

# The 2012 Capital Market Research Scholarship for Graduate Students

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“Insider Trading Behavior and News Announcement:  
Evidence from the Stock Exchange of Thailand”

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# Outline

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- **Methodology**
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# Insider Trading Definition

Insiders: (i) **Corporate insider** => all persons whose securities are in a company and hold management position including their spouse, minor child, and nominee.

(ii) **Large shareholder** => any person who is beneficial owner of more than five percent of the firm's equity

Inside information: material information about a company which is known by some management position, but has not been disclosed to the public.

Insider trading: (i) **legal** => the trading is done in a way that does not take benefit from non-public information.

(ii) **illegal** => the trading is based on non-public information in violation of some duty of trust and includes tipping to others.

# Background

**Insider trading** has attracted great attention from various market participants.

**WHY?** Due to their market timing ability

- Trade their own securities in favorable time and earn abnormal returns
- Potentially take advantage of non-public information but illegal

Most studies are based on **the U.S. market**.

Choose to examine insider trading in **Thailand**:

- Asian or emerging markets are considered low efficiency and transparency
- Thailand has a strong family-control structure

# Background (Cont')

The Securities and Exchange Commission (SEC) issues rules to provide firms' information and insider transaction to the public.

However, **there is evidence about abnormal changes in stock prices** during a period of news announcement.

For example **THCOM** (Thaicom Pcl.), when Thailand's government announced plans to buy stocks back from Singapore, the stock price was **increasing 12% before one month of the news** and was **decreasing 20% one month later of the news**.

On the day of news disclosure, THCOM raised daily 30% limit (SET index increased 1.5%).

*Source: www.businessweek.com, June 14, 2010*

# Objectives

1. To investigate insiders' trading activities and market reaction in Thai listed firms.
2. To identify determinants of abnormal returns for insiders trading in Thai listed firms (List of determinants: position, investor type, and interval).
3. To examine the relationship between insiders' trading activities and subsequent corporate news announcement in Thai listed firms.

# Literature Review

## Efficient Market Hypothesis (EMH) by Fama (1970):

- weak form: stock prices reflect all past information.
- semi-strong form: stock prices adjust to publicly available new information.
- strong form: stock prices reflect all information including public and private information.

## Insider trading activities: Jaffe (1974), Seyhun (1986), Rozeff and Zaman (1988), and

*Lin and Howe (1990)* concluded that

- **insider** trades are profitable.
- **outsiders** who follow the public report of insider transaction, cannot earn profits.

*Lakonishok and Lee (2001)* suggested little market movement when insider trades and SEC's report of insider transactions.

# Literature Review (Cont')

## Determinants of insider trading profits:

- (a) Position =>** - *Seyhun (1986) and Lin and Howe (1990)*: insiders who are close to the firms, are more profitable.
- *Fidrmuc et al. (2006)*: CEO's trade is low information content.
  - *Betzer and Theissen (2009)*: insider's position has no effect.
- (b) Investor type =>** - *Kaniel et al. (2008)*: individual investors have a predictive ability.
- *Goergen and Rennebog (1999) and Boehmer and Kelly (2009)*: institutional investors follow passive trading strategies.
- (c) Interval =>** - *Carter et al. (2003)*: information leakage has a positive relation with the length of interval for insider buying.
- *Cheng et al. (2007)*: late disclosure of insider selling is informative



# Literature Review (Cont')

## Insiders' timing behavior and news announcements:

- *Keown and Pinkerton (1981)*: information leakage before **merger** announcement.
- *Penman (1982) and Ke et al. (2003)*: insiders time their trades around firms' **earnings** prospect; buy shares before good earnings forecasts and sell before bad forecasts.
- *John and Lang (1991) and Fuller (2003)*: insider trading and **dividend** announcements act as a joint signal.
- *Elliot et al. (1984) and Givoly and Palmon (1985)*: no significant relationship between timing of insider trading and **combined news** announcements.  
  
*Noe (1999) and Cheng and Lo (2006)* advocate insiders can take benefits from voluntary disclosures.

# Data

## Data source

- insider trading: Form 59-2 & Form 246-2 reported by SEC
- securities market & news: from SETSMART by SET

## Scope of study

- common stock of listed firms on SET during 2000-2008 (29,752 trades, 490 firms)
- include only complete and valid data
- examine 1)all types of insider, 2)corporate insider, and 3)large shareholder separated to **buying and selling** activities

## Distribution of insider transaction sample grouped by year

	2000	2001	2002	2003	2004	2005	2006	2007	2008	All firms
Number of firms	65	131	172	239	226	245	272	280	323	490
<b>Number of transactions</b>										
Buy	940	1,007	1,153	1,242	1,737	1,970	1,547	1,848	3,422	14,866
Sell	516	890	1,385	2,387	1,412	2,026	2,434	2,314	1,522	14,886
All	1,456	1,897	2,538	3,629	3,149	3,996	3,981	4,162	4,944	29,752
<b>Average number of transactions per firm</b>										
Buy	14	8	7	5	8	8	6	7	11	30
Sell	8	7	8	10	6	8	9	8	5	30
All	22	15	15	15	14	16	15	15	16	60
<b>Total number of shares traded (million shares)</b>										
Buy	50	114	3,323	2,145	2,139	4,229	5,755	16,439	29,255	63,449
Sell	37	119	985	8,187	10,064	8,684	17,760	19,680	30,680	96,196
All	87	233	4,308	10,332	12,203	12,913	23,514	36,119	59,934	159,644
<b>Total value of shares traded (million baht)</b>										
Buy	3,004	1,900	20,400	55,043	26,593	47,480	141,297	150,856	63,113	509,687
Sell	1,606	2,464	20,241	161,743	101,655	122,564	353,718	206,110	133,835	1,103,936
All	4,610	4,363	40,641	216,785	128,248	170,045	495,016	356,966	196,948	1,613,623

