DOES INVESTOR SENTIMENT AFFECT LARGE-CAP AND SMALL-CAP STOCK RETURN?
(Study on Companies Listed in Indonesia Stock Market Period 2012-2016)

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ABSTRACT
This research aims to examine the effect of investor sentiment on monthly stock return in Indonesia Stock Market. The analysis was performed on two different group based on stock market capitalization which is large-cap and small-cap group. Each group consisted of 91 large-cap companies and 95 small-cap companies. Implicit proxies were used to measure investor sentiment, namely share turnover, dividend premium, price earning ratio and advance decline ratio. This study used monthly time series data from January 2012 to December 2016. Time series data was calculated from monthly average data of all individual stock on each group. The result shows three main findings. First, although investor sentiment have significant effect on stock return in both groups, investor sentiment exhibits stronger effect on small-cap stock return. Second, all of sentiment proxies denote a significant effect on small-cap stock return whereas only dividend premium and advance decline ratio which indicate significant effect on large-cap stock return. Finally, this study evidences that dividend premium shows positive effect on large-cap stock return while indicating negative effect on small-cap stock return.

Keywords: Behavioral Finance, Emerging Market, Investor Sentiment, Stock Return
INTRODUCTION

Since the mid-1950s, traditional finance theory had been dominated financial discipline. The main building blocks of traditional finance theory are (1) investor is rational, (2) market is efficient, (3) investment portfolio is designed based on mean-variance portfolio theory, and (4) expected return is only determined by risk (Statman, 2014). The basic framework of traditional financial theory has always been linked to the efficient market hypothesis. In an efficient market, stock prices reflect its fundamental values and investors are difficult to obtain abnormal returns (Tandelilin, 2010; Statman, 2014).

Hammond (2015) stated that in the 1980s, many academics and practitioners began to doubt traditional finance theory, prompting more research in attempting to disprove this theory (see DeBont and Thaler 1985; Black, 1986; Summers, 1986; Statman and Caldwell, 1987). Siegel in Shiller (2003) explained that efficient market theory is unable to explain the anomalies occurring in the stock market, such as excess volatility, January Effect and Day of the week effects. Lawrence et al. (2007) added that although some efficient market theories succeed in calculating stocks fundamental value, yet other anomalies such as high volatility, trading volume, as well as market bubbles remain unexplained.

As efficient market hypothesis began to lose its consistency, many researchers were finally trying to find answers through behavioral finance (see Pompian, 2006; Hede, 2012; Mitroi, 2014; Statman, 2014). Through anomalies and biases, they found that investors are not always rational. This is in line with behavioral finance concept, that investors do not always rational. They are normal investors, which are not immune to cognitive errors and misleading emotions (Statman, 2014).

Basically, behavioral finance is a discipline that combines financial science and psychology science into investment decision making (Shiller, 2003; Pompian, 2006; Shefrin and Statman, 2012; Mitroi, 2014). Behavioral finance investigates the cognitive factors and emotional problems shown by investors in financial market (Ricciardi, 2006). Unlike traditional finance theory, behavioral finance acknowledge biases and cognitive errors attached to investors so that they are not always rational (Ritter, 2003; Mayo, 2014).

Throughout behavioral finance heritage, investor sentiment is the key concept of behavioral finance and one of the most frequently debated topics in research literature (Alrabadi, 2014). Baker and Wurgler (2006; 2007) tried to define investor sentiment as a tendency to speculate on the optimistic and pessimistic response to a certain stock. Investor sentiment is a difficult concept to understand, difficult to define and difficult to measure (Changsheng and Yongfeng, 2012; Sibley et al., 2016). In general, sentiment can be measured through two approaches: direct and indirect (Shiller, 2000; Brown and Cliff, 2004; Finter et al., 2012). Direct approach which also known as bottom-up approach is conducted through survey to investor, while indirect approach which also known as top-down approach is done through relevant secondary data in the market.

