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Paper Title:

How does managerial ownership affect firms going private in Australia?

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Abstract

□ Theme

We analyse the importance of MSO vis-a-vis undervaluation as determinants in going private through PE transactions

□ Context

Firms listed in the ASX

□ Findings

Our empirical results show that both MSO and undervaluation are the dominant factors in going private through private equity

What Does the Literature Suggest?

- ❑ Prior research on PE has been exclusively limited to US and UK samples; it is also questionable if those evidences can be generalized in the Australian context
- ❑ Australian studies on going private transactions exhibit only one empirical study (Chapple et al. 2010) on PE deals thus far, exploring the financial and governance characteristics of Australian PE deals

What Does the Literature Suggest?

□ Studies that motivate our study:

Chapple, Clarkson and King (2010, AF) => Australia

Halpern, Kieschnick and Rotenberg (1999, AER) => USA

Morck, Shleifer and Vishny (1988, JFE) = USA

Weir, Laing and Wright (2005, JBFA) => UK

Weir, Laing and Wright (2005, AFE) => UK

Weir and Wright (2006, ABR) => UK

What is the Story?

High MSO

Undervaluation

**Non-value Maximizing
Behaviour
Managerial Control
Different Perception**

**Low Analyst Following
Low Share Price
Future Inv Uncertainty**

**Going Private: PE
Takeovers**

What are we looking for?

□ High MSO

We propose that high MSO increases the likelihood of going private (PE)

□ Market Undervaluation

We propose that low market valuation increases the likelihood of going private (PE)

□ MSO and Undervaluation

We also propose that undervaluation problem intensifies with high MSO and the likelihood of going private (PE) increases more rapidly



Data Sources

□ Data

Sample consists of all successful PE takeover target firms listed on the ASX and made between 1990 and 2010.

Sample was drawn from Securities Data Corporation (SDC) Platinum ANZ M&A Database, Bureau Van-Dijk ORBIS Global Database, Aspect Huntley Morning Star DatAnalysis and FinAnalysis Database, Annual Reports

All variables are measured as of the balance sheet date prior to the year of the announcement of the takeover activity

A matched sample of firms (matched by time and industry) that were acquired by public companies was also constructed

Sample Design

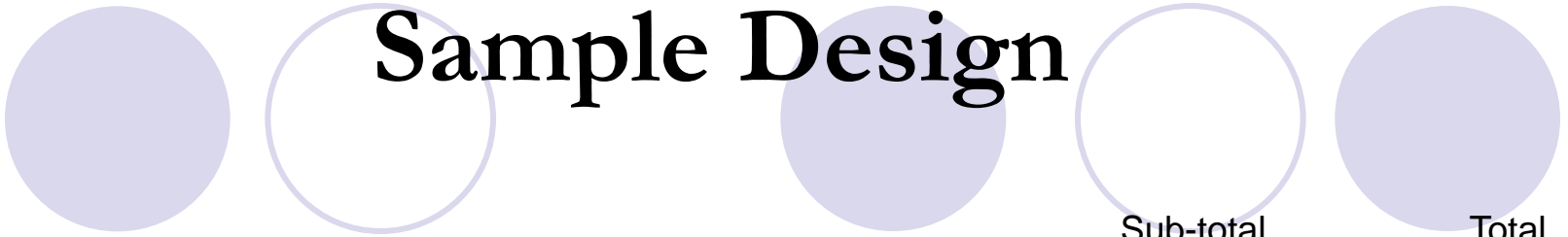
All Non-PTP Deals

All Going Private

Only Private Equity

Year	Number	Percent	Number	Percent	Number	Percent
1990 – 1992	171	4.24	11	2.13	0	0.00
1993 – 1995	340	8.44	34	6.58	1	0.77
1996 – 1998	462	11.47	40	7.74	5	3.88
1999 – 2001	341	8.46	51	9.86	19	14.73
2002 – 2004	777	19.29	93	17.98	33	25.58
2005 – 2007	799	19.83	133	25.73	52	40.31
2008 – 2010	1139	28.27	155	29.98	19	14.73
Total	4029	100%	517	100%	129	100%

Sample Design



	Sub-total	Total
All PTP Deals	517	
Less: Acquirers or targets with status of 'Subsidiary' or 'Joint Venture'	95	422
Less: Deals not financed (wholly/partly) by private equity firms	244	178
Less: Information not available for the last 3 years	49	129
Final Total of Private Equity deals		129

