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Stock Markets from the Perspective of Efficient Market Hypothesis

Authors:

Ruslan Mammadov
Marcus Klang

Supervisor:

Göran Anderson

Abstract

This study investigates the profitability of insider trading in the Thai stock market. The data set is taken from the 50 largest companies in the Thai stock market, the SET50. The time period to be investigated that has been chosen for this research paper is the year 2007. The method used to investigate if insiders can make abnormal profits is the market model. The results show that Thai corporate insiders cannot profit from trading on non-public information. Thai corporate insiders can neither earn abnormal profits from buying shares in their own company, nor can they earn abnormal profits from selling shares in their own company. These results seem to suggest that the Thai stock market has become more efficient from the perspective of insider trading. In fact, the results from this study contradict earlier studies which have shown that the Thai stock market allows both corporate insiders, and outsiders, to earn abnormal profits from insider trading. In addition, Thai corporate insiders report their trades within three days on average, which is in accordance with the rules set by the Securities and Exchange Commission of Thailand (SEC).

Keywords: Insider trading, Abnormal returns, Market efficiency

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1. Introduction

Insider trading

Insider trading is an area that has been of interest to both researchers and market participants for a long time. Research was initially conducted on developed markets in countries such as the US. Eventually, it was found that these markets were efficient from an efficient market hypothesis due to insiders not being able to make abnormal profits. The reasons for this could be plenty, such as strong legal system; powerful, independent regulators; a large amount of active traders and wide analyst coverage.

One of the reasons why insider trading is such a popular research topic is due to the enormous potential in the results. Firstly, one could play on populist sentiment if indeed insiders could make abnormal profits, saying that they should face increased taxation and etc.; secondly, if a researcher discovers that insiders can make abnormal profits, and in addition those who follow the trades of insiders can make profits, then the person who has access to the research results can make abnormal profits.

In this research, the possibility of insiders in Thailand making abnormal profits is being investigated. As earlier reported in Boonyawat, Jumreornvong, and Limpaphayom (2005), research conducted on the Thai stock exchange seems to suggest that insiders can make abnormal profits. That particular research was conducted using the year 2002 as the time period. The interesting results from that research coupled with limited availability of additional research on insider trading in Thailand makes it an interesting market to study.

We choose to follow the Securities and Exchange Commission of Thailand's (SEC) definition of insider trading, which states that an insider is a director, manager, person responsible for the operation, or the auditor of a company whose securities are listen in the Securities Exchange or traded at the over-the-counter center. It also includes

persons who hold securities with a total par value exceeding five percent of the registered capital.[1]

Purpose

The purpose of this research paper is to investigate the insider trading patterns in the Thai stock market in the year 2007. Specifically, of interest is to see if the stock market is efficient from the perspective of insider trading. If it is found that insiders can make abnormal profits, the market is inefficient according to the efficient market hypothesis. If it found however, that insiders cannot make abnormal profits, then the market is efficient according to the efficient market hypothesis.

Time period

For this research paper, we will look at the year 2007 as the time period. Of interest is to see if abnormal profits are still reachable for insiders, given that the market has seen considerable growth during this period, in addition to the further internationalization of the Thai stock market. For example, according to the SEC, the number of total client accounts (people who trade) increased from over 200,000 in the year 2002 to close to 500,000 at the end of the year 2006. In 2002, local investors held 70% of the equity while foreign investors held the rest. At the end of 2006, those numbers had changed to 66% for local investors and foreign investors holding the rest.2

Why Thailand?

The Thai stock market is interesting for several reasons when it comes to insider trading. Firstly, it is a developing country with a developing capital market which has seen its total market capitalization increase from around 2,000 Billion Baht at the end of year 2002 to around 6,600 Billion Baht at the end of year 2007.[3] A large proportion

[1] (www.sec.or.th)
[2] (http://www.sec.or.th/infocenter/report/equity5.ppt#1)
[3] (www.set.or.th)

of the trading is being made by retail investors (72% in the year 2002, 52% in the year 2006), with the rest of the trade being made by institutional (5% in the year 2002, 12% in the year 2006) and foreign investors (23% in the year 2002, 34% in the year 2006).[4] Many companies have very strong family-controlled structures, as reported in Claessens, S., S. Djankov, and L.H.P. Lang (2000). Furthermore, Lemmon, M.L., and K.V. Lins (2002) found that the absence of strong legal protections and other regulations increase the agency problem between controlling insiders and outsiders. In other words, if a small group of people receive information before others, and they are likely to be able to trade and profit on that information without running the risk of being caught by the authorities, then they will trade on that information. Fan, J.P.H., and T.J. Wong (2002a) found low levels of transparency and disclosure quality of accounting information to the markets from public corporations in East.

Enforcement

Thailand prosecuted its first case against insider trading in 1993, being the first country in Southeast Asia to do so.[5] The SEC has the primary responsibility for investigating potential illegal insider trading, and if it deems that a criminal violation has occurred, a criminal complaint will be filed with the Royal Thai Police. According to the SEC, a total of nine individuals have been found guilty of insider trading, all receiving fines ranging from 333,333 Baht to 31,776,786 Baht, although the eight of nine fines ranged from 333,333 Baht to 3,546,482 Baht.[6] Thus, it seems that the legal punishments in connection with illegal insider trading are fairly small.

Data set

We have in this study chosen to look at the group of SET50 companies. The SET50 is a group consisting of the 50 largest companies listed on the stock exchange measured by their market capitalization, and they are also most often the most liquid companies since most institutions and foreign investors only trade the companies in the SET50. We used the year 2007 as our period of interest as it was the last full year that we

[4] (http://www.sec.or.th/infocenter/report/equity32.ppt#10)
[5] *AsiaWeek.* March 16, 2000. Antonio Lopez. Do they really want to fix it? The will to change seems absent from the Philippine stock market
[6] In May 2009, 1 Baht was equal to 0.03 USD

could use in order to estimate the market model, something that will be explained later in the paper. We analyze both the data for buying and selling activities. If an insider buys and sells during the same day, the net position is used, meaning if more buying than selling occurs, the insider is considered a buyer, and vice versa. Furthermore, the data of buying and selling has been divided into both company level and index level. The study investigates the abnormal return of insider trading and outsider trading. Whereas an insider is the person actually making the trade, an outsider is anyone who trade on the information released by the SEC four days after the insider made a trade. According to the SEC Act of B.E. 2535 Section 59, an insider needs to report their change in ownership within three days of the trading day to the SEC. The day after, the information will be released to the market in The 59-2 Form, thus it will on average take four days from the trading day until it reaches the public. Given the large number of event days that we use in this study, a few outliers will not significantly change the fact that on average, insiders do report their trading within three days. This is a relatively short time-period relative to stock markets in other countries. Thus, given the short time interval, the timing of insider trading disclosure may have less impact in Thailand than in other countries.

Outline

In chapter 2, a short explanation of the efficient market hypothesis is given. In chapter 3 earlier researches relevant to the subject is briefly described. In chapter 4, the data gathering process and the methodology of the research is explained. The hypothesis development is also described in this chapter. In chapter 5, the empirical results are given and discussed. Chapter 6 gives a conclusion, which is then followed by a reference page and the appendix. In the appendix, specific information of the abnormal returns for buyers and sellers in each company in our sample for the year 2007 is given.

2. Efficient Market Hypothesis

In his PhD dissertation submitted to Sorbonne University, Bachelier (1900) investigated price dynamics of security prices behavior listed on La Bourse (The Paris stock Exchange). In the dissertation it was pointed out that price changes of the securities are identically and independently distributed which means that one can not predict the next movement of the time series. According to Bachelier, security price movements followed "random walk", the change is the result of independent random variables. "…. *Past, present and even discounted future events are reflected in market price, but often show no apparent relation to price changes".* Although this work was one of the pioneering researches, it contributed much to the development of the efficient market hypothesis (EMH) ideas. Great number of researches on EMH took place beginning from the 1950th. In his research Fama (1965) for the first time in financial literatures defined the term "efficient market" as a market in which security prices fully reflect all available information. The hypothesis stated that due to competitive character of the financial markets all information are fully and instantaneously absorbed into assets' prices so that using that information agents can not make abnormal returns. To put it in a more general way we can say that EMH states that security prices are unpredictable.

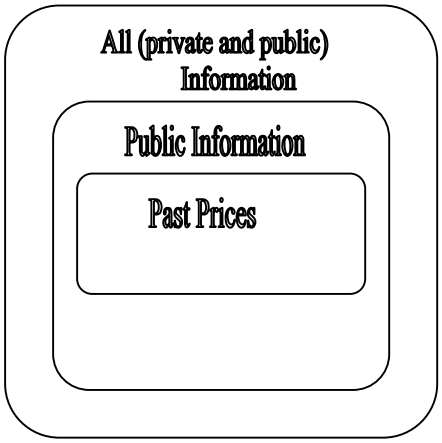
"Information is always correctly reflected in securities prices"

But in Fama's definition it is not stated what is meant by "information". What kind of information we are dealing with here?
As this is not clear what Fama meant by "information', we try to explain this notion below. To test EMH, researchers usually use three different information sets. Figure 1 describes all three information sets below.

Past prices of the securities comprise most publicly and easily available information. If an agent can forecast future price movements by knowing only that much information then it is said to be a violation of **weak form efficiency**. According to weak form efficiency current prices have already reflected the information about past prices and volume. No agent can make abnormal returns as prices are influenced by new economic variables and new information. Fama (1991) proposed dividend yield,

interest rates, earnings/price ratios and other term structure variables that probably could affect prices of the securities. In financial markets the presence of autocorrelation in stock returns (more likely negative autocorrelation) will denote violation of weak form efficiency.

Figure 1. Information sets



The second information set comprises all publicly available information. Let's not forget information related to past prices is also publicly available so past prices is *subset* of public information. Agents can gain information not only form past prices but also from the data reported on company's financial statements, company's announcements, economic factors etc. If current prices fully reflect all publicly available information we say that market is *semi-strong form efficient*. In these markets prices are instantaneously adjusted to public information in a way that agents owning publicly available information can not make any abnormal returns. The future prices of the assets are affected by future-yet unknown information. In practice semi-strong form of efficiency is measured through the investigation of price reactions to newly announced data. Prices must correctly react to the announced new information to keep semi-strong form of efficiency. For example, if company announces its revenue to be twice of expected amount share prices of the company must react instantaneously and go up.

The final set of information covers both publicly and privately held information. If asset prices quickly absorb the information held by insiders as well as publicly

available information then it is said that market is *strong form efficient.* As we stated in strong form efficiency asset prices reflect insider information as well. Under this hypothesis an attempt to make abnormal returns by insider moves against her/him reflecting the information he/she has. It means that even company's manager who has information about acquisition or merging decision cannot make profit using this piece of information as current market prices already reflect them.

In some later researches on EMH there was made some basic distinctions between strong form of efficiency and semi-strong and weak form of efficiencies. In his research, Dowie (1976) stated that when we are talking about strong form of efficiency we are dealing with access to and availability of the information. But semi-strong and weak forms of efficiency are concerned with the reflection of public information on assets prices. In his research he uses the term "equitable" for the markets that meets the strong form of efficiency hypothesis, and "efficient" for the other markets that meets semi-strong and weak forms of efficiency.

Keane (1987) also made distinction between hypotheses. In his research he argues that " semi-strong efficiency is concerned with how well the market processes the information disclosed to it… strong efficiency is concerned primarily with the adequacy of the information disclosure process" (1987: 6)

In financial markets the maximum price that agents are willing to pay is present value of all future cash flows discounted for the factor that is seemed to be enough to serve as premium for uncertainties. If agents learning is rationale then

$$p_{i.t} = E\left[p_{i,t+1} \mid Information_t\right]$$

Where $p_{i.t}$ is the price of asset *i* at time *t,* and $Information_t$ is the information available at time *t.* But as we pointed out above agents are willing to discount future cash flows at a higher rate as compensation for uncertainties related to those cash flows. In other words we should incorporate *risk premium* into our model.

$$p_{i.t} = \frac{1}{1 + r_{f,t} + p_{i,t}} E\left[p_{i,t+1} \mid Information_t\right]$$

Where $r_{f,t}$ is the risk free rate at time period of *t*, $p_{i,t}$ is risk premium for asset *i* at time *t.* To simplify the model we can write the return on an asset during the period *t* and *t+1* as:

$$r_{i,t+1} = \frac{p_{i,t+1} - p_{i,t}}{p_{i,t}}$$

Using above derived equations we can write down the main implication of EMH as follows:

$$E\left[r_{i,t+1} - r_{f,t} \mid Information_t\right] = p_{i,t}$$

To put it in words: The main implication of EMH is that one can not predict the change in securities' price beyond the risk premium or compensation for risk $p_{i,t}$.