There were various prior studies which try to measure investor sentiment and examine its influence on stock market performance especially on stock returns, for example Brown and Cliff (2004), Baker and Wurgler (2006; 2007), Yu and Yuan (2011), Changsheng and Yongfeng (2012), Finter et al. (2012) and others. It is stated in traditional finance theory that abnormal return cannot be obtained (Tandelilin, 2010; Latif et al., 2011; Statman, 2014). Therefore, behavioral finance researchers, who believe that investors do not always act rationally, try to examine whether investor sentiment has influence on stock returns.

Some contrary results were found in prior studies. Fisher and Statman (2000) as well as Brown and Cliff (2004) found that sentiment is more affected by return, not otherwise. Baker and Wurgler (2006; 2007) showed that when sentiment is high, younger, smaller, unprofitable, non-dividend paying, more volatile, extreme growth potential and distressed stocks tend to have relatively lower subsequent returns. Bathia and Bredin (2012) showed that there is a significant negative relationship between investor sentiments on future stock returns. Meanwhile, Finter et al. (2012) revealed that investor sentiment has only important role in current stock return and sentiment does not cause mispricing over a long period.

Chowdhury et al. (2014) found that large-cap companies are more susceptible to investor sentiment. Similar result was found by Brown and Cliff (2004) who state that relationship between sentiment and stock returns was seen as strongest in large-cap companies. On the contrary, Baker and Wurgler (2006; 2007) pointed out that hard-to-arbitrage stocks that are younger, smaller, unprofitable, non-dividend stocks, high volatility, extreme growth and distressed stocks tend to be more prone to investor sentiment. This is supported by Raissi and Missaoui (2015) who stated that investor sentiment is only able to explain small-cap stock return. They further explained that investor...
sentiment in the bullish period has positive effect on small-cap stock current returns. As there are various results across the topic, this study aims to examine the effect of investor sentiment on large-cap and small-cap stock return in Indonesia stock market.

LITERATURE REVIEW

Traditional Finance Theory

Statman (2014) argues that traditional financial theory have four basic assumptions: (1) investors are rational, (2) market is efficient, (3) investors design their portfolios based on the mean-variance portfolio theory, and (4) expected return only determined by risk factors. Rational investor is the keyword in traditional financial theory. Modigliani in Statman (2014) described rational investors as investors who always prioritize wealth enhancement by maximizing profits, either from dividend or capital gain.

Traditional financial theory has always been linked to efficient market hypothesis. Efficient market is a market where the price of all traded securities have precisely reflected all available information (Fama, 1970; Sewell, 2011; Jones, 2014; Gizelis and Chowdhury, 2016). The term efficient refers to the efficiency or promptness of the market in responding to new information and how it can influence the movement of stock price to new equilibrium price (Reilly and Brown, 2006). In efficient market, stock price reflects its fundamental value thus it is very difficult to obtain abnormal return (Tandelilin, 2010; Statman, 2014).

According to Fama (1970), efficient market is divided into three forms, i.e. weak form, semi-strong form and strong form. The weak form claims that the current stock price reflects all past information (Bodie et al., 2009). Semi-strong form denotes that stock prices already reflect all publicly available information (Reilly and Brown, 2006). Meanwhile on strong form market efficient, stock price have reflected all the relevant available information on the company, both publicly and privately information (Titan, 2015).

Market Anomalies

Market anomaly is a condition in which the market is opposite to what is expected to occur in an efficient market concept (Latif, et al., 2011; Jones, 2014; Mayo, 2014). According to Halim (2015), there is considerable empirical evidence of anomalies in all forms of efficient concept markets, although most are found in semi-strong efficient markets. Some brief description of market anomalies are as follows.

