

Probability of Price Reversal and Intraday Trading Activity For Low Banking Sector at Indonesia Stock Exchange

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Abstract

The purposes of this research are to examine the probability of price reversal and intraday trading activity based on market microstructure theory at Indonesia Stock Exchange (IDX). This research used purposive-stratified random sampling to banking sector with tick size IDR5. The variables of empirical model are probability of price reversal, trading volume, frequency of transaction, *proxy* of volume per frequency (V/F), price volatility and liquidity. The trading fraction of tick-by-tick in this research is 15 minutes. To determine price reversal probability, this research uses multiple logistic specification with categorical data as a dependent variable. The results indicate that returns of banking sector on low tick size and the extent of intraday trading are negatively correlated to price reversal caused by the bid-ask spread bouncing and corporate action. However, the trading volume, frequency of transaction, proxy of volume per frequency (V/F), price volatility and liquidity are positively correlated to probability of price reversal.

Keywords: Reversal, intraday, microstructure, tick, IDX

JEL Classification Codes: G12, G14

1. Introduction

1.1. Background

This research tries to find trading and/or investment information especially to set up market-timing strategy in predicting how to buy or sell stocks on the right time. Market-timing information may have got a signal of price movement and trading activity which are variables for analyse probability of price reversal. This study deals with change intraday trading risk becomes big advantage opportunity to make capital gain continuity. It is expected to find a simple and applicable stock market trading method and short-term investment strategy that motivated by work on intuitive prediction.

The phenomenon of price reversal is often happens at any emerging market in the world especially at Indonesia Stock Exchange (IDX). This phenomenon potentially creates high risk trading which caused by over-reaction and liquidity pressure. The purposes of this research are to examine the probability of price reversal and intraday trading activity based on high frequency data.

What do determines price reversal on trading activity? Experimental and survey evidence indicate that in probability revision problems, people show a tendency to over-react. The traders may have overweight recent information and underweight base rate data. Theoretically, the standard of researcher paradigm of stock price movement in capital market has reflected all informations which arrived into the market either public or private information.

The efficient market hypothesis is based on the belief where the past price patterns in security movement are consistent with a random walk. Two other efficiency-based hypotheses have been identified at the recent literature. The over-reaction hypothesis (OH) suggests that extreme movements in equity prices are followed by "corrective" movements in the opposite direction of the initial over-reaction (Rartner & Leal, 1998), meanwhile, stock price changes in one direction are followed by changes in opposite direction (reversal).

Kofman and Moser (2001) obtained a measure of the frequency with which prices may have over-reacted to new information. Over-reaction followed by price correction is a pattern which is consistent with what is termed *fad trading*. Fad trading is buying or selling equity based less on information about the value of assets than on the fact that buying or selling is the things to do. The idea of fad-motivated trading is described as prices being the result of traders "getting on the bandwagon" as opposed to independently arrived at judgments about the true value of these assets.

Practically, stock price at IDX is often in overvalued or undervalued condition because of some factors, such as over-reaction and uncertainty in the value of market fluctuating. The uncertainty makes traders/investors tend to over-reacting valuing stocks (assets). This circumstance makes the asset price is not in fair value (or intrinsic value). In other word, stock price in capital market tends to be mispriced. Stock prices which are in mispricing condition either in undervalued or overvalued will be followed by price correction process in the opposite direction. This price correction will create price reversal repeatedly.

Base on a descriptive observation, stocks from various of tick sizes at IDX show probability of price reversal potency ranges from 7,7 to 24,3% in per 15 minute period. The general pattern is referred that potency of price reversal at equities market is a big enough and it will create equity trading risk in the short term period.. The numbers of price reversal are around 14 times a day, either major or minor price reversal for each liquid stock. There is every stock create average more than 9 times price reversals that offer advantage from intraday trading of financial assets.

The volatility of trading volume was also high enough to create liquidity pressure to the market and increase the investment risk also. In this circumstances, capital market can be categorized not conducive for stock trading and short-term investment because the trend of price direction may change quickly (Lyons, 2001). However, for the traders that transact stock in very short time (hourly) on the same day (intraday trading), this market fluctuation may offer the plenty opportunity to get gain (Cassidy, 2002).