3. Past Research

Earlier studies about insider trading have mainly looked at the potential of insiders making abnormal profits and outsiders making abnormal profits. In addition, the amount of private knowledge in relation to the achieved abnormal profits has been researched. There are a few main conclusions up to now. Firstly, insiders seem to be able to make abnormal profits, thus violating the strong-form efficient market hypothesis. Secondly, outsiders cannot make abnormal profits after adjusting for transaction and other trading costs. This validates the semi-strong-form efficient market hypothesis.

Jaffe (1974) examined the performance of securities after an insider had made a trade. The research found that insiders indeed could make abnormal profits. In addition, in the research it was found that outsiders could also make abnormal profits even after deducting transaction costs. Finnerty (1976) evaluated all insider trades during a time period and found that insiders could make abnormal profits. Seyhun (1986) also researched the stock performance after insiders' had made a trade. He confirmed that insiders can make abnormal profits but he failed to find any evidence of outsiders being able to make abnormal profits. The reason for this is that earlier research validating the idea that outsiders could make abnormal profits used CAPM to find expected return, but since CAPM produces bias in the expected returns due to the size bias (Banz (1981), the earlier research was imperfect. Thus Seyhun tested for abnormal profits using a market model, after which he found that insiders make abnormal profits, but outsiders do not. Seyhun also separated the insiders into different classes and found that those insiders closer to the firm seemed to have a higher predictive ability, meaning they could achieve higher abnormal returns.

Rozeff and Zaman (1988) also examined the performance of securities after insider trading using the market model, but they also included some variables that would take into account known tendencies of stock returns such as P/E ratio and the market value of equity. Their results show that outsiders can make abnormal profits by simply following the trading pattern of insiders when such information is released by the relevant regulator. However, the abnormal profit disappears once transaction costs are taken into account.

Lin and Howe (1990) evaluated the ability of insiders and outsiders to make abnormal profits by looking at the OTC/NASDAQ market. They find that those insiders closer to the firm seem to have better predictive ability than those insiders further away from the firm. Despite this however, they find that both insiders and outsiders cannot make abnormal profits after including transaction costs.

Karpoff and Lee (1991) examine insider trading before corporate announcements of primary offerings of common stocks, convertible debt, and straight debt. They find that insider selling is more active before announcements that could be assumed to lower the stock price, such as the announcement of new common stock and convertible debt issues. They find no abnormal returns for insider trading before issues of straight debt.

Meulbroek (1992) investigates the impact on stock prices from insider trading, using a sample of 320 cases in which the SEC has charged investors with illegal insider trading. The evidence seems to show that the market can sense the possibility of informed trading and the stock price changes to reflect that assumption. The study finds that abnormal returns on an insider trading day amount to 3% and almost half of that increase lead the market to recognize the informed trading.

Rozeff and Zaman (1998) tests if the markets pricing of stock is taking into account the overreaction of investors. Insider trading is measured by ranking, using measures such as cash flow per share to price per share (CF/P). As a stock change from growth to value, it is observed that insider buying increase. In addition, it is found that insider buying is greater after a period of low stock returns, and vice versa.

Carter, Mansi, and Reeb (2003) examines the informational content that insider trading holds. It is concluded that the market impact of an insider trade depends on the length of interval between the trade and the disclosure of this information. It is here assumed that insiders try to time the disclosure of the insider trading information in order to make as large profits as possible. In addition, this study finds that the informational content of insider trading in relation to the reporting interval is the greatest when it is the CEO who has traded.

Boonyawat, Jumreornvong, and Limpaphayom (2005) studied the possibility of insiders and outsiders making abnormal profits in the Thai stock market in the year 2002. They used the market model to calculate the expected returns. Furthermore, when insiders had made several trades during the same months, they used the last trade in the month to represent the event day. To separate between buyers and sellers, the net of the trading was calculated for each month. It was found that not only insiders but also outsiders could make abnormal profits during the year 2002.

4. Empirical Study

In this part of the project we will shed light on the data used in the empirical analysis, develop the hypothesis and briefly discuss the applied methodology.

4.1 Hypothesis Development

While developing the null hypothesis we widely relied on previously conducted research. According to the studies of Lin and Howe (1990), Seyhun (1986) and Jaffe (1974), if insiders believe that the price of the stock will rise after the disclosure of the information they have, (only they have) insiders will purchase the stock before the release of that information. This, in its turn, means that cumulative average prediction error (CAPE)[7] must be positive after insider trading day. To put it in a more precise way, we can say that if insiders are able to predict the future stock price movements, CAPE is expected to be positive. If insiders can't predict future stock price movements – if efficient market hypothesis holds – then the expected sign of the CAPE will be negative or the value of the CAPE will be equal to zero. Thus our null hypothesis for insider purchases will look like:

$$H_{01}: \quad CAPE = 0 \text{ or } CAPE < 0$$

$$H_{A1}: \quad CAPE > 0$$

We can apply above given argument for the sales as well. If insiders possess some superior information whose revelation will cause a drop in the future stock price then insiders will tend to sell their share before the release of that information. If they are correct that after the release of this information the stock price will plummet, this in turn tells us about the negative sign of CAPE. If the sign of CAPE turns out to be negative then we can say that insiders were able to predict future stock price movements. If sign of CAPE turns out to be the opposite of the expected one then we

[7] CAPE will be defined later in this chapter

can say that, in this case the efficient market hypothesis holds, so insiders are not able to predict future stock price fluctuations. Basing on above stated our null hypothesis for sells will look like:

$$H_{02}: \quad CAPE=0 \text{ or } CAPE>0$$

$$H_{A2}: \quad CAPE<0$$

4.2 Methodology

Information on insider trading was essential in this project to conduct empirical analysis. *The 59-2 Form* provided by the Securities and Exchange Commission's (SEC) for the year 2007 constituted our main source of information on insider trading. According to Securities and Exchange Act of B.E. 2535 Section 59 " *the director, manager, person who holds management position as specified in the notification of the Office, and the auditor of the company which issues securities must prepare and submit Form 59-2 to the Office on each person's securities holding and the holding of securities by his spouse and children in the company including changes in such holdings under the rules and procedures as specified in the notification of the Office with the approval of the SEC."* As the information provided by the commission was quite large we had to "clear" the data and take the relevant part. After filtering all irrelevant information out, our data comprised below given information: (1) Report date – the date corporate insiders submits the 59-2 form to SEC, (2) filing date – the date SEC submits the form, (3) Transaction date – the date corporate insiders trade their own stocks, (4) Type of securities that were traded, (5) the number of the traded securities, (6) the average security price, (7) buy/sell. Our target group in this project was companies in SET 50 in the year 2007.

As insiders traded various security types, in our empirical analysis we concentrated only on common shares. These types of securities comprised large amount of insider trading. While collecting the data it came out that there was either no information available or no insider trading taking place in 15 companies. So we continued with the information only on the remaining 35 companies of the SET 50. For the chosen time

periods insiders overall made 1016 transactions. If we divide these transactions by type, 366 transactions comprised purchase, 650 transaction constituted sale transactions by the insiders.

Transaction to Announcement day				
	Mean	Maximum	Minimum	Std.Dev
Buy	3.224658	117	0	8.3455
Sell	2.675385	87	0	4.2575
Total	2.998033	117	0	7.0388

Table 1. Descriptive Statistics of Transaction to announcement day

Table 1 provides us with descriptive statistics of the interval, the time between insider trading days and announcement days. As we can see from the table, the average interval is around 3.2 days and 2.6 days for buying and selling transactions respectively. This finding significantly varied from the results of the previous conducted researches. For example in research of Carter, Mansi and Reeb (2003) average interval comprised 22 days. As it is shown, during 4 years this interval has been decreased significantly. According to the regulation of SEC of Thailand, insiders have to report their transaction within three days after the trading day. If they fail to provide this information they have to pay specific amount as fine. It seems that the regulation by the Thai SEC has pushed insiders into minimizing this interval.

Besides data on insider trading we gathered information on daily stock returns of the companies at SET 50 and the index SET50 which were used in the calculation of the market model and standardized abnormal returns that is discussed later in this chapter. To put it in another way: in order to meet our criterion listed stocks must have 10 month (-230 to 230, the event day is counted as day 0) of returns prior and after event day. In financial econometrics there are a number of approaches we can use to estimate expected returns to securities. Generally these approaches are grouped under two categories: Statistical and Economic. While applying statistical models we make statistical assumptions concerning the behavior of asset returns without depending on any economic arguments. For these models we assume that returns on securities are jointly multivariate normal and independently and identically distributed through

time. Above stated assumptions is enough for us to apply *constant-mean-return model* and *market model* to estimate normal returns on any security. Economic models mostly base on assumptions concerning investors' behavior. As opposed to statistical models this kind of models doesn't solely rely on statistical assumptions. But when it comes to practice while applying economic models we have to add some statistical assumptions. In other words, economic models restrict the parameters of statistical models providing us with more constrained normal return models. In practice there are two widely used such models: Capital Asset Pricing Model (*CAPM*) and Arbitrage Pricing Theory (*APT*). According to Sharpe (1964), CAPM is an equilibrium theory where the expected return of a given asset is a linear function of its covariance with the return of the market portfolio. Ross (1976) defined APT as an asset pricing theory in the absence of asymptotic arbitrage where the expected return of a given asset is estimated by its covariance with multiple factors. According to the previous studies of Brown and Weinstein (1985) application of APT complicates the estimation of event study and has little practical advantage as compared to the unrestricted market model. When it comes to choose between CAPM and Market model we can say that the expected value of market model prediction errors, given parameter stationarity, sums to zero for companies of any size. This allows the model to avoid sample size bias that shows itself by the CAPM. Banz (1981) in his research proved that residuals by the CAPM model on average are positive for small firms and negative for large firms. In order to avoid biases in estimation process and to compare our results with those ones of the previous conducted studies (as in major part of these studies researchers applied market model) we also applied market model to estimate expected return to securities.

General market model is as follows:

$$r_{i,t} = \alpha_{i,t} + \beta_{i,t} r_{m,t} + \varepsilon_{i,t} \qquad (1)$$

Where

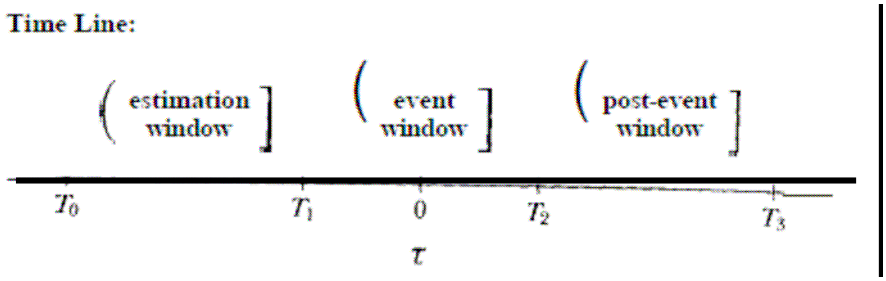
$r_{i,t}$ = Return on stock *i* on day *t*

$r_{m,t}$ = Return on value –weighted portfolio of all SET stocks on day *t*

$\alpha_{i,t}\beta_{i,t}$ = market model intercept and slope as of day *t*

$\varepsilon_{i,t}$ = Disturbance term assumed to be normally distributed with zero mean and constant variance

As there was quite large number of insider transactions per month for each company we took last date of transaction as event day (day 0). To calculate market model parameters we applied ordinary least squares (OLS) method. While calculating the parameters $\alpha_{i,t}, \beta_{i,t}$ we used 200 days post event and pre event daily return data. Below we provide graphical illustration of the time line for the event study.



First we index our returns in event time using τ. Our event day which is the last transaction date in our case is $\tau = 0$. $\tau = T_1 + 1$ to $\tau = T_2$ represents our event window. Time lengths, $L_1 = T_1 - T_0$ and $L_2 = T_2 - T_1$ represent the length of estimation and the event window respectively. We took the length of event window 60 days, 30 days prior and 30 days after the event day. To put it in other way, in practice it is typical not to allow estimation window and event window to overlap. By doing so we are avoiding the influence of event related returns on parameters of normal return model. Failing to do it will result in a large influence of event related returns on normal return's parameters. Thus, we will not be able to measure the influence of the event as both normal returns and abnormal returns would reflect the impact of the event. Of course it is not a desired result as our main goal is to find out the influence of the event captured by abnormal returns. So our *t* value in the equation (1) will vary from -30 till 30.

$$t = -30,30$$

To calculate the parameters $\alpha_{i,t}, \beta_{i,t}$, we use time length $L_1 = T_1 - T_0$ and $L_3 = T_3 - T_2$ which constitutes 200 days for each time length in our case. Abnormal returns over the event window are interpreted as a measure of the impact of the event (in our case insider trading) on the value of the firm/its equity. Thus, in this methodology we assume that insider trading is exogenous with respect to the change in the market value of the securities.