# Methodology

Event study “market-adjusted returns” (Brown and Warner, 1985)

$$AR_{it} = R_{it} - R_{mt}$$
$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it}$$
$$CAAR(t1, t2) = \sum_{t=t1}^{t2} AAR_t$$

where  $AR_{it}$  is the abnormal return of stock  $i$  on day  $t$

$R_{it}$  is the return of stock  $i$  on day  $t$

$R_{mt}$  is the return of SET index on day  $t$

$N$  is the number of firms with insider trading on day  $t$

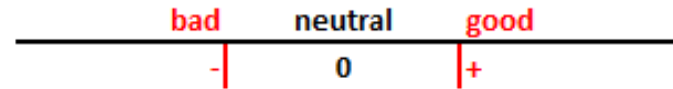
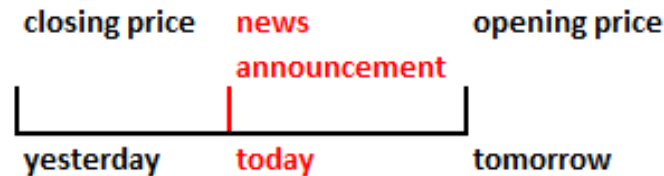
Event window “31 days”

0 is the event day (transaction date)

extending 30 days after the event day

# Methodology (Cont')

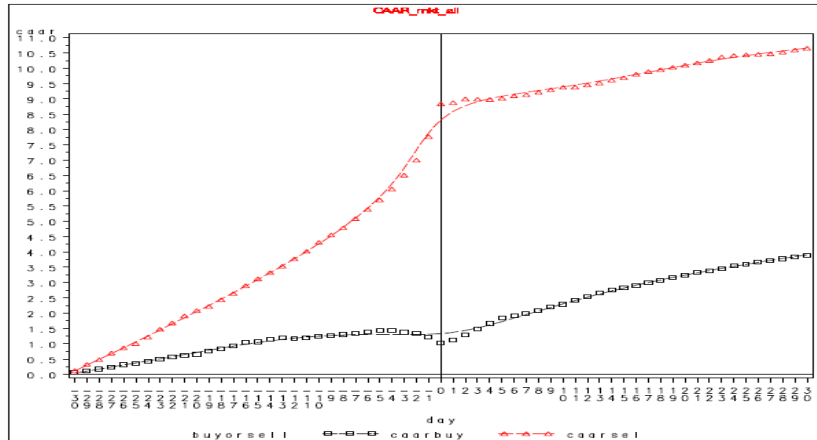
## News classification



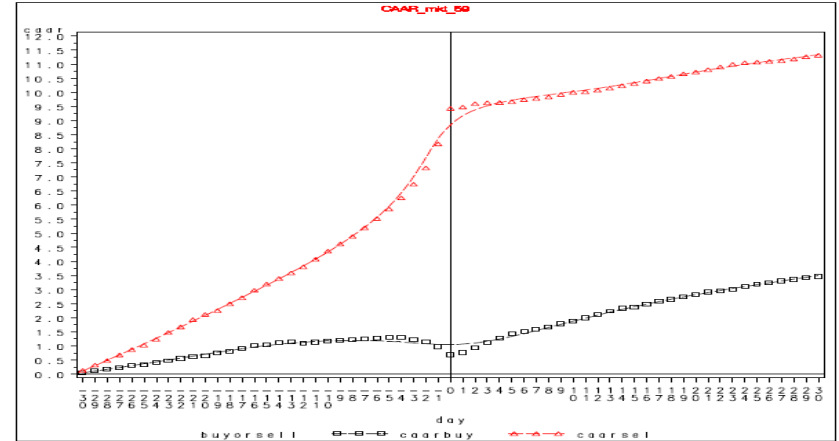
- Find market reaction to news (*Koppel and Shtrimberg, 2004*)
- All significant company events are involved
- Consider only the first news publication following insider transactions (*Givoly and Palmon, 1985*)

# Results

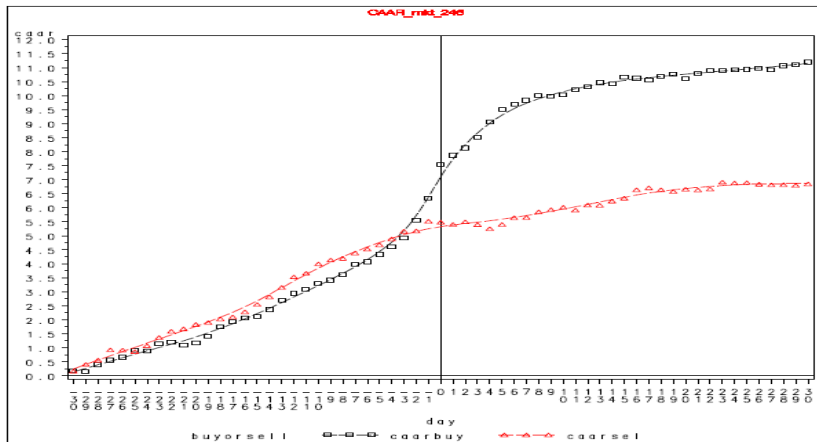
H1a & H1b: Event day relative to insider trading day