This paper reframes the factors which determines probability of price reversal such as stock return and intraday trading activity variables. This research uses high frequency finance data at tick size IDR5 that represented by stock of Bank of International Indonesia, Tbk (BNII.IJ) as a sample. We ask whether stock return and micro-structure variables effect on the over-reaction associated with probability of price reversal.

This research is focused on main problems that are influenced by intraday trading activity in the market micro-structure context on probability of price reversal. The problems of formulation are conducted in order to every problem that can be discussed and solved that compiled in the stock return, trading volume, frequency of transaction, proxy trading volume per frequency, price volatility and liquidity influence on probability of price reversal of tick size-5 on intraday trading at IDX.

2. Literature and Empirical Model

2.1. Related Literature Study

The over-reaction process and price reversal from market micro-structure theory, caused by the influence of order flow that carry new information content to move equity price on imbalance order effect. Kofman and Moser (2001) suggest that relation/link between conditional probability of price reversal and level of stock return and some other variables on logit model framework. Furthermore, they introduce a model in which prices are determined by two investing clienteles: *informed investors* and *noise-trading investors*.

Summers (1986) explains that the presence of a fad component in the determination of stock prices implies that stock prices will reverse as fads dissipate. Stoll and Whalley (1990) enhance that behavior of price volatility are related to frequency of price reversal, determined also by level of capital market efficiency. High non-trading probabilities would be encountered were trading activity concentrated in short time frames and, therefore, more likely motivated by similar information [(Kofman and Moser (2001))]. This suggests that the higher stock return increase the probability of non-trading activity.

According to Chan *et al.*, (1995), the risk of price reversal is caused by volatility and liquidity pressure which market index change direction (rebound) suddenly after sharp increasing or decreasing. Bondt and Thaler (1985) explain that if stock prices systematically overshoot, then their reversal should be predictable from past return data alone, with no use of any accounting data such as earnings. Specifically, two hypotheses are suggested: (1) Extreme movements in stock prices will be followed by subsequent price movements in the opposite direction. (2) The more extreme the initial price movement, the greater will be the subsequent adjustment. Both hypotheses imply a violation of weak-form market efficiency.

Capital market with weak to semi strong form efficiency, often happens panic buying that stock price increase sharply, and then it can change direction becomes panic selling instantly, until stock price go down drastically (*noise trading*). On the contrary after market index rebound, then panic selling changes become panic buying in just several hours of period. Phenomenon of noise trading is frequent happened as consequence of information which entry to the market that countered redundantly (over-reaction) [Black (1986); Kofman and Moser (2001)]. This opinion gives contribution for this research that emerging market like IDX has a big price reversal potency.

Although trading trend direction fickle and difficult to predict, however trading activity remain to work. To know of this truly caused of this course is not easy job. The factors of this phenomenon are covering financial and non-financial behavior, beside behavior that include of mind set, knowledge, emotion, and perception. One factor that most significant is the arrival of news to market, especially that news is unexpected information or dramatic news (Bowman and Iverson, 1998). In stock prices movement, market tends to too responsive and will be over-reacted until disagree with new price prediction that implied in information that arrive into market [O'Hara (2005), Bowman and Iverson (1998)].

Nevertheless movement of stock price direction not only depend on content of news or information that accepted but also the market perception and analysis quality of traders/investor to get the intrinsic value of stock (Madhavan, 2000). If information is assumed good news, then price will go up, otherwise, the stock price will go down. Interesting perceived is how high the stock price can go up or downward fairly in accordance with information content that brought by news/public information. It is depend on market efficiency level of market (Fama, 1991).

According to Bowman & Iverson (1998), market tends to be overvalued or undervalued as consequence of market over-reaction phenomenon. Bondt and Thaler (1987) conjectured that a consequence due to investor over-reaction to earnings, stock prices may also temporarily depart from their underlying fundamental values. Furthermore, stock price diverge from its fundamental value and the over-reaction is an advantage for informed traders to make capital gain (Black, 1986). Because of investor over-reaction to new information that arrives to the market, the stock price will be corrected

(price correction) to the efficient value after create price reversal first like illustrated at Figure 2. Thus the more often stock prices are overpricing in market, the more price reversal (Bowman and Iverson, 1998).

