# INSIDER TRADE FILING AND EARNINGS ANNOUNCEMENT: EVIDENCE FROM THE STOCK EXCHANGE OF THAILAND

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**ABSTRACT-** The purpose of this paper is to examine corporate insiders trading strategy from insider filing date in relation to earnings announcement of firms listed in the Stock Exchange of Thailand during 2003 to 2012. Corporate insiders trading activity is measured in term of amount of shares trade, frequency of transactions and value of shares trade before and after earnings announcement. Abnormal returns over earnings announcement day are used as a proxy to market responses to the announcement.

By employing event-study approach, the results show that corporate insiders in Thailand buy and sell their own firm stock in view of positive market reaction from good news announcement. They also sell and buy their own firm stock in view of negative market reaction from bad news announcement. However, earnings announcement may not be the factor that corporate insiders use in order to make profit from entering or exiting their position on the foreknowledge of earnings information.

## I. INTRODUCTION

### A. Literature Review and Background

In a field of corporate finance, earnings announcement amounts as one of major events of public news announcement for listed companies. In a field of behavioral finance, before news is announced to public, information asymmetry may give competitive advantages to corporate insiders or large shareholders to benefit from uninformed market. With these two fields intact, insiders trading have been a long-studied area that scholars aim to investigate its fundamentals and applications. This study attempts to explore relationship between corporate insiders trading and mandatory disclosure of earnings announcement. Specifically, the relationship in Thailand is considered.

Insiders can be categorized into two group i.e. corporate insiders and large shareholders. A corporate insider is a person or a legal entity who acquired a position(s) in a company as a director of the boards, an executive or an auditor, and at the same time, holds company's security. A large shareholder is a person or a legal entity who owns more than 5% of voting right of common stocks in a listed company. Large shareholders may as well be presented in the company as a director of the board, an executive, or an auditor. As such, his/her activities will be regarded large shareholder and not corporate insider.

Insider trading refers to an activity that either type of insiders buys and sells security in their own companies; for instance, common share, preferred share, warrant, transferable subscription right or convertible debenture. Regulated by the Security Exchange Commission (SEC) of Thailand (SorJor. 12/1552), all insiders shall report their security trading activities in their own companies to SEC within 3 working days after the transaction date. Corporate insiders shall use 'Reporting of Changes in Security Holding Form (59-2)' for filing. This contains, but not limited to, the following contents: Transaction date, Type of transaction (Acquisition or disposition), Number of security held before and after transaction, Method of transaction, Relationship to purchaser or transferee etc. Additionally, spouse and minor child of such persons shall also report changes in securities holding by the nominee of such persons.

As required by Thai laws and Stock Exchange of Thailand's (SET) regulations, financial report is a mandatory disclosure and a periodic activity (Bor.Jor./Por.11-00). All corporate firms listed in the SET are obliged to submit/file quarterly and year-end financial statements as follows (Bor.Jor./Por.23-00).

1. Quarterly financial statements (reviewed by an auditor); i.e. Form F45-1, F45-2 and F45-3, shall be submitted within 45 days after the end of the accounting period.

2. Yearly financial statements (audited by an auditor); i.e. Form F45-9, shall be submitted within 60 days after the end of the accounting period, should the firm opts for not submitting the fourth-quarter financial statement.

Practically, companies submit the financial statements to SET electronically via Stock Exchange of Thailand (SET) internal database. The document will appear instantaneously to public on SET website (http://www.set.or.th) at the same time it is being submitted. Hence, the submission process is also viewed as the earnings announcement activity as investors in the market (other than insiders) can obtain this valuable information directly in real time. Most Thai firms report to SET, hence announce to public, their financial statements very close or on the deadline. Keeping this as a constraint, some firms announced unaudited reports just before the deadline and decided to update the financial report at later dates to prevent regulatory actions.

In addition, a firm may announce financial forecasts to public before the actual earnings announcement, as an optional disclosure. Investors and outsiders in US and other well developed markets obtain these forecasts as their first source of inside information received from the company. However, as witnessed in Thailand, company itself hardly announces their earnings forecast. Investors obtain earnings forecast information from analysis available in the market e.g. by brokerage firms or financial analysts. Hence, earnings content that is solely conveyed from the company itself to public is from the earnings announcement day.

Internationally, there are many literatures, more recently such as Lakonishok and Lee (2001) and Inciet al. (2010), which shows insiders' trade itself is informative. Insiders are motivated by private information that will later disclose to public. For this reason, insiders may gain competitive advantages from stock price movement from a less informed market at times when information is released

to public. Jaffe (1974) find that insiders possess special information and in some periods possess a large return. Besides, many outside investors have been attempted to mimic insiders' trades so as to gain some advantages on their trading profits. They can detect possibility of informed trading by insiders and does react to impound into the stock price as observed by Meulbroek (1992). Jeng et al. (2003) determine the performance of insider trading and find that they can earn abnormal as much as 6% when purchase. Outside the US security market, Del el Brio and Miguel (2002) also find that insiders in Spanish market are privy and earn excess returns exploiting nonpublic information while outsiders cannot realize abnormal profits through mimicking.

When specific to a particular type of information disclosure, corporate news announcement can be divided into voluntary disclosure (e.g. financial forecast, news clarification, rumour report) and mandatory disclosure (e.g. earnings announcement, dividend announcement, bankruptcy filing); different types of public disclosure results in different market sentiment. Scholars and investors are interested in individual disclosure to find out characteristics/behavior of insiders trades and to determine amount of special information that insider possess. John and Lang (1991) and Fuller (2003) focus on the insider trading around dividend announcement. Seyhun and Bradley (1997) aim to find a relationship of insiders in relation to corporate bankruptcy filing. Keown and Pinkerton (1981) study insider trading on merger announcement.

In spite of many researches on different types of announcement, earnings announcement is the event that occurs periodically and with great proportion which market and investors believe to have a significant impact on stock price movements. Internationally, there is a relationship between insiders trading and earnings announcement as depicted by Penman (1980).Penman (1982) shows that insiders has timing ability to trade their own stocks and earn abnormal returns through joint trading and information dissemination activities. Ke et al. (2003) find that insiders act to take advantages from private information before a break of increasing earnings stream. Similarly, insiders trade on foreknowledge information against price-sensitive earnings disclosure as evidenced in Huddart et al. (2007).