The first market anomaly is momentum effect, in which the last performance of a stock will have an effect over time. The next anomaly is the reversal effect, which is an event when losing stocks rise while the winning stocks fall (Bodie et al., 2009). DeBont and Thaler (1985) found that there is a strong tendency for stocks with good performance to experience a decline in the subsequent period and vice versa. The anomaly in semi-strong market efficient is the PER effect. Mayo (2014) highlighted that stocks with low price earning ratio (PER) tend to have higher average returns than stock portfolios with high PER. This finding is supported by Weigand and Irons (2007).

The next anomaly to be discussed is size effect. Small size firms consistently achieve higher returns. In other words, investors will likely to earn excess returns when investing in small-cap stocks (Bodie et al., 2009). Furthermore, researchers have shown that the effect of small firms is highly perceptible in January, especially in the first two weeks (Haug and Hirschey, 2006; Guler, 2013). This January effect can be attributed to tax-loss selling at the end of each year (Bodie et al., 2009). Investors tend to sell their shares to realize capital gains and avoid tax expense before end of the tax year and will buy shares in the early of the year (Reilly and Brown, 2006).

Behavioral Finance Theory

Behavioral finance theory began to grow rapidly in the 1980s, when many researchers discovered the occurrence of anomalous phenomena in the market. Investors rarely behave in accordance with the assumptions proposed in traditional financial theory. Pompian (2006) defined behavioral finance as a study to understand how psychological phenomenon affects a person’s financial behavior. Behavioral finance tries to analyze biases in decision making process through psychological understanding and apply it to the financial decision making (Byrne and Utkus, 2013).

Behavioral finance uses a model where investors are not always rational, which can be due to preference or false beliefs (Ritter, 2003). This is in line with Shefrin and Statman (2012) who asserted that investors desire, cognitive error and emotion also influence their preference for certain stocks. Behavioral finance theory has two main building blocks which is cognitive biases and limits to arbitrage. Cognitive biases refer to human way of thinking that may create systematic biases and errors, such as over-confidence or preference that causes distortion (Ritter, 2003). Limits to arbitrage
emerge as the result that investors are confronted by a number of factors that limit them to arbitrage, such as risks factor and high costs required (Bodie, et al., 2009). This condition leads rational investors difficult to correct mispricing caused by irrational investors (Barberis and Thaler, 2003).

Behavioral finance theory encompasses two important aspects namely individual investors and the market as a whole (Bikas et al., 2013). In other words, behavioral finance is divided into micro behavioral finance and macro behavioral finance. According to Pomipian (2006), micro behavioral finance discusses the behavior or biases of individual investors that distinguish them from the rational investor's image in traditional finance theory. Meanwhile, macro behavioral finance tries to find and describe the anomalies in an efficient market hypothesis.

Investor Sentiment

De Long et al. (1990) divides investors into two general types, i.e. rational investors who are free sentiments and irrational investors who are prone to exogenous sentiments. Both types of investors are competing in stock market then set price and set their expected stock returns. However, rational investors have limits to arbitrage limitations by various factors. These limits may come from short deadlines, or in terms of costs or trading risks and short selling. As a result, stock price do not always represents its fundamental value. In this model, mispricing emerges due to a combination of two factors, which is sentiment changes in irrational investors and limits to arbitrage on rational investors (Baker and Wurgler, 2007).

There is no consensus on investor sentiment definition in behavioral finance literature to date (Bank and Brustbauer, 2014). Baker and Wurgler (2006) revealed that one of the most appropriate definitions for investor sentiment is the tendency to speculate. In the same journal, they also defined investor sentiment as an optimistic and pessimistic attitude toward a stock in general. Agreeing with the proposed definition, Gizelis and Chowdhury (2016) assessed sentiment as a tendency for market participants to speculate and this attitude can be attributed to the psychological state of the investor. Furthermore, Berger and Turtle (2012) state that investor sentiment is an optimistic or pessimistic condition for future returns.