Kofman and Moser (2001) showed that time period is required to find the its fair value after conduct over-reaction is vary, depend on quality analysis and rationality of traders itself. This means, price correction depends on level of market efficiency in instructing price matching with its fundamental value. In general, more efficient a market will make time requirement for price correction which will shorten. Whereas at the market that is emerging like IDX, price correction will take time longer than the efficient market like NYSE or TSE (Chan et al, 1995). Price forming to its fair value influenced by infrequent trading or non-trading period of the market also (Lo and MacKinlay, 1990). Fama (1970) argued that price reversal was induced by imbalanced order and what kinds of market micro-structure that instituted by exchange.

According to Easley and O'Hara (2003), the market information can be public information only, not including private information who owned by informed strategic traders. Superior private information which owned by some of strategic traders was extracted by trading activity and leak to the un-informed traders. But the informed traders get the capital gain first because more strategic than un-informed traders anyway (Kyle, 1985). The informed traders will create price volatility; stimulate over-reaction and price reversal in the right time because they know how the fair values (Copeland and Galai, 1983).

O'Hara (2005) explains the latter concept of trading gain, however, he suggest otherwise: information cost will make this average investors actually loss money relative to the market return over time. This information loss arises because the presence in the market of traders who have superior information. In particular, the market maker who is in the middle of all trades knows that some traders may have better information than he does.

These informed traders buy when they know the stock's current price is too low; they sell when they know it is too high. Moreover, these informed traders have the option not to trade, unlike the market maker. The market maker knows that when he is trading with informed traders he always loses. To remain solvent, the market maker must be able to offset these loses by making gain from un-informed traders. This gain arises from bid-ask spread. In consequence of strategic traders activity, the movement of stock price direction in general started by informed traders that make efficient price forming, then will be followed by uninformed traders in *fad trading* activity that create over-reaction and price reversal will be followed (Summers, 1986).

Zhang (2006) contributes to the accounting and finance literatures in several ways. His paper provides evidence in support of hypothesis that price continuation is following public signals which increases with proxies for ambiguity of signals with respect to the implications of a firm's value. Despitefully, according to Kofman & Moser (2001) there is also another market reaction which called *lag learning*, that is price reaction which is on generally "late" to respond the content of new information that arrives to the capital market. It is caused by many reasons, for example, because of the lack of information access and/or weaken its analysis. Figure 2 gives general illustration for this research that market reaction that emerge to the arriving of public information can be categorized into 3 types, : 1). Over-reaction, 2). fair value (efficient) and 3) lag learning (under-reaction).

2.2. Empirical Model

The research paradigm of this study is designed in a simple framework by important link and correlation of all independent variables such as return, trading volume, frequency of transaction, proxy V/F, price volatility and liquidity with probability price reversal. Independent variables (explanatory) that used in this analysis have been accepted as known microstructure variables and activity of stocktrading. The compilation of framework idea is conducted base on some of theory and recently paper that related to activity of intraday trading and price reversal [Bondt and Thaler (1985), Chordia et al., (2000), Easley and O'Hara (2003), Chan and Faff (2003), Fama & French (1992), Kyle (1985),

Kofman & Moser (2001), Glosten and Milgrom (1985), Gouriéroux, et al., (1999), O'Hara (2005), Stoll and Whaley (1990) and Wenner et al., (1987)].

The construction of research model is based on the framework above paradigm which is designed in the form of multiple logistic regressions shall be as follows:

$$\text{Log} \left[\frac{\hat{P}_{i,t}}{1 - \hat{P}_{i,t}} \right] = \alpha_0 + \alpha_1 R_{i,t} + \alpha_2 \text{Vol}_{i,t} + \alpha_3 \text{Freq}_{i,t} + \alpha_4 (V/F)_{i,t} + \alpha_5 \text{Volat}_{i,t} + \alpha_6 \text{Liq}_{i,t} + u_{i,t} \quad (1)$$

where:

$R_{i,t}$: Stock return-i on period-t
$\text{Vol}_{i,t}$: Trading volume stock-i on period-t
$\text{Freq}_{i,t}$: Frequency of transaction stock-i on period-t
$(\text{Vol}/\text{Freq})_{i,t}$: Transaction Volume is divided frequency of transaction stock-i on period-t
$\text{Volat}_{i,t}$: Price volatility stock-i on period-t
$\text{Liq}_{i,t}$: Liquidity stock-i on period-t

2.3. Summary of Hypothesis

The hypotheses of this research should be as follows:

1. Hypothesis 1 (H1): Stock Return has positive effect on probability price reversal.
2. Hypothesis 2 (H2): Trading Volume has positive effect on probability price reversal.
3. Hypothesis 3 (H3): Frequency of Transaction has positive effect on probability price reversal.
4. Hypothesis 4 (H4): Proxy V/F has positive effect on probability price reversal.
5. Hypothesis 5 (H5): Volatility has positive effect on probability price reversal.
6. Hypothesis 6 (H6): Liquidity (*proxy* turnover rate) has positive effect on probability price reversal.