In Thai capital market, news announcement associated with company earnings account for more than 60% of the overall news published in the Stock Exchange of Thailand (SET) from 2003 to 2012. Boonyawat et al. (2004) examines the profitability of insiders (corporate insiders and large shareholders) trading and a pool of public news announcements for SET50 firms in year 2002. Laoniramai (2007) using more comprehensive data to find a relationship of insiders trades around news announcement and abnormal returns during the announcement period. Results show that insiders in Thailand trades on private information and gains abnormal returns from purchase.

So far, studies from Thai literatures are limited to insiders behavior surrounding general news announcement as a whole. None has been done to targeting uses of superior information on specific news announcements even though there are many significant findings of them in developed markets (e.g. USA or UK). Hence, it is an opportunity to explore corporate insiders trading in Thailand in association with mandatory disclosure of earnings announcement.

*B.   Research Questions and Objective*

Exploration on the relationship between insider trading and earning announcement are based on the following research questions:

1. Do insiders trade for their own firm from private information on earnings announcement?

2. What are insiders' trading behavior around earnings announcement days

3. Do insiders avoid trading in jeopardy period from laws and regulations enforcement?

To answer the research questions, this study aims to find a relationship of corporate insiders trading on their own firm stock, using insider filing date, before and/or after company's earnings news announcement in the SET. This study will be one of the first to provide empirical evidences showing if insiders in Thai firms act on foreknowledge earnings information and use it for their own advantages (i.e. gaining abnormal returns). Secondly, it will be the first time that the market will understand insiders trading behavior on their own firm stocks around the earnings announcement.

## II.   HYPOTHESIS DEVELOPMENT

Based on the findings of Huddart et al. (2007) insiders may profit from foreknowledge of earnings information and trade in two periods i.e. before and after earnings announcement. For an 'active return' trading strategy, when insiders anticipate that market response will result in stock price hikes (market view the announcement as 'good news' announcement) at the earnings announcement, they will buy before the announcement to achieve an active return. When insiders anticipate that market response will result in stock price falls (market view the announcement as 'bad news' announcement) at the earnings announcement, they will sell before the announcement to achieve an active return.

For a 'passive return' trading strategy, when insiders anticipate that market response will result in stock price hikes (market view the announcement as 'good news' announcement) at the earnings announcement, they will delay their selling activity and sell after the announcement. When insiders anticipate that market response will result in stock price falls (market view the announcement as 'bad news' announcement) at the earnings announcement, they will delay their buying activity and buy after the announcement to achieve a passive return.

A firm's stock abnormal return is used as a proxy to determine the type of news whether it is good or bad. The stock abnormal return is a market interpretation of the news. It has incorporated any rises or falls of the price according to the news content at the announcement with respect to analysts' forecasts or other sources of earnings expectations before the announcement.

Insiders trading intensity is measured by imbalance of insiders' trade. The imbalance can be measured from net insider purchases' frequency or net insider purchases' volume or net insiders' purchase value. Hence, for an active trading strategy to hold true, the trade imbalance shall be positive (negative) before good (bad) news. Empirically, there is a positive relationship between insider trading imbalance before the announcement and abnormal return at the announcement. In contrast, for a passive trading strategy to hold true, the trade imbalance shall be positive (negative) after good (bad) news. Empirically, there is a negative relationship between insider trading imbalance after the

announcement and abnormal return at the announcement. Hence, the first and the second hypothesis arise.

H1a: Insiders use active trading return strategy. Insiders buy before good news announcement. Net insider purchases' imbalance before the announcement is positive when abnormal return at the announcement is positive.

H1b: Insiders use active trading return strategy. Insiders sell before bad news announcement. Net insider purchases' imbalance before the announcement is negative when abnormal return at the announcement is negative.

H2a: Insiders use passive trading return strategy. Insiders buy after bad news announcement. Net insider purchases' imbalance after the announcement is positive when abnormal return at the announcement is negative.

H2b: Insiders use active trading return strategy. Insiders sell after good news announcement. Net insider purchases' imbalance after the announcement is negative when abnormal return at the announcement is positive.

Following the first two hypotheses which look into trading in two distinctive time periods, insiders however can enter into a trading activity before the announcement and reverse their positions after the announcement to profit from the same foreknowledge of a disclosure. When they anticipate that stock price will rise at the announcement (market interpretation as good news), insiders will buy before and sell after the announcement. When they anticipate that stock price will fall at the announcement (market interpretation as bad news), insiders will sell before and buy after the announcement to regain their positions. Thus, hypothesis 3 and 4 can be written as follows.

H3: Insiders makes active return using an active return trading strategy by buying before and selling after good news announcement. Net insider purchases' imbalance is positive before the announcement and negative after the announcement when abnormal return at the announcement is positive.

H4: Insiders makes passive return using passive return trading strategy by selling before and buying after bad news announcement. Net insider purchases' imbalance is negative before the announcement and positive after the announcement when abnormal return at the announcement is negative.

In addition, more behaviors will also be studied to confirm the findings of the previous hypotheses whether insiders in Thai capital market trade and react uniquely. Corporate insiders may trade in the same momentum before and after the announcement. Insiders may be able to predict the prices or market return's direction at the announcement due to private information but may not be able to predict the return's intensity. They would react positively, as per H1 and H2, buying (selling) before good (bad) news, and once they see that the market responses in the same direction but with greater intensity than they expected, they will increase their buying (selling) portions after the announcement. This is derived from the assumption that insiders in Thailand may not be certain with their own market expectations. Thus, they do not enter into a trading position fully until they see the market's reaction as a confirmation of their expectation, hence react subsequently.

H5: Insiders are following-trend trader. Insiders buy before and after good news announcement. Net insider purchases' imbalance is positive before and after the announcement when abnormal return at the announcement is positive.

H6: Insiders are following-trend trader. Insiders sell before and after bad news announcement. Net insider purchases' imbalance is negative before and after the announcement when abnormal return at the announcement is negative.

## III. DATA AND METHODOLOGY

This section describes and discusses how I select earnings announcement data and insider transactions. Descriptive statistics of the sample, as well as, methodologies and test variables will be explained in this chapter.