Generally speaking, there are two main approaches to measure investor sentiment namely bottom up approach and top down approach (Baker and Wurgler, 2007). Bottom up approach or known as indirect approach is a sentiment measurement using psychological bias of individual investors to explain how they react to past returns or to fundamental factors. The instruments used in this approach are surveys or interviews with investors. Top down approach may also be called indirect approach is a sentiment measurement using implicit proxies or variables from relevant market data (Shiller, 2000; Brown and Cliff, 2004; Finter et al., 2012).

Implicit Variables for Investor Sentiment

Despite the numerous potential implicit variables to represent sentiment had been proposed in prior studies (see, Brown and Cliff, 2004; Baker and Wurgler, 2006; 2007; Finter et al., 2010, Naik and Padhi, 2016), many of them are not available in Indonesia, especially for consecutive of 60 months of observation period. Therefore, based on measurement approach and the availability of complete data set, this research used share turnover, dividend premium, price earning ratio and advance decline ratio to measure investor sentiment.

Baker and Stein (2004) argue that turnover (TURN), or commonly known as liquidity, can be a proxy or implicit variable for investor sentiment. Share turnover was also used in Baker and Wurgler (2006; 2007), Yu and Yuan (2011), Changsheng and Yongfeng (2012), as well as Naik and Padhi (2016). Baker and Wurgler (2006; 2007) defined share turnover as the ratio of trading volume to number of outstanding shares.

Dividend premium (P_D-ND) was used in Baker and Wurgler (2006; 2007); Kurov (2010), Berger and Turtle (2012) also in Kumari and Mahakud (2015). Dividend premium was first introduced by Baker and Wurgler (2004), i.e. the difference between the average price book value (PBV) of dividend-paying companies and non dividend-paying companies. In the same study, they used this variable to measure investors' relative demand for dividend payment.

Price earning ratio (PER) was used in Zhu (2012); Naik and Padhi (2016) and Han and Li (2017). Price Earning Ratio (PER) is the ratio of company’s current stock price to its earning per share. PER not only reflects the stock market price, but also the conducive financial situation of the company in the macroeconomic environment.

Advance decline ratio (ADR) was used in Brown and Cliff (2004), Chowdhury et al. (2014) as well as Naik and Padhi (2016). ADR is used to determine the trend of market performance. ADR is a ratio of number of advancing stocks compared...
with number of declining stocks. ADR value above one indicates an uptrend, while value below one indicates a downtrend.

**Stock Return**

The stock return consists of two components, namely dividend yield and capital gain (loss) (Jones, 2014; Tandelilin, 2010). Yield is a component of return that reflects cash flow or income derived periodically from investment (Tandelilin, 2010). In stock investments, the yield is shown by the amount of dividends paid. While Jones (2014) briefly defines capital gain (loss) as a change in stock prices.

The total return is calculated by summing the yield and capital gain (loss) obtained from an investment. However, the calculation of returns in this study will only use the value of capital gain (loss) without considering the aspect of dividend (yield). This is done in order to obtain a better picture of the return volatility caused by the movement of stock price which is influenced by investor sentiment.

There are two methods of calculating average returns, i.e. arithmetic mean method and geometric mean method (Reilly and Brown, 2006; Tandelilin, 2010; Bodie et al., 2014; Jones, 2014). The arithmetic method is the appropriate measure for the central tendency of returns distribution which calculated for a given period (Tandelilin, 2010). However, when looking for the average end value of return that is a compound value over time, geometric method is required. This method is able to describe the actual average return over several periods (Jones, 2014).

**Research Hypothesis**

Hypotheses proposed in this study are as follows:

- H$_7$: Share turnover has significant effect on small-cap stock return.
- H$_8$: Dividend premium has significant effect on small-cap stock return.
- H$_9$: Price Earning Ratio has significant effect on small-cap stock return.
- H$_{10}$: Advance Decline Ratio has significant effect on small-cap stock return.

