

The Price Impact of Director Trading and Announcements: Evidence from the Australian Securities Exchange

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The Question

- “By the time official reporting (for corporate insider transactions) is necessary, the market has fully adjusted for the value of the information.’ - Scholes (1972)
- Reporting/corporate governance requirement: necessary or just a formality?

Background

Australia & UK:

- Company executives and,
- Non-executive directors;

US:

- Executives: Referred to as 'Officers'
- Non-executive directors: 'Directors'
- Large shareholders: 10% of Shares or more

Background

“Close Period”

- ✓ UK: companies have always set such a window
- ✓ US: SOX (2011): No trading during ‘Pension Fund Blackout Periods’
- ✓ Australia: Effective January, 2011, ASX listed company required to disclose its trading policy, which must include ‘closed periods’ for director trading.

Background

Time Frame

- ✓ UK: 4+1 (RIS) working days
- ✓ US: 40 days till 2002 SEC rule: by 2nd business day
- ✓ Australia: ASX listing rule: ≤ 5 trading days

Literature Review – Market Timing

Lin and Howe (1990):

NASDAQ , Sell (Buy) after periods of +(-)AR

Chang and Suk (1998) :

- (+)AR for sales(purchases) from 4 days after trade

Friederick et al (2002):

-(+) AR 20 days before purchases (sales); +(-) after

Hillier and Marshall (2002 b):

same return patterns/directions finding as above, & sales have delayed reactions smaller price movements

Fidrmuc et al (2006):

Directors time both purchases and sales very well

Literature Review – Announcement Impact

Jaffe (1994):

Announcement contains information not discounted yet

Chang and Suk (1998):

AR and +Volume around both SEC filing and WSJ publication

Lakonishok and Lee (2001):

A few days from filing before obtaining info; AR found but very small

Fidrmuc et al (2006):

+(-) CARS following announcements of director purchase (sales),
using daily data

Brochet (2010):

Speedier and more strict reporting requirements lead to rapid price
reaction, reduced information leakage

Rogers et al (2017):

Issues with the EDGAR announcements

Motivation

- Existing Literature: questions remain unanswered – issues
 - Older studies
 - Data infrequent
 - Imprecise event time
 - More recent studies
 - Filing for reporting
 - Issues with releasing
- Earlier findings apply to Australia?
- Corporate Governance – 5 days reporting time frame efficient?
- More precise data – enable further analysis
- Factors that affect the announcement effect

Data and Methodology

- Director Trading Data: 1 Jan 2005 – 31 Dec 2010
- EXACT Announcement Time on ASX website
- All Ordinaries Index daily data
- Intraday Stock Data