### A. Data and Sample

All earnings announcements are collected from SETSMART database. In order to capture all possible market activities including its ups and downs, such as the financial turmoil in 2007, the study investigate insiders trading from 2003 to 2012. Insiders trading data 40 days before and 40 days after the earnings announcement are required to fulfill the purpose of this study. And, the availability of insiders trading data which, later, has to be matched with the earnings announcement, is electronically available from January 2003 to March 2013. Therefore, the earnings announcement sample is from April 2003 to September 2012.

Companies listed outside SET market i.e. MAI, are removed. Companies in financial industry are excluded from the sample due to its accounting practice that is different from other types of firms.

In case there are multiple announcements or multiple filings of the same earning quarter (e.g. unaudited, reviewed, revised) the very first announcement will be treated as the announcement date as this is the first inside information released to general public. Even though the earnings figure may be different, they will be in the same direction. Before classification, there are 24,509 earnings announcements from 2003 to 2012. Finally, there are 9,864 earnings announcements entitled for this study.

From the database of 'Reporting of Changes in Security Holding Form (59-2)' obtained from the SEC business development department, There are 52,458 insider transactions in Thailand inclusively from January 2003 until December 2012. Insiders trade in a market other than SET or inside a financial industry are eliminated. In addition, transactions of securities other than common stocks (i.e. preferred share, warrant and TDR) are removed. Moreover, insiders' transaction apart from direct purchase or sell of common stocks e.g. conversion of warrant to common stock will be removed. Transaction of stocks that is less than 100 shares per time is also eliminated. Finally, there are 33,866insiders' transactions left for the study.

Earnings news announcement are classified into good news and bad news according to the increase or decrease in earnings per share (EPS), respectively, from the past year (year $n$-1) compared to the current year (year $n$).
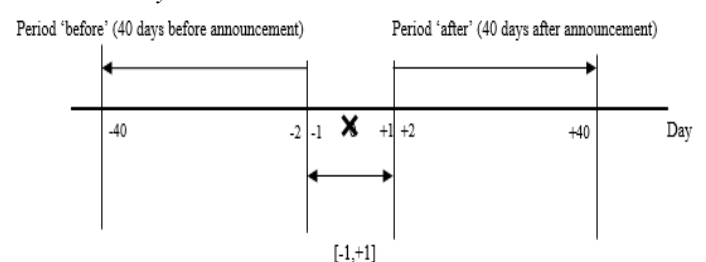
### B. Study Event Time Line

Figure 3.1: Insider trading periods before and after earnings news announcement day (day 0). Earnings announcement window [-1,+1] is a period used to determine changes of stock price due to market reaction. Period 'before' is used to capture insiders transaction activities 40 days until 2 days before earnings announcement day. Period 'after' is used to capture insiders transaction activities 2 days until 40 days after earnings announcement day.

This study aims to observe relationships between earnings announcement and insiders trading activities in a defined period before and after the announcement day. The event is the first announcement day of quarterly earnings from each firm. As required by SEC, a publicly traded company shall report quarterly earnings for quarter 1, quarter 2 and quarter 3 and yearly-announcement under the name F45-1, F45-2, F45-3 and F45-9 respectively. The event day is the date that such company submits/announces the above mentioned financial report to SET, which is the same day it is available to individual and other types of investors in the market.

Time frame in this study is divided into three periods. As shown in Fig.3.1, the event window [-1,+1] is one day before the event day until one day after the event day. This time frame captures an immediate effect of earnings announcement represented by stock return and abnormal return as depicted in Morse (1981) and Huddart (2007).

The 'before' period is the $40^{th}$ day until the $2^{nd}$day prior to the earnings announcement day i.e. [-40,-2]. And, the 'after' period is the $2^{nd}$ day until the $40^{th}$ day after the earnings announcement day i.e.[+2,+40]. These 2 periods capture insiders trading activities on their firm's stock before and after earnings announcement, respectively. Forty-day trading period is chosen because it is still within the accounting reporting period of each quarter as required by SEC regulations i.e.within45 days for interim earnings quarters (Q1, Q2 and Q3) and within 60 days for year-end financial closing date. In addition, in Thai capital market, insiders (major shareholders or corporate insiders) tend to limit their trading activities generally 1 month (20 trading days) before earnings announcement. Furthermore, Huddart(2007) find that this 40-day period shows significant relationship of insiders trading using private information in US stock market.

As described in Section III, two distinctive activities i.e. one from insider trading and the other one from earnings release, which mutually occur before and after earnings announcement periods are required. An event will not be valid, thus removed from the study sample, if there is no insider trading activity in a period either before or after the earnings announcement. Table 3.1 shows a summary of insiders transaction period for each hypothesis of this study.

### C. Definition of Test Variables
### 1. Measurement of insider trade imbalance

Net insider trading imbalance is used as a proxy to determine whether the insiders trade (buy or sell) in a given time interval is in a net buy or net sell position. Three net insiders trading imbalances are used in this study and are defined as follows.

NETAMOUNT(p,i)fq is the numberof shares of buy transaction less the number shares of sell transaction in period p, during time interval i, at firm f and quarter q.

NETFREQ(p,i)fq is the frequency of buy transactions less the number of sell transactions in period p, during time interval i, at firm f and quarter q.

NETVAL(p,i)fq is the value, in Thai baht, of buy transactions less the value of sell transactions in period p, during time interval i, at firm f and quarter q.