Variables Defined



Selected Variables

Ownership

MSO

Valuation Metrics

EV Ratio, MTB Ratio, Q Ratio

Controls

CURR, LVG, FCF, CAPEX

Multicolleniariry Test

pcc/scc	MSO	EV	MTB	Q_RAT	LVG	CURR	FCF	CAPEX
MSO	1	-0.342	-0.393	-0.217	0.092	0.376	0.007	0.028
EV	-0.149	1	0.425	0.234	-0.165	-0.295	-0.056	0.007
MTB	-0.211	0.166	1	0.613	-0.209	-0.495	0.013	0.113
Q_RAT	-0.117	0.049	0.791	1	-0.398	-0.217	-0.124	0.235
LVG	0.079	-0.094	0.031	-0.046	1	-0.024	0.217	-0.149
CURR	0.101	-0.079	-0.105	-0.043	-0.035	1	-0.091	0.068
FCF	0.059	-0.029	-0.452	-0.641	-0.031	-0.043	1	0.039
CAPEX	0.021	-0.036	0.362	0.588	-0.022	-0.001	-0.358	1

Univariate Analysis

Mean

Median

	PE	Non-PE	t-stat	p-value	PE	Non-PE	z-stat	p-value
MSO	0.141	0.041	-7.27**	<0.001	0.085	0.032	-7.61**	<0.001
EV	2.009	3.586	4.60**	<0.001	1.163	2.725	8.82**	<0.001
MTB	1.034	4.508	9.10**	0.000	1.050	3.330	13.33**	<0.000
Q-Ratio	1.026	3.656	4.32**	<0.001	0.669	1.736	7.79**	<0.001
LVG	0.496	0.380	-2.91**	0.002	0.465	0.336	-3.64**	<0.001
CURR	4.095	1.332	-3.32**	<0.001	2.25	1.23	-8.80**	<0.001
FCF	0.100	0.037	-1.45	0.074	0.104	0.093	-0.57	0.569
CAPEX	0.085	0.109	1.07	0.142	0.041	0.041	0.20	0.845

Research Design and Analysis

□ Model Specification

First, we test the probability of going private with low and high level of MSO and include the valuation measures to see if valuation metrics act differently with different levels of MSO:

$$L_i = \text{Ln} [P_i/(1-P_i)] = \alpha + \beta_1 \text{LowMSO}_i + \beta_2 \text{Val}_i + \beta_3 \text{MSO}_i * \text{Val}_i + \beta_4 \text{Con}_i + \varepsilon_i \quad (1a)$$

$$L_i = \text{Ln} [P_i/(1-P_i)] = \alpha + \beta_1 \text{HighMSO}_i + \beta_2 \text{Val}_i + \beta_3 \text{MSO}_i * \text{Val}_i + \beta_4 \text{Con}_i + \varepsilon_i \quad (1b)$$

Low MSO and Valuation

	(1)	(2)	(3)	(4)	(5)	(6)
Constant	-5.133** (1.012)	6.523 (6.081)	-4.253** (1.28)	-4.490** (1.127)	17.09 (12.45)	-5.141** (1.268)
MSO	97.95** (21.49)	202.7 (117.5)	106.1** (28.59)	132.2** (32.01)	179.4 (97.91)	99.39** (28.11)
EV		-0.23 (0.314)	-0.254 (0.146)	-0.015 (0.13)		
MSOEVD				-79.57** (27.49)		
MTB		-14.69* (6.767)			-22.10 (11.39)	
MSOMTBD					236.6 (217.9)	
Q-Ratio			-0.649** (0.227)			-0.743* (0.291)
MSOQRATD						11.08 (28.98)
N	129	129	129	129	129	129
McFadden R ²	0.46	0.92	0.56	0.54	0.93	0.54
LR stat	81.44	164.09	99.40	95.89	165.47	96.09
p-LR stat	0.000	0.000	0.000	0.000	0.000	0.000

High MSO and Valuation

	(1)	(2)	(3)	(4)	(5)	(6)
Constant	Constant	-13.88** (3.658)	-13.65** (4.16)	-12.42** (4.421)	-17.83** (5.915)	-13.93** (4.849)
MSO	72.91** (18.94)	86.43** (23.95)	78.44** (25.32)	112.2** (38.26)	97.67** (31.61)	83.62** (32.12)
EV		0.0775 (0.11)	0.004 (0.105)	0.152 (0.133)		
MSOEVD				-38.05* (14.98)		
MTB		-1.803* (0.782)			-5.115* (2.336)	
MSOMTBD					55.23 31.78	
Q-Ratio			-2.821* (1.108)			-4.201* (1.788)
MSOQRATD						27.98 (16.51)
N	129	129	129	129	129	129
McFadden R ²	0.80	0.86	0.86	0.86	0.88	0.88
LR stat	142.69	152.81	153.32	153.65	156.59	157.47
p-LR stat	0.000	0.000	0.000	0.000	0.000	0.000