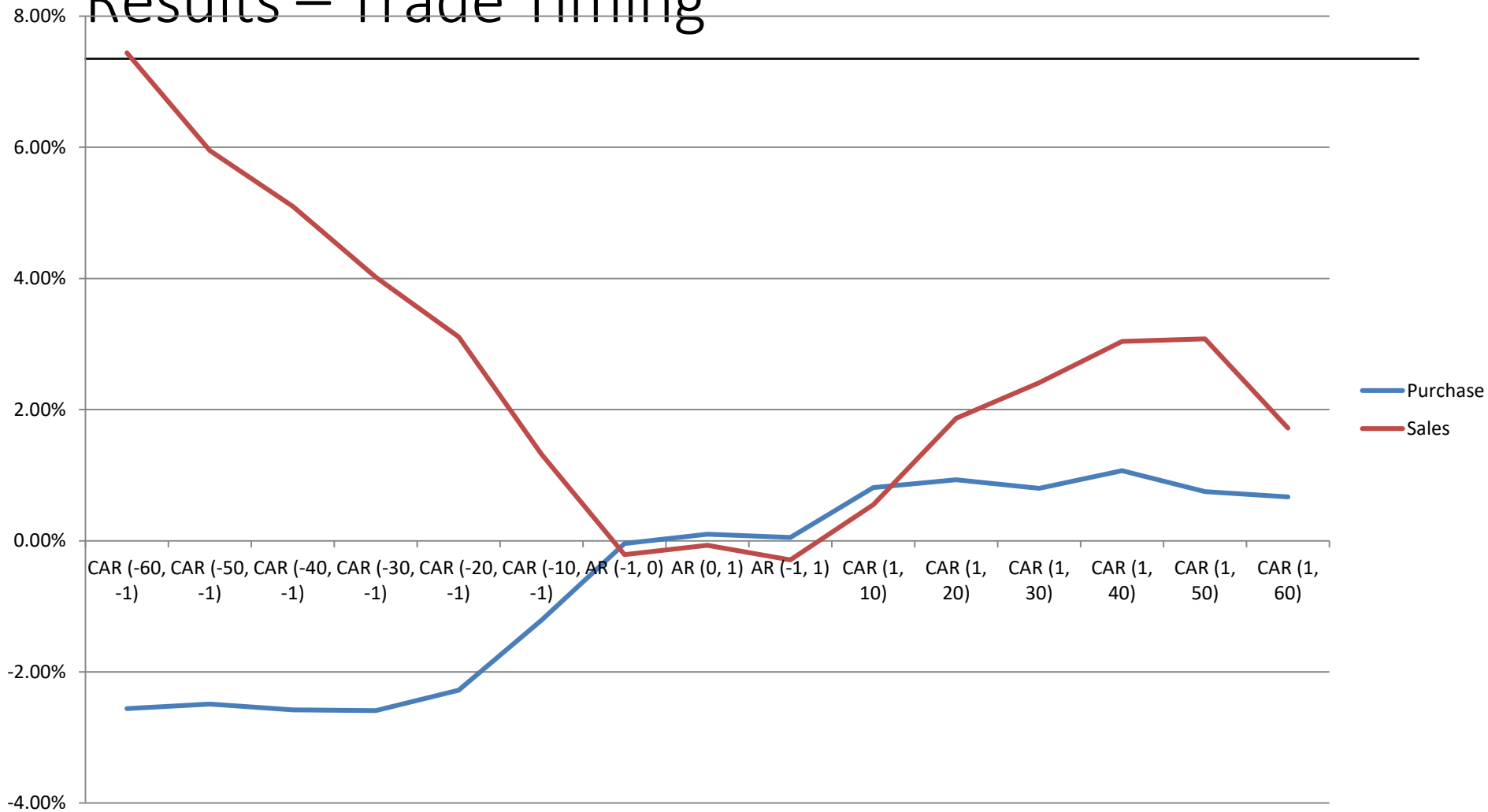
$$CAR_i(t_1, t_2) = \sum_{t=t_1}^{t_2} (R_{it} - R_{M_t})$$