1) All types of insider



2) Corporate insider



3) Large shareholder

Range of CAAR1,30 for three insider groups

- Buy 2.77-3.66%
- Sell 1.36-1.87%

\* Sell is red line  
Buy is black line

# Results (Cont')

H1a: CAAR to insiders' **buying is positive**

**YES.** Insiders can time their buying and earn ARs.

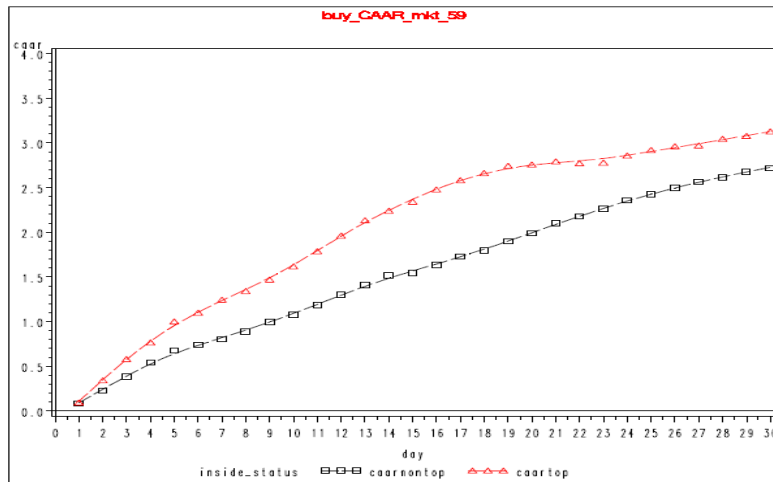
H1b: CAAR to insider's **selling is negative**

**NO.** Insiders cannot time their selling to get ARs.

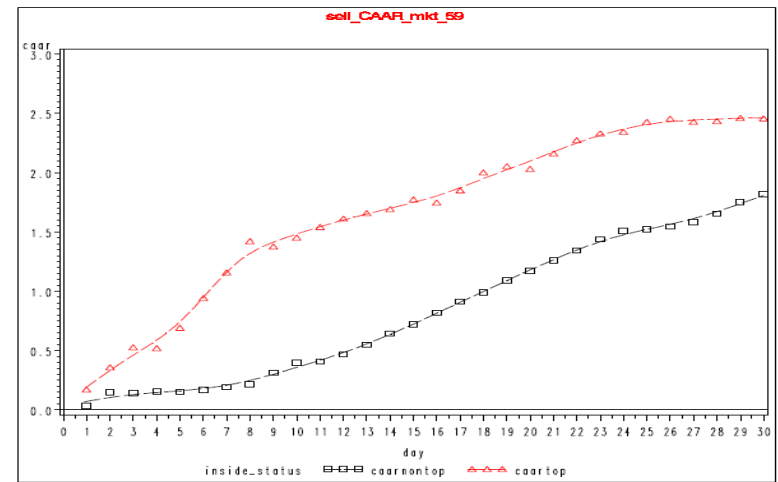
Consistent with previous research: only for insider buying but not for insider selling

*Jaffe (1974), Seyhun (1986), and Lakonishok and Lee (2001)* found insider trades either buying or selling are profitable

## H2a: Event day relative to insider trading by position (only corporate insider)



Buy



Sell

H2a: more CAAR gained by **top executive position**

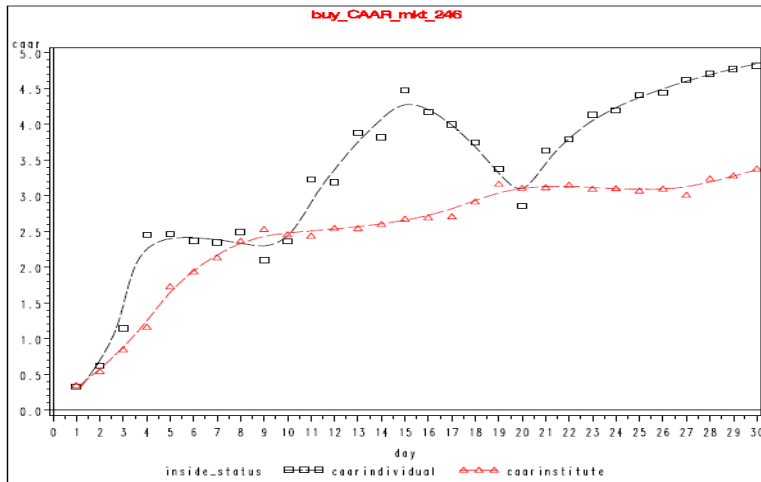
**NO.** Top and Non-top executive transactions do not provide different impact on ARs.