Research Design and Analysis

□ Model Specification

Second, we test the association between levels of MSO and firm valuation in cross sectional regressions:

$$\text{Val}_i = \alpha + \beta_1 \text{LowMSO}_i + \beta_2 \text{Con}_i + \varepsilon_i \quad (2a)$$

$$\text{Val}_i = \alpha + \beta_1 \text{HighMSO}_i + \beta_2 \text{Con}_i + \varepsilon_i \quad (2b)$$

MSO and Firm Value

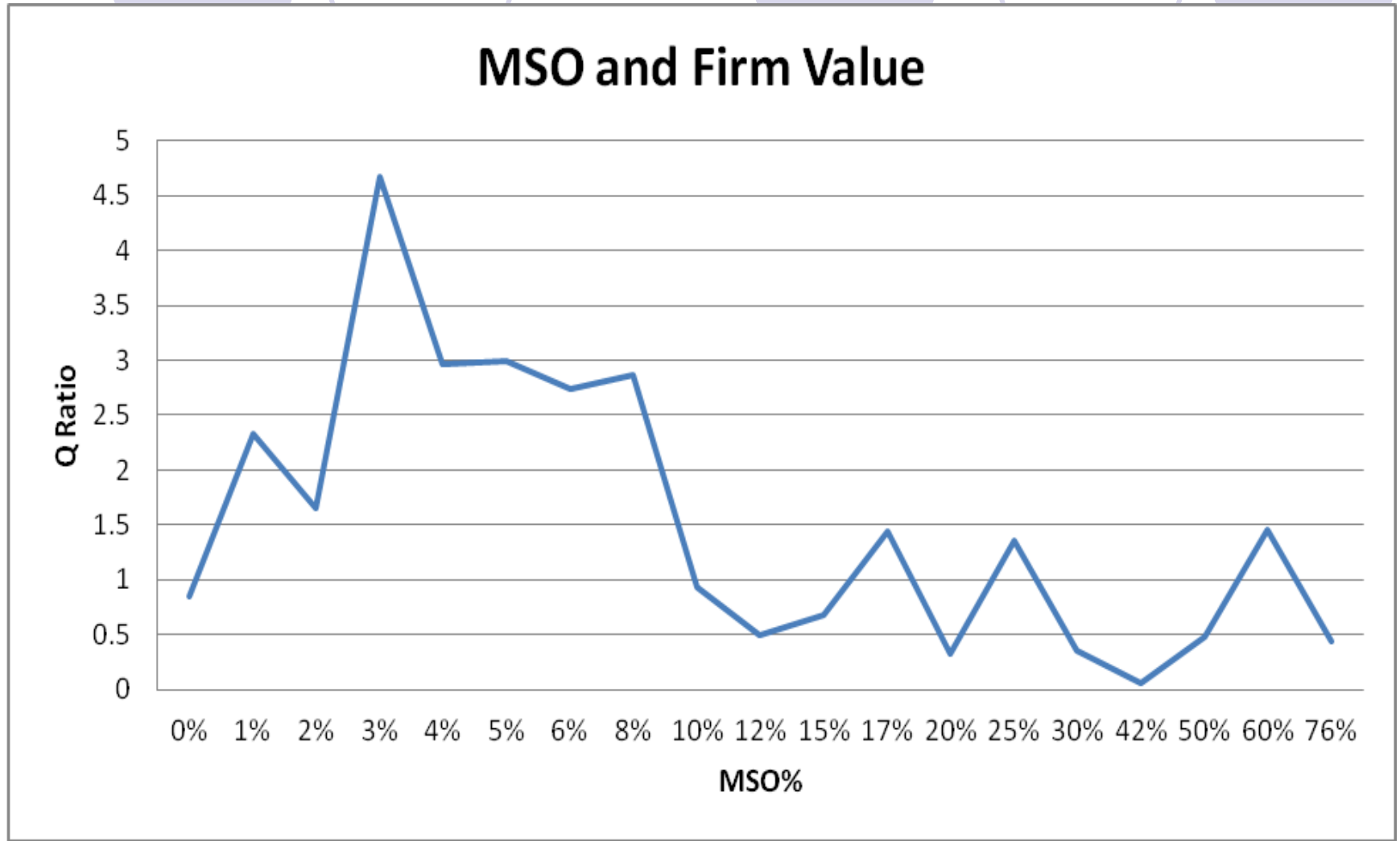
MSO (%)

Number of Firms

Mean-Q

	PE	Non-PE	Total	
0 - < 1%	5	0	5	0.6203
1% - < 2%	7	37	44	2.2564
2% - < 3%	12	25	37	3.8587
3% - < 4%	6	21	27	2.7063
4% - < 5%	4	10	14	2.6089
5% - < 7%	18	13	31	3.0867
7% - < 10%	21	17	38	2.4091
10% - < 15%	18	5	23	1.0787
15% - 25%	17	1	18	1.0914
25% - < 40%	10	0	10	0.9696
40% and over	11	0	11	0.7204
Total	129	129	258	2.3413