As we stated above, there were quite a large number of insider trading per month. This fact created problems in terms of huge number of regressions in the research. So we decided to decrease the number of insider trading by filtering them in a later on defined way. In this research an insider is considered as a buyer if he/she buys more share than he/she sells on any given event day, and the seller if he/she sells more share than what he/she buys on any given event day.

In a majority of previously conducted researches, researchers took the higher number of transactions to analyze if there were more than one transaction per day by more than one insider. But in order to get more precise estimates in our research we took each insider separately. For example, if there were two insiders trading per one day we covered both of them which were quite a different approach from that of previous researches. If the number of buyers equal the number of sellers in a month that particular month will be excluded. Besides this we also ignore the insider transactions where the number of sells was equal the number of buys.

The main idea behind analyzing each individual's trading pattern on each given day instead of simply taking the net investment at the end of the month was to increase the accuracy of our results. In other words, we wanted to make sure that with relative ease, an investor would be able to copy the trading pattern of insiders by looking at the SEC insider trading form on each given trading day. If results would show that insiders could make abnormal returns in a specific period, then an outsider simply following the insiders' trading patterns and investing a constant amount on each relevant trading day would reach the same results as in the study.

After estimating market model our next step is to measure prediction error ($PE_{i,t}$) for security *i* on day *t.* That is,

$$PE_{i,t} = (r_{i,t} - (\hat{\alpha}_i + \hat{\beta}_i\, r_{m,t})) \quad \text{for t = -30, 30,} \quad (2)$$

Where

$PE_{i,t}$ is prediction error for security *i* on day *t*

$\hat{\alpha}_i, \hat{\beta}_i$ is estimated market model intercept and slope

Our next step was to calculate average portfolio prediction error for the event day *t* (APE_t). APE_t in itself comprises the average of all prediction errors for *K* securities in a given portfolio day *t. t* represents transaction day .

$$APE_t = \frac{1}{K}\sum_{i=1}^{K_t} PE_{i,t} \qquad \text{for } t\text{= -30, 30} \qquad (3)$$

Where

K_t *is* the number of prediction errors on event day *t*

After calculation of average prediction errors, to measure gross abnormal profit from exploiting insider trading information we will measure cumulative daily average prediction error (*CAPE*) from day t_1 to event day t_2. To estimate CAPE we will sum the daily average prediction errors as follows:

$$CAPE(t_1, t_2) = \sum_{t=t_1}^{t_2} APE_t \qquad \text{for } t=t_1,t_2 \quad (4)$$

For the statistical test of cumulative daily average prediction error there exist quite enough methods. After reviewing our data and previously conducted researches we

decided to apply the method that was suggested by Barber and Lyon (1997). Their suggested statistical test is defined as follows:

$$t(CAPE(t_1,t_2)) = CAPE(t_1,t_2) / \hat{\sigma}(CPE)\sqrt{n} \qquad (5)$$

Where

$CPE(t_1,t_2)$ is Cumulative prediction error across t_1 to t_2 periods of firm *i,* calculated by

$$CPE_{t_1t_2} = \sum_{t=t_1}^{t_2} PE_{t_1,t_2} \qquad (6)$$

$CAPE(t_1,t_2)$ is Cumulative prediction error across *t* period over n firms or Cumulative average prediction error return between t_1 and t_2 periods

$\hat{\sigma}(CPE)$ is Standard deviation of the cumulative prediction error of the cross sectional sample firms of n firms on t_1 to t_2 periods

n is the number of sample firms

5. Empirical Results

Below we provide you with the table 2, describing the cumulative daily average prediction errors and their t-statistics. CAPE and its t statistics were calculated basing on the formulas (3) and (4) that we defined in earlier chapter. In order to get the realized abnormal profit of insiders from the sell transactions we multiplied prediction error for sales by minus one.

Table 2. CAPE of Insiders

CAPE	**Buy**	**Sell**	**Total**
Day -30 through 0	-0.0672 *(-3.9307)*	-0.0400 (-2.0147)	-0.1072 (-5.6406)
Day -20 through 0	-0.0561 (-2.9884)	-0.0325 (-1.4582)	-0.0886 (-4.1720)
Day -10 through 0	-0.0344 (-1.7497)	-0.0274 (-1.0051)	-0.0618 (-2.4881)
Day -5 through 0	-0.0251 (-1.1173)	-0.0238 (-0.6886)	-0.0490 (-1.5783)
Day 1 through 5	-0.0038 (-0.28517)	0.0014 (0.0784)	-0.0024 (-0.1522)
Day 1 through 10	-0.0106 (-0.7708)	0.0044 (0.2497)	-0.0062 (-0.3890)
Day 1 through 20	-0.0149 (-1.1609)	0.0046 (0.2753)	-0.0103 (-0.6824)
Day 1 through 30	-0.0216 (-1.6818)	0.0029 (0.1693)	-0.0187 (-1.2306)

The indicators of the table 2 are based on the observations over 35 companies during the year 2007 for selected period around the insider trading day, denoted as day 0.

As we can see from the above given table during all selected days, 5-day, 10-day, 20-day and 30-day, following the insider trading day, stock prices continue to fall abnormally by about 0.38% (-0.28517), 1.06% (-0.7708), 1.49% (-1.1609) and 2.16% (-1.6818) respectively. As we put it out in our hypothesis, if insiders believe that the price of a stock will rise after the disclosure of the information they have, insiders will purchase that stock before the release of that information. This, in its turn, means that cumulative average prediction error (CAPE) must be positive after insider trading day. To put it in a more precise way, we can say that if insiders are able to predict the

future stock price movements, CAPE is expected to be positive. If insiders can't predict future stock price movements – if efficient market hypothesis holds – then the expected sign of the CAPE will be negative or the value of the CAPE will be equal to zero. In our case the CAPE after the insider trading day is negative for all times. We can conclude that during the taken time period insiders in Thai stock market can not make abnormal return using the information they have. To put it in other way we fail to reject our null hypothesis which argues that markets are efficient.

For the sell transactions during all selected days, 5-day, 10-day, 20-day and 30-day, following the insider trading day, stock prices continue to rise abnormally by 0.14% (0.0784), 0.44% (0.2497), 0.46% (0.2753) and 0.29% (0.1693) respectively. Our null hypothesis of profit from sales states that if insiders possess some superior information whose revelation will cause drop in the future stock prices then insiders will tend to sell their share before the release of that information. If they are right after the release of this information stock price will plummet, this in turn says us about the negative sign of CAPE. If the sign of CAPE turns out to be negative then we can say that insiders were able to predict future stock price movements. If sign of CAPE turns out to be the opposite of the expected one then we can say that, in this case the efficient market hypothesis holds, so insiders are not able to predict future stock price fluctuations. In this case as we see from the table 2 the sign of the CAPE for all time intervals after the event day is positive. It means that insiders failed to make abnormal return through selling their own securities basing on the information they have. Again, here we also cannot reject the null hypothesis of efficient markets.

6. Conclusion

Discussion and Analysis

Interestingly, the evidence seems to suggest that the possibility of insiders making abnormal profits has diminished in the year 2007. As mentioned, earlier research of the Thai market has shown that insiders do have the possibility of trading on non-public information and making abnormal profits on that information. It has been said that the fact that insiders can make abnormal profits is a sign that a capital market is not fully developed. As earlier research of the Thai market was conducted for the year 2002, it would be of interest to see what, if anything, has changed in the Thai market between the period of earlier research and this research. Several potential factors come to mind which could explain this migration to trading patterns similar to US and European markets, such as more informed investors and a higher focus on the daily released insider trading forms. As has been described earlier in this paper, the amount of equity held by local investors has decreased while the equity ownership of institutional investors and foreign investors has increased. At the same time, the volume traded by non-retail investors has increased from the year 2002 to the year 2007. Could this be one of the reasons why insiders could not make abnormal profits in 2007?

Given that the research seems to suggest that in the year 2007 the Thai market was considered efficient from the viewpoint of insiders not being able to make abnormal profits raises several important questions. How come insiders cannot make abnormal profits? Both the insiders who buy and the insider who sell fail to make abnormal profits. Do not insiders have useful non-public information? Could it be that insiders trade using nominees, thus avoiding the need to report any change in ownership? Or was the year 2007 simply an anomaly? Further research on this subject would be of interest.

This research is a good starting point for further research on the Thai stock market. The fact that it was considered an efficient market in the year 2007 from the perspective of insider trading is interesting, but even more interesting would be to find out what factors led to this change from earlier years.

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Appendix

Ticker Name and Company Name

Ticker Name	Company Name
CPF	CHAROEN POKPHAND FOODS PUBLIC COMPANY LIMITED
MINT	MINOR INTERNATIONAL PUBLIC COMPANY LIMITED
TUF	THAI UNION FROZEN PRODUCTS PUBLIC COMPANY LIMITED
BBL	BANGKOK BANK PUBLIC COMPANY LIMITED
KBANK	KASIKORNBANK PUBLIC COMPANY LIMITED
KTB	KRUNG THAI BANK PUBLIC COMPANY LIMITED
SCB	THE SIAM COMMERCIAL BANK PUBLIC COMPANY LIMITED
PTTCH	PTT CHEMICAL PUBLIC COMPANY LIMITED
TPC	THAI PLASTIC AND CHEMICALS PUBLIC COMPANY LIMITED
TPIPL	TPI POLENE PUBLIC COMPANY LIMITED
SCC	THE SIAM CEMENT PUBLIC COMPANY LIMITED
AMATA	AMATA CORPORATION PUBLIC COMPANY LIMITED
CPN	CENTRAL PATTANA PUBLIC COMPANY LIMITED
ITD	ITALIAN-THAI DEVELOPMENT PUBLIC COMPANY LIMITED
LH	LAND AND HOUSES PUBLIC COMPANY LIMITED
BANPU	BANPU PUBLIC COMPANY LIMITED
GLOW	GLOW ENERGY PUBLIC COMPANY LIMITED
PTT	PTT PUBLIC COMPANY LIMITED
PTTEP	PTT EXPLORATION AND PRODUCTION PUBLIC COMPANY
RATCH	RATCHABURI ELECTRICITY GENERATING HOLDING PUBLIC CO.,LTD.
TOP	THAI OIL PUBLIC COMPANY LIMITED
BGH	BANGKOK DUSIT MEDICAL SERVICES PUBLIC COMPANY LIMITED
BH	BUMRUNGRAD HOSPITAL PUBLIC COMPANY LIMITED
BEC	BEC WORLD PUBLIC COMPANY LIMITED
MCOT	MCOT PUBLIC COMPANY LIMITED
AOT	AIRPORTS OF THAILAND PUBLIC COMPANY LIMITED
BECL	BANGKOK EXPRESSWAY PUBLIC COMPANY LIMITED
PSL	PRECIOUS SHIPPING PUBLIC COMPANY LIMITED
THAI	THAI AIRWAYS INTERNATIONAL PUBLIC COMPANY LIMITED
TTA	THORESEN THAI AGENCIES PUBLIC COMPANY LIMITED
ADVANC	ADVANCED INFO SERVICE PUBLIC COMPANY LIMITED
TRUE	TRUE CORPORATION PUBLIC COMPANY LIMITED
CCET	CAL-COMP ELECTRONICS (THAILAND) PUBLIC CO., LTD.
DELTA	DELTA ELECTRONICS (THAILAND) PUBLIC COMPANY LIMITED
HANA	HANA MICROELECTRONICS PUBLIC COMPANY LIMITED

Abnormal Returns, Companies from Sample, year 2007

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	0.001105	0.000177	-9	-0.00445	0.010817	12	0.014149	0.000177
-29	0.015802	-0.01131	-8	-0.00258	-0.00127	13	-0.00875	0.003487
-28	-0.00317	0.001266	-7	0.005751	0.004218	14	-0.00053	-0.02251
-27	-0.01565	0.004286	-6	-0.00571	-0.00735	15	-0.00169	0.002233
-26	-0.00632	-0.00731	-5	-0.00305	0.001652	16	0.001463	0.005643
-25	-0.00515	0.000975	-4	-0.00133	-0.00554	17	0.001302	-0.00544
-24	-0.00788	0.005307	-3	-0.00129	0.056281	18	0.00468	-0.00281
-23	-0.00311	0.014313	-2	-0.01015	-0.04483	19	-0.00412	0.01219
-22	-0.00302	0.015887	-1	0.00509	-0.01002	20	0.00731	-0.01109
-21	0.0038	-0.00429	0	-0.00344	0.001988	21	-0.00293	-0.02401
-20	0.001185	0.014767	1	-0.00716	-0.00902	22	0.000634	0.000177
-19	0.00116	0.009422	2	-0.00183	-0.01737	23	0.006742	-0.00828
-18	-0.00196	-0.01496	3	0.003794	-0.00825	24	0.01168	0.005306
-17	0.00133	0.012127	4	0.003714	-0.00728	25	-0.00751	0.014537
-16	-0.00441	-0.00936	5	0.00076	0.003229	26	0.002357	-0.03057
-15	-0.00083	0.030601	6	0.000842	0.007927	27	0.005033	-0.01014
-14	0.004983	-0.02566	7	0.00403	-0.0176	28	-0.00278	-0.00212
-13	0.00029	0.006076	8	0.005691	0.026045	29	0.001226	-0.0063
-12	-0.00393	-0.00168	9	0.00564	-0.01146	30	0.000454	0.004075
-11	-0.00145	0.007644	10	-0.00831	-8.2E-05			
-10	0.005183	0.005576	11	0.000422	-0.00603			