**RESEARCH METHOD**

**Population and Sample**

This study used time series data, thus population of this research is all of time series data of Indonesia Stock Exchange’s (IDX) active period since officially operate up to now. Sampling method used in this research is purposive sampling. Considering the aspect of data novelty and complete data availability, sample in this study is the period from 2012 to 2016. In order to obtain a better insight of investor sentiment and stock return movement, this study used monthly time series data for five years from January 2012 to December 2016. Thus, the analysis unit in this study is the total of units calculated from the number of months during the observation period 2012-2016 as many as 60 analysis units for all variables studied.

Time series samples were compiled from monthly data of each individual stock that had previously been selected to be in large-cap and small-cap group. The use of these two sample groups is in accordance with the purpose of this study, which is to examine the effect of investor sentiment on large-cap and small-cap stock returns. Individual stock in each sample group should meet certain criteria. First, stocks have been listed on the Indonesia Stock Exchange since December 2011 and still on the board until December 2016. Second, stocks are actively traded throughout the observation period.

Stocks were determined to be large-cap and small-cap group by first dividing all stocks listed on Indonesia Stock Exchange period 2012-2016 into decile based on its market capitalization value. Stocks in the top three deciles for five consecutive observation years were included as large-cap group, while the bottom three deciles were categorized as small-cap group. This method was adopted from the procedures performed by Fama and French (1993), Baker and Wurgler (2006; 2007) and Baker et al. (2012). Out of the 424 companies that meet the main criteria, 91 large-cap companies and 95 small-cap companies were acquired.
Data Analysis Method
Data was analyzed through descriptive statistics and inferential statistics. Inferential statistics consist of several procedures. First, independent sample test was performed as robustness test for this study to make sure the sample groups are independent. Secondly, classical assumption test was conducted before performing multiple regression analysis. Afterwards, multiple regression was used for data analyzing. Finally, hypothesis testing was performed by employing f-test, t-test and determination coefficient.

RESULT AND DISCUSSION
Descriptive Statistics
Descriptive statistics analysis for large-cap sample group is briefly described as follows:

Table 1. Descriptive Statistics of Large-cap Group

<table>
<thead>
<tr>
<th>RETURN</th>
<th>TURN</th>
<th>pD-ND</th>
<th>PER</th>
<th>ADR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>1.217</td>
<td>2.509</td>
<td>1.258</td>
<td>21.737</td>
</tr>
<tr>
<td>Max</td>
<td>8.483</td>
<td>4.361</td>
<td>2.873</td>
<td>26.695</td>
</tr>
<tr>
<td>Min</td>
<td>-8.620</td>
<td>1.426</td>
<td>-1.604</td>
<td>15.541</td>
</tr>
<tr>
<td>Range</td>
<td>17.103</td>
<td>2.935</td>
<td>4.478</td>
<td>11.153</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>4.093</td>
<td>0.572</td>
<td>1.022</td>
<td>2.229</td>
</tr>
<tr>
<td>Variance</td>
<td>16.750</td>
<td>0.328</td>
<td>1.045</td>
<td>4.967</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.976</td>
<td>0.099</td>
<td>-0.976</td>
<td>0.016</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-0.331</td>
<td>1.786</td>
<td>0.872</td>
<td>0.315</td>
</tr>
<tr>
<td>Count</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: Data processed by Author

Descriptive statistics analysis for small-cap sample group is briefly described as follows:

Table 2. Descriptive Statistics of Small-cap Group

<table>
<thead>
<tr>
<th>RETURN</th>
<th>TURN</th>
<th>pD-ND</th>
<th>PER</th>
<th>ADR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.916</td>
<td>2.651</td>
<td>-0.123</td>
<td>10.986</td>
</tr>
<tr>
<td>Max</td>
<td>9.181</td>
<td>9.626</td>
<td>2.369</td>
<td>17.804</td>
</tr>
<tr>
<td>Min</td>
<td>-6.007</td>
<td>0.740</td>
<td>-1.478</td>
<td>4.387</td>
</tr>
<tr>
<td>Range</td>
<td>15.188</td>
<td>8.886</td>
<td>3.847</td>
<td>13.418</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>3.220</td>
<td>1.880</td>
<td>0.958</td>
<td>2.396</td>
</tr>
<tr>
<td>Variance</td>
<td>10.367</td>
<td>3.535</td>
<td>0.918</td>
<td>5.743</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.308</td>
<td>1.955</td>
<td>1.230</td>
<td>0.075</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>0.185</td>
<td>4.179</td>
<td>0.830</td>
<td>1.091</td>
</tr>
<tr>
<td>Count</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: Data processed by Author