MSO and Firm Value



MSO and Firm Value

Low MSO Group

High MSO Group

Whole Sample

	EV	MTB	Q-Ratio	EV	MTB	Q-Ratio	EV	MTB	Q-Ratio
Constant	3.562** (0.883)	3.097** (0.925)	1.655 (0.982)	4.155** (0.66)	5.120** (0.551)	4.395** (0.674)	3.814** (0.389)	3.506** 0.404	2.801** (0.457)
MSO	19.19 (48.18)	-92.43 (50.47)	-35.37 (53.56)	-12.35 (6.315)	-19.19** (5.271)	-15.30* (6.448)	-7.623* (4.058)	-15.68** (4.208)	-10.64* (4.766)
MSO ²	-541.7 (546.3)	471.9 (572.3)	106.01 (607.3)	13.63 (9.484)	22.29** (7.916)	18.14* (9.685)	8.357 (6.959)	18.91** (7.217)	12.92* (8.174)
R ²	0.09	0.57	0.78	0.06	0.25	0.41	0.04	0.32	0.58
F stat	2.01	27.28	70.76	1.37	6.73	13.70	1.84	19.53	56.90
p-F stat	0.071	0.000	0.000	0.231	0.000	0.000	0.092	0.000	0.000
N	129	129	129	129	129	129	258	258	258

Research Design and Analysis

□ Model Specification

Finally, we use logit regression to model a firm's decision to go private. We test the joint effect of MSO and valuation measures on going private through PE takeovers as follows:

$$L_i = \text{Ln} [P_i/(1-P_i)] = \alpha + \beta_1 \text{MSO}_i + \beta_2 \text{Val}_i + \beta_3 \text{MSO}_i * \text{Val}_i + \beta_4 \text{Con}_i + \varepsilon_i \quad (3)$$

MSO and Valuation on PE T/O

	(1)	(2)	(3)	(4)	(5)	(6)
Constant	-4.610** (0.649)	12.54** (3.931)	-3.364** (0.817)	-4.581** (0.743)	9.054* (3.921)	-4.023** (0.786)
MSO	20.56** (4.371)	55.24** (17.39)	18.82** (4.645)	36.47** (6.795)	46.69* (20.88)	20.30** (5.743)
EV		-0.377** (0.146)	-0.163** (0.832)	0.0196 (0.0734)		
MSOEVD				-30.55** (7.25)		
MTB		-12.11** (3.104)			-10.44** (3.094)	
MSOMTBD					2.446 (19.26)	
Q-Ratio			-0.813** (0.207)			-0.764** (0.227)
MSOQRATD						-4.398 (6.37)
McFadden R ²	0.43	0.89	0.54	0.51	0.87	0.53
LR stat	155.29	318.64	192.2	182.39	312.74	187.88
p-LR stat	0.000	0.000	0.000	0.000	0.000	0.000
N	258	258	258	258	258	258

Research Design and Analysis

□ Further Analysis

In order to complement our analysis, we now calculate the probabilities of going private at different levels of MSO and valuation measures. We use the following equation to calculate these probabilities (see, e.g., Maddala (1991):

$$P_1 = 1/(1 + e^{z_i})$$

Probabilities are calculated for different levels of MSO and valuation measures with other variables measured at their means.

Further Analysis

MSO (%)	Probability (MSO)	Value (EV, MTB, Q)	Probability (EV)	Probability (MTB)	Probability (Q-Ratio)
5%	0.000001578	0.50	0.00003644	0.99999993	0.93455354
10%	0.00002498	1.00	0.00003017	0.99996863	0.90485591
15%	0.00039544	1.50	0.00002499	0.98678524	0.86364851
20%	0.00622507	2.00	0.00002069	0.14885247	0.80837355
25%	0.09023831	2.50	0.00001714	0.00040941	0.73750154
30%	0.61098829	3.00	0.00001419	0.00000096	0.65171122
50%	0.99998987	3.50	0.00001175	0.000000002	0.55480793

Concluding Remarks

- ❑ MSO and Valuation metrics are strong driving forces
- ❑ Some Evidence of Non-linearity in MSO and firm value
- ❑ No evidence of undervaluation problem being intensified at high levels of MSO
- ❑ Current and Leverage ratio are also significant and positive revealing the opportunistic behaviour of PE firms
- ❑ These evidences are new and addition to prior Australian studies in that we explicitly model the interplay between managerial ownership and undervaluation



Future Implications

- From a CG perspective, the findings indicate that existing agency structure appear to be insufficient in aligning the interest of outside shareholders and insiders.
- An interesting area of future research would be to analyze the wealth effects of managers after the firm is actually taken to private. This would shed light on the true motivation of managers in taking their firms private.



Thank You All

Questions and/or Suggestions