The insiders transaction activity is consider as Net Buy when net insiders trading imbalance is greater than zero. The insiders transaction activity is consider as Net Sell when net insiders trading imbalance is less than zero. As performed by Del Brio et al. (2002), aggressive intensity of sales and purchase of insiders (measured in term of 'Net Buy' and 'Net Sell') signal abnormal insiders trading activities. Thus any events that net insider trade imbalance equals to zero, which represents no aggressive trading, is not reported in this study

### 2. Measurement of stock's abnormal returns and returns

To determine market reaction from earnings announcement, buy-and-hold abnormal return is used as a proxy. For short run abnormal returns, values of buy-and-hold abnormal return (BHAR) (supported by Penman (1982) and Huddart (2007)) and CAR provides no significance differences statistically as depicted in Barber and Lyon (1997). Buy-and-hold return (BHR) is also used as a proxy to identify market reaction to the earnings announcement during 3 days period. The reason is that traders may only react from the firm's stock price only, rather than taking into consideration of reaction of the market.

| | Hypotheses | Insider's Transaction Period | News Announcement Period |
|---|---|---|---|
| H1 | Insiders buy before good news or Insiders sell before bad news | [-40,-2] | [-1,+1] |
| H2 | Insiders buy after good news or Insiders sell after bad news | [+2,+40] | [-1,+1] |
| H3 | Insiders purchase before and sell after good news | [-40,-2] and [+2,+40] | [-1,+1] |
| H4 | Insiders sell before and purchase after bad news | [-40,-2] and [+2,+40] | [-1,+1] |
| H5 | Insiders purchase before and after the announcement | [-40,-2] and [+2,+40] | [-1,+1] |
| H6 | Insiders sell before and after the announcement | [-40,-2] and [+2,+40] | [-1,+1] |

**Table3.1: Summary of insiders transaction period**

RESULTS

This section explain results from the event study associated with insiders trading and earnings announcement.

*A. Insiders use active return trading strategy*

This part investigates positive relationship of corporate insiders trading activity 40 days before the earnings announcement day and abnormal returns of firm's stock during the quarterly and yearly earnings announcement. The hypotheses explain that there is a positive relationship between insider trading imbalance and abnormal returns during the announcement period. Results support the hypothesis that corporate insiders in Thailand use active trading return strategy because they react before earnings announcement. They trade their own firm stock before earnings announcement in both directions i.e. they would buy before good news announcement or they would sell before bad news announcement.

In addition, study also shows that insiders would buy before bad news announcement or they would sell before good news announcement. Insider could engage in buying activity leading bad earnings announcement to signal confidence to the market that the firm financial conditions would be sound in order to keep the stock price stable. Then insiders would be able to sell at a relatively higher price once news announcement is announced in negative direction. On the other hand, insiders sell before the good news announcement could be from liquidation purposes and not for short-term profit from using the foreknowledge of earnings information. At last, insiders do not engage in active return trading strategy associated with yearly earnings announcement.

Table 4.1a shows the result of abnormal returns when net insiders trading imbalances are positive (i.e. Net Buy) within 40 days before the earnings announcement period. Yearly announcement for bad news shows no significant relationship to the abnormal returns. Hence, insiders do not engage in buying activity before the yearly earnings announcement.

Table 4.1b show the results when net insiders trading imbalance before the earnings announcement is negative (i.e. Net Sell). When good earnings news announcement is considered, the abnormal returns show significant results against insiders net sell prior to the announcement. However, this is valid only when all quarter and interim earning quarters (i.e. quarter 1, 2 and 3) are considered. Insiders do not engage in selling activity before good news announcement of yearly earnings.

*B. Insiders use passive return trading strategy*

For corporate insiders to be classified for passive return trading strategy, abnormal returns of firm's stock during the earnings announcement period shall have a negative relationship with net insiders trading imbalances 40 days after the announcement period. The hypothesis explains that abnormal return is negative preceding positive net insiders trading imbalance (i.e. Net Buy). And, the abnormal return is positive preceding negative net insiders trading imbalance (i.e. Net Sell).Results support the hypothesis that insiders trade using passive return strategy. They trade their own firm stock after earnings announcement in both directions i.e. they would buy after bad news announcement or they would sell after good news announcement.

Study also shows that insiders would buy after good news announcement or they would sell after bad news announcement (within 5% significance level). Hence, it can be interpreted that insiders may not enter or leave their positions related to a release of earnings announcement. After earnings are announced insiders would act as normal traders and be indifferent from other investors.

Table 4.2a shows the result of abnormal returns when net insiders trading imbalances are positive (i.e. Net Buy) within 40 days after earnings announcement day. The results imply that there is a bad earnings announcement, insiders would engage in buying activities within 40 days after announcement regardless of earnings quarters.

When news is classified as good news, insiders react by buying afterward. There is a positive relationship of net buy's activities after the good earnings announcement when all earnings quarters are considered. However, the abnormal return is as high as 1.36% from a sample group including only quarterly earnings. No relationship is found when insiders purchase after yearly earnings announcement.

Results from Table 4.2b also confirm the finding of this hypothesis as insiders sell after good news announcement. The study from this hypothesis suggested that corporate insiders' trade within 40 days after earnings announcement. They engage in buying and selling activities after either good or bad announcement. They may not use inside information to profiting their trade. Instead they may act indifferently from normal investors.

*C. Insiders buy before and sell after good earnings announcement to achieve an active trading return*

As we found that insiders do act actively and passively in relation to earnings announcement, Hypothesis 3 and 4 aim to investigate a relationship of insiders trading both before and after earnings announcement day. Hypothesis 3 states that insiders would buy before good news and then sell afterwards to achieve an active trading return. Results from Table 4.3 confirm this hypothesis. When insiders trading activities are selected from positive insiders trading imbalances (i.e. Net Buy) before the announcement and negative insiders trading imbalances (i.e. Net Sell) after the announcement, it shows significantly positive abnormal return at the announcement period. Results show that when bad news is expected, insiders do not anticipated in buying before the announcement and selling afterward. All in all, out of all proxies, Frequency of trade results in the highest abnormal returns for both quarterly and yearly announcement. The findings from this hypothesis signifies that corporate insiders in Thailand engage in active trading returns whereby they buy before an increase in firm's stock price and selling afterwards whilst predicting that market will react positively from the good earnings announcement.

*D. Insiders sell before and buy after bad earnings news announcement to achieve a passive trading return.*

Results of Hypothesis 4 are shown in Table 4.4. When insiders trading activities are selected from negative insiders trading imbalances (i.e. Net Sell) before the announcement and positive insiders trading imbalances (i.e. Net Buy) after the announcement, it shows significantly negative abnormal return at the announcement period when bad news and all type of news are considered under NETAMOUNT and NETVAL. For all earnings announcements, the highest negative abnormal return is -1.41% under NETFREQ. The difference between bad news and all types of news is as high as 0.87 b.p. Yearly earnings announcement show similar results between bad news classification and all news classification with the highest negative abnormal return (2.11%) under NETFREQ. In contrast, only bad news type show significant negative abnormal return when earnings are from quarter 1, 2 and 3. It can be explained that insiders engage in a passive return trading strategy by selling before and buying after bad news announcement. Insiders would sell before the earnings announcement and return their position to achieve a passive return when bad earnings is announced.