Mann Whitney U Test
Mann Whitney U test is a non-parametric test to examine the difference in mean of two different or independent samples. Hypotheses on Mann Whitney test are as follows. H0: There is no difference between two sample groups. H1: There is difference between two sample groups.

Table 3. Mann Whitney U test Result

<table>
<thead>
<tr>
<th>RETURN</th>
<th>TURN</th>
<th>pD-ND</th>
<th>PER</th>
<th>ADR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mann-Whitney U</td>
<td>1410.50</td>
<td>1408.0</td>
<td>625.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Wilcoxon W</td>
<td>3240.50</td>
<td>3238.0</td>
<td>2455.0</td>
<td>1833.0</td>
</tr>
<tr>
<td>Z</td>
<td>-2.04</td>
<td>-2.06</td>
<td>-6.17</td>
<td>-9.43</td>
</tr>
<tr>
<td>Asymp Sig. (2-tailed)</td>
<td>.041</td>
<td>.040</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

Source: Data processed by Author

Table 4. Multiple Regression of Large-cap Group

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>t Sig.</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1 (TURN)</td>
<td>0.023</td>
<td>0.917</td>
<td>Rejected</td>
</tr>
<tr>
<td>X2 (P^D-ND)</td>
<td>0.369</td>
<td>0.013</td>
<td>Accepted</td>
</tr>
<tr>
<td>X3 (PER)</td>
<td>0.028</td>
<td>0.781</td>
<td>Rejected</td>
</tr>
<tr>
<td>X4 (ADR)</td>
<td>1.878</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.734</td>
<td>Alpha</td>
<td>0.05</td>
</tr>
<tr>
<td>Multiple R</td>
<td>0.867</td>
<td>F</td>
<td>41.576</td>
</tr>
<tr>
<td>R^2</td>
<td>0.751</td>
<td>F Sig.</td>
<td>0.000</td>
</tr>
<tr>
<td>Adj. R^2</td>
<td>0.733</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Data processed by Author

Multiple Regression Analysis
The result of multiple regression performed in this study is exhibited in table 4 as follows:

Table 5. Multiple Regression of Small-cap Group

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>t Sig.</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1 (TURN)</td>
<td>0.283</td>
<td>0.037</td>
<td>Accepted</td>
</tr>
<tr>
<td>X2 (P^D-ND)</td>
<td>-0.569</td>
<td>0.018</td>
<td>Accepted</td>
</tr>
<tr>
<td>X3 (PER)</td>
<td>0.224</td>
<td>0.021</td>
<td>Accepted</td>
</tr>
<tr>
<td>X4 (ADR)</td>
<td>3.484</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>Constant</td>
<td>-5.936</td>
<td>Alpha</td>
<td>0.05</td>
</tr>
<tr>
<td>Multiple R</td>
<td>0.897</td>
<td>F</td>
<td>56.485</td>
</tr>
<tr>
<td>R^2</td>
<td>0.804</td>
<td>F Sig.</td>
<td>0.000</td>
</tr>
<tr>
<td>Adj. R^2</td>
<td>0.790</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Data processed by Author

As for small-cap group, the regression equation is RETURN = -5.936 + 0.283TURN – 0.569P^D-ND + 0.224PER + 3.484ADR. According to the regression, the result of F-test evidences that RETURN, P^D-ND, PER and ADR simultaneously have significant effect on large-cap stock return. Furthermore, all of independent variables in small-cap group have t sig. value < 0.05 meaning that TURN, P^D-ND, PER and ADR partially have
significant effect on small-cap stock return. Lastly, Adj. R² points a value of 0.790 meaning that all independent variables in small-cap group are able to collectively explain 79% of small-cap stock return.

