation and the value of their human capital (Fama and Jensen, 1983). Similarly, Gilson (1990) asserts that, whilst inside directors are also managers of the firms, outside directors have no continuing professional relation with the firm other than as directors and are responsible for monitoring the management. Future directorships may be a function of the reputation they develop as effective monitors. In case of independent directors, concern for their reputation as effective monitors is likely to outweigh any issues relating to incentive alignment or entrenchment that may otherwise arise as a result of owning shares in the firm. Accordingly we expect the relation between executive directors and discretionary accruals to be as posited in the case of MSO as a whole but we expect no relation between independent director share ownership and discretionary accruals.[7]

3. Research design

3.1 Data

We identified the top 300 Australian companies by market capitalisation at two dates, 30 June 1999 and 30 June 2006. Consistent with the prior literature, we exclude banks, financial institutions, trusts and utility firms (49 firms) which have different disclosure requirements and/or different corporate governance structures. We exclude another 63 firms due to missing information. The final sample comprises of the remaining firms with a total of 1173 firm-year observations over the seven year period.[8] As evident in Table 1, the sample firms belong to 21 Global Industrial Classification Standard Sectors (GICS) Industry Groups. We collect the required accounting information from Aspect Fin Analysis and Connect 4 databases. The ownership and other corporate governance data was hand collected from the corporate governance disclosures, shareholding information and directors' report contained in annual reports.[9]

Table 1. Sample Description

Panel A: Sample selection		
Number of firms		300
Less:		
Financial and utility companies		49
Companies without necessary information for corporate governance and control variable data		63
Total		188
Panel B : Analysis of sample by GICS sectors and industries		
GICS sector	**GICS industry group**	
Material	Chemicals	3
	Construction material	5
	Metal & mining	22
	Paper & forest products	6
Industrial	Capital goods	16
	Commercial service & supplies	9
	Transpiration	5
Health care	Health care equipment & supplies	10
	Health care providers & services	6
	Pharmaceutical, biotechnology & life science	8
Telecommunication	Diversified telecommunication	4
Consumer staples	Food & staple retailing	5
	Food, beverage & tobacco	15
Consumer discretionary	Automobiles & components	7
	Consumer durables & apparels	6
	Consumer services	11
	Media	17
	Retailing	10
Information technology	Software & services	7
	Technology hardware & equipment	6
Energy	Oil and gas	10
Total		188

3.2 Measuring discretionary accruals

Previous research has used different tests to measure discretionary accruals including changes in earnings, discretionary accruals, accounting policy changes (see for example, Dechow, Sloan and Sweeney, 1995). We use a parsimonious model used by Chan, Chan, Jegadeesh and Lakonishok (2006) to estimate discretionary accruals.[10] The model is:

$$E_t(TACC_{it}) = \frac{\sum_{k=1}^{5} TACC_{it-k}}{\sum_{k=1}^{5} Sales_{it-k}} Sales_{it} \quad \textbf{(1)}$$

Where:

$E_t(TACC_{it})$ = Expected total accruals of firm i in year t; $TACC_{it-k}$ = Total accruals[11] of firm i in year t-k; $Sales_{it-k}$ = Sales revenue of firm i in year t-k.

Discretionary accrual is then given by

$$DACC_{it} = TACC_{it} - E_t(TACC_{it}) \quad \textbf{(2)}$$

Where:

$DACC_{it}$ = Discretionary accruals of firm i in year t ; $TACC_{it}$ = Total accruals of firm i in year t; $E_t(TACC_{it})$ = Expected total accruals of firm i in year t

The level of total accruals has been related to current sales. To smooth any kind of transitory fluctuations the proportion as the ratio of a moving average of past five years total accruals to a moving average of sales has been estimated. The discretionary component is estimated by taking the difference between actual and estimated total accruals as calculated in equation (2).

We predict a nonlinear relation between managerial ownership and discretionary accruals. Accordingly, we use quadratic specifications for all the managerial ownership variables – MSO, ESO and ISO.