3. Research Method

3.1. Empirical Method

This research uses approach of investment management particularly to exploit market micro-structure theory with high frequency finance method. Basically, the theory of market micro-structure at this research is used, because we want to know the forming of price reversal pattern in intraday trading on tick size 5 at IDX. The analysis uses high frequency finance data or tick-by-tick in intraday trading so it can give new findings, conclusions and recommendations. Beside the difference of its data character, the difference of market microstructure that employs at IDX and rule of pricing at NYSE may have give significant influence of analysis results.

In an effort to reframes the over-reaction and price reversal hypothesis, this paper discusses new empirical findings that are relevant to the seasonal effect such as Week end effects, Monday effect, Week of the day effect or January effects, as well as to the broader issues of time-varying risk premia and market efficiency. This topic of research focuses to object at stock return and some other independent variables as describe above.

The research is started by conduct primary data withdrawal (*capturing*) direct from its main source that is active running trade transaction and analysis uses regression models which relevant with logit specification. Especially for dependent variable, it has the shape of data in categorical 1/0 and independent variables are stock return, trading volume, frequency of transaction, proxy V/F, price volatility and liquidity. Hereinafter, every character of independent data must be accepted by logistic model and hypothesis testing to obtained erudite explanation.

3.2. Research Object

The research object is chosen a stock in banking sector with tick size 5 by *purposive- stratified random sampling* that has characteristic and criterion appropriate and relevant with this research topic. As for some main criterions taken as stocks this research object related to some factors: (a) volatility, (b) liquidity, (c) active in stock more than 2 year, (d) big capitalization (e) good fundamental reputation, (f) leader in its sector, and (g) entered most active stock. The criterion is specified in order to stocks can represent stock movement in accordance with tick size-5 even follow banking sector and market index so it's can represent trading activity of capital market at IDX.

The electronic data sources are real time primary data of online trading system which provided by the StockWatch® of Limas Centric Indonesia Tbk and IMQ Online Trading. This research will be get high frequency data that captured from their services. The data were undertaken by captured directly per 15 minute from when the process of trading activity was running well. Hereinafter, primary archival data transaction is on real time at IDX, the data type is designed in order to be fitted of model specification. The primary data that captured can be run constructively with econometrics by using statistics software.

4. Analysis and Discussions

4.1. Descriptive Analysis

The descriptive analyses of primary intraday data during the February-April 2008 period are equivalent with 59 days stock trading which are obtained 1059 observations. Table 1 provides some measurements of descriptive analysis about all variables of this research. The probability of price reversal of BNII sample is around 16.44%. The standard deviation (σ) indicates that stock tick size-5 has potency enough to create price reversal that is identified by high standard deviation of price reversal is 0.370728. The high level of standard deviation at price reversal of BNII stock indicates the probability of price reversal on intraday trading is high enough. The early finding indicates that price forming on tick size-5 less efficient.

Table 1: Descriptive Analysis of Research Variables

Table 1 shows the descriptive analysis in using tick-by-tick data during period of February 2008-April 2008 at Indonesia Stocks Exchange (IDX). The variables including price reversal, stock's return, trading volume, frequency of transactions, proxy trading volume per frequency of transaction, price volatility and proxy liquidity are used turnover rate. The period of tick-by-tick (*fraction*) is 15 minutes and data is captured directly by online trading activity on Rp5 tick size of banking sector from members of LQ45 index. The primary data can be run by Eviews 4 for this below research descriptive analysis.