Inconsistent with information hierarchy / Similar to some previous studies

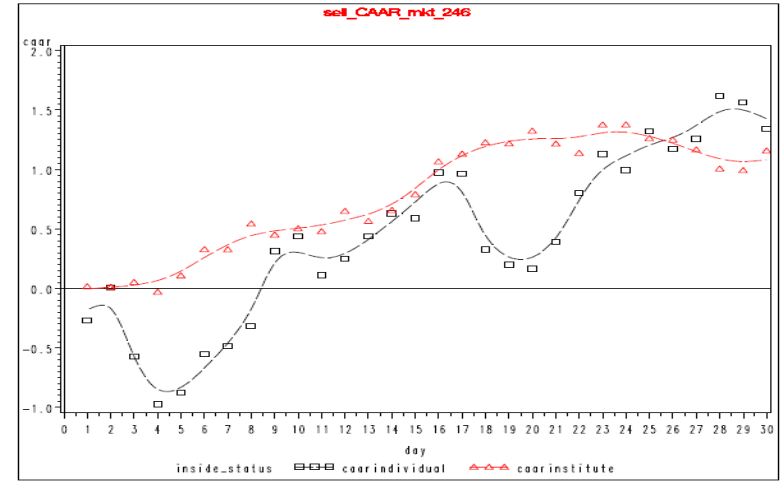
*Betzer and Theissen (2009): insider's position has no effect*



## H2b: Event day relative to insider trading by investor type (only large shareholder)



Buy



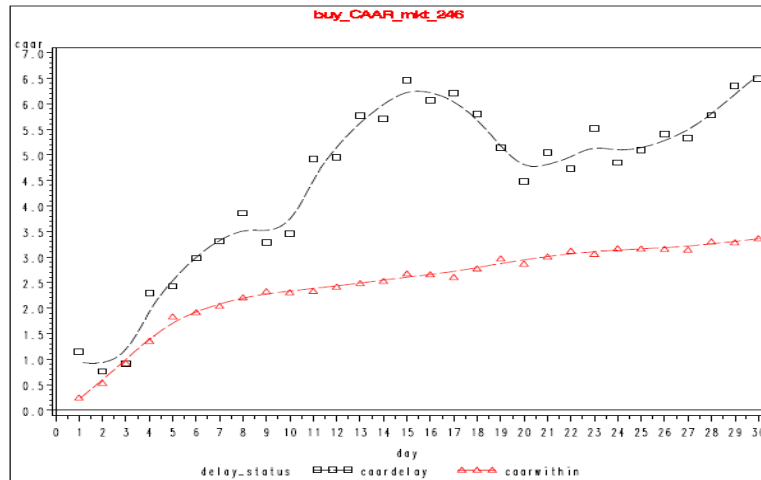
Sell

H2b: more CAAR gained by **individual investor**

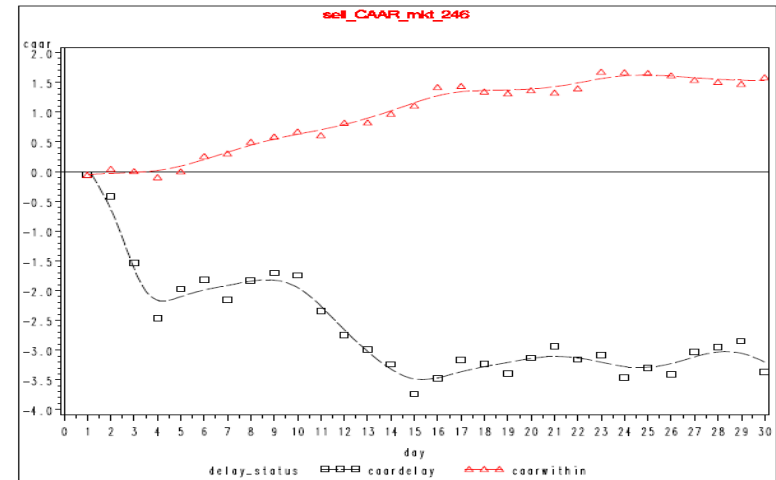
**NO.** Individual and institutional investors' trades do not provide different impact on ARs.

Contradict *Kaniel et al. (2008)*: individual investors have a predictive ability on return.

## H2c: Event day relative to insider trading by interval



Large shareholder for buy



Large shareholder for sell

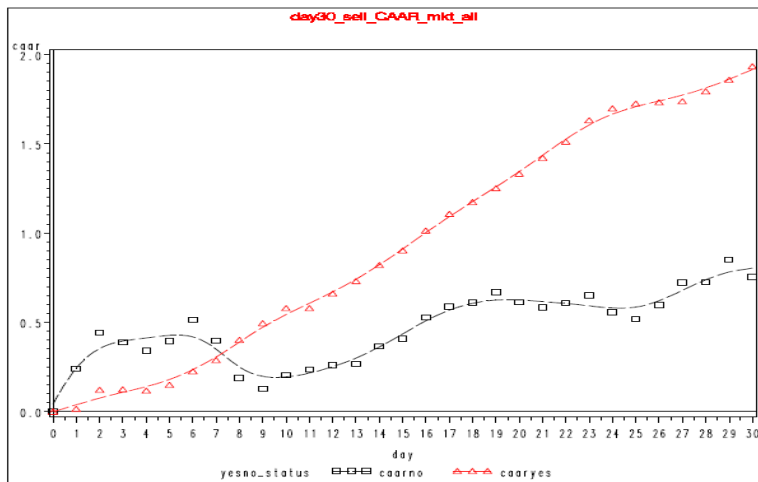
H2c: more CAAR gained by **delayed interval**