$$R_n = \frac{Bid_n + Ask_n}{Bid_0 + Ask_0} - 1$$

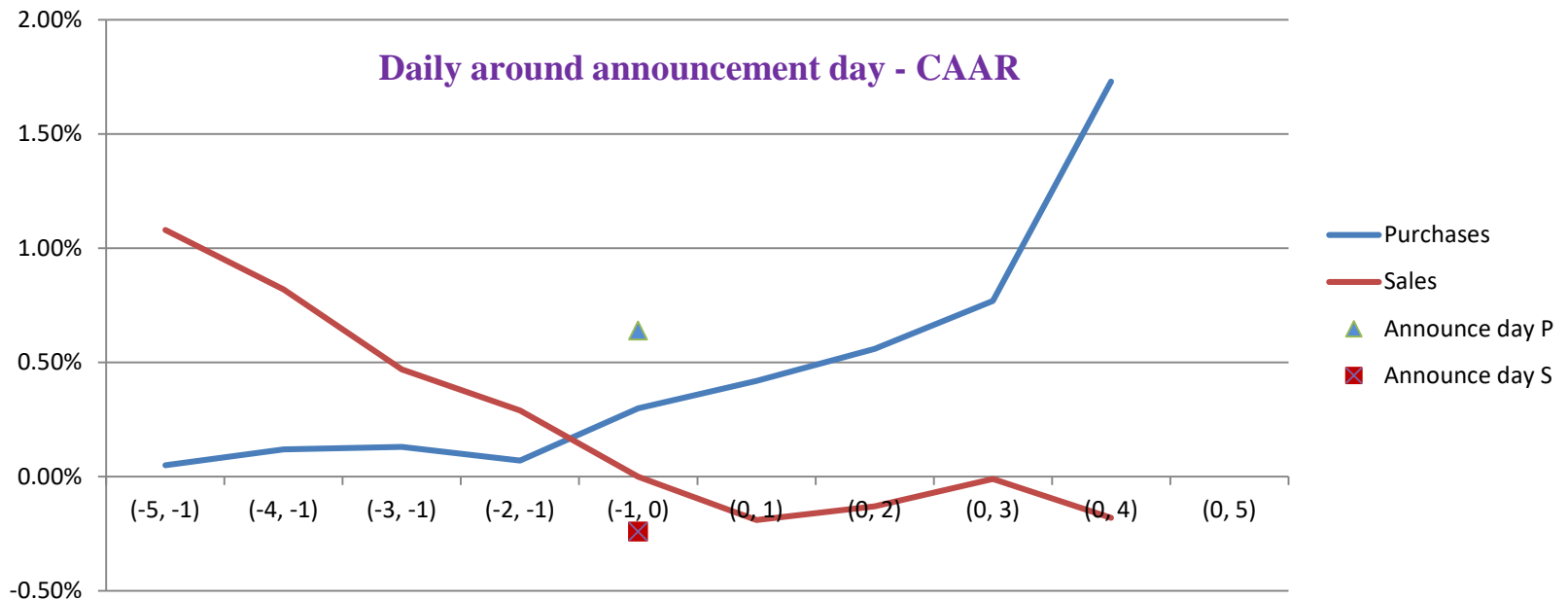
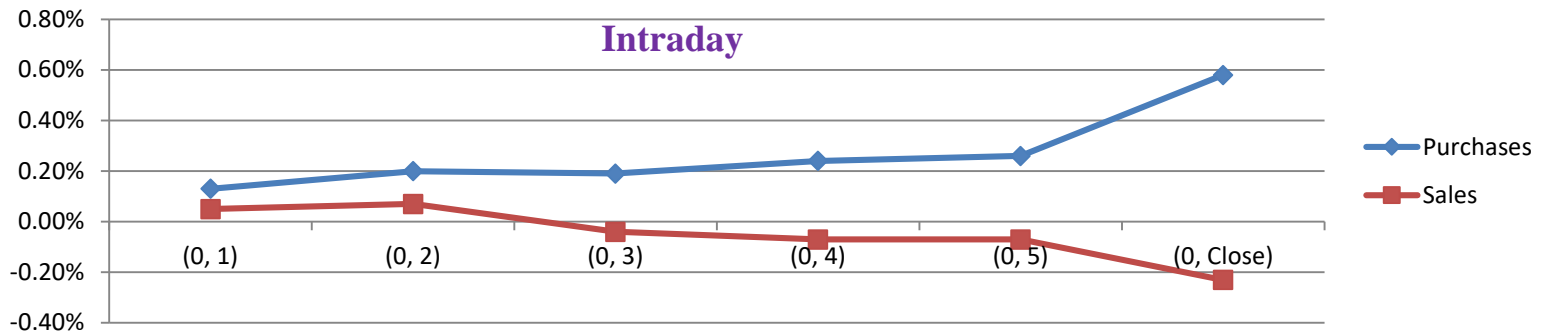
Descriptive Statistics

	Purchases (N = 6,431)		Sales (N = 615)	
	Mean	Median	Mean	Median
Director Trade Volume (shares)	126,834	27,025	275,527	60,471
Director Trade Value (\$)	36,573.73	13,735.88	111,854.02	57,000.00
Daily Stock Volume (shares)	1,551,193	305,685	2,026,541	500,500
Share Price (\$)	2.78	0.50	4.23	0.73
Daily Stock Trades	295	19	256	40
Announcement Delay (Days)	3.47	2	4.54	2

Results – Trade Timing



Announcement Effect - Overall



Intra-day Announcement Effect - Partitioned

- ‘Surprise’ factor
- Activity: Thin-trading stocks greater and more significant for purchases
- Size: consistent except for the smallest size group

Announcement Effect – Surprise

	Purchase		Sales	
	Mean Return (%)	t-statistic	Mean Return (%)	t-statistic
Panel A: Announcements with ‘Surprise’				
(0, 1)	0.33%	3.99	0.04%	1.07
(0, 2)	0.46%	4.52	0.02%	0.35
(0, 3)	0.47%	4.68	-0.07%	-1.14
(0, 4)	0.52%	4.70	-0.09%	-1.12
(0, 5)	0.52%	4.55	-0.09%	-1.33
(0, close)	1.01%	9.06	-0.37%	3.70
Panel B: Announcements without ‘Surprise’				
(0, 1)	-0.06%	-1.16	0.07%	1.18
(0, 2)	-0.05%	-0.78	0.14%	1.76
(0, 3)	-0.07%	-1.02	-0.01%	-0.08
(0, 4)	-0.02%	-0.29	-0.05%	-0.67
(0, 5)	0.01%	0.20	-0.04%	-0.57
(0, close)	0.18%	1.90	-0.06%	-0.37