CPF

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	0.01227	0.000543	-9	0.001344	0.011192	12	-0.00157	0.006906
-29	0.011263	0.00769	-8	0.008828	-0.0043	13	0.001209	0.001558
-28	-0.01859	0.009023	-7	0.006315	0.005623	14	-0.01079	0.008048
-27	-0.01468	-0.00962	-6	-0.00068	-0.0107	15	0.005651	0.007793
-26	0.005058	-0.00124	-5	0.008982	0.004136	16	0.010446	-0.00509
-25	-0.01253	-0.0138	-4	0.004376	-0.00198	17	0.005789	-0.00846
-24	-0.0055	0.010065	-3	-0.00044	-0.00655	18	-0.0028	0.001232
-23	-0.00084	0.004204	-2	-0.01195	-0.00443	19	-0.00376	0.009532
-22	0.006957	-0.00558	-1	0.000679	-0.00388	20	0.00447	0.003248
-21	-0.00839	-0.00358	0	-0.009	0.006227	21	0.020778	-6.7E-05
-20	0.001581	0.0044	1	0.01346	0.010522	22	-0.00023	0.006903
-19	-0.00206	0.010674	2	0.018519	0.008164	23	-0.00954	0.012544
-18	0.002587	-0.01043	3	-0.00445	-0.00248	24	0.011288	0.01256
-17	0.001574	-0.00353	4	-0.00267	-0.00565	25	0.001527	0.014538
-16	-0.00095	-0.00627	5	0.000253	0.001447	26	0.00568	0.002753
-15	-0.00795	-0.011	6	-0.00155	-0.01129	27	-0.00706	0.012155
-14	-0.00445	0.00923	7	-0.00165	-0.00174	28	0.003376	-0.0008
-13	-0.00181	0.006052	8	-0.00531	0.004807	29	0.003373	0.002764
-12	0.004524	0.008116	9	0.005471	-0.00381	30	-0.00581	-0.01334
-11	0.001803	0.00165	10	0.003567	-0.00012			
-10	-0.00264	0.007308	11	-0.01361	-0.00154			

MINT

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	0.005189	-0.00252	-9	-0.00633	-0.00865	12	-0.00288	-0.00024
-29	-0.01259	0.007466	-8	0.001998	0.01376	13	-0.01325	0.01063
-28	0.006305	-0.0023	-7	-0.00749	0.00395	14	-0.00133	0.003058
-27	-0.00248	0.000947	-6	-0.00017	0.001438	15	-0.00397	-0.00673
-26	-0.00558	0.006549	-5	0.001818	-0.00155	16	0.004926	0.006474
-25	0.000107	0.000902	-4	-0.00664	0.000532	17	0.000885	0.000885
-24	0.002052	0.00245	-3	0.004163	-0.00157	18	0.009378	0.003016
-23	-0.00091	-0.00414	-2	-0.00707	0.004009	19	0.001785	0.004118
-22	0.000426	-0.00327	-1	0.005914	0.003421	20	0.006315	-0.00293
-21	-0.01175	0.000184	0	0.000566	0.005025	21	0.001536	-0.00062
-20	0.004246	-0.00343	1	-0.01024	-0.00628	22	0.003071	-0.00934
-19	-0.00329	-0.00931	2	0.008818	0.001725	23	0.001433	-0.00282
-18	0.003975	-0.01456	3	-0.00246	0.005782	24	0.002552	-0.00483
-17	-0.00302	0.008272	4	-0.00286	0.005487	25	0.014966	0.003142
-16	-0.00355	-0.00021	5	0.003445	-0.00454	26	-0.00183	-0.00729
-15	6.31E-05	0.005321	6	0.005406	-0.0015	27	0.004001	0.002416
-14	-0.00148	0.005788	7	0.013186	0.000849	28	-0.00019	0.00025
-13	0.00336	0.003702	8	-0.00566	-0.00538	29	-0.00491	0.005472
-12	-0.00116	0.000292	9	0.002423	0.007706	30	-0.00086	0.006648
-11	-0.01082	0.000129	10	0.004702	-0.00124			
-10	0.007976	-0.00301	11	-0.00683	-0.00249			

TUF

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-6.6E-05	-0.00078	-9	-0.00346	0.002687	12	-0.00803	0.004172
-29	-0.00348	0.000714	-8	0.006789	-0.0039	13	-0.00115	0.002293
-28	-0.00231	-0.00272	-7	-0.00415	0.003081	14	0.000895	-0.00204
-27	0.003232	-0.00452	-6	0.000581	-0.00546	15	0.00085	-0.00517
-26	-0.00703	-0.00161	-5	-0.00317	-0.00485	16	-0.00031	0.001817
-25	-0.0066	-0.00135	-4	-0.0042	-0.00506	17	-0.00447	-0.00229
-24	-0.00148	-0.00247	-3	0.009566	0.010904	18	-0.00149	-0.0007
-23	-0.00159	-0.00412	-2	-0.00281	-0.00416	19	-0.00189	-0.00526
-22	-0.00138	0.003002	-1	0.003095	0.004458	20	-0.00276	-0.00433
-21	-0.00717	-0.0081	0	0.004086	-0.00072	21	0.001769	0.000273
-20	0.001447	-0.00557	1	-0.00472	-0.00274	22	0.001964	-0.00384
-19	0.007257	0.004089	2	-0.00417	0.006512	23	-0.00398	-0.00205
-18	-0.00426	-0.00637	3	-0.00033	-0.00898	24	-0.00207	0.008286
-17	-0.00564	0.004475	4	-0.00844	-0.00379	25	-0.00317	0.004293
-16	-0.00297	-0.00476	5	-0.00454	0.000536	26	-0.00361	-0.00564
-15	-0.00482	-0.00487	6	0.002776	-0.00643	27	0.004209	-0.00268
-14	0.004308	-0.00114	7	0.00079	0.00029	28	-0.00587	-0.01107
-13	-0.00163	-0.00446	8	-0.00635	0.006556	29	0.005127	0.003113
-12	0.003322	0.004177	9	-0.00654	-0.01224	30	-0.01334	0.007059
-11	-0.00564	0.005719	10	-0.00316	-0.00329			
-10	-0.00226	-0.00315	11	0.004256	-0.00117			

BBL

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.0027	-0.00228	-9	-0.01997	-0.00238	12	0.003035	0.004146
-29	-0.01342	-0.00127	-8	0.003159	-0.00172	13	-0.00019	0.002404
-28	-0.0008	-0.00393	-7	-0.01545	-0.00244	14	-0.02114	0.001662
-27	-0.0122	-0.00203	-6	0.008123	-0.00105	15	-0.01083	-0.0019
-26	0.018439	0.001771	-5	-0.00147	0.001198	16	-0.00359	-0.00169
-25	0.01997	0.000936	-4	-0.01765	-0.0004	17	0.024042	0.001882
-24	0.002373	0.003517	-3	0.043671	-0.00014	18	-0.00452	0.003363
-23	-0.00616	-0.00098	-2	-0.02431	0.004141	19	0.01611	-0.00029
-22	-0.01485	-0.00069	-1	-0.00335	0.003773	20	-0.00059	0.006218
-21	-0.00432	0.000165	0	-0.01114	0.005961	21	0.002287	0.006188
-20	0.015406	0.004144	1	-0.03607	0.000134	22	-0.0058	0.003532
-19	0.01059	0.001423	2	0.015934	-0.00277	23	0.006135	0.002183
-18	0.001982	-0.00225	3	-0.00019	0.001024	24	0.00868	0.00101
-17	0.008514	-0.00648	4	0.00717	0.002047	25	-0.00779	0.001992
-16	0.036245	-0.00013	5	-0.0013	-0.00067	26	-0.01327	0.00083
-15	-0.00482	0.002888	6	0.029225	-0.00152	27	-0.00137	-0.00234
-14	0.009094	-0.00352	7	-0.01611	-0.00018	28	-0.00574	-0.00118
-13	-0.001	-0.00331	8	0.012685	-0.00132	29	0.00085	-0.00034
-12	0.001238	-0.00376	9	0.002067	0.000401	30	-0.00534	-0.00393
-11	-0.00357	-0.00299	10	-0.02017	-0.00041			
-10	-0.01105	-0.00213	11	0.008775	0.000296			

KBANK

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.00108	0.002852	-9	0.000634	0.002363	12	-0.00408	0.005217
-29	-0.00679	-0.00752	-8	-0.00997	-0.01512	13	-0.0006	0.010281
-28	-0.00352	-0.0023	-7	-0.00044	0.002635	14	-0.00239	0.007521
-27	0.015155	-0.0072	-6	0.003978	0.0072	15	-0.00167	0.005976
-26	0.003379	-0.00866	-5	0.003764	-0.01021	16	-0.00994	-0.00593
-25	-0.01125	0.002579	-4	0.012052	0.000407	17	-0.0106	-0.00854
-24	-0.01999	-0.00683	-3	0.005504	-0.00218	18	-0.00332	0.00362
-23	-0.02254	0.000213	-2	0.006575	0.005146	19	0.005569	-0.00787
-22	0.003877	-0.00317	-1	0.004954	-0.00581	20	0.000734	0.00777
-21	-0.00762	-0.00775	0	-0.00032	0.003852	21	-0.00217	0.001076
-20	-0.01171	-0.00481	1	-0.01027	-0.02819	22	0.012183	-0.0041
-19	0.001787	-0.00228	2	-0.0076	0.006314	23	0.012032	0.011246
-18	-0.00415	-0.00041	3	-0.00048	-0.00344	24	-0.0035	-0.00829
-17	-0.00112	-0.00297	4	-0.0036	-0.00543	25	-0.00867	0.004695
-16	-0.00711	7.19E-06	5	-0.0029	4.32E-05	26	0.004252	-0.01115
-15	-0.02012	-0.00577	6	-0.01389	-0.00493	27	0.003616	0.004141
-14	0.000828	0.002912	7	-0.00796	-0.00516	28	0.002171	-0.01399
-13	0.020333	-0.0029	8	-0.00616	-0.00092	29	-0.00036	0.006222
-12	0.016773	-0.00138	9	-0.01176	-0.00676	30	-0.00304	-0.00996
-11	-0.00028	0.010814	10	-0.0044	-0.00459			
-10	-0.0015	-0.01641	11	-0.00258	0.003039			

KTB

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	0.000857	0.002871	-9	0.000906	-0.0026	12	0.007015	-0.0116
-29	0.001644	0.006275	-8	-0.00423	0.001854	13	-0.00225	-0.00426
-28	0.001812	0.001524	-7	-0.00459	0.004891	14	-0.00696	0.00353
-27	0.005628	0.009255	-6	-0.00657	0.006735	15	-0.0069	-0.00233
-26	0.001412	0.011881	-5	0.001801	0.000185	16	-0.00154	0.001219
-25	0.001172	0.001697	-4	0.000864	-0.00097	17	-0.00335	0.00412
-24	-0.00392	-0.01219	-3	0.00508	0.013646	18	0.00699	0.001248
-23	-0.00764	0.002483	-2	0.001687	0.002836	19	0.005548	-0.00482
-22	-0.00527	0.008482	-1	-0.00778	-0.00161	20	-0.00012	0.002324
-21	-0.006	-0.00035	0	-0.01034	-2.8E-06	21	-0.00673	-0.00443
-20	0.005524	0.00165	1	0.004113	-0.00826	22	0.002428	-0.01347
-19	0.001215	0.000353	2	0.008986	-0.00105	23	0.002845	0.001583
-18	-0.00344	-0.00469	3	0.000252	0.006908	24	3.57E-05	0.022148
-17	0.000702	0.002242	4	-0.00277	0.005387	25	0.004023	0.009883
-16	-0.00263	0.006954	5	0.006576	-0.00326	26	0.007617	-0.00801
-15	-0.00755	0.003868	6	0.005955	0.004998	27	0.001249	-0.01031
-14	-0.00721	-0.01258	7	0.000914	0.001876	28	0.004219	0.001284
-13	-0.00584	-0.00829	8	0.006992	-0.00293	29	0.00377	-0.00145
-12	0.001578	-0.00262	9	-0.00164	-0.0042	30	0.003242	-0.00534
-11	-0.00444	7.9E-06	10	0.001547	-0.00839			
-10	0.003219	-0.00549	11	0.001909	-0.00132			