Simultaneous Result

According to the analysis it is proven to accept hypothesis H1 and H6. In other words, TURN, PëND, PER and ADR simultaneously have significant effect on both large-cap and small-cap stock return. These variables represent investor sentiment as measured by top-down approach. Thus, it can be said that there is a significant effect of investor sentiment on both large-cap and small-cap stock return. This is in accordance with Finter et al. (2010) who stated that investor sentiment has an important role in explaining current stock return.

On determination coefficient test, small-cap group has higher Adj. R² equivalent to 79% while the Adj. R² of large-cap group is 73.3%. This result is in line with Barker and Wurgler (2006; 2007) who stated that small-cap stock return tend to be more susceptible to investor sentiment. Similar results were also submitted by Raissi and Missaoui (2015) who found that investor sentiment is more influential on small-cap companies. This result, however, contradicts Chowdhury et al. (2014) who found that large-cap stocks tend to be more prone to sentiment.

Share Turnover

Based on the data analysis, it is obtained result to reject hypothesis H3 and accept hypothesis H7. Share turnover has no significant effect on large-cap stock return. This result due to large-cap share turnover has smaller and more stable turnover value compared to the small-cap share turnover. This is in accordance with Barker and Wurgler (2006; 2007) who found that hard-to-arbitrage stocks, such as smaller stocks tend to be preferred by speculators and optimistic investors. In contrast, large-cap stocks tend to be more easily valued and easy to arbitrage, thus less attracting for speculators and optimistic investors. Hence, large-cap share trading flows are more dominated by rational investors who tend to have stable trading frequency.

On the other hand, hypothesis H7 is successfully proven that share turnover has positive significant effect on small-cap stock return. Increased liquidity will push stock price up so it can indicates overvaluation. This is in accordance with Raissi and Missaoui (2015) who stated that when investors are optimistic, irrational investors will increase their trading frequency so as to boost stock prices and cause overvaluation. As a result, during the uptrend period, the current stock returns also increase temporarily. However, this does not necessarily apply to subsequent stock returns, as there may have been a correction of mispricing as described by Baker and Wurgler (2006; 2007).

Dividend Premium

On hypothesis H3 test, the result shows that dividend premium has significant positive effect on large-cap stock return. Large-cap companies pay more dividend than small-cap companies. This causes investors who invest in large-cap stock tend to prefer dividends rather than capital gains. High dividend premium signifies many companies pay dividends, which will create a positive sentiment on market and make investors optimistic (bullish). Increased sentiment tends to cause overvaluation which ultimately has a positive effect on current stock return. This result is consistent with Changsheng and Yongfeng (2012), Kumari and Mahakud (2015), Raissi and Missaoui (2015), also Naik and Padhi (2016), suggesting that stocks will have a higher (lower) returns when investors are bullish (bearish).

In contrast to hypothesis H8 test, dividend premium has significant negative effect on small-cap stock return. This is due to the rarity of dividend-paying in small-cap companies. Based on data analysis, it is known that non dividend-paying companies have more volatile monthly PBV value compared to dividend-paying companies. This leads to low dividend premium value in small-cap stocks and even negative values of dividend premium are frequently be found in this group.