**YES, large shareholder.** Their trades with delayed interval get more ARs.

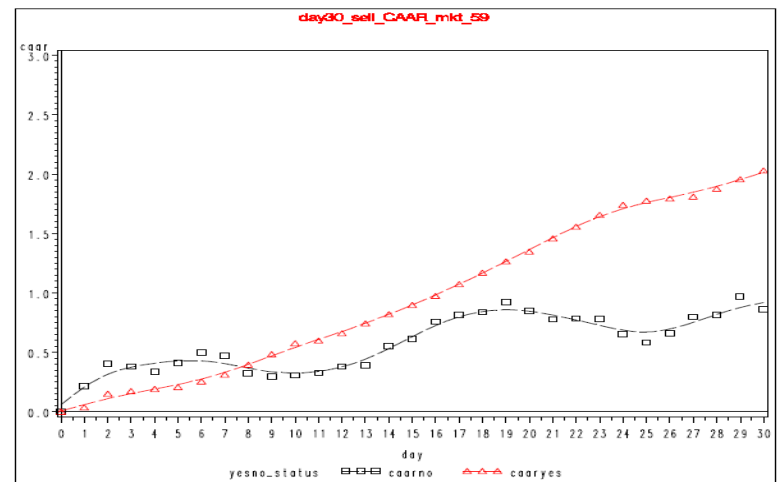
For the trades of all types of insider and corporate insider, there are no significant differences between two-group intervals.

Support by Carter et al. (2003) and Cheng et al. (2007) study: interval length has a positive relation with information leakage

### H3a: Event day relative to insider trading by the first subsequent news



All types of insider for sell



Corporate insider for sell

### H3a: more CAARs gained by insiders' buying and selling before news

YES, all types of insider and corporate insider selling.

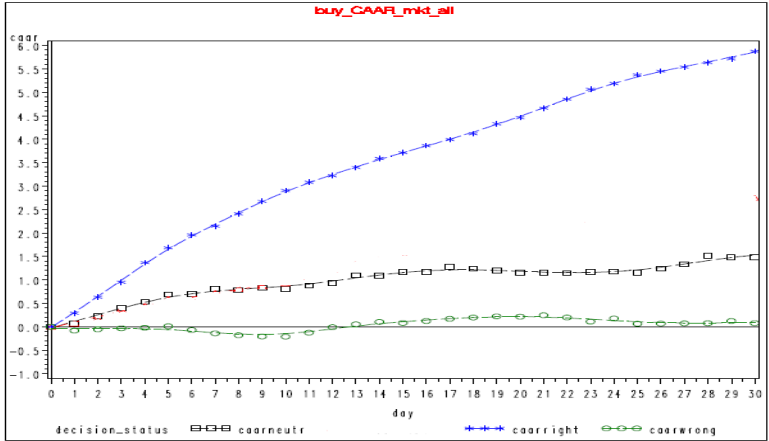
- Buy of three insider groups before news or no news do not provide different impact on ARs.
- Sell of all types of insider and corporate insider before news get more ARs.

Consistent with Noe (1999): managers are likely to trade shares around voluntary disclosures and gain benefits.

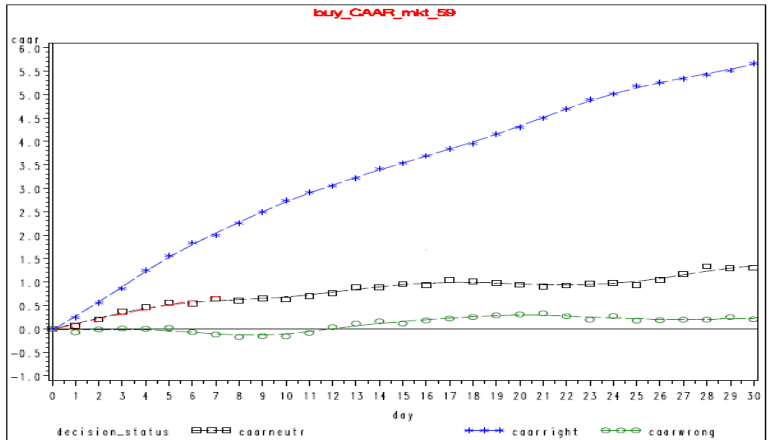
# H3b: Event day relative to insider trading by news contents (Buying)

News in the – right direction  
 – wrong direction  
 – neutral direction

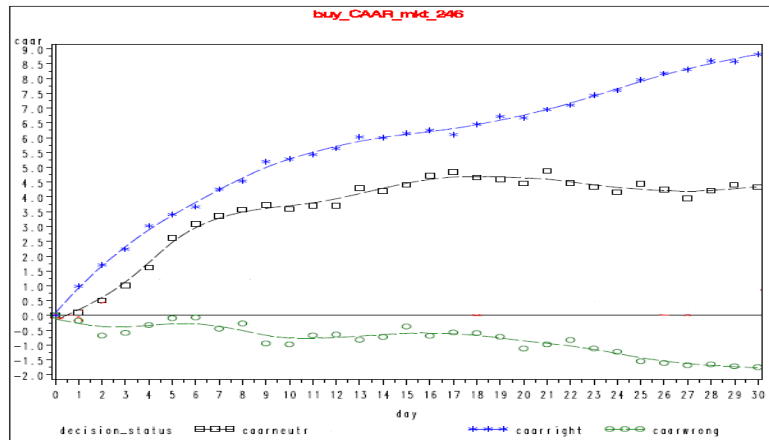
\* Right is blue line  
 Wrong is green line  
 Neutral is black line