SCB

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	0.010886	-0.00097	-9	0.026968	0.012721	12	0.023717	-0.006
-29	-0.01922	0.005505	-8	0.01564	0.005787	13	0.013783	0.000534
-28	-0.02289	0.001279	-7	-0.00437	0.003164	14	0.000617	0.006622
-27	-0.02203	0.007084	-6	-0.02065	-0.00523	15	0.016241	0.001773
-26	0.014819	0.00248	-5	0.024091	0.000689	16	0.007112	0.002512
-25	-0.01274	-0.00061	-4	-0.0305	-0.00442	17	0.000617	-0.00489
-24	-0.00557	-0.00033	-3	-0.01373	0.004239	18	-0.0151	0.004085
-23	0.037146	-0.0005	-2	-0.0087	0.007934	19	0.009694	-0.00791
-22	-0.02742	0.008006	-1	0.003452	0.007972	20	-0.02421	0.001694
-21	-0.00077	0.001365	0	-0.03149	0.00648	21	0.012717	-0.00197
-20	-0.011	0.003925	1	0.010528	-0.01087	22	-0.02262	-0.00589
-19	0.00856	0.005936	2	-0.01591	0.000847	23	0.005945	-0.00432
-18	0.006933	0.009918	3	0.043884	-0.00661	24	-0.00309	0.001453
-17	0.000617	0.010769	4	0.016338	-0.0024	25	-0.00469	-0.00736
-16	-0.00796	0.011207	5	-0.02081	0.000936	26	0.01057	0.005344
-15	-0.01581	0.008743	6	-0.01371	0.007835	27	0.000617	0.002163
-14	-0.01741	0.001521	7	-0.01215	0.003961	28	-0.00102	0.002247
-13	-0.00535	0.000385	8	0.00626	-0.00235	29	0.012562	0.000771
-12	0.028226	-0.00681	9	-0.00393	0.001361	30	-0.00598	0.006242
-11	0.031603	-0.00248	10	0.023502	-0.01009			
-10	-0.02347	0.00795	11	-0.00988	-0.00438			

PTTCH

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.0034		-9	0.001225		12	0.003485	
-29	0.005539		-8	0.000676		13	-0.0029	
-28	-0.00207		-7	-0.00143		14	0.001942	
-27	-0.0001		-6	-0.00232		15	-0.00677	
-26	0.003229		-5	-0.00474		16	-0.00124	
-25	-0.00452		-4	-0.00231		17	-0.0042	
-24	-0.00028		-3	0.002653		18	0.004683	
-23	-0.00528		-2	-0.00783		19	-0.00135	
-22	-0.0007		-1	-0.0082		20	0.000934	
-21	-0.00199		0	-0.01054		21	0.00014	
-20	-0.00299		1	0.000532		22	0.001221	
-19	-0.00201		2	0.007165		23	-0.0011	
-18	0.00109		3	-0.00229		24	0.00133	
-17	-0.00369		4	-0.00333		25	-0.00117	
-16	-0.00469		5	0.00329		26	0.001165	
-15	0.003416		6	0.001081		27	-0.00374	
-14	-0.01256		7	0.004328		28	-0.00091	
-13	-0.00683		8	-0.00183		29	0.001365	
-12	-0.00259		9	0.003028		30	-0.00372	
-11	-0.00311		10	-0.00395				
-10	0.003347		11	-0.00022				

TPC

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.00432	-0.01802	-9	-0.01085	-0.00845	12	-0.00395	0.046583
-29	0.003029	-0.00451	-8	0.00412	-0.00861	13	-0.01653	0.017982
-28	-0.00609	0.038109	-7	-0.04778	-0.00289	14	0.000905	-0.01546
-27	-0.0043	0.001732	-6	0.004137	-0.00116	15	0.010139	-0.00427
-26	0.004924	-0.0158	-5	-0.05853	0.000819	16	0.005076	-0.00584
-25	-0.00813	0.003403	-4	-0.00922	-0.01582	17	8.64E-05	0.012786
-24	-0.01485	0.022893	-3	-0.01587	-0.0793	18	-0.00438	0.031758
-23	-0.0037	-0.02276	-2	-0.01539	-0.00546	19	-0.02142	0.00186
-22	0.003562	0.001753	-1	0.002317	0.009119	20	-0.00997	-0.00531
-21	-0.00447	-0.00245	0	-0.02581	-0.01559	21	0.001289	0.007442
-20	-0.00623	0.00829	1	0.004911	0.015554	22	-0.00177	-0.00824
-19	-0.00099	-0.00342	2	-0.0106	0.029733	23	0.000217	-0.02617
-18	-0.04896	-0.0389	3	0.010306	-0.01479	24	0.00283	0.00484
-17	-0.09333	0.005555	4	0.021237	0.017333	25	-0.00507	0.007735
-16	-0.02136	-0.00643	5	-0.00839	-0.00926	26	-0.01455	0.033979
-15	-0.03127	0.004396	6	-0.00624	-0.01978	27	0.005598	-0.0223
-14	-0.00906	-0.00411	7	-0.00273	0.006196	28	0.005841	-0.01198
-13	-0.00648	-0.01573	8	-0.0163	0.013555	29	0.002448	0.022167
-12	-0.05161	-0.00182	9	-0.00558	-0.01356	30	0.009524	0.009907
-11	-0.04306	-0.00392	10	-0.0055	-0.00299			
-10	-0.02755	-0.00512	11	-0.00716	0.007316			

TPIPL

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	0.002724	-0.00233	-9	-0.00374	-0.00592	12	-0.0017	-0.00113
-29	0.002311	0.013116	-8	-0.00406	0.003001	13	0.001919	0.00974
-28	-0.00012	-0.00366	-7	0.001389	-0.01107	14	-0.00085	-0.00443
-27	-0.00193	0.001495	-6	0.00051	0.006007	15	-0.00157	0.004196
-26	0.000558	0.000136	-5	-0.00665	-0.01155	16	0.001773	-0.00137
-25	-0.00133	-0.00991	-4	-0.00551	0.011414	17	0.000375	0.010002
-24	-0.00134	-0.00731	-3	-0.00077	0.000508	18	8.61E-05	0.000276
-23	-0.00151	-0.00388	-2	0.000604	0.014717	19	0.00043	0.00818
-22	-0.00492	0.002142	-1	-0.00311	-0.00244	20	0.000903	0.009485
-21	-0.00397	-0.00089	0	-0.00275	-0.00162	21	-3.8E-05	0.000508
-20	-0.003	0.005476	1	0.000282	-0.00688	22	-0.00184	-0.02678
-19	0.000611	0.003762	2	0.0014	0.007185	23	-0.00053	-0.01731
-18	-0.0054	-0.01128	3	-0.00334	0.005974	24	-0.00018	0.001397
-17	-0.00285	-0.00115	4	-0.00276	-0.00271	25	0.001809	0.003977
-16	-5.4E-05	-0.01436	5	-0.00114	-0.00364	26	-0.00021	0.000508
-15	-0.00274	0.005008	6	0.002296	-0.0125	27	6.15E-05	0.000508
-14	-0.00152	0.007916	7	-0.00547	0.011609	28	-0.00274	0.005664
-13	-0.00371	0.002707	8	-0.0018	0.014596	29	-0.00023	-0.00434
-12	-0.0037	0.011951	9	0.001767	0.003157	30	0.001945	-0.00142
-11	0.000134	-0.00963	10	-0.00016	-0.00606			
-10	-0.00085	0.007819	11	-0.00411	0.005318			

SCC

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.0006	-0.00353	-9	-0.0064	0.005335	12	0.006756	-0.0062
-29	0.010533	0.006087	-8	0.009516	-0.00226	13	0.005336	-0.00256
-28	0.001613	0.005185	-7	-0.00579	-0.01015	14	0.002837	0.008162
-27	-0.00596	0.005709	-6	0.006743	0.005602	15	0.006609	0.004225
-26	-0.00239	0.00436	-5	0.001644	0.005388	16	-0.01236	-0.00465
-25	0.005372	0.007359	-4	0.006937	-0.0018	17	-0.00934	-0.00096
-24	0.002953	0.000545	-3	2.03E-05	-0.00341	18	-0.01553	0.003884
-23	0.017662	0.007354	-2	0.01984	0.000389	19	-0.00865	-0.00437
-22	0.003369	-0.00078	-1	0.015752	0.003162	20	0.000406	-0.00041
-21	0.008601	0.004548	0	-0.00833	0.010396	21	-0.00586	0.00339
-20	0.006627	0.011225	1	-0.00139	0.001136	22	-0.00488	0.012853
-19	0.007482	0.004025	2	-0.00085	-0.00575	23	0.00233	0.01103
-18	0.014208	0.003514	3	0.004179	-0.00363	24	-0.00028	-0.0017
-17	0.011173	0.006632	4	0.008476	-0.00694	25	-0.00257	-0.0126
-16	-0.00497	0.010284	5	-0.00104	0.00118	26	-0.00268	0.005075
-15	0.000666	-0.00162	6	0.009423	0.005057	27	-0.01717	0.007129
-14	-0.00182	-0.00279	7	0.010319	0.004726	28	-0.02007	0.010338
-13	-0.00322	-0.00234	8	-0.00592	-0.00305	29	0.007731	0.002906
-12	-0.00676	-0.00146	9	0.005007	-0.00012	30	-0.00519	-0.00879
-11	-0.0007	-0.0016	10	0.003677	0.004218			
-10	-0.00024	0.005991	11	0.00712	-0.00236			

AMATA

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	0.001132	-0.0005	-9	-0.00054	0.002329	12	0.003295	-0.00171
-29	-0.00048	-0.00214	-8	-0.00349	-0.00685	13	0.003394	-0.00341
-28	-0.00179	0.002108	-7	0.000571	-0.00125	14	-0.00336	-0.00533
-27	-0.00689	-0.00267	-6	-0.00677	0.002333	15	0.004417	-0.00088
-26	0.001293	0.003285	-5	-0.00832	-0.00097	16	-0.00104	-0.00583
-25	-0.0035	0.005954	-4	-0.01127	0.004185	17	-0.00148	-0.01287
-24	-0.0049	0.001638	-3	-0.00474	0.006852	18	0.000354	0.002529
-23	0.000738	-0.00701	-2	-0.00372	0.004624	19	-0.00226	0.005151
-22	-0.00259	0.00322	-1	-0.00509	0.000765	20	-0.00718	0.001371
-21	0.000724	-0.00217	0	-0.00398	0.009208	21	-0.00231	-0.00565
-20	0.003868	0.002177	1	-0.00525	-0.00345	22	-0.00345	0.00194
-19	0.000905	-0.00026	2	-0.00177	0.002052	23	0.004001	-0.00641
-18	-0.00109	0.000381	3	-0.00413	0.008617	24	-0.00703	-0.00153
-17	-0.00032	0.004506	4	0.000988	0.003806	25	-0.00232	9.48E-05
-16	0.001139	0.002487	5	-0.00133	-0.00764	26	-0.00515	-0.00027
-15	-0.001	-0.00508	6	-0.00121	0.005508	27	0.000144	-0.0074
-14	-0.00397	0.003612	7	-0.00332	-0.00456	28	-0.00029	-0.00288
-13	0.007539	0.00926	8	0.00171	-0.00138	29	-0.00162	-0.00532
-12	-0.00175	0.001872	9	-0.00443	-0.00204	30	-0.00515	-0.00454
-11	-0.0012	-0.01331	10	-0.00384	-0.00231			
-10	-0.00451	0.006428	11	-4.6E-05	-0.01835			

CPN

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	0.042651	0.003695	-9	-0.0347	0.00098	12	0.016471	-0.00198
-29	-0.01847	-0.00811	-8	0.011237	0.003118	13	0.032462	-0.0055
-28	-0.01155	-0.00497	-7	-0.00421	0.021126	14	-0.06626	0.006623
-27	-0.01785	-0.00191	-6	-0.00512	-0.00032	15	0.006361	0.015249
-26	-0.01139	0.020712	-5	-0.00826	0.007842	16	-0.00181	0.001541
-25	0.011865	0.009225	-4	0.02039	-0.00775	17	-0.04294	-0.01389
-24	-0.00128	-0.00127	-3	-0.01664	0.000372	18	0.015697	-0.00953
-23	0.014149	0.015446	-2	-0.02549	0.007429	19	0.012425	-0.00324
-22	0.000601	0.001318	-1	-0.02481	0.035146	20	0.002624	0.000396
-21	0.000601	-0.02597	0	-0.04296	0.003565	21	-0.02648	0.011193
-20	-0.02782	-0.02371	1	0.030242	-0.00481	22	0.025218	0.020073
-19	-0.0074	-0.00512	2	0.006684	0.008208	23	0.000601	0.004273
-18	-0.01273	0.0028	3	-0.00431	-0.01602	24	0.012651	-0.00099
-17	-0.00307	-0.00072	4	-0.01857	0.007887	25	0.022432	-0.00835
-16	-0.03122	-0.00644	5	-0.0024	-0.0096	26	0.015281	0.002316
-15	0.045779	-0.00326	6	0.060989	-0.00309	27	-0.00624	0.006664
-14	-0.02519	0.000416	7	-0.04397	0.012268	28	-0.03291	-0.0161
-13	-0.02495	-0.00922	8	0.018593	0.012379	29	-0.03216	-0.00422
-12	0.026964	-0.01065	9	0.027546	0.002453	30	-0.0294	-0.0099
-11	-0.00022	-0.00711	10	0.128712	-0.00884			
-10	-0.01169	0.0173	11	-0.01691	0.013124			