	Price Reversal	Return	Volume	Frequency	V/F	Volatility	Liquidity
Mean	0.164306	0.00422	26903.44	284.7968	843.6816	65.59840	881.7485
Median	0	0	4705.000	9.000000	387.5	53.06431	515.3408
Maximum	1	0.10661	881370.0	54256.00	57150.33	228.7599	11466.99
Minimum	0	-0.04512	0.000000	0.000000	0	1.161553	0.000000
Std. Dev.	0.370728	0.009961	55485.49	3098.489	2287.877	69.18893	1193.894
Skewness	1.811855	2.539853	5.995251	14.50495	18.35499	0.847362	3.323002
Kurtosis	4.282817	26.17741	66.90089	227.4492	414.2111	2.486276	21.30300
Jarque-Bera	652.0302	24842.19	188105.8	2279247.	7520761	139.5522	16873.03
Probability	0	0	0.000000	0.000000	0	0.000000	0.000000
Observations	1059	1059	1059	1059	1059	1059	1059

The stock return is 0.422% in the research period, whereas trading volume and transaction frequency high enough are 26,903 lots and 284,968 transactions, respectively. This finding shows that stock of BNII has good liquidity although the return is relatively small. The proxy of V/F is pertained

that indicates BNII is not manipulated by big player. The volatility of BNII is seen high enough which force high price fluctuation may give liquidity pressure as high as 881,7485. The results of descriptive analysis show that the intraday trading activity of BNII is good enough with its high frequency of transactions. The early findings indicate that transaction of BNII is conducted by retail traders with the limited budget and the price movement cannot create return significantly.

4.2. Preliminary Analysis of Logistic Specification Model

Research Hypothesis:

H_0 : No one independent variable that influence probability of price reversal

H_1 : There are independent variables that influence probability of price reversal

Test Criterion : Reject H_0 if probability value $< 5\%$, do not reject otherwise.

Table 2 shows the result of influence of all independent variables of probability of price reversal on BNII. Based on analysis the result below can be known that probability value for variable return, frequency, V/F, volatility and liquidity have values of test probability < 0.05 , then H_0 is rejected and do not reject the null hypothesis. The effects of all independent variables to probability of price reversal are reported by Table 2.

Table 2: The Results of Preliminary of Logit Specification

Table 2 shows that the results analysis of logistic regression model of the following form where probability of price reversal (in logit) are estimated:

$$\text{Log} \left[\frac{\hat{P}_{i,t}}{1 - \hat{P}_{i,t}} \right] = \alpha_0 + \alpha_1 R_{i,t} + \alpha_2 \text{Vol}_{i,t} + \alpha_3 \text{Freq}_{i,t} + \alpha_4 (\text{Vol} / \text{Freq})_{i,t} + \alpha_5 \text{Volat}_{i,t} + \alpha_6 \text{Liq}_{i,t} + u_{i,t}$$

Where $R_{i,t}$ is the return to stock-i in fraction period-t, $\text{Vol}_{i,t}$ is the trading volume (lot) in natural logarithm of stock-i in fraction-t, the $\text{Freq}_{i,t}$ is the natural logarithm of frequency of transaction of stock-i in fraction-t, the ratio $\text{V/F}_{i,t}$ is a proxy of intraday trading activity, $\text{Volat}_{i,t}$ is the volatility of stock's price-i in fraction-t that measured by t-7 standar deviation, and $\text{Liq}_{i,t}$ is proxy liquidity of stock-i in fraction-t that measured by turnover rate (t-3). Level of significance for this analysis is 5%.

Variable	Coefficient	Std. Error	z-Statistic	Prob.	Hypothesis
C	-2.89865	0.205863	-14.0805	0	Significant
$R_{i,t}$	-24.3559	9.063057	-2.68738	0.0072	Significant
$\text{Vol}_{i,t}$	9.06E-06	3.79E-06	2.390143	0.0168	Significant
$\text{Freq}_{i,t}$	0.004709	0.002032	2.317213	0.0205	Significant
$(\text{V/F})_{i,t}$	0.000726	0.000154	4.707889	0	Significant
$\text{Volat}_{i,t}$	0.005698	0.001234	4.616724	0	Significant
$\text{Liq}_{i,t}$	0.000258	0.000105	2.46005	0.0139	Significant

This findings indicate that the all independent variables such as stock return, trading volume, frequency of transaction, proxy V/F, price volatility and liquidity have significant influence to probability of price reversal on tick size-5. However, by contrast the variable of stock return shows negatively related to probability of price reversal that is opposite result with the hypothesis. In the first step, the preliminary logit analysis shows good results.

4.3. Logit-White Heteroskedasticity Specification

In this step, we use the white heteroskedasticity analysis to eliminate or minimize the effect of heteroskedasticity to the logit model that reported. We expect that the result of analysis will be better than without statistical tests of heteroskedasticity, normality and multicollinearity and accordance the BLUE criterion.