However, as a significant relationship of insiders trading is also found when good earnings is announced but only during quarterly earnings, a supporting reason may be from the fact that insiders may sell before such announcement due to liquidation purpose and buy following the market trend due to an increase in stock price. Insiders may fail to predict the market reaction or they do not use foreknowledge of earnings information for their advantages.

### E. Insiders are following-trend trader. Insiders buy before and after good earnings announcement

Table 4.5 shows abnormal returns when net insiders trading imbalances are positive (i.e. Net Buy) before and after earnings announcement. For all earnings quarters, results show significantly positive abnormal return for all the insiders trading imbalances when good news are considered. However, when bad news are considered, the study also shows significant abnormal returns but with negative relationship. This former finding may signify that insiders act in either way i.e. after they purchase their own firm stock, they may enter into a buying position again regardless of types of news announcement. It can also be interpreted that abnormal returns during earnings announcement due to market anticipation are significant on its own regardless of relationship to insiders trading activities.

The highest market reaction over the announcement period is 1.04% under NETVAL and NETAMOUNT when all earnings are considered. Similar results are found with quarterly earnings group but with 1.34% abnormal return when only bad news is considered. The abnormal return is as high as -0.93% with a similar degree of significance. However, results show no relationship between insiders trading and yearly earnings announcement for all news types. The sample size for yearly earnings is as low as 70 events. Hence the results may be statistically insignificant due to the small sample size rather than the actual trading activities. Results from panel b), using cumulative abnormal return instead of buy-and-hold abnormal return show slightly higher magnitude but with similar degree of significance.

### F. Insiders are following-trend trader. Insiders sell before and after bad earnings announcement

Table 4.6 depicts abnormal returns from negative net insiders trading imbalances (i.e. Net Sell) before and after earnings announcement. When all earnings announcement are considered for bad news, the results show significantly negative abnormal returns. Insiders engage in selling activity before the announcement prior to the drop in firm's stock price and follow its momentum to sell further. Never the less, results also show a significant relationship from the same trading activity when good news is considered. The former results also show higher magnitude of market reaction. For all types of earnings announcement, the abnormal returns are significantly positive. It can be drawn that the significance of the abnormal returns may not have a direct relationship with this trading activity as it may be significant from zero by its own.

Table 4.1a: Results of the study of Hypothesis 1a- Insiders use active trading return strategy buying before good earnings announcement. Three variables are used as proxies for insiders' Net Buy during 40 days and 2 days period before earnings announcement. NETAMOUNT is the number of shares that insiders purchase less number of shares that insiders sale in the study period. NETFREQ is the number of transactions that insiders purchase less number of transactions that insiders sell. NETVAL is the net value of stock (number of shares times price per share) that insiders purchase less value of stock that insiders sell. *, ** and *** denote statistical significance at the 10%, 5% and 1% level respectively.

| Net insiders trading Imbalance | Expected sign | News type | BHAR(-1,+1) All quarters | n | BHAR(-1,+1) Q1, Q2, Q3 | n | BHAR(-1,+1) Yearly | n |
|---|---|---|---|---|---|---|---|---|
| NetAmount>0 | + | All news | 0.0022** | 1519 | 0.0026** | 1182 | 0.0011 | 337 |
| | + | Good news | 0.0126*** | 702 | 0.0153*** | 535 | 0.0041 | 167 |
| | Not significant | Bad news | -0.0075*** | 642 | -0.0009*** | 499 | -0.0016 | 143 |
| NETFREQ>0 | + | All news | 0.0024** | 1511 | 0.0028** | 1175 | 0.0012 | 336 |
| | + | Good news | 0.0125*** | 701 | 0.0151*** | 535 | 0.0041 | 166 |
| | Not significant | Bad news | -0.0071*** | 636 | -0.0088*** | 493 | -0.0012 | 143 |
| NETVAL>0 | + | All news | 0.0020* | 1492 | 0.0023* | 1159 | 0.0010 | 333 |
| | + | Good news | 0.0122*** | 690 | 0.0148*** | 528 | 0.0036 | 162 |
| | Not significant | Bad news | -0.0076*** | 630 | -0.0095*** | 485 | -0.0014 | 145 |

Table 4.1b:Results of the study of Hypothesis 1b- Insiders use active trading return strategy selling before bad earnings announcement. Three variables are used as proxies for insiders' Net Sell during 40 days and 2 days period before earnings announcement. NETAMOUNT is the number of shares that insiders purchase less number of shares that insiders sale in the study period. NETFREQ is the number of transactions that insiders purchase less number of transactions that insiders sell. NETVAL is the net value of stock (number of shares times price per share) that insiders purchase less value of stock that insiders sell*, ** and *** denote statistical significance at the 10%, 5% and 1% level respectively.

| Net insiders trading imbalance | Expected sign | News type | BHAR(-1,+1) All quarters | n | BHAR(-1,+1) Q1,Q2,Q3 | n | BHAR(-1,+1) Yearly | n |
|---|---|---|---|---|---|---|---|---|
| NETAMOUNT<0 | - | All news | -0.0027*** | 1626 | -0.0024** | 1271 | -0.0037* | 355 |
| | Not significant | Good news | 0.0071*** | 742 | 0.0097*** | 569 | -0.0013 | 173 |
| | - | Bad news | -0.0117*** | 747 | -0.0128*** | 591 | -0.0074** | 156 |
| NETFREQ<0 | - | All news | -0.0029*** | 1685 | -0.0025*** | 1317 | -0.0042*** | 368 |
| | Not significant | Good news | 0.0070*** | 763 | 0.0096*** | 583 | -0.0015 | 180 |
| | - | Bad news | -0.0120*** | 777 | -0.0130*** | 615 | -0.0082*** | 162 |
| NETVAL<0 | - | All news | -0.0031*** | 1537 | -0.0029** | 1203 | -0.0040* | 334 |
| | Not significant | Good news | 0.0070*** | 705 | 0.0095*** | 536 | -0.0011 | 169 |
| | - | Bad news | -0.0123*** | 699 | -0.0133*** | 558 | -0.0083** | 141 |