We use the following equation to examine the relation between MSO and discretionary accruals using an OLS regression technique.[12]

3.3 Model Specification

$$\text{DACC} = \beta_0 + \beta_1 \text{MSO} + \beta_2 \text{MSO}^2 + \beta_3 \text{USUBSP} + \beta_4 \text{LEV} + \beta_5 \text{BIND} + \beta_6 \text{AUD} + \beta_7 \text{MB} + \beta_8 \text{LTACC} + \beta_9 \text{LOSS} + \beta_{10} \text{ASST} + \beta_{11 to 17} \text{GICS Sectoral dummies} + \beta_{18 to 23} \text{Year dummies} + \varepsilon \quad \textbf{(3)}$$

where:

DACC	Absolute value of discretionary accruals
MSO	Managerial share ownership
USUBSP	Unaffiliated substantial share ownership
LEV	Leverage
BIND	Board independence
AUD	Auditor dummy variable
MB	Market to book
LTACC	Lagged total accruals
LOSS	Loss dummy variable
ASST	Size proxied by the book value of assets

Table 2 summarises the definitions of all the variables employed in this paper.

Table 2. Definition of variables

Variable	Definition	Detailed explanation	Expected sign
MSO	Managerial share ownership	Percentage of ordinary shares owned by the directors of the board	?
ESO	Executive directors' share ownership	Percentage of ordinary shares owned by the executive directors of the board	?
ISO	Independent directors' share ownership	Percentage of ordinary shares owned by the independent directors of the board	?
USUBSP	Unaffiliated substantial share ownership	Percentage of ordinary shares owned by the unaffiliated (excluding the directors) substantial shareholders	–
LEV	Leverage	Ratio of book value of debt and book value of total assets	+
BIND	Board independence	The number of independent directors scaled by the size of the board	–
AUD	Auditor dummy variable	A dummy variable 1 if the firm is audited by a big 4 auditor and otherwise 0	–
MB	Market to book ratio	Market value of equity divided by the book value of shareholders' equity	?
LTACC	Lagged total accruals	Prior year total accruals scaled by the prior year total assets	–
LOSS	Loss dummy variable	A dummy variable 1 if the firm has negative earnings and otherwise 0	+
ASST	Size	Natural log of book value of assets	?

3.4 Control variables

The different control variables used in this study include unaffiliated substantial shareholdings, leverage, board independence, big 4 auditor, market to book ratio, lagged total accruals, loss and size of the firms. We also control for the GICS industrial sectors and years.

We include ownership by the unaffiliated substantial shareholders to control for the monitoring effect (Peasnell, Pope and Young, 2005). Unaffiliated shareholdings are measured by taking the percentage of share ownership by the unaffiliated substantial shareholders (other than directors). Managers have incentives to use accounting discretion when they are close to a debt covenant violation and leverage may capture such incentives (Klein, 2002). We measure leverage by the ratio of book value of debt and book value of total assets. Board independence can have a monitoring effect constraining discretionary accruals. We estimate board independence by taking the proportion of independent directors on the board. Previous research suggest that large audit firms (big 4) are considered to be more effective monitors of financial reporting process compared to the smaller firms (Francis and Krishnan, 1999). Therefore, a dummy variable is used to control for the effect of auditor on the level of discretionary accruals. Following previous studies we take market to book ratio as one of our control variables and measured as market value of equity divided by the book value of shareholders' equity (Klein, 2002). Accruals are mean reverting, with the majority of the mean reversion occurring within a year (Dechow et al., 1995). A high level of lagged total accruals will probably reduce managers' ability to manage current period reported earnings upward and vice versa. Therefore, we control for the total accruals of the previous period (Koh, 2003). Firms with negative earnings are associated with greater discretionary accruals (Wang, 2006). Hence we use a dummy variable when a firm has negative earnings in a particular year. Finally we follow previous studies and control for the size by taking a natural log of book value of assets (see for example, Klein, 2002; Wang, 2006).

4. Results

4.1 Descriptive statistics

Panel A of Table 3 reports the descriptive statistics. It shows that the average DACC is 0.064. The average MSO is 12.55% which is similar to the average MSO of 12.4% in the US (Cho, 1998) and 13.02% in the UK (Davies et al., 2005). The average ESO and ISO are 6.29% and 2.32% respectively. The unaffiliated substantial shareholders, on average, hold 37.15% of total shares outstanding of the sample observations.