Hypothesis:

H_0 : No one independent variable that influence the probability of price reversal

H_1 : There are independent variables that influence the probability of price reversal

Test Criterion : Reject H_0 if probability value $< 5\%$, do not reject otherwise.

Table 3 reports the result of analysis to use logit regression model that the independent variables such as stock return, trading volume, frequency of transaction, proxy V/F, price volatility and liquidity affect on the probability of price reversal significantly. Meanwhile the result of white heteroskedasticity of logistic regression is not quite different with previous findings as reported on Table 3. The effects of all independent variables of probability of price reversal are reported:

Table 3: Logit-White Heteroskedasticity Specification

Table 3 explains that the results analysis of logistic regression model of the following form where *probability* of price reversal (in logit) are estimated (with Normality test, Multicollinearity test, and White Heteroskedasticity treatment):

$$\text{Log} \left[\frac{\hat{P}_{i,t}}{1 - \hat{P}_{i,t}} \right] = \alpha_0 + \alpha_1 R_{i,t} + \alpha_2 Vol_{i,t} + \alpha_3 Freq_{i,t} + \alpha_4 (Vol / Freq)_{i,t} + \alpha_5 Volat_{i,t} + \alpha_6 Liq_{i,t} + u_{i,t}$$

Where $R_{i,t}$ is the return to stock-i in fraction period t, $Vol_{i,t}$ is the trading volume (lot) in natural logarithm of *stock*-i in fraction-t, the $Freq_{i,t}$ is the natural logarithm of frequency of transaction of stock-i in fraction-t, the ratio $V/F_{i,t}$ is a proxy of intraday trading activity, $Volat_{i,t}$ is the volatility of stock's price-i in fraction-t that measured by t-7 standar deviation, and $Liq_{i,t}$ is proxy liquidity of stock-i in fraction-t that measured by turnover rate (t-3). The results are not quite different with Table 2 above without normality test, multicollinearity test and white heteroskedasticity treatment.

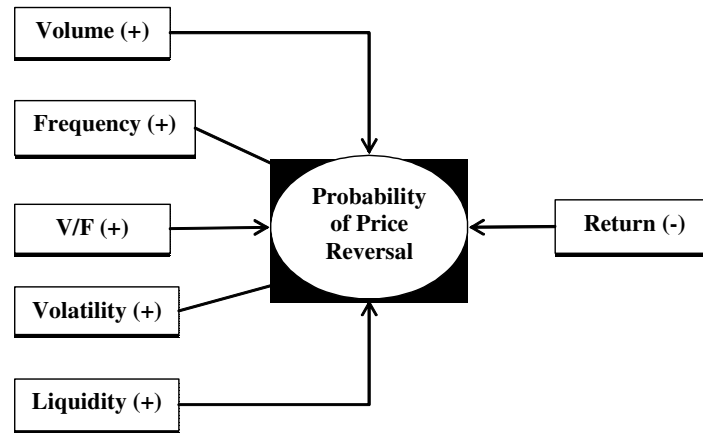
Variabel	Coefficient	Std. Error	z-Statistic	Prob.	Hypothesis
C	-2.898653	0.195106	-14.85684	0.0000	Significant
$R_{i,t}$	-24.35588	8.863688	-2.747827	0.0060	Significant
$Vol_{i,t}$	9.06E-06	2.91E-06	3.115088	0.0018	Significant
$Freq_{i,t}$	0.004709	0.001767	2.665917	0.0077	Significant
$(V/F)_{i,t}$	0.000726	0.000103	7.037278	0.0000	Significant
$Volat_{i,t}$	0.005698	0.001327	4.293331	0.0000	Significant
$Liq_{i,t}$	0.000258	8.76E-05	2.945305	0.0032	Significant
McFadden R-squared	0.3387				

These findings are accordance with recent theory and support some previous research except the stock return, because in the period of observation, this stock is under selling pressure. The selling pressure may have related with its coIDRo rate action about merger or acquisition. The informed traders suggested that the offering price from the strategic buyer was too low and the market over-reacted to respond this information.