Announcement Effect – Thin Trading

	Purchases		Sales	
	Mean Return (%)	t-statistic	Mean Return (%)	t-statistic
Panel A: Stocks without thin-trading				
(0, 1)	0.09%	2.02	0.04%	2.08
(0, 2)	0.11%	2.55	0.04%	1.22
(0, 3)	0.12%	2.44	0.00%	0.05
(0, 4)	0.12%	2.51	-0.04%	-1.11
(0, 5)	0.14%	2.80	-0.04%	-1.23
(0, close)	0.42%	6.21	-0.23%	-2.45
Panel B: Stocks with thin-trading				
(0, 1)	0.20%	2.05	0.10%	0.86
(0, 2)	0.35%	2.49	0.17%	1.04
(0, 3)	0.34%	2.30	-0.22%	-0.98
(0, 4)	0.50%	2.70	-0.20%	-0.86
(0, 5)	0.53%	3.04	-0.20%	-0.92
(0, close)	0.81%	5.37	-0.28%	-1.16

Announcement Effect – By Value Size

	Purchases		Sales	
	Mean Return (%)	t-statistic	Mean Return (%)	t-statistic
Panel A: Large trades				
(0, 1)	0.10%	3.15	0.06%	1.37
(0, 2)	0.27%	2.93	0.08%	1.04
(0, 3)	0.27%	2.78	0.05%	0.57
(0, 4)	0.29%	2.82	0.03%	0.36
(0, 5)	0.32%	2.96	-0.02%	-0.36
(0, close)	0.51%	5.27	-0.20%	-1.10
Panel B: Medium-large trades				
(0, 1)	0.16%	1.80	0.03%	0.84
(0, 2)	0.18%	1.83	0.14%	1.81
(0, 3)	0.16%	1.49	0.09%	1.02
(0, 4)	0.31%	2.29	0.04%	0.47
(0, 5)	0.29%	2.34	0.05%	0.64
(0, close)	0.64%	4.78	-0.15%	-0.89
Panel C: Medium-small trades				
(0, 1)	0.26%	1.98	0.05%	1.09
(0, 2)	0.36%	2.57	-0.03%	-0.39
(0, 3)	0.30%	2.50	-0.08%	-0.85
(0, 4)	0.29%	2.20	-0.20%	-1.55
(0, 5)	0.28%	1.99	-0.12%	-1.05
(0, close)	0.89%	5.44	-0.50%	-3.38
Panel D: Small trades				
(0, 1)	0.02%	0.23	0.06%	0.54
(0, 2)	-0.03%	-0.22	0.07%	0.59
(0, 3)	0.03%	0.16	-0.30%	-1.71
(0, 4)	0.07%	0.36	-0.20%	-1.41
(0, 5)	0.14%	0.90	-0.25%	-1.70
(0, close)	0.28%	1.60	-0.09%	-0.38

Announcement Effect - Regression



$$R = \alpha + \beta \text{LogDTN} + \gamma \text{Materials} + \delta \text{Surprise} + \rho \text{Multiple} + \varphi \text{LogDelay} + \nu \text{LogValue}$$

	Return (0, 1)		Return (0, close)	
	Parameter Estimate	t-statistic	Parameter Estimate	t-statistic
Panel A: Purchases				
Intercept	-0.07%	-0.21	0.09%	0.19
LogDTN	-0.04%	-1.30	-0.13%	-3.34
Materials	0.01%	0.08	0.33%	1.97
Surprise	0.39%	3.69	0.74%	4.63
Multiple	-0.05%	-0.31	-0.03%	-0.13
LogDelay	-0.08%	-1.34	-0.15%	-1.74
LogValue	0.02%	0.72	0.06%	1.38
Panel B: Sales				
Intercept	-0.15%	-0.77	-0.03%	-0.05
LogDTN	-0.02%	-1.38	0.04%	0.76
Materials	0.00%	0.03	0.12%	0.57
Surprise	-0.05%	-0.83	-0.29%	-1.48
Multiple	0.07%	0.48	0.22%	0.54
LogDelay	0.06%	1.61	0.06%	0.59
LogValue	0.02%	1.22	-0.03%	-0.64

Any questions?