Panel B of Table 3 represents the correlation matrix using Pearson correlation. DACC is positive and significantly correlated with MSO and ESO. ESO is negative and significantly correlated with ISO and BIND. It suggests that high ESO firms are less likely to have independent board as well as high ISO. Firm size is negatively correlated with MSO and ESO, suggesting that directors' as well as executive directors' equity interests decrease as the firm size increases. The positive correlation between firm size and leverage suggests that large firms have high leverage. The larger firms are also more likely to have big 4 auditors. A negative

correlation between MSO and the auditor variable indicates that directors have greater equity interests in firms audited by non-big 4 firms which is likely to be driven by firm size.

Table 3. Descriptive statistics

The following table reports the descriptive statistics. Different notations used in the table are defined as follows: MSO = Percentage of ordinary shares owned by the directors of the board; ESO = Percentage of ordinary shares owned by the executive directors of the board; ISO = Percentage of ordinary shares owned by the independent directors of the board; USUBSP = Percentage of ordinary shares owned by the unaffiliated (excluding the directors) substantial shareholders; BIND = Board independence calculated as the number of independent directors scaled by the size of the board; LEV = Leverage, calculated as the ratio of book value of debt to book value of total assets; ASST = Natural log of book value of assets; MB = Market to book ratio; AUD = A dummy variable 1 if the firm is audited by big 4 auditors; A dummy variable 1 if the firm has negative earnings; LTACC = Prior year total accruals.

Panel A

	Mean	Stdev	Median	Q1	Q3
MSO (%)	12.554	18.421	2.460	0.211	18.758
ESO (%)	6.325	13.261	0.241	0.025	3.121
ISO (%)	2.321	7.305	0.118	0.024	0.771
USUBSP (%)	37.158	22.558	34.68	19.05	54.88
DACC	0.064	0.076	0.039	0.0161	0.0811
BIND	0.57	0.20	0.60	0.40	0.75
LEV	0.241	0.245	0.234	0.114	0.332
ASST	8.778	0.716	8.782	8.283	9.271
MB	3.545	3.441	2.520	1.478	4.662

Panel B

	DACC	AUD	ESO	ISO	LEV	ASST	LOSS	LTACC	MSO	USUBSP	BIND	MB
DACC	1.000											
P value	-----											
AUD	-0.052	1.000										
P value	(0.079)	-----										
ESO	0.107	-0.128	1.000									
P value	(0.000)	(0.000)	-----									
ISO	-0.009	-0.074	-0.052	1.000								
P value	(0.769)	(0.014)	(0.083)	-----								
LEV	0.039	0.063	-0.083	-0.014	1.000							
P value	(0.189)	(0.034)	(0.005)	(0.650)	-----							
ASST	-0.201	0.153	-0.183	-0.023	0.263	1.000						
P value	(0.000)	(0.000)	(0.000)	(0.441)	(0.000)	-----						
LOSS	0.116	0.011	0.017	0.036	-0.104	-0.321	1.000					
P value	(0.000)	(0.716)	(0.576)	(0.224)	(0.001)	(0.000)	-----					
LTACC	-0.042	-0.054	0.088	0.046	0.064	-0.030	-0.023	1.000				
P value	(0.164)	(0.069)	(0.003)	(0.126)	(0.034)	(0.309)	(0.438)	-----				
MSO	0.118	-0.138	0.670	0.587	-0.042	-0.192	0.088	0.100	1.000			
P value	(0.000)	(0.000)	(0.000)	(0.000)	(0.163)	(0.000)	(0.003)	(0.001)	-----			
USUBSP	-0.032	-0.009	0.022	0.003	0.006	-0.013	-0.059	0.050	0.026	1.000		
P value	(0.286)	(0.754)	(0.452)	(0.926)	(0.841)	(0.658)	(0.050)	(0.091)	(0.381)	-----		
BIND	-0.084	0.053	-0.021	-0.033	-0.012	0.132	0.031	0.025	-0.009	0.094	1.000	
P value	(0.005)	(0.076)	(0.081)	(0.269)	(0.679)	(0.267)	(0.301)	(0.410)	(0.768)	(0.002)	-----	
MB	0.025	-0.068	0.116	-0.018	-0.004	0.058	-0.175	0.007	0.035	-0.001	-0.025	1.000
P value	(0.398)	(0.023)	(0.000)	(0.538)	(0.883)	(0.050)	(0.000)	(0.818)	(0.238)	(0.965)	(0.395)	-----