1) All types of insider for buy

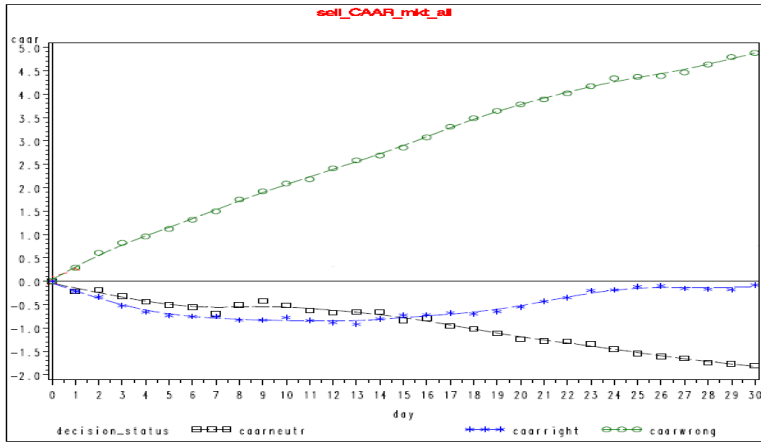


2) Corporate insider for buy

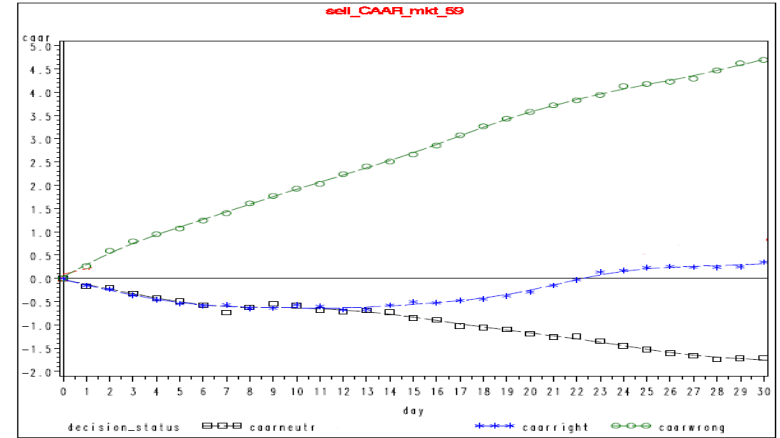


3) Large shareholder for buy

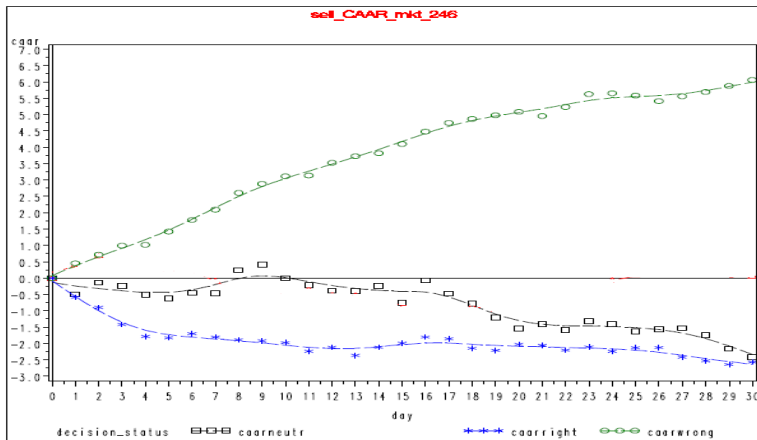
# H3b: Event day relative to insider trading by news contents (Selling)



1) All types of insider for sell



2) Corporate insider for sell



3) Large shareholder for sell

\* Right is blue line  
Wrong is green line  
Neutral is black line

# Results (Cont')

H3b: more CAARs gained by **insiders' buying (selling) shares before good (bad) news announcement => YES, insider buying.**

- Buy of three insider groups before good news (the right direction) get more ARs.
- Sell of three insider groups before good news (the wrong direction) get more ARs.

However, CAARs of the right & neutral direction are negative - the right sign of selling (Insiders' sale before bad news and neutral news tend to sell shares at the high price).

Support by *Cheng and Lo (2006) study*: insiders can time their stock purchases around voluntary disclosures for their personal gains.

# Conclusion

Insiders' Share Dealings  Hypothesis:	Insiders' Share Buying		Insiders' Share Selling	
	Expected Result	Hypothesis Confirmed (Yes/No)	Expected Result	Hypothesis Confirmed (Yes/No)
H1a: Market reaction to insiders' buying	positive	Yes		
H1b: Market reaction to insiders' selling			negative	No
H2a: Analyze position of insider impact on market reaction	more CAAR of top executive position	No	more CAAR of top executive position	No
H2b: Analyze investor type of insider impact on market reaction	more CAAR of individual investor	No	more CAAR of individual investor	No
H2c: Analyze interval impact on market reaction	more CAAR of delayed interval	Yes, large shareholder	more CAAR of delayed interval	Yes, large Shareholder
H3a: Analyze the first subsequent news impact on market reaction	more CAAR of insider buying before news	No	more CAAR of insider selling before news	Yes, all types of insider and corporate insider
H3b: Analyze news contents impact on market reaction	more CAAR of insider buying before good news	Yes	more CAAR of insider selling before bad news	No

# Contribution of Study

1. Investors may consider the relation between **insider trading activities and abnormal returns** as one reason for their investment decision
2. Policy-makers should focus on **determinants of insider trading profits** and the **effect of news disclosures** on insider trading activities, so that they can develop rules and regulations to prevent someone from using inside information