 Investors who invest in small-cap stocks aim to maximize capital gain rather than pursue dividend yield. Therefore, the lower the dividend premium value, meaning more and more companies do not pay dividends. Non dividend-paying companies tend to have higher volatility, thus favored by speculators and optimistic investors. Investors usually act irrationally in order to maximize obtainable abnormal return. Under such conditions, many irrational investors begin to increase volume and frequency of their trades, which leads to an increase in stock prices. An increase in stock price will lead to a temporary increase in current stock returns. In other words, premium dividends have a negative effect on small-cap group stock returns.
Price Earning Ratio
This study resulted evidence to reject hypothesis $H_1$ and accept hypothesis $H_5$. Simply put, price earning ratio (PER) has no significant effect on large-cap stock return whilst showing significant positive effect on small-cap stock return. The PER factor is not the only factor considered by investors in investment decision making on large-cap stocks group. Investors in large-cap stock generally consider various factors, both financial information and non-financial information in designing their portfolios.

On contrary, PER has significant positive effect on small-cap stock return. Investors assume that the higher PER allows market price of each share to increase, so investors will get higher return from stock price changes. This is in accordance with Naik and Padhi (2016) also Zhu (2012) who explained that the increasing value of PER indicates the bullishness in market, thus resulting in increasing stock prices followed by the increase in current stock returns.

Advance Decline Ratio
Advance Decline Ratio (ADR) is a ratio of number of advancing stocks compared with number of declining stocks. According to data analysis, the result is to accept both hypothesis $H_5$ and hypothesis $H_{10}$. This study evidenced the significant positive effect of ADR on both large-cap and small-cap stock return. In other words, an increasing ADR value will cause significant increase in large-cap and small-cap stock return.

ADR is one of the indicators that provide an overview of market performance trends. Chowdhury et al. (2014) explained that the higher ADR value indicates the bullishness or uptrend in the market. Therefore, investors believe that stock price will keep increasing, which will ultimately affect their current return positively. This result is in accordance with Changsheng and Yongfeng (2012), Kumari and Mahakud (2015), Raissi and Missaoui (2015), also Naik and Padhi (2016), who found that stocks will have a higher (lower) return rate when investors are bullish (bearish).

CONCLUSIONS AND SUGGESTIONS

Conclusions
Based on result of this study, the following conclusions are obtained:

1. Share turnover, premium dividend, price earning ratio and advance decline ratio simultaneously have significant effect on both large-cap and small-cap stock return. This is evidenced by F sig. value of 0.000 or smaller than 0.05 on both sample groups. On determination coefficient test, small-cap group has higher Adj. $R^2$ value of 79% while the Adj. $R^2$ of large-cap group is 73.3%.

2. Share turnover has no significant effect on large-cap stock return. This is denoted by t sig. value of 0.917 or higher than 0.05. On the other hand, share turnover has significant positive effect of on small-cap stock return. This is evidenced by t sig. value of 0.037 or smaller than 0.05.

3. This study highlight the finding of dividend premium’s effect toward stock return on both sample groups. The result shows that dividend premium has significant positive effect on large-cap stock return, whereas has negative significant effect on small-cap return. This is evidenced by t sig. value of 0.013 for large-cap group and 0.018 for small-cap group.

4. Price earning ratio has no significant effect on large-cap stock return. This is denoted by t sig. value of 0.781 or higher than 0.05. On the other hand, price earning ratio has significant positive effect of on small-cap stock return. This is proven by t sig. value of 0.021 or smaller than 0.05.

5. Advance decline ratio has significant positive effect on both large-cap and small-cap stock return. This is denoted by t sig. value of 0.000 or smaller than 0.05 on both sample groups, large-cap and small-cap group as well.

Suggestions
Based on the results, conclusions and limitations in this study, some suggestions are as follows:

1. Investor sentiment plays an important role on stock return in Indonesia stock market especially on small-cap stock return. Therefore, investors should design their investment portfolio based on a thorough analysis, using either fundamental analysis or technical analysis or both, while also considering behavioral factors in the market.

2. Future research is expected to answer further questions related to investor sentiment, e.g. explaining the role of sentiment in predicting future stock returns and examining how long mispricing caused by sentiment can last. Further research is also expected to use more variables to measure investor sentiment, using either bottom-up or top-down approach. The addition of observation period is also needed.
REFERENCES