4.2 Managerial share ownership and discretionary accruals

Table 4 presents the estimation of OLS regression results. In Panel A we report the results relating to MSO and discretionary accruals. The first model (no control variables) shows a positive significant coefficient of MSO (0.000) and a negative significant coefficient of MSO^2 (0.000). In the second model (with control variables) we find significant P values of the coefficients MSO (0.007) and MSO^2 (0.010). The signs of MSO and MSO^2 are positive and negative, respectively. In other words, we find a positive relation between MSO and discretionary accruals up to a certain point followed by a negative relation. It implies an inverse U-shaped, relation between MSO and the absolute value of discretionary accruals. The positive relation between MSO and discretionary accruals suggest that in Australia an entrenchment effect sets in at lower levels of ownership. After a certain level of ownership is attained, we see a relation consistent with incentive alignment.

Table 4. Relation between MSO and discretionary accruals

The following table reports the regression results regarding managerial ownership and discretionary accruals. Different notations used in the table are defined as follows: DACC = Absolute value of discretionary accruals; $DACC_{+ve}$ = Absolute value of income increasing discretionary accruals; $DACC_{-ve}$ = Absolute value of income decreasing discretionary accruals; MSO = Percentage of ordinary shares owned by the directors of the board; USUBSP = Percentage of ordinary shares owned by the unaffiliated (excluding the directors) substantial shareholders; LEV = Leverage, calculated as the ratio of book value of debt to book value of total assets; BIND = Board independence calculated as the number of independent directors scaled by the size of the board; AUD = dummy variable 1 if the firm is audited by big 4 auditors; MB = Market to book ratio; LTACC = Lagged total accruals; LOSS = Loss dummy variable ; ASST = Natural log of book value of assets. The reported results are heteroskedasticity and autocorrelation consistent. Figures in the parentheses are P values.