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Table 4.2a:Results of the study of Hypothesis 2a- Insiders use passive trading return strategy buying after bad earnings announcement. Three variables are used as proxies for insiders' Net Buy during 40 days and 2 days period after earnings announcement. NETAMOUNT is the number of shares that insiders purchase less number of shares that insiders sale in the study period. NETFREQ is the number of transactions that insiders purchase less number of transactions that insiders sell. NETVAL is the net value of stock (number of shares times price per share) that insiders purchase less value of stock that insiders sell. *, ** and *** denote statistical significance at the 10%, 5% and 1% level respectively.

| Net insiders trading imbalance | Expected sign | News type | BHAR(-1,+1) All quarters | n | BHAR(-1,+1) Q1,Q2,Q3 | n | BHAR(-1,+1) Yearly | n |
|---|---|---|---|---|---|---|---|---|
| NETAMOUNT>0 | - | All news | -0.0002 | 1674 | 0.0009 | 1297 | -0.0041** | 377 |
| | Not significant | Good news | 0.0100*** | 770 | 0.0136*** | 590 | -0.0016 | 180 |
| | - | Bad news | -0.0097*** | 708 | -0.0108*** | 540 | -0.0063** | 168 |
| NETFREQ>0 | - | All news | -0.0003 | 1672 | 0.0009 | 1291 | -0.0043** | 381 |
| | Not significant | Good news | 0.0101*** | 768 | 0.0137*** | 588 | -0.0014 | 180 |
| | - | Bad news | -0.0100*** | 706 | -0.0109*** | 536 | -0.0069*** | 170 |
| NETVAL>0 | - | All news | -0.0003 | 1674 | 0.0007 | 1298 | -0.0038** | 376 |
| | Not significant | Good news | 0.0101*** | 763 | 0.0130*** | 588 | 0.0002 | 175 |
| | - | Bad news | -0.0100*** | 709 | -0.0108*** | 538 | -0.0075*** | 171 |

Table 4.2b: Results of the study of Hypothesis 2b- Insiders use passive trading return strategy selling after good earnings announcement. Three variables are used as proxies for insiders' Net Sell during 40 days and 2 days period after earnings announcement. NETAMOUNT is the number of shares that insiders purchase less number of shares that insiders sale in the study period. NETFREQ is the number of transactions that insiders purchase less number of transactions that insiders sell. NETVAL is the net value of stock (number of shares times price per share) that insiders purchase less value of stock that insiders sell. *, ** and *** denote statistical significance at the 10%, 5% and 1% level respectively.

| Net insiders trading imbalance | Expected sign | News type | BHAR(-1,+1) All quarters | n | BHAR(-1,+1) Q1,Q2,Q3 | n | BHAR(-1,+1) Yearly | n |
|---|---|---|---|---|---|---|---|---|
| NETAMOUNT<0 | + | All news | 0.0030*** | 1737 | 0.0029* | 1350 | 0.0034* | 357 |
| | + | Good news | 0.0137*** | 809 | 0.0145*** | 623 | 0.0112*** | 186 |
| | Not significant | Bad news | -0.0074*** | 766 | -0.0084*** | 595 | -0.0041 | 171 |
| NETFREQ<0 | + | All news | 0.0031*** | 1787 | 0.0031*** | 1398 | 0.0033* | 389 |
| | + | Good news | 0.0138*** | 831 | 0.0146*** | 644 | 0.0110*** | 9 |
| | Not significant | Bad news | -0.0075*** | 785 | -0.0085*** | 613 | -0.0039 | 172 |
| NETVAL<0 | + | All news | 0.0032*** | 1641 | 0.0032*** | 1281 | 0.00334 | 360 |
| | + | Good news | 0.0140*** | 766 | 0.0153*** | 590 | 0.0096*** | 176 |
| | Not significant | Bad news | -0.0077*** | 722 | -0.0088*** | 565 | -0.0035 | 157 |

Table4.3: Results of the study of Hypothesis 3- Insiders buy before and sell after good earnings announcement. Three variables are used as proxies for insiders' Net Buy (during 40 days and 2 days period before earnings announcement) and Net Sell (during 40days and 2 days period after earnings announcement). NETAMOUNT is the number of shares that insiders purchase less number of shares that insiders sale in the study period. NETFREQ is the number of transactions that insiders purchase less number of transactions that insiders sell. NETVAL is the net value of stock (number of shares times price per share) that insiders purchase less value of stock that insiders sell. *, ** and *** denote statistical significance at the 10%, 5% and 1% level respectively.

| Net insiders trading imbalance | Expected sign | News type | BHAR(-1,+1) All quarters | n | BHAR(-1,+1) Q1,Q2,Q3 | n | BHAR(-1,+1) Yearly | n |
|---|---|---|---|---|---|---|---|---|
| NETAMOUNT>0 before announcement and NETAMOUNT<0 after announcement | + | All news | 0.0068*** | 306 | 0.0065** | 248 | 0.0078 | 58 |
| | + | Good news | 0.0164*** | 151 | 0.0163*** | 122 | 0.0166** | 29 |
| | Not significant | Bad news | -0.0034 | 125 | -0.0040 | 101 | -0.0010 | 24 |
| NETFREQ>0 before announcement and NETFREQ<0 after announcement | + | All news | 0.0119*** | 249 | 0.0127*** | 202 | 0.0085 | 47 |
| | + | Good news | 0.0245*** | 122 | 0.0253*** | 101 | 0.0203** | 21 |
| | Not significant | Bad news | -0.0011 | 100 | 0.0011 | 80 | -0.0013 | 20 |
| NETVAL>0 before announcement and NETVAL<0 after announcement | + | All news | 0.0075*** | 316 | 0.0075*** | 256 | 0.0078 | 60 |
| | + | Good news | 0.0156*** | 155 | 0.0152*** | 125 | 0.0173** | 30 |
| | Not significant | Bad news | -0.0011 | 128 | -0.0008 | 103 | -0.0019 | 25 |