4.4. Empirical Fit Model and Discussion

Stock BNII was selected to represent the tick size 5 and banking sector also in this research of over-reaction and price reversal. Logistic analysis above finds that the probability of price reversal on banking sector at IDX quite well. With the principal econometric method this study uses step wise regression analysis to find "the empirical fit model". The fit model is the best model that can be used as the best model to support technical analysis tools. The analysis reports that the results for banking sector with tick size-5 show all independent variables relate to probability of price reversal significantly.

In general, This study finds the fit model for tick size-5 that represent low price banking sector shall be as follows:

Figure 1: Dynamic Interaction of Probability of Price Reversal Model

This model gives us confidence that research variables selection is precise with theory of micro-structure and some previous research recently. The re-frames of research paradigm is well enough also. The independent variables which show best contribution for this research is proxy V/F.

Nevertheless with signal and coefficient quantity that are different each other because they have different influence amongst independent variables. Inspection of Table 3 shows that negative coefficient of stock return may not surprise. This probably due to a combination of momentum effects about the corporate action and earning report meet analyst forecast in the first two quarters during this study.

These momentums may have micro-structure implication related to the friction and the micro-structure noise. Related to negative coefficient of return, this condition can be just happened in intraday trading framework because the price up-down around the bid-ask spread only like “bouncing effect”. This bouncing effect is related to stock return behavior that generated under continuous trading mechanism which is the stock price bounce between bid-ask price because of fad trading that based on less information (Summers, 1986).

According to Rhee and Wang (1997), the bid-ask error can induce two types of measurement errors: 1) the bid-ask bounce and 2). the spread size error. Each of these errors is likely to cause negative autocorrelation in observed returns. For the stock return analysis, the optimal return series which are characterized by minimum bid-ask error, it can be defined as the return calculated by averaging the bid-ask prices. The alternative suggestion, the bouncing effect is generated on BNII stock because of the friction and noise micro-structure. The friction and noise may have make distortion on the price formation process and generate autocorrelation. The most bouncing and noise microstructure implication of this logit specification model are confirmed by the empirical results.

This price reversal phenomenon repeats consistently because of asymmetric information, where the informed traders “care of” in order to price on positive trend as long as research duration. The price reversal is more sensitive when the price go down than price go up because of the rational expectation. These circumstances, especially, the friction and noise tend to have greater short run variability of stock prices. The evidences of research show consistence with order imbalance temporary and micro-structure dynamic under the assumption of poisson arrival of traders also. However, the increasing price pressure that is exploited by smart informed trader which conducts trading with buy or sell order manipulation may have not optimized the fit model prediction.

5. Conclusion

The result of logistic specification indicates that on low tick size-5, the extent of intraday trading, and that stock return negatively related to the probability of price reversal. However, the trading volume, frequency of transaction, proxy of V/F, price volatility and liquidity are positively correlated to

probability of price reversal. Rejection of the null hypothesis of no association implies that all independent variables influence the observed distribution of stock return. These results are consistent with the conclusion of Kofman and Moser (2001), Summers & Summers (1989) and O'Hara (2005). At the low level of tick size for banking sector, un-informed traders enter the capital market that increases the over-reaction of BNI stock price which will be divergence from its fundamental level. As we know, price reversal occurs when price returns to its fundamental like stock reverse hypothesis. The research findings suggest that un-informed traders are less sensitive to the fundamental value and transaction cost.

Autocorrelations of the return for intraday trading are lower in the observation periods when the sentiment of corporate action is high. This implies an increasing of the probability of price reversal and is suggestive of a negative correlation between return and price reversal caused by lower market participation of informed traders. The price will be bounced around the bid-ask spread only. The bounces create high trading volume and transaction number but the price do not significantly. However, the volume and transaction frequencies are positively correlated to probability of price reversal in small range movement of price.

The proxy V/F is positively correlated to probability of price reversal more substantially than other independent variables. These results are consistent with the conclusion of descriptive analysis. This implication shows that ratio of volume-frequency suggests eliminate price manipulation of stock transaction in intraday trading. In other hand, ratio volume- frequency can reduce the gap of transaction between informed traders who conduct transaction in block trading and un-informed traders that rely on retail trading. The other variables such as price volatility and liquidity are positively related to probability of price reversal. The volatility is indicated that its pattern has link with stock price movement that implies an increase of the probability of price reversal. The authority of IDX implements stock trading system with continuous auction method, without the role of market maker or specialist. The behavior of return volatility is higher on open-to-open than close-to-close. This findings can be happened because of occur abnormal return in market on close consistently.

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