Panel A

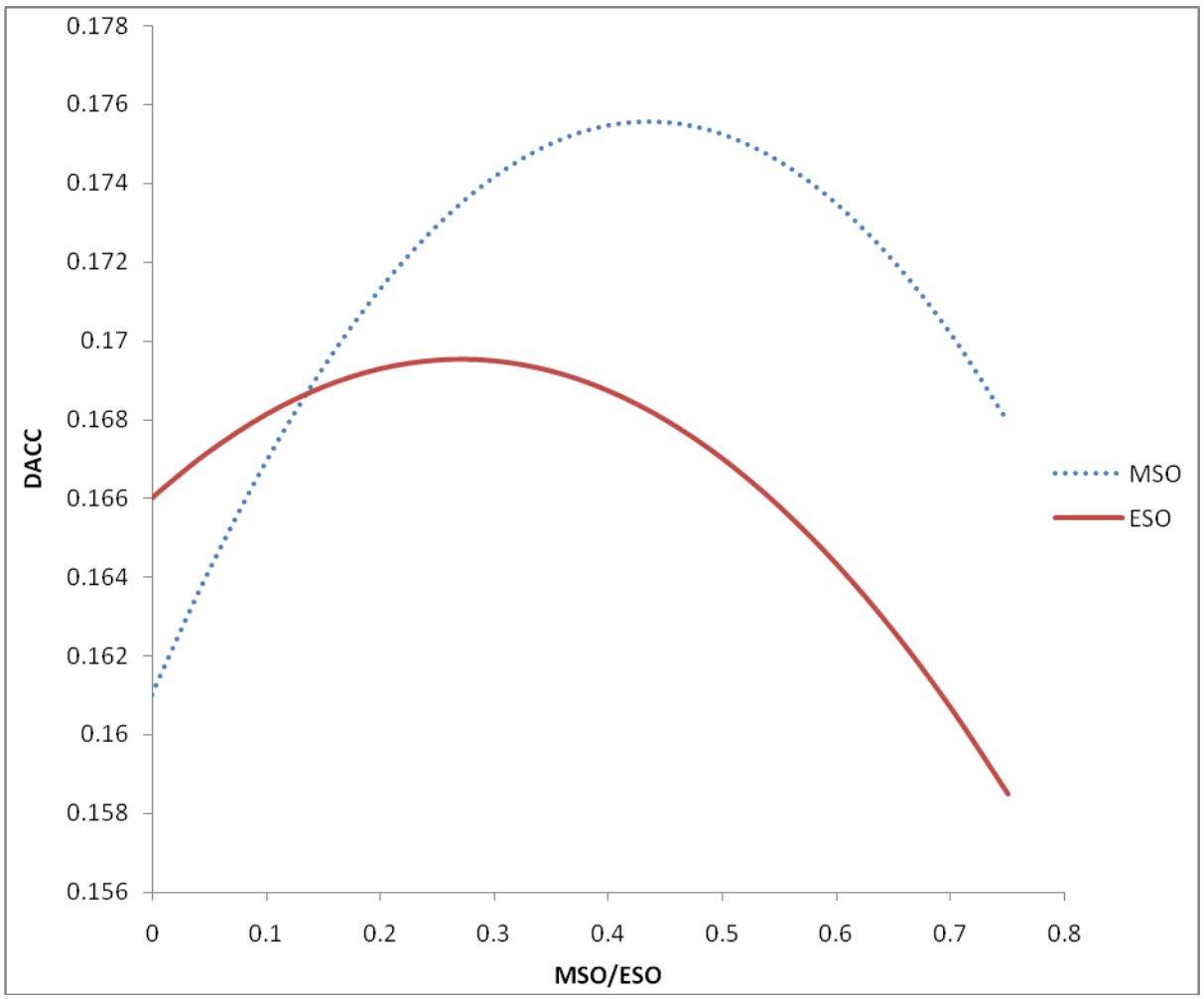
	Model 1		Model 2	
	Coefficient	**P value**	**Coefficient**	**P value**
MSO	0.109	(0.000)	0.067	(0.007)
MSO^2	-0.142	(0.000)	-0.077	(0.010)
USUBSP			-0.006	(0.491)
LEV			0.002	(0.034)
BIND			-0.026	(0.016)
AUD			-0.004	(0.784)
MB			$0.248X10^{-4}$	(0.648)
LTACC			-0.027	(0.131)
LOSS			0.017	(0.041)
ASST			-0.011	(0.008)
Intercept	0.091	(0.000)	0.161	(0.000)
Adj. R^2		0.028		0.066

Panel B

	$DACC_{+ve}$		$DACC_{-ve}$	
	Coefficient	**P value**	**Coefficient**	**P value**
MSO	0.098	(0.000)	0.017	(0.054)
MSO^2	-0.113	(0.005)	-0.023	(0.178)
USUBSP	-0.003	(0.779)	-0.010	(0.402)
LEV	0.008	(0.075)	-0.005	(0.732)
BIND	-0.029	(0.019)	-0.029	(0.065)
AUD	-0.006	(0.199)	-0.001	(0.861)
MB	0.001	(0.078)	-0.002	(0.014)
LTACC	-0.070	(0.002)	0.009	(0.697)
LOSS	0.035	(0.000)	-0.019	(0.137)
ASST	-0.010	(0.022)	-0.015	(0.000)
Intercept	0.134	(0.003)	0.206	(0.000)
Adj. R^2		0.087		0.072

We estimate the turning points in the inverse U-shaped relations between ownership and discretionary accruals from the results reported in Table 4. Figure 1 presents the graph of the estimated relation between MSO and the absolute value of discretionary accruals. The estimated turning point for MSO and discretionary accruals is 43.5%.

Figure 1. The relation between MSO, ESO and discretionary accruals



The fact that the coefficients of some other control variables are statistically significant suggests that discretionary accruals are also influenced by other factors. Specifically, discretionary accruals are positively related to loss (LOSS) and leverage (LEV) and negatively related to board independence (BIND) and firm size (ASST). All other control variables are insignificant. A positive significant coefficient of loss (LOSS) is consistent with the findings of Wang (2006). A positive significant coefficient of leverage (LEV) implies that managers may manage earnings in highly levered firms (Klein, 2002). The negative significant coefficient of board independence (BIND) suggests that monitoring effect constrains the use of discretionary accruals.