Table 4.4: Results of the study of Hypothesis 4- Insiderssell before and buy after bad earnings announcement. Three variables are used as proxies for insiders' NetSell (during 40 days and 2 days period before earnings announcement) and NetBuy (during 40days and 2 days period after earnings announcement). NETAMOUNT is the number of shares that insiders purchase less number of shares that insiders sale in the study period. NETFREQ is the number of transactions that insiders purchase less number of transactions that insiders sell. NETVAL is the net value of stock (number of shares times price per share) that insiders purchase less value of stock that insiders sell. *, ** and *** denote statistical significance at the 10%, 5% and 1% level respectively.

| Net insiders trading imbalance | Expected sign | News type | BHAR(-1,+1) All quarters | n | BHAR(-1,+1) Q1,Q2,Q3 | n | BHAR(-1,+1) Yearly | n |
|---|---|---|---|---|---|---|---|---|
| NETAMOUNT<0 before announcement and NETAMOUNT>0 after announcement | - | All news | -0.0042** | 302 | -0.0025 | 249 | -0.0121*** | 53 |
| | Not significant | Good news | 0.0051* | 150 | 0.0084** | 123 | -0.0099 | 27 |
| | - | Bad news | -0.0128*** | 121 | -0.0126623*** | 100 | -0.0140** | 21 |
| NETFREQ<0 before announcement and NETFREQ>0 after announcement | - | All news | -0.0037 | 262 | -0.0018 | 211 | -0.0117** | 51 |
| | Not significant | Good news | 0.0069 | 131 | 0.0101*** | 104 | -0.0056 | 27 |
| | - | Bad news | -0.0140*** | 101 | -0.0126*** | 84 | -0.0211** | 17 |
| NETVAL<0 before announcement and NETVAL>0 after announcement | - | All news | -0.0049** | 321 | -0.0030 | 262 | -0.0135*** | 59 |
| | Not significant | Good news | 0.0035 | 155 | 0.0064* | 126 | -0.0094 | 29 |

| - | Bad news | -0.0136*** | 131 | -0.0126*** | 106 | -0.0176*** | 25 |

Table 4.5: Results of the study of Hypothesis 5- Insidersbuy before and buy after good earnings announcement. Three variables are used as proxies for insiders' NetBuy during 40 days and 2 days period before and after earnings announcement. NETAMOUNT is the number of shares that insiders purchase less number of shares that insiders sale in the study period. NETFREQ is the number of transactions that insiders purchase less number of transactions that insiders sell. NETVAL is the net value of stock (number of shares times price per share) that insiders purchase less value of stock that insiders sell. *, ** and *** denote statistical significance at the 10%, 5% and 1% level respectively.

| Net insiders trading imbalance | Expected sign | News type | BHAR(-1,+1) All quarters | n | BHAR(-1,+1) Q1,Q2,Q3 | n | BHAR(-1,+1) Yearly | n |
|---|---|---|---|---|---|---|---|---|
| NETAMOUNT>0 before announcement and NETAMOUNT>0 after announcement | + | All news | 0.0012 | 693 | 0.0018 | 535 | -0.0004 | 158 |
| | + | Good news | 0.0104*** | 310 | 0.0134*** | 234 | 0.0015 | 76 |
| | Not significant | Bad news | -0.0068*** | 299 | -0.0085*** | 229 | -0.0015 | 70 |
| NETFREQ>0 before announcement and NETFREQ>0 after announcement | + | All news | -0.0001 | 707 | 0.0002 | 547 | -0.0015 | 160 |
| | + | Good news | 0.0083*** | 314 | 0.0108*** | 239 | 0.0002 | 75 |
| | Not significant | Bad news | -0.0077*** | 305 | -0.0093*** | 231 | -0.0028 | 74 |
| NETVAL>0 before announcement and NETVAL>0 after announcement | + | All news | 0.0013 | 686 | 0.0019 | 529 | -0.0007 | 157 |
| | + | Good news | 0.0104*** | 307 | 0.0134*** | 233 | 0.0010 | 74 |
| | Not significant | Bad news | -0.0068*** | 294 | -0.0083*** | 224 | -0.0015 | 70 |

Table 4.6: Results of the study of Hypothesis 6- Insiders sell before and sell after bad earnings announcement. Three variables are used as proxies for insiders' NetSell during 40 days and 2 days period before and after earnings announcement. NETAMOUNT is the number of shares that insiders purchase less number of shares that insiders sale in the study period. NETFREQ is the number of transactions that insiders purchase less number of transactions that insiders sell. NETVAL is the net value of stock (number of shares times price per share) that insiders purchase less value of stock that insiders sell. *, ** and *** denote statistical significance at the 10%, 5% and 1% level respectively.

| Net insiders trading imbalance | Expected sign | News type | BHAR(-1,+1) All quarters | n | BHAR(-1,+1) Q1,Q2,Q3 | n | BHAR(-1,+1) Yearly | n |
|---|---|---|---|---|---|---|---|---|
| NETAMOUNT<0 before announcement and NETAMOUNT<0 after announcement | - | All news | 0.0039*** | 721 | 0.0034** | 550 | 0.0053** | 171 |
| | Not significant | Good news | 0.0136*** | 334 | 0.0159*** | 250 | 0.0070** | 84 |
| | - | Bad news | -0.0042** | 329 | -0.0064*** | 255 | 0.0030 | 74 |
| NETFREQ<0 before announcement and NETFREQ<0 after announcement | - | All news | 0.0030** | 665 | 0.0030* | 512 | 0.0032 | 153 |
| | Not significant | Good news | 0.0124*** | 311 | 0.0156*** | 230 | 0.0033 | 81 |
| | - | Bad news | -0.0048** | 303 | -0.0066*** | 240 | 0.0020 | 63 |
| NETVAL<0 before announcement and NETVAL<0 after announcement | - | All news | 0.0039*** | 756 | 0.0038** | 579 | 0.0042* | 177 |
| | Not significant | Good news | 0.0139*** | 350 | 0.0164*** | 264 | 0.0064* | 86 |
| | - | Bad news | -0.0043** | 345 | -0.0062*** | 268 | 0.0020 | 77 |

## IV.     CONCLUSION

This paper investigates relationships between earnings news announcement of firms listed under the Stock Exchange of Thailand (SET) market and corporate insiders' trading of their own firm stock using insider filing date. The study investigates 33,866 insiders transactions between 2003-2012 and 15,333 earnings news announcement between April 2003 until September 2012. While concentrating on insiders trading period of 40 days before and after the earnings announcement day, the conclusion can be drawn as follows.