# Future Research

- **Sample study – legal insider trading**

**future research** => study **illegal insider trading cases** and compare the different performances with the legal

- **Scope of study – insider trading common shares in SET**

**future research** => extend to the **different types of securities or markets**, for example, insider trading warrant in the emerging market

# Appendix: Table Results

## H1a & H1b: Percentage CAAR for insider trading events

Event window	All types of insider		Corporate insider		Large shareholder	
	Buy	Sell	Buy	Sell	Buy	Sell
(-30, -1)	1.1899 *** ( 0.0000)	7.6394 *** ( 0.0000)	0.9575 *** ( 0.0000)	8.0484 *** ( 0.0000)	6.2264 *** ( 0.0000)	5.4658 *** ( 0.0000)
(-20, -1)	0.5919 *** ( 0.0000)	5.8364 *** ( 0.0000)	0.3543 *** ( 0.0096)	6.2111 *** ( 0.0000)	5.2256 *** ( 0.0000)	3.8253 *** ( 0.0000)
(-10, -1)	0.0137 ( 0.8880 )	3.7378 *** ( 0.0000)	-0.1539 ( 0.1152 )	4.0780 *** ( 0.0000)	3.2436 *** ( 0.0000)	1.8517 *** ( 0.0001)
(-5, -1)	-0.1821 *** ( 0.0090)	2.3761 *** ( 0.0000)	-0.3137 *** ( 0.0000)	2.6436 *** ( 0.0000)	2.2578 *** ( 0.0000)	0.9925 *** ( 0.0055)
Transaction day (0)	-0.1948 *** ( 0.0000)	1.0728 *** ( 0.0000)	-0.2875 *** ( 0.0000)	1.2684 *** ( 0.0000)	1.2046 *** ( 0.0000)	-0.0336 ( 0.8451 )
(+1, +5)	0.8177 *** ( 0.0000)	0.1766 ** ( 0.0195)	0.7474 *** ( 0.0000)	0.2339 *** ( 0.0021)	1.9779 *** ( 0.0000)	-0.0840 ( 0.7563 )
(+1, +10)	1.2680 *** ( 0.0000)	0.5407 *** ( 0.0000)	1.1919 *** ( 0.0000)	0.5707 *** ( 0.0000)	2.4913 *** ( 0.0000)	0.5317 ( 0.1324 )
(+1, +20)	2.2100 *** ( 0.0000)	1.2583 *** ( 0.0000)	2.1252 *** ( 0.0000)	1.2875 *** ( 0.0000)	3.0707 *** ( 0.0000)	1.1713 ** ( 0.0168)
(+1, +30)	2.8610 *** ( 0.0000)	1.8112 *** ( 0.0000)	2.7769 *** ( 0.0000)	1.8787 *** ( 0.0000)	3.6640 *** ( 0.0001)	1.3607 ** ( 0.0191)
Sample size	14,866	14,886	14,035	13,144	831	1,742

\*Number above line is CAAR

Number in parentheses is P-value

## H2a: Percentage CAAR for insider trading by position

Event window	Corporate insider (Top executive)		Corporate insider (Non-top executive)		ANOVAs (Top vs. Non- top executive)	
	Buy	Sell	Buy	Sell	Buy	Sell
(+1, +5)	1.0030 *** ( 0.0000)	0.6916 *** ( 0.0010)	0.6787 *** ( 0.0000)	0.1518 * ( 0.0608)		
(+1, +10)	1.6190 *** ( 0.0000)	1.4525 *** ( 0.0000)	1.0765 *** ( 0.0000)	0.3990 *** ( 0.0003)		
(+1, +20)	2.7574 *** ( 0.0000)	2.0322 *** ( 0.0000)	1.9902 *** ( 0.0000)	1.1736 *** ( 0.0000)		
(+1, +30)	3.1295 *** ( 0.0000)	2.4574 *** ( 0.0000)	2.7175 *** ( 0.0000)	1.8176 *** ( 0.0000)	(0.2880)	(0.2294)
Sample size	2,936	1,888	11,099	11,256		

## H2b: Percentage CAAR for insider trading by investor type

Event window	Large shareholder (Institute)		Large shareholder (Individual)		ANOVAs (Institute vs. Individual investor)	
	Buy	Sell	Buy	Sell	Buy	Sell
(+1, +5)	1.7399 *** ( 0.0000)	0.1110 ( 0.6731 )	2.4666 ** ( 0.0444)	-0.8764 ( 0.2439 )		
(+1, +10)	2.4617 *** ( 0.0000)	0.5063 ( 0.1158 )	2.3633 ( 0.1450 )	0.4368 ( 0.6759 )		
(+1, +20)	3.1114 *** ( 0.0000)	1.3276 *** ( 0.0048)	2.8599 ( 0.2306 )	0.1656 ( 0.9099 )		
(+1, +30)	3.3818 *** ( 0.0000)	1.1609 ** ( 0.0363)	4.8197 ( 0.1383 )	1.3424 ( 0.4347 )	(0.5144)	(0.8955)
Sample size	630	1,259	201	483		