The sample firm-years are also divided into two sub-samples according to the sign of the discretionary accruals, and for each sub-sample we regress the absolute value of the discretionary accruals on MSO and control variables. The regression results are presented in Panel B of Table 4. Observations with positive (negative) discretionary accruals are consistent with income-increasing (income-decreasing) accrual adjustments and $DACC_{+ve}$ ($DACC_{-ve}$) indicates the absolute value for positive (negative) discretionary accruals.[13] For the $DACC_{+ve}$ regression, all coefficients of the MSO variables are statistically significant with the expected signs, that is, consistent with the main regression. For the $DACC_{-ve}$ regression, all coefficients of the MSO variables have the expected signs, but, the coefficients of the MSO variables are not statistically significant. Taken together, this suggests that MSO is significantly associated with

income-increasing but not income-decreasing accrual adjustments. The difference in relations is consistent with the contracting argument posited in this paper.

We argued that different groups of managers have different incentives and relation between MSO and discretionary accruals may vary depending on whether shares are owned by the executive or independent directors. We now examine the relations of ownership by the executive directors and discretionary accruals. We report the results in Panel A of Table 5. The first model (no control variables) shows a positive significant coefficient of ESO (0.004) and a negative significant coefficient of ESO^2 (0.046). The second model (with control variables) shows significant P values of the coefficients ESO (0.038) and ESO^2 (0.072). The signs of ESO and ESO^2 are positive and negative, respectively which implies an inverse U-shaped relation between ESO and discretionary accruals. The positive (negative) relation between ESO and discretionary accruals implies an entrenchment (incentive alignment) effect. Once again, our empirical findings suggest that an entrenchment effect dominates at lower level of executive director ownership. After a certain level of ownership is attained, we see a relation consistent with incentive alignment. The significant coefficients of some of the control variables suggest that discretionary accruals are also influenced by other factors. That is, discretionary accruals are positively related to a loss and negatively related to board independence and firm size.

Figure 1 also presents the graph of the estimated relation between ESO and the absolute value of discretionary accruals. We estimate the turning point in the inverse U-shaped relations between ESO and discretionary accruals at 27.1%.

Once again, the sample firm-years are also divided into two sub-samples according to the sign of the discretionary accruals and we re-run our analysis. We report the results in Panel B of Table 5. For the $DACC_{+ve}$ regression we find that all the coefficients of the ESO variables are statistically significant with the expected signs, that is, consistent with the results for ESO as a whole. However, the coefficients for the ESO variables in the $DACC_{-ve}$ regression are not significant. Thus ESO is also associated with income-increasing but not income-decreasing accruals.

We previously argued that independent directors are less likely to be influenced by the effects of incentive alignment or entrenchment and hence we expect no relation between ISO and discretionary accruals. We replicate for ISO the analysis conducted for ESO and we fail to find any significant relation between ISO and discretionary accruals. We also use a linear specification of ISO to examine the same relation and fail to find any significant result as well. We do not tabulate the results in the interest of brevity.[14]

4.3 Endogeneity of MSO

We argue that the levels of MSO may be endogenously determined as part of the firm's broader operating and financing arrangements (Demsetz, 1983). Firms with larger and/or less reliable accruals and/or greater earnings volatility may choose governance structures, such as higher levels of MSO to reduce agency costs To address this potential problem, we use the instrumental-variable (IV) procedure to re-estimate equation 3. Following Hermalin and Weisbach (1991), we create a lagged ownership variable (lagged by one year) and use it as an instrument for measuring MSO. Our results (not tabulated) as per IV regressions are consistent with the analysis using OLS regressions.

Table 5. Relation between ESO and discretionary accruals

The following table reports the regression results regarding managerial ownership and discretionary accruals. Different notations used in the table are defined as follows: DACC = Absolute value of discretionary accruals; $DACC_{+ve}$ = Absolute value of income increasing discretionary accruals; $DACC_{-ve}$ = Absolute value of income decreasing discretionary accruals; ESO = Percentage of ordinary shares owned by the executive directors of the board; USUBSP = Percentage of ordinary shares owned by the unaffiliated (excluding the directors) substantial shareholders; LEV = Leverage, calculated as the ratio of book value of debt to book value of total assets; BIND = Board independence calculated as the number of independent directors scaled by the size of the board; AUD = ; MB = Market to book ratio; LTACC = Lagged total accruals; LOSS = Loss dummy variable ; ASST = Natural log of book value of assets. The reported results are heteroskedasticity and autocorrelation consistent. Figures in the parentheses are P values.