Asymmetric information on earnings announcement may not be a factor for insiders to enter or exit their one-time trading position. A single trading activity from corporate insiders either before or after the earnings announcement may occur due to their long term trading strategy. Corporate insiders may liquidate their holding position foreseeing the drop in long term earnings prospect or buy their firm stock anticipating good long term earnings prospect regardless of an upcoming earnings announcement to public. Hence, insiders may not trade on the foreknowledge of earnings information to achieve a short-term abnormal trading profit for their advantage. The study also finds that insiders may use earnings information to achieve short-term active trading returns by engaging in buying activity before the announcement and selling activity after the announcement, or to achieve passive trading returns by engaging in selling activity before the announcement and buying activity after the announcement.

As this study concentrated on the firm level, further study may classify corporate insiders into different level/positions inside the company. There may be levels of asymmetric information within the corporate insiders of each firm. In addition, this study treats individual insiders of each company as a whole i.e. insider buying before the announcement and selling after the announcement may be the same person or a different one, hence further study may investigate corporate insiders down to personal level to strengthen the results found in this study.

Corporate insiders, though knowing the prior earnings information, may use or not use this information to take advantages on profit making. Some groups of corporate insiders may use earnings announcement to achieve short term abnormal trading returns. Other groups may use other types of news announcement which may result in a higher trading profit for their advantages.

All in all, this study finds that there are significant relationships of insiders trading activities both before and after the earnings announcement period. This research can be the basis for further studies for both regulators and investors as it is the first empirical evidence that shows that corporate insiders in Thai firms act on foreknowledge of earnings information. The study did not attempt to investigate any abnormal profits that insiders would make from such activities. In addition, several other periods of insiders trading activity may be used e.g. separation of bull and bear market cycle. Hence, laws and regulations can be imposed effectively to avoid illegal insider trading in certain period. Or, they can be used to regulate insiders trading activities in view of enhancing the market efficiency.

## BIBLIOGRAPHY

[1]  Betzer, A. and Theissen, E. (2009).Insider trading and corporate governance: the case of Germany, European Financial Management, 61, 402-429.

[2]  Boonyawat, K., Jumreornvong, S. and Limpaphayom, P. (2004). Insider trading: evidence from Thailand, Master of Thesis, the Faculty of Commerce and Accountancy at Thammasat University, 12th Pacific Basin Finance, Economics, Accountings, and Business

[3]  Cheng, Q. and Lo, K. (2006).Insider trading and voluntary disclosures, Journal of Accounting Research, 44, 815-848.

[4]  Del Brio, E. B. and Miguel, A. De. (2010). Dividends and market signaling: an analysis of corporate insider trading, European Financial Management, 16, 480-497.

[5]  Del Brio, E. B., Miguel, A. and Perote, J. (2002). An investigation of insider trading profits in the Spanish stock market, The Quarterly Review of Economics and Finance, 42, 73-94.

[6]  Elliott, J., Morse, D. and Richardson, G. (1984).The association between insider trading and information announcements, Rand Journal of Economics, 15, 521-536.

[7]  Fidrmuc, J. P., Goergen, M. and Renneboog, L. (2006).Insider trading, news releases, and ownership concentration, Journal of Finance, 61, 2931-2973.

[8]  Fuller, K. P. (2003). The impact of informed trading on dividend signaling: a theoretical and empirical examination, Journal of Corporate Finance, 9, 385-407.

[9]  Givoly, D. and Palmon, D. (1985).Insider trading and the exploitation of inside information: some empirical evidence, Journal of Business, 58, 69-87.

[10] Huddart, S., Ke, B. and Shi, C. (2007).Jeopardy, non-public information, and insider trading around SEC 10-K and 10-Q filings, Journal of Accounting and Economics, 43, 3-36.

[11] Jabbour, A. R., Jalilvand, A. and Switzer, J. A. (2000).Pre-bid price run-ups and insider trading activity: evidence from Canadian acquisitions, International Review of Financial Analysis, 9, 21-43.

[12] Jaffe, J. F. (1974). Special information and insider trading, Journal of Business, 47, 410-428.

[13] Jenter, D. (2005). Market timing and managerial portfolio decisions, Journal of Finance, 60, 1903-1949.

[14] John, K. and Lang, L. H. (1991).Insider trading around dividend announcements: theory and evidence, Journal of Finance, 46, 1361-1389.

[15] John, K. and Mishra, B. (1990).Information content of insider trading around corporate announcements: the case of capital expenditures, Journal of Finance, 45, 835-855.

[16] Ke, B., Huddart, S. and Petroni, K. (2003).What insiders know about future earnings and how they use it: evidence from insider trades, Journal of Accountings and Economics, 35, 315-346.

[17] Keown, A. J. and Pinkerton, J. M. (1981).Merger announcements and insider trading activity: an empirical investigation, Journal of Finance, 36, 855-867.

[18] Lakonishok, J. and Lee, I. (2001).Are insider trades informative?,Review of Financial Studies, 14, 79-111.

[19] Lustgarten, S. and Mande, V. (1995).Financial analysts' earnings forecasts and insider trading, Journal of Accounting and Public Policy, 14, 233-261.

[20] Meulbroek, L. K. (1992). An empirical analysis of insider trading, Journal of Finance, 47, 1661-1699.

[21] Mitchell, M. L. and Mulherin, J. H. (1994).The impact of public information on the stock market, Journal of Finance, 49, 923-950.

[22] Noe, C. F. (1999). Voluntary disclosures and insider transactions, Journal of Accounting and Economics, 27, 305-326.

[23] Penman, S. H. (1982).Insider trading and the dissemination of firms' forecast information, Journal of Business, 55, 479-503.

[24] Rozeff, M. S. and Zaman, M. A. (1988).Market efficiency and insider trading: new evidence, Journal of Business, 61, 25-44.

[25] Seyhun, H. N. (1986). Insiders' profits, cost of trading, and market efficiency, Journal of Financial Economics, 16, 189-212.