ITD

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	0.003755	0.000945	-9	-0.0032	-0.00057	12	-0.00178	0.00192
-29	-0.00013	-0.00174	-8	-0.00053	-0.00084	13	-0.00297	-0.00788
-28	0.00202	0.005146	-7	-0.00198	0.004891	14	0.000981	0.001296
-27	-0.00393	-0.00927	-6	0.009338	-0.00855	15	0.003051	0.001796
-26	0.007899	-0.00743	-5	0.00187	0.003885	16	0.005246	0.003617
-25	0.006284	-0.004	-4	0.002986	-0.00043	17	-0.00453	-0.00093
-24	-0.00271	-0.00521	-3	-0.00433	0.013771	18	-0.002	0.009942
-23	-0.00139	-0.00338	-2	0.00064	0.007944	19	0.00134	0.00282
-22	0.003287	-0.00622	-1	-0.00474	0.001664	20	0.007217	-0.00659
-21	0.001863	0.01137	0	-0.00546	-0.00221	21	-0.00199	-8.6E-05
-20	0.002598	-0.00608	1	-0.00438	0.005887	22	-0.00321	0.007053
-19	-0.00742	-0.00239	2	-0.00035	-0.00298	23	-0.00107	0.00287
-18	-0.00584	-0.00311	3	-0.00073	-0.00329	24	0.003955	0.003429
-17	-0.00593	-0.00138	4	0.007623	-0.00057	25	0.006485	0.010922
-16	-0.00424	-0.00416	5	0.006605	-0.00456	26	-0.00587	0.001593
-15	0.003293	0.010565	6	-0.00906	-0.00301	27	0.009772	-0.00091
-14	-0.0097	-0.00715	7	0.005646	-0.00468	28	0.004018	-0.00761
-13	0.013475	-0.00553	8	0.00196	-0.00016	29	0.005054	-0.00095
-12	0.006098	-0.00097	9	-0.00075	-0.00662	30	0.001431	-0.00973
-11	0.002341	-0.00368	10	-0.00578	-0.00353			
-10	-0.00422	0.001434	11	-0.00022	0.001224			

LH

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.01253	-0.00324	-9	0.002467	0.005062	12	-0.00958	-0.00088
-29	0.003658	0.000163	-8	0.00973	0.00355	13	-0.00457	0.006354
-28	-0.00808	-0.00299	-7	-0.012	0.001331	14	-0.00617	-0.00063
-27	-0.01162	0.003505	-6	-0.00502	0.001908	15	0.013264	0.000241
-26	0.018371	0.005063	-5	-0.00449	-0.00243	16	0.007562	-0.00632
-25	-0.01085	0.005724	-4	0.008213	0.000615	17	0.005504	0.007155
-24	-0.00929	0.007963	-3	-0.00803	0.002132	18	0.00217	0.003211
-23	-0.00294	0.000969	-2	-0.0011	0.010723	19	0.012896	0.011206
-22	-0.00716	0.006176	-1	-0.02297	0.008091	20	-0.00195	0.005544
-21	-0.01516	0.005526	0	0.005151	0.008922	21	0.003901	0.005444
-20	0.009405	0.001397	1	-0.01118	-6.4E-05	22	0.005924	0.00525
-19	0.011971	0.001961	2	0.002527	0.002831	23	0.000143	0.003918
-18	0.002595	-0.00085	3	-0.01774	-0.00363	24	-0.0038	-0.00462
-17	-0.00607	0.003963	4	-0.00711	-0.00018	25	-0.0022	0.00363
-16	0.017771	0.000995	5	-0.01156	-0.00408	26	-0.00361	0.002059
-15	0.008071	-0.00398	6	-0.01645	-0.00162	27	-0.00017	-0.00181
-14	0.040513	0.002519	7	0.006766	-0.00392	28	0.008097	0.003064
-13	0.023623	-0.00183	8	-0.00028	0.00015	29	0.014891	-0.00079
-12	-0.00634	0.000422	9	0.012709	-0.00276	30	0.02682	-0.00247
-11	0.011849	0.003749	10	-0.00059	-0.0046			
-10	0.016591	0.000957	11	0.002252	-0.00662			

BANPU

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	0.003567		-9	0.012553		12	0.001729	
-29	0.008897		-8	-0.00271		13	-0.00118	
-28	0.002617		-7	-0.01073		14	-0.0068	
-27	0.006292		-6	-0.01031		15	0.001135	
-26	-0.00388		-5	0.000869		16	0.004896	
-25	-0.00798		-4	-0.00056		17	0.004628	
-24	-0.00574		-3	-0.01463		18	-0.00159	
-23	0.005268		-2	-0.01492		19	-0.00459	
-22	0.001789		-1	-0.01144		20	-0.0021	
-21	-0.00994		0	-0.01937		21	-0.00129	
-20	-0.01804		1	0.004877		22	-0.00098	
-19	-0.00906		2	0.001177		23	0.00096	
-18	0.00454		3	-0.00282		24	-0.00163	
-17	-0.00329		4	-0.00666		25	-0.00226	
-16	0.004234		5	-0.00407		26	-0.01291	
-15	0.006495		6	-0.00107		27	-0.0046	
-14	0.001026		7	-0.00031		28	0.010897	
-13	0.004882		8	0.002537		29	0.002737	
-12	0.003725		9	0.004771		30	-0.01056	
-11	0.003766		10	0.002835				
-10	0.010801		11	0.004133				

GLOW

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.00256	0.000477	-9	0.000973	0.002873	12	0.005326	0.002095
-29	-0.00569	-8.7E-05	-8	-0.00291	-3.1E-05	13	-0.00256	0.00045
-28	-0.01058	0.00307	-7	-0.00297	-0.00122	14	0.002588	-9.7E-06
-27	0.009783	0.001819	-6	0.003358	-1.4E-05	15	0.004223	0.00047
-26	0.002272	0.004179	-5	0.010574	0.000501	16	-0.00443	-0.00161
-25	-0.00064	0.002324	-4	0.002068	0.001329	17	-0.00741	-0.00123
-24	-0.00309	0.001426	-3	0.007367	0.002538	18	0.001833	0.000697
-23	-0.00494	-0.00108	-2	0.00256	0.002977	19	-0.00644	0.000425
-22	0.004764	0.000704	-1	-9E-05	0.003117	20	0.004373	0.003402
-21	-0.00931	0.002598	0	-0.00059	0.006036	21	0.002977	0.002278
-20	-0.00383	0.002527	1	0.005171	0.004372	22	0.004958	0.003244
-19	-0.00615	-0.00065	2	-0.0047	0.003359	23	-0.00186	0.001663
-18	-0.00913	-0.00099	3	-0.00219	0.000718	24	-0.00294	-0.0019
-17	0.005023	0.001743	4	0.001524	0.001628	25	0.003613	-0.00159
-16	0.006947	0.000522	5	0.001164	0.001903	26	0.010404	-0.00176
-15	0.00458	-0.00024	6	9.46E-05	0.002842	27	0.017486	-0.0001
-14	-0.00167	-0.00164	7	-0.00175	0.00015	28	0.005122	0.000803
-13	0.002859	0.000924	8	-0.00398	0.001634	29	-0.0024	-0.00039
-12	0.004386	0.001128	9	-0.00432	0.002218	30	0.008122	0.001181
-11	-0.00202	0.003317	10	0.001583	0.002045			
-10	0.002868	-0.0006	11	0.007057	0.002284			

PTT

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.00552	0.001537	-9	-0.0044	-0.00051	12	-0.00161	-7E-05
-29	0.000507	-0.0011	-8	0.007843	0.000474	13	-0.00856	0.001038
-28	-0.00191	-0.00035	-7	-0.0041	-0.00082	14	0.001608	-0.00048
-27	0.002877	0.002709	-6	0.003172	-5.3E-05	15	-0.00413	0.000256
-26	-0.00478	0.001376	-5	0.000699	0.001049	16	-0.00208	0.003366
-25	-0.00463	-0.00137	-4	-0.00614	0.001446	17	0.003822	0.000438
-24	-0.00181	0.001903	-3	-0.00024	0.001065	18	-0.00213	-0.00107
-23	-0.00112	-3.9E-05	-2	-0.00235	0.003156	19	0.003001	-0.00044
-22	0.00122	0.000895	-1	0.001375	0.007356	20	0.000155	-0.00052
-21	-0.00437	0.001929	0	-0.00622	0.009507	21	0.000372	0.000294
-20	-0.00037	0.001088	1	0.006302	0.004702	22	0.001799	0.000384
-19	0.000803	-0.00198	2	1.21E-05	0.000143	23	-0.00312	-0.00199
-18	-0.00055	-7.4E-05	3	-0.0067	0.00158	24	0.007812	0.000807
-17	-0.00255	0.002449	4	0.004779	0.002507	25	-0.00161	0.000237
-16	-0.00591	2.74E-05	5	0.003821	-0.00142	26	-0.00012	0.00059
-15	0.00531	0.001462	6	0.000512	-0.00141	27	0.001706	0.001135
-14	0.002339	0.001719	7	0.001634	-0.00038	28	0.003998	0.00254
-13	-0.00309	-0.0012	8	0.00258	-2.1E-05	29	0.003497	0.003498
-12	0.001543	0.001396	9	-0.00292	-0.00214	30	-0.00532	0.004498
-11	-0.00057	-0.00148	10	-0.00011	0.000208			
-10	-0.0026	-0.00067	11	0.000986	-0.00435			

PTTEP

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.00707	0.001833	-9	0.006833	0.006913	12	0.00304	0.011356
-29	0.007035	0.003959	-8	-0.009	-0.00959	13	0.007742	-0.01089
-28	0.007639	-0.0094	-7	-0.00194	0.002197	14	-0.00462	0.003248
-27	0.002916	-0.00162	-6	-0.0168	-0.00126	15	-0.01326	-0.00737
-26	-0.00245	-0.01106	-5	-0.01336	-0.00191	16	0.0013	0.02101
-25	0.000108	-0.01951	-4	0.005597	0.001268	17	-0.00047	0.004607
-24	0.001397	0.013453	-3	-0.01321	-0.00863	18	-0.00594	-0.0085
-23	-0.0077	-0.00836	-2	-0.01007	0.003621	19	-0.00064	-0.00694
-22	-0.01741	-0.00491	-1	-0.00013	0.00031	20	-0.00924	-0.00393
-21	0.005565	-0.00117	0	-0.01432	0.005746	21	-0.00335	0.006113
-20	0.00612	0.004087	1	-0.01601	0.00277	22	0.003992	0.012947
-19	-0.00673	0.00133	2	-0.00054	0.002552	23	-0.00548	-0.01054
-18	-0.00718	0.006539	3	-0.00353	-0.00075	24	-0.00532	0.000637
-17	-0.00651	0.007126	4	0.002183	0.008964	25	0.003625	-0.01086
-16	0.002434	0.008848	5	0.010984	-0.00497	26	-0.00256	-0.00054
-15	0.008096	0.002577	6	-0.00037	0.006201	27	-0.00278	0.000988
-14	0.003828	0.005717	7	-0.00285	0.003322	28	0.001019	-0.00602
-13	-0.00275	-0.01206	8	0.010621	-0.00809	29	-0.0017	0.00044
-12	-0.01113	0.008492	9	-0.00298	-0.01045	30	-0.00227	-0.00448
-11	-0.00924	-0.00826	10	0.003448	-0.00445			
-10	0.015745	-0.00074	11	0.011971	0.003868			