Panel A

	Model 1		Model 2	
	Coefficient	**P value**	**Coefficient**	**P value**
ESO	0.079	(0.004)	0.026	(0.038)
ESO ^{2}	-0.129	(0.046)	-0.048	(0.072)
USUBSP			-0.005	(0.501)
LEV			0.003	(0.631)
BIND			-0.028	(0.014)
AUD			-0.005	(0.883)
MB			$0.4488X10^{-4}$	(0.909)
LTACC			-0.025	(0.186)
LOSS			0.012	(0.031)
ASST			-0.017	(0.014)
Intercept	0.061	(0.000)	0.166	(0.000)
Adj. R^2		0.028		0.066

Panel B

	$DACC_{+ve}$		$DACC_{-ve}$	
	Coefficient	**P value**	**Coefficient**	**P value**
ESO	0.013	(0.025)	0.019	(0.697)
ESO ^{2}	-0.021	(0.071)	-0.027	(0.272)
USUBSP	-0.002	(0.818)	-0.009	(0.442)
LEV	0.003	(0.532)	-0.006	(0.747)
BIND	-0.027	(0.020)	-0.032	(0.121)
AUD	-0.002	(0.578)	-0.001	(0.798)
MB	0.008	(0.162)	-0.002	(0.015)
LTACC	-0.067	(0.005)	0.010	(0.691)
LOSS	0.038	(0.000)	-0.018	(0.126)
ASST	-0.013	(0.053)	-0.014	(0.003)
Intercept	0.140	(0.002)	0.204	(0.000)
Adj. R^2		0.080		0.074

4.4 Further analysis

First, we use the model used by Warfield et al. (1995) as an alternative method to estimate the discretionary accruals. According to this model, discretionary accruals are equal to the difference between the current period accrual and expected normal accrual and the expected normal accrual is estimated by using a five year firm specific average of prior periods' accounting accruals. We rerun all the regressions to examine the relations between the different managerial ownership variables and discretionary accruals. Our results suggest no qualitative differences to the results reported previously.

Second, Himmelberg et al. (1999) argue that MSO may also be endogenously determined by the unobserved firm heterogeneity. Therefore, we repeat all the analyses using a random effect model and fail to find any qualitative difference to our main findings. We then split our sample into four different sub-samples based on time periods – from 2000 to 2003, 2004 to 2006 as well as 2000 to 2002 and 2003 to 2006 - and replicated the original

analysis. The purpose of splitting the sample is to test any impact of the major corporate regulatory changes (for example, the introduction of ASX corporate governance guidelines in 2003) that took place during our study period. The results for these sub-samples are qualitatively similar to the original results.

Third, recognising that the levels of independent director ownership may be too low to affect their incentives, we also examine the impact of ownership by all non-executive directors that is, independent directors and affiliated (grey) directors, on discretionary accruals.[15] We rerun all the regressions that we use for ISO. Our results that have not been tabulated suggest that there is no relation between discretionary accruals and ownership by the non-executive directors.

Fourth, we use an alternative approach to control for the industry differences. Consistent with the Australian economy, around 16% of our sample are resource companies. Accordingly, we also use a resource dummy in all regressions and document a significantly positive coefficient for this variable. It suggests that the resource companies are more likely to manage earnings than the non-resource companies but our results relating to the managerial ownership variables (MSO, ESO and ISO) remain unchanged.

Fifth, as we find a significant coefficient for the size (ASST) variable, we examine the size effects on the level of discretionary accruals. We partition the sample into large and small firms based on the median size of our overall sample and run all regressions on the sub-samples. Our results for both large and small firms show no qualitative differences to the results reported previously.