## H2c: Percentage CAAR for insider trading by interval

Event window	Large shareholder (in time)		Large shareholder (delayed)		ANOVAs (in-time vs. delayed report)	
	Buy	Sell	Buy	Sell	Buy	Sell
(+1, +5)	1.8439 *** ( 0.0000)	0.0064 ( 0.9800 )	2.4292 * ( 0.0700)	-1.9709 ( 0.1400 )		
(+1, +10)	2.3105 *** ( 0.0000)	0.6739 * ( 0.0600)	3.4655 ( 0.1400 )	-1.7431 ( 0.3800 )		
(+1, +20)	2.2483 *** ( 0.0000)	1.3714 ** ( 0.0100)	4.4841 ( 0.1900 )	-3.1298 ( 0.3200 )		
(+1, +30)	3.2126 *** ( 0.0000)	1.4931 * ( 0.0500)	6.4943 ( 0.1500 )	-3.4891 ( 0.1900 )	(0.0962)*	(0.0095)***
Sample size	738	1,608	93	134		

### H3a: Percentage CAAR for insider trading by the first subsequent news

Event window	All types of insider (with news)		All types of insider (no news)		ANOVAs (with news vs. no news)	
	Buy	Sell	Buy	Sell	Buy	Sell
(+1, +5)	0.8658 *** ( 0.0000)	0.1511 * ( 0.0589)	0.5937 *** ( 0.0000)	0.3948 * ( 0.0886)		
(+1, +10)	1.3407 *** ( 0.0000)	0.5799 *** ( 0.0000)	0.9300 *** ( 0.0000)	0.2044 ( 0.5227 )		
(+1, +20)	2.2547 *** ( 0.0000)	1.3336 *** ( 0.0000)	2.0020 *** ( 0.0000)	0.6133 ( 0.1971 )		
(+1, +30)	2.8853 *** ( 0.0000)	1.9345 *** ( 0.0000)	2.7480 *** ( 0.0000)	0.7547 ( 0.1655 )	(0.7437)	(0.0462)**
Sample size	12,281	13,402	2,585	1,484		

Event window	Corporate insider (with news)		Corporate insider (no news)		ANOVAs (with news vs. no news)	
	Buy	Sell	Buy	Sell	Buy	Sell
(+1, +5)	0.7921 *** ( 0.0000)	0.2072 *** ( 0.0095)	0.5563 *** ( 0.0000)	0.4120 * ( 0.0809)		
(+1, +10)	1.2542 *** ( 0.0000)	0.5778 *** ( 0.0000)	0.9253 *** ( 0.0000)	0.3054 ( 0.3617 )		
(+1, +20)	2.1821 *** ( 0.0000)	1.3485 *** ( 0.0000)	2.0430 *** ( 0.0000)	0.8479 * ( 0.0966)		
(+1, +30)	2.8069 *** ( 0.0000)	2.0316 *** ( 0.0000)	2.8072 *** ( 0.0000)	0.8619 ( 0.1356 )	(0.9994)	(0.0540)*
Sample size	11,532	11,826	2,503	1,318		

### H3b: Percentage CAAR for insider trading by news contents

Event window	Corporate insider (news in the right direction)		Corporate insider (news in the wrong direction)		Corporate insider (news in the neutral direction)		ANOVAs (news direction group)	
	Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell
(+1, +5)	1.5593 ***	-0.5444 ***	0.0189	1.0704 ***	0.5643 ***	-0.4946 ***		
	( 0.0000)	( 0.0001)	( 0.8707 )	( 0.0000)	( 0.0002)	( 0.0027)		
(+1, +10)	2.7364 ***	-0.5690 ***	-0.1590	1.9267 ***	0.6256 ***	-0.5879 ***		
	( 0.0000)	( 0.0024)	( 0.3097 )	( 0.0000)	( 0.0058)	( 0.0077)		
(+1, +20)	4.3004 ***	-0.2960	0.3084	3.5749 ***	0.9420 **	-1.1928 ***		
	( 0.0000)	( 0.2399 )	( 0.1513 )	( 0.0000)	( 0.0142)	( 0.0011)		
(+1, +30)	5.6663 ***	0.3495	0.2045	4.6935 ***	1.3045 ***	-1.7136 ***		
	( 0.0000)	( 0.2565 )	( 0.4759 )	( 0.0000)	( 0.0056)	( 0.0001)	(0.0001)***	(0.0001)***
Sample size	5,173	4,517	4,500	5,531	1,859	1,778		

Event window	Large shareholder (news in the right direction)		Large shareholder (news in the wrong direction)		Large shareholder (news in the neutral direction)		ANOVAs (news direction group)	
	Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell
(+1, +5)	3.4099 ***	-1.8277 ***	-0.0909	1.4248 ***	2.6486 ***	-0.6141		
	( 0.0000)	( 0.0001)	( 0.8827 )	( 0.0011)	( 0.0079)	( 0.3587 )		
(+1, +10)	5.2808 ***	-1.9719 ***	-0.9741	3.1159 ***	3.5933 ***	-0.0037		
	( 0.0000)	( 0.0006)	( 0.2690 )	( 0.0000)	( 0.0041)	( 0.9962 )		
(+1, +20)	6.6700 ***	-2.0275 **	-1.1140	5.0871 ***	4.4643 ***	-1.5373		
	( 0.0000)	( 0.0127)	( 0.3118 )	( 0.0000)	( 0.0081)	( 0.2747 )		
(+1, +30)	8.8166 ***	-2.5649 ***	-1.7446	6.0611 ***	4.3417 **	-2.4118		
	( 0.0000)	( 0.0057)	( 0.2067 )	( 0.0000)	( 0.0394)	( 0.1520 )	(0.0001)***	(0.0001)***
Sample size	343	631	292	719	114	226		





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