RATCH

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.01426	-0.00228	-9	0.012707	0.007701	12	-0.01004	0.000552
-29	0.012617	0.00344	-8	-0.01532	-0.00095	13	0.002552	0.00138
-28	-0.0056	-0.00105	-7	-0.00519	0.003765	14	0.000221	0.002282
-27	0.009452	-0.00024	-6	0.031238	0.00526	15	0.01154	-0.00175
-26	0.001339	-0.00207	-5	-0.01208	-0.00062	16	0.01888	-0.00341
-25	-0.01176	0.000968	-4	-0.01676	-0.00076	17	0.000221	-0.00193
-24	-0.02026	-0.0032	-3	-0.01456	0.008046	18	-0.00523	0.006704
-23	0.010376	0.006381	-2	0.018967	-0.001	19	0.015904	-0.00526
-22	-0.00348	0.007949	-1	-0.01683	0.00074	20	-0.01754	-0.00104
-21	0.015262	0.000125	0	-0.00708	-0.00395	21	0.007157	0.005045
-20	-0.00926	0.00419	1	0.005255	-8.3E-05	22	-0.02394	0.007879
-19	-0.00521	0.002311	2	0.01737	-0.00196	23	0.018165	-0.0002
-18	-0.00429	0.004486	3	0.00646	0.001823	24	0.008974	0.004749
-17	0.000221	-0.00398	4	0.006248	-0.00557	25	-0.00747	-0.00139
-16	-0.00339	0.002596	5	0.001649	-0.00067	26	0.000184	0.002642
-15	0.001705	-0.00498	6	-0.01299	-0.00029	27	0.000221	0.003846
-14	0.008397	-0.00471	7	-0.00784	0.003536	28	-0.00023	0.000851
-13	0.031559	-0.00176	8	-0.00195	-0.00279	29	0.004353	-0.00466
-12	0.008719	0.002899	9	-0.01944	-0.00151	30	-0.01011	-0.00085
-11	-0.0138	-0.0071	10	-0.00374	-0.00273			
-10	0.001056	0.000436	11	0.015414	0.000113			

TOP

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.00038	0.005411	-9	-0.00515	0.002163	12	0.00025	0.00294
-29	-0.00338	-0.00506	-8	0.000629	0.002855	13	-0.00017	-0.00756
-28	-0.00152	-0.00123	-7	-0.00388	-0.0039	14	-0.00279	0.001668
-27	-0.00034	0.003126	-6	-0.00398	-0.00057	15	-0.00051	-0.00224
-26	-0.00018	0.002908	-5	-0.00317	-0.00457	16	0.000794	-0.00172
-25	3.54E-05	0.000561	-4	-0.00257	-0.00146	17	0.00075	0.005292
-24	0.001247	0.000365	-3	-0.00354	0.000333	18	1.56E-05	-0.0038
-23	-0.00148	-0.00293	-2	-0.00505	0.000243	19	-0.00087	0.002961
-22	-0.00134	0.005248	-1	-0.00201	0.00648	20	-0.00058	0.000551
-21	0.000933	0.003102	0	-0.00826	0.003009	21	0.000694	-0.00693
-20	-0.00495	0.000576	1	0.000766	-0.00493	22	-0.00081	0.004095
-19	-0.00084	0.001772	2	-0.00158	-0.00574	23	0.000516	-0.00858
-18	-0.00533	0.000324	3	-0.00096	-0.00321	24	-0.00468	0.001813
-17	-0.00411	0.013827	4	-0.00341	-0.00131	25	-0.00384	0.000737
-16	-0.00366	0.003587	5	-0.00334	0.001769	26	-0.00402	-0.00185
-15	-0.00406	0.000563	6	0.001639	0.003745	27	-0.00191	-0.00115
-14	-0.00386	-0.00391	7	0.000771	0.002196	28	-0.00416	-0.002
-13	-0.00061	-0.00093	8	0.001088	-0.00494	29	-0.0019	-0.00582
-12	-0.00369	-0.0001	9	-0.00357	0.000811	30	-0.00447	-0.00706
-11	-0.00248	0.007882	10	0.000792	0.000954			
-10	0.00057	-0.00097	11	-0.00122	-0.00286			

BGH

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.00175	0.023966	-9	-0.05165	0.000249	12	-0.01185	0.011742
-29	0.002101	-0.00352	-8	-0.05065	0.000249	13	-0.01891	-0.01614
-28	-0.01743	-0.01142	-7	0.018783	0.010356	14	-0.00997	0.009044
-27	-0.01603	0.017943	-6	0.027774	-0.00359	15	0.010069	0.009017
-26	0.013105	0.014814	-5	-0.02063	0.004335	16	0.014079	0.022904
-25	-0.01287	0.002517	-4	-0.01089	0.024318	17	-0.02893	-0.02462
-24	0.010447	-0.00207	-3	0.004548	-0.00439	18	-0.00156	-0.00845
-23	0.086184	-0.00078	-2	-0.03598	0.053371	19	0.005148	-0.02462
-22	0.02281	0.019674	-1	-0.02182	0.029574	20	0.007889	0.007258
-21	-0.02876	0.026361	0	-0.00637	0.005258	21	0.017017	0.001434
-20	-0.00884	-0.00278	1	-0.01969	0.002294	22	0.019919	-0.01205
-19	-0.004	-0.02578	2	-0.00074	0.044259	23	0.019591	-0.00479
-18	-0.01557	-0.00434	3	0.035923	0.000249	24	-0.0329	-0.01193
-17	0.00678	0.019744	4	0.027818	0.015511	25	-0.04819	0.000249
-16	-0.04186	0.000895	5	-0.00867	0.00726	26	-0.01818	-0.01103
-15	-0.05589	0.000801	6	-0.00374	-0.01011	27	-0.04723	-0.01093
-14	-0.0084	0.000249	7	0.002594	0.000249	28	-0.08871	-0.00246
-13	0.02187	0.021825	8	0.010569	0.018714	29	-0.01484	0.001083
-12	-0.00335	-0.00038	9	0.025543	-0.005	30	-0.04231	0.006453
-11	0.002662	-0.02261	10	0.043307	-0.01523			
-10	-0.0209	0.002425	11	-0.0233	-0.03581			

BH

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30		0.003036	-9		0.016154	12		-0.00559
-29		-0.01466	-8		0.015443	13		-0.00117
-28		0.002891	-7		0.002571	14		0.002417
-27		-3.8E-05	-6		-0.0101	15		-0.00082
-26		0.000803	-5		-0.0092	16		0.001716
-25		0.014779	-4		-0.00033	17		-0.01281
-24		0.00561	-3		0.005885	18		-0.00483
-23		0.011504	-2		0.008866	19		-0.00287
-22		0.008502	-1		0.007956	20		0.001089
-21		0.000765	0		0.008898	21		0.0001
-20		-0.00551	1		-0.00055	22		0.005001
-19		0.002301	2		-0.00347	23		0.002698
-18		0.002788	3		-0.00052	24		-0.00563
-17		-0.01529	4		-9.8E-05	25		-0.00628
-16		-0.01052	5		0.00216	26		-0.00441
-15		-0.01103	6		-0.00316	27		0.000558
-14		-0.01566	7		-0.00366	28		0.0037
-13		-0.01701	8		-0.00865	29		0.004056
-12		-0.00379	9		-0.00289	30		-7.8E-05
-11		-0.00014	10		-0.0006			
-10		0.005949	11		-0.00532			

BEC

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30		0.01195	-9		-0.00875	12		-0.00547
-29		0.005908	-8		0.004909	13		-0.00062
-28		0.017016	-7		0.005087	14		0.003539
-27		0.007548	-6		0.006271	15		0.001087
-26		0.001741	-5		0.008321	16		0.007174
-25		-0.00156	-4		-0.00078	17		-0.00216
-24		-0.00181	-3		0.003132	18		-0.00555
-23		0.007736	-2		0.012243	19		-0.00558
-22		0.008005	-1		0.015106	20		0.004439
-21		0.007549	0		0.015098	21		-0.0024
-20		0.002353	1		0.000117	22		0.007107
-19		-0.00539	2		-0.0072	23		0.003767
-18		0.000655	3		-0.01976	24		0.003484
-17		-0.00352	4		-0.01418	25		0.001578
-16		0.010847	5		-0.01482	26		-0.00209
-15		0.006838	6		-0.01254	27		0.00052
-14		0.010673	7		-0.00249	28		-0.00678
-13		-0.00111	8		0.000804	29		-0.00042
-12		0.000164	9		-0.00785	30		-0.00383
-11		-0.00302	10		-0.0124			
-10		-0.00398	11		-0.011			

MCOT

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30		0.007372	-9		-0.00363	12		0.005935
-29		-0.00264	-8		-0.00147	13		-0.00159
-28		-0.00597	-7		0.006137	14		0.017094
-27		-0.00094	-6		0.002926	15		0.001069
-26		0.003403	-5		0.003295	16		0.01691
-25		0.001096	-4		-0.00167	17		0.007486
-24		0.00164	-3		-0.00099	18		0.006922
-23		-0.00168	-2		0.009884	19		0.002208
-22		-0.00051	-1		-0.00336	20		-0.00737
-21		0.000889	0		0.008071	21		0.001352
-20		0.005703	1		0.00303	22		-0.0032
-19		-0.00565	2		-0.00667	23		0.001364
-18		0.004314	3		0.005849	24		0.001212
-17		-0.01004	4		0.00552	25		0.000218
-16		0.003625	5		-0.00733	26		-0.00713
-15		-0.00727	6		-0.0126	27		-0.00621
-14		-0.00533	7		-0.00539	28		-0.00905
-13		-0.00792	8		0.000136	29		-0.00951
-12		0.006305	9		0.002727	30		-0.00622
-11		0.005675	10		-0.00473			
-10		0.004166	11		-0.00452			

AOT

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.00973	0.0029	-9	0.005732	-0.00124	12	-0.00296	-0.02367
-29	-0.00081	-0.00849	-8	-0.01716	0.005074	13	0.015048	0.002044
-28	0.002626	-0.00132	-7	-0.00098	0.003542	14	-0.00362	0.01578
-27	-0.01569	-3.4E-05	-6	0.006355	-0.00183	15	-0.00662	-0.00317
-26	-0.00701	-0.00302	-5	-0.00588	-0.0023	16	-0.00221	0.001726
-25	0.010201	0.004253	-4	0.008221	-0.00294	17	-0.00228	0.00393
-24	6.74E-05	-0.00087	-3	-0.01177	-0.00719	18	-0.01112	-0.00638
-23	-0.01192	0.000499	-2	0.008569	0.011726	19	0.022114	0.000708
-22	0.000316	0.003049	-1	0.005493	0.002655	20	0.002652	0.000967
-21	0.01982	-0.00792	0	-0.01126	0.009496	21	0.0092	-0.00743
-20	-0.00051	0.011252	1	0.012699	-0.00599	22	-0.00117	-0.00899
-19	-0.01013	-0.0086	2	-0.01406	0.002371	23	3.79E-05	0.003949
-18	0.020799	-0.00231	3	-0.0048	0.001285	24	-0.00783	-0.00354
-17	-0.00246	0.004951	4	0.006228	-0.00268	25	-0.00549	-0.00411
-16	0.009522	0.003803	5	0.010368	-0.00253	26	0.001483	-0.00028
-15	0.001211	-0.01332	6	-0.02163	-0.00417	27	0.006412	0.001845
-14	0.004222	0.00491	7	0.009701	-0.00349	28	-0.00659	-0.0015
-13	-0.012	-0.00284	8	-0.00492	-0.00522	29	0.001268	0.006995
-12	0.000316	-0.00553	9	-0.0072	0.002856	30	-0.00369	-0.00475
-11	0.004043	0.001975	10	0.012772	0.006351			
-10	0.01334	-0.00549	11	-0.01127	-0.0019			

BECL

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.00242	0.001435	-9	0.003762	-0.00073	12	-0.00079	0.000388
-29	-0.00249	0.003125	-8	-0.00853	0.004664	13	0.003063	0.000335
-28	0.002037	-0.0028	-7	-0.00247	0.003205	14	-0.00299	-0.00058
-27	-0.00195	0.001085	-6	-0.00239	-0.00104	15	-0.0038	-0.00517
-26	0.000348	0.000833	-5	-0.0012	0.001059	16	-0.00383	-0.00414
-25	-0.0046	-0.00117	-4	-0.00271	0.005449	17	-0.00295	-0.00779
-24	-0.01188	-0.00099	-3	0.000696	0.006106	18	-0.00027	-0.0079
-23	-0.00519	-0.00278	-2	0.004698	0.010915	19	0.004069	-0.00047
-22	-0.00314	0.001099	-1	-0.00849	0.019469	20	0.001246	-0.00139
-21	0.000399	-0.00176	0	-0.0165	0.023617	21	0.007661	-0.00729
-20	0.003019	-0.00238	1	-0.00386	-0.00195	22	-0.00203	-0.0034
-19	7.03E-05	-0.00015	2	-0.00639	-0.00546	23	-0.00494	-0.00062
-18	-0.00146	-0.00488	3	-0.00683	-0.00264	24	0.001593	-0.00805
-17	-0.01091	-0.00201	4	0.003561	-0.00118	25	0.003514	-0.01144
-16	-0.01098	-0.00078	5	0.002509	-0.00351	26	0.00011	-0.00333
-15	-0.00037	-0.00367	6	-0.00507	0.008342	27	0.001419	-0.00155
-14	0.004024	-0.00319	7	-0.0054	0.001459	28	0.007567	-0.00622
-13	-0.00138	-0.0012	8	-0.00816	-0.00078	29	-0.00298	-0.0017
-12	-0.0036	-0.0006	9	-0.00273	-0.00328	30	-0.00186	-0.00278
-11	0.000279	-0.00283	10	-0.00782	-0.00945			
-10	0.001735	-0.00418	11	0.000962	-0.00571			