5. Conclusion

We examine the relation between managerial share ownership and discretionary accruals in Australia. We posit that executive directors and independent directors have different incentives and also examine the ownership-discretionary accruals relation between ESO and ISO, separately. Our investigation shows a nonlinear relation between MSO and the absolute value of discretionary accruals. Specifically, we find a positive relation between MSO and discretionary accruals up to a certain point followed by a negative relation (inverse U-shaped). Our analyses reveal a similar relation between ownership and absolute value of discretionary accruals for executive directors as for managerial ownership as a whole. However, we find no significant relation between share ownership by independent directors and discretionary accruals.

Our finding a nonlinear inverse U-shaped relation between MSO and discretionary accruals is in marked contrast to prior research. Various Australian institutional features including large but relatively passive block holders and very low participation in shareholder proxy votes suggest that managers do not need a particularly large shareholding to derive private benefits of control. Consistent with the above, our empirical findings suggest that, in Australia, a positive ownership–discretionary accrual relation dominates at lower levels of ownership. After a certain level of ownership (43.5% and 27.1% in respect of MSO and ESO, respectively), we see a negative relation consistent with incentive alignment.

Whilst the prior research examining the ownership-discretionary accruals relation focuses on MSO as a whole, we also contribute to the literature by arguing that executive and independent directors have different incentives that may impact the relation between ownership and discretionary accruals. Our results support such differential incentives and imply that independent directors in Australia may be truly independent and are not influenced by the theorised incentive alignment or entrenchment effects associated with share ownership.

Notes

[1] For example, Dignam (2005) found that the proportion of successful Australian takeover bids that were hostile during the period 1992-2001 was 7.2%. He contrasts this with the comparable proportion of successful hostile bids in the US and the UK being 21% and 20%, respectively.

[2] The evidence on voting indicates that 86% - 88% of shares are voted in the US companies, around 50% in the UK but only 39% - 41% in Australia.

[3] A study by Gul, Lynn and Tsui (2002) examines the impact of audit quality on this relation using a smaller sample drawn from the period 1992-3.

[4] The ASX Corporate Governance Recommendations deem that a director may be considered independent even if he or she holds up to 5% of the shares in that company. This is not dissimilar to the New York Stock Exchange rules which state that director share ownership itself is not a bar to an independence finding.

[5] There is empirical support for this proposition in the related area of the managerial ownership-performance relation. Studies controlling for endogeneity document different results from those that do not (see for example, Demsetz and Villalonga, 2001).

[6] It is also possible to argue that entrenchment is not just a consequence of voting power. Some managers, by virtue of their tenure with the firm, status as a founder, may be entrenched with relatively small stakes. On the other hand, managers with higher ownership stakes in firms with an active outside block holder or strong independent directors may not be as entrenched (Morck et al. 1988).

[7] We specifically identify non-executive directors who meet the criteria for independence as set out in the Investment and Financial Services Association definition that was subsequently adopted by the ASX Corporate Governance Council, (2003), *Principles of Good*

Corporate Governance and Best Practice Recommendations.

[8] We also do the same analysis after trimming the top and bottom 1% observations based on the key variables, that is, MSO and DACC. Our results are not qualitatively different from those reported in the paper.

[9] An independent judge checked a random selection of the ownership and corporate governance data used in this study.

[10] A commonly used model to estimate discretionary accrual is the modified Jones model (Dechow et al., 1995). The time series version of the modified Jones is data intensive. Similarly, a problem with using the cross sectional model is that some of the industries classified under the two digit ASX code do not have ten observations (firms). Accordingly, using these models would have resulted in a considerable reduction of our sample size. As further analysis, we also use the model in Warfield et al. (1995) to estimate discretionary accruals.

[11] Total accruals = $\Delta CA - \Delta CL - DEP$ where ΔCA is the change in non-cash current assets (change in current assets less change in cash), ΔCL is the change in current liabilities excluding short term debt (change in current liabilities less the change in debt included in current liabilities and minus the changes in income tax payable) and DEP is depreciation and amortization (Dechow et al., 1995).

[12] We use the same equation to examine the relations between executive as well as independent directors and discretionary accruals replacing MSO by ESO and ISO respectively.

[13] The number of observations for the income increasing discretionary accruals and income decreasing discretionary accruals are 736 and 437 respectively.

[14] Detailed results are available on request.

[15] The mean level share ownership by all non-executive directors in our sample is 6.2% in contrast to 6.3% owned by executive directors.

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