PSL

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30		-0.06113	-9		-0.00648	12		0.002842
-29		0.012894	-8		0.002932	13		0.000813
-28		-0.04759	-7		-0.00879	14		-0.0114
-27		0.000265	-6		0.007923	15		0.005902
-26		0.026426	-5		-0.01175	16		0.004692
-25		0.049699	-4		-0.00085	17		0.007727
-24		0.018698	-3		-0.00941	18		0.004755
-23		0.001808	-2		-0.00227	19		0.014995
-22		-0.01711	-1		0.012536	20		0.016832
-21		-0.00963	0		0.011695	21		-0.00293
-20		0.006215	1		0.021225	22		0.00477
-19		0.008624	2		0.012893	23		0.00295
-18		0.044014	3		-0.01894	24		0.003505
-17		-0.01278	4		0.00132	25		0.008714
-16		3.17E-05	5		-0.01725	26		-0.01617
-15		-0.03578	6		0.010845	27		0.008521
-14		-0.00175	7		-0.03089	28		-0.00617
-13		0.016211	8		0.003063	29		0.007039
-12		0.004802	9		-0.01719	30		-0.0162
-11		0.019096	10		-0.01182			
-10		0.011905	11		0.032633			

THAI

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.00814	0.002795	-9	0.002418	-0.00797	12	-0.0051	0.012135
-29	-0.00672	-0.00751	-8	0.003843	-0.00299	13	0.006972	0.004023
-28	-0.00334	0.003918	-7	-0.00883	0.003567	14	0.003691	0.002101
-27	0.006306	0.000227	-6	0.006279	0.010781	15	0.005977	0.010697
-26	0.011684	-0.00404	-5	0.006122	-0.00241	16	-0.01222	-0.00312
-25	0.013704	0.002063	-4	0.006447	-0.00366	17	-0.00903	0.011194
-24	0.012393	0.001095	-3	-5.8E-05	-0.00029	18	0.000456	-0.00214
-23	-0.00814	-0.01496	-2	0.001146	0.005395	19	0.001597	-0.00848
-22	0.003325	-0.00524	-1	-0.0091	0.020343	20	-0.01012	0.000376
-21	0.013268	-0.01369	0	-0.01913	0.02647	21	-0.00135	0.01166
-20	-0.00631	-0.00159	1	-0.00809	0.008704	22	-0.00183	-0.00559
-19	-0.00812	0.008702	2	0.002874	-0.0049	23	-0.00415	0.000369
-18	0.003574	0.011964	3	-0.00227	-0.00706	24	-0.00381	-0.00141
-17	0.005453	0.006186	4	0.000903	-0.00262	25	-0.00379	-0.00136
-16	-0.00237	-0.00258	5	0.002995	0.000237	26	-0.00566	0.00086
-15	-0.00759	0.001877	6	-0.00434	0.011756	27	0.0076	0.005706
-14	-0.00778	0.004005	7	0.002016	-0.00526	28	0.009647	-0.00159
-13	-0.00611	0.009652	8	-0.00348	0.000968	29	-0.00113	0.008019
-12	0.011797	0.014017	9	0.001293	0.007096	30	-0.01868	-0.0014
-11	0.005409	-4.6E-05	10	-0.00215	-0.00044			
-10	0.015995	-0.00751	11	-0.00541	0.005689			

TTA

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30			-9		0.003556	12		0.001804
-29		-0.00468	-8		0.00067	13		0.003662
-28		-0.00536	-7		8.29E-05	14		0.001379
-27		-0.00234	-6		0.001128	15		0.00224
-26		-0.00281	-5		-0.00466	16		0.002109
-25		-0.00648	-4		0.00919	17		-0.00053
-24		0.001888	-3		0.003053	18		0.006163
-23		0.004741	-2		-0.00274	19		0.008429
-22		0.000457	-1		0.005054	20		0.005467
-21		0.007125	0		0.00392	21		0.01407
-20		-0.00295	1		0.003889	22		0.007334
-19		1.65E-05	2		-0.00585	23		0.004906
-18		-0.0072	3		0.008052	24		0.004754
-17		0.002325	4		0.000184	25		0.000821
-16		0.010608	5		0.000301	26		0.005737
-15		0.002179	6		0.006739	27		-0.00086
-14		0.00371	7		0.004418	28		0.00479
-13		0.002879	8		-0.00444	29		-0.00463
-12		0.004114	9		0.001243	30		0.003577
-11		-0.00153	10		0.006495			
-10		0.000143	11		-0.00232			

ADVANC

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	0.008033	0.029145	-9	-0.00995	0.024038	12	0.029281	-0.01513
-29	0.004368	0.021241	-8	0.003476	0.04708	13	0.020439	-0.03512
-28	0.002363	0.001901	-7	-0.00996	-5.3E-05	14	0.01077	-0.00269
-27	0.00648	-0.003	-6	-0.00228	-0.00245	15	0.017474	0.001033
-26	-9.3E-05	-0.03455	-5	-0.02501	-0.01994	16	0.011322	-0.0008
-25	-0.00073	-0.02234	-4	-0.01403	0.035047	17	-0.00375	0.001428
-24	-0.00075	0.004055	-3	0.008791	0.011442	18	0.011115	-0.00366
-23	0.01542	-0.00346	-2	0.007701	0.026659	19	0.002257	-0.03979
-22	0.005678	-0.00445	-1	-0.01036	0.027343	20	0.004239	0.00903
-21	-0.00053	0.019937	0	-0.02696	0.029461	21	0.009688	0.009056
-20	-0.02274	-0.02968	1	0.005764	-0.02518	22	-0.01199	-0.01742
-19	-0.00652	0.027378	2	0.008116	-0.02576	23	-0.01176	0.021796
-18	-0.00013	0.004861	3	-0.00586	-0.01957	24	0.00868	-0.01433
-17	0.001768	-0.00538	4	0.000815	-0.023	25	0.00961	-0.0051
-16	0.000946	0.045689	5	0.002656	0.014241	26	-0.00294	0.002202
-15	-0.01696	0.00101	6	-0.00254	-0.00745	27	0.005633	-0.01452
-14	-0.01206	-0.00987	7	-0.00166	-0.00159	28	-0.00326	-0.00807
-13	-0.00309	0.015139	8	0.01076	-0.00368	29	-0.01516	0.024511
-12	0.004074	-0.01426	9	-0.00397	0.000139	30	-0.00281	-0.00235
-11	-0.01397	-0.01362	10	0.001775	0.014673			
-10	-0.0125	0.026091	11	0.011502	0.007202			

TRUE

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	0.001223	0.003898	-9	-0.00972	0.000733	12	-0.00145	0.002569
-29	0.008185	0.001001	-8	0.003135	0.005771	13	-0.00778	0.001846
-28	0.000652	-0.00066	-7	0.012275	0.007659	14	-0.00354	0.007548
-27	0.018723	0.00351	-6	0.007843	0.003191	15	-0.00397	0.001757
-26	0.013814	0.002067	-5	0.00524	0.000812	16	0.00629	0.000381
-25	-0.00533	0.006166	-4	0.016542	0.001983	17	-0.00331	0.00198
-24	-0.00675	-0.00026	-3	-0.00792	-0.00225	18	0.002224	-0.00129
-23	0.008945	-0.00223	-2	-0.00972	-0.00276	19	0.003722	-3.5E-05
-22	0.001966	0.000657	-1	-0.00253	0.00425	20	0.015976	0.005272
-21	-0.00298	-2E-05	0	-0.0097	0.001874	21	-0.00646	0.004041
-20	0.000673	0.000195	1	-0.0001	0.001153	22	0.006907	-0.00035
-19	0.021452	0.004574	2	0.002021	0.000453	23	0.000208	0.003909
-18	0.001875	0.010652	3	-0.00215	0.001504	24	-0.00437	7.74E-05
-17	-0.01126	0.0042	4	-0.00902	0.003243	25	-0.00911	-0.00447
-16	-0.00123	-0.00068	5	0.012452	0.003323	26	0.010456	-0.00012
-15	-0.0016	0.000844	6	-0.00683	0.004155	27	-0.00509	0.003368
-14	0.010081	0.004892	7	0.000989	0.006277	28	0.006128	0.002016
-13	0.010565	0.0052	8	0.005247	0.005911	29	-0.00566	0.002061
-12	0.01986	0.008226	9	0.000374	-0.00017	30	-0.00584	0.002961
-11	0.011491	0.011214	10	-0.0006	0.005395			
-10	-0.00497	0.004635	11	0.007677	0.002093			

CCET

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	-0.00523	0.006835	-9	0.011109	0.024191	12	0.008625	-0.01046
-29	0.005545	-0.00087	-8	-0.00531	0.026009	13	-0.00796	-0.00891
-28	-0.0014	0.012159	-7	-0.00722	-0.00472	14	-0.01835	-0.00573
-27	-0.00242	0.00633	-6	0.005763	0.002522	15	-0.00324	0.005332
-26	0.012874	-0.00508	-5	-0.01158	-0.01162	16	0.002068	0.032564
-25	0.021222	-0.0088	-4	0.001054	0.001424	17	-0.00382	0.010889
-24	-0.0057	0.008784	-3	0.00101	0.009304	18	-0.00615	-0.00488
-23	0.008836	-0.00432	-2	-0.00224	-0.00496	19	2.99E-05	-0.00496
-22	0.026737	-0.00621	-1	0.02552	0.018964	20	-1.2E-05	-0.00665
-21	-0.00688	0.026079	0	0.007982	0.017347	21	-0.00454	-0.00775
-20	-0.00586	0.003265	1	-0.01353	-0.01072	22	0.002085	-0.00159
-19	-0.01266	0.018283	2	0.013582	0.007016	23	-0.00119	0.00317
-18	-0.00168	-0.00102	3	0.018684	-0.01466	24	-0.01188	-0.0146
-17	-0.00305	0.002225	4	-0.0068	0.00352	25	0.001584	0.009174
-16	-0.03281	0.011077	5	0.00233	0.011389	26	0.000991	-0.00654
-15	-0.0049	0.024264	6	0.008415	-0.00266	27	-0.01621	-0.0044
-14	-0.01508	0.009883	7	0.003936	-0.00118	28	0.013107	0.006459
-13	-0.01052	0.018298	8	0.002605	0.029412	29	-0.00025	0.004135
-12	0.007557	0.005354	9	-0.00752	0.031636	30	-0.00513	-0.00295
-11	-0.00183	0.005677	10	-0.00197	-0.00779			
-10	-0.01296	0.015724	11	0.010921	0.009707			

DELTA

t	Buy	Sell	t	Buy	Sell	t	Buy	Sell
-30	0.000385	-0.00289	-9	0.009551	0.008883	12	0.004728	-0.00166
-29	-0.00243	-0.00082	-8	-0.0119	-0.00196	13	-0.00293	-0.00953
-28	0.001651	-0.00157	-7	-0.00901	0.007646	14	-0.01505	-0.00681
-27	-0.00271	4.23E-06	-6	0.003197	-0.00077	15	-0.0082	0.001343
-26	-0.00727	0.001146	-5	0.003017	0.003212	16	-0.00306	6.14E-05
-25	-0.00448	-0.00074	-4	-0.00674	0.003242	17	-0.00111	-0.00799
-24	0.00018	-0.00506	-3	-0.00133	-0.00496	18	-0.00947	0.000257
-23	-0.00209	-0.00116	-2	-0.00072	-0.00099	19	-0.00533	-0.00413
-22	0.004687	0.003502	-1	-0.01946	0.003021	20	-0.00737	0.001043
-21	-0.00723	-0.00193	0	-0.01776	0.009091	21	-0.00984	0.005074
-20	0.00449	0.002495	1	0.009485	-0.00629	22	-0.00982	-0.00314
-19	-0.00381	0.000907	2	-0.00015	-0.00245	23	-0.00383	0.003996
-18	-0.0145	0.002381	3	0.003106	-0.00753	24	0.010848	0.002861
-17	-0.00475	0.004425	4	-0.00292	0.002198	25	-0.00337	0.002427
-16	8.78E-05	0.002787	5	-0.0036	-0.00084	26	0.003269	0.000535
-15	0.002611	-0.00666	6	0.007728	-0.00424	27	0.00297	0.001828
-14	-0.01218	0.002368	7	-0.00407	-0.00862	28	-0.00387	0.001383
-13	0.000553	0.004572	8	-0.00444	-0.00386	29	-0.00076	-0.00131
-12	0.000174	0.002025	9	0.010984	-0.00055	30	0.007715	-0.00024
-11	-0.01331	0.002478	10	-0.00264	-0.00621			
-10	-0.00864	-0.00921	11	0.002308	-0.00518			

HANA