INFORMATION CONTENT AND INTRA-INDUSTRY EFFECT OF STOCK SPLITS: EVIDENCE FROM INDONESIA

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ABSTRACT

This study examines the information content of stock split announcements. It is hypothesized that there are abnormal returns around the stock split announcement dates. Negative AARs are found before and after the announcement. The negative reaction after the stock split announcement suggests that a stock split may be deemed bad news. This finding does not support the signaling hypothesis which suggests that stocks splits function as management's signals of good future prospect. When splitting the data by the growth level of the firm, we find that the stock prices growing firms and non growing firms react differently to a stock split announcement. An intra-industry examination shows negative AAR substantiating the contagion effect that the price of non-splitting firms in the same industry also react to the split announcement. This implies that a stock split is not a firm-specific event, but it also influences the industry.

JEL: G14, G15

KEYWORDS: stock split, intra-industry effect, liquidity and signaling hypothesis, contagion effect.

INTRODUCTION

In an efficient market, new information is quickly reflected in securities prices. The market will process information that is relevant and then evaluate stock prices based on the information. One piece of information to which investors usually pay attention is a stock split. A stock split is a company action to add outstanding shares and give them to stockholders by splitting an outstanding stock into certain multiples (such as two, three, or more) (Brigham and Daves 2004).A company that announces a stock split tries to convey good information on firm value to the market.

Several previous studies reveal that the market reacts positively to a stock split announcement. This positive reaction is indicated by the prevalence of positive abnormal returns around the announcement date. Fama, Fisher, Jensen, and Roll (1969, in Fama 1970), Grinblatt, Masulis, and Titman (1984), Lakonishok and Lev (1987), Asquith, Healy, and Palepu (1989), McNichols and Dravis (1990), and Desai and Jain (1997) find abnormal returns around the stock split announcement date. The positive reaction is explained by two hypotheses: (1) information content hypothesis and trading range hypothesis (Grinblatt et al. 1984). The information content hypothesis predicts that investors positively react to a stock split since the event indicates an increase in cash dividends or earnings in the future. Meanwhile, the trading range hypothesis suggests that a company splits its stocks to improve trade liquidity by moving its stock price into an optimum trading range. This explanation is supported by the opinion that companies conducting stock splits will be attract investors due to their lower stock prices.

Companies in a particular industry tend to be affected by announcements of other companies in the same industry. This effect is known as the intra-industry effect, which is a transfer of information from the company announcing an event (reporter) to other companies in the same industry that do not report any event (non-reporter). This information transfer manifests itself b significant abnormal returns on other

companies in the same industry. The reaction to a company's announcement can impact, either positively or negatively, non-reporting companies within the same industry.

For companies that do not announce a stock split (non-splitting firms), the direction of stock price depends on whether the information contains a net contagion effect or a competitive effect (Asquith et al. 1989). If the non-splitting firms' stock price reacts in the same direction, it means there is a contagion effect; otherwise, it is considered a competitive effect. A significant change in the non-splitting firms' stock price may imply that a stock split announcement is not only a specific company's event, but it also influences the industry. On the other hand, insignificant stock price reactions may indicate that the stock split announcement only provides firm-specific information. In addition, the stock split announcement may have an intra-industry effect, but the contagion effect is offset by the competitive effect on other companies within the industry.

Setiawan and Hartono (2002) utilized the investment opportunity set (IOS) to proxy for company's prospects. The IOS is estimated using market-to-book (M/B) ratio to represent company characteristic as a growing or non-growing company. The IOS also indicates the growth of firm equity. A company is categorized as growing company if its M/B ratio is higher than one; otherwise, it is classified as a non-growing company. Setiawan and Hartono (2002) divided their sample into two groups: (1) growing firms and (2) non-growing firms. The logic is that if the market is smart, it will only react positively to company actions made by growing firms whereas the actions of non-growing firms will not entice a reaction or could result in a negative reaction. They find that the Indonesian Stock Exchange is relatively efficient informationally but has yet to be decisionally efficient. This decisional inefficiency appears from the wrong reactions. The market is inclined to react positively to dividend-increase announcements made by non-growing firms. Theoretically, the market should have penalized these firms since they increase dividend payment despite the fact that they may not be capable of generating cash flows and maintaining the dividend level in the future.

Motivated by mixed empirical evidence from previous research, this study has the following objectives: (1) to examine the information content of stock split announcements by categorizing company characteristic into growing and non-growing firms and (2) to test the intra-industry effect of stock split announcements made by both growing firms and non-growing firms. This is done by examining the extent to which the abnormal returns of splitting firms have an influence on the abnormal returns of non-splitting firms within the same industry.

More specifically, this paper addresses the following research questions: (1) is there any market reaction to stock split announcements shown by abnormal returns? (2) is there a difference in market reaction between announcements made by growing firms and those made by non-growing firms? (3) is there any intra-industry effect on non-splitting firms when stock split announcements are made? (4) is there any intra-industry effect when either growing firms or non-growing firms announce stock splits? and (5) do abnormal returns and growth of companies conducting stock splits influence abnormal returns on firms not announcing stock splits in the same industry?

The remainder of this paper is organized as follows. In the next section we discuss the relevant literature and develop our testable hypotheses. Next, we discuss the data and methodology used in the paper. The following section is presents the empirical results. The paper closes with some concluding comments.

LITERATURE REVIEW AND HYPOTHESES

A stock split is a form of information provided or strategy devised by a firm to increase the number of shares outstanding. The main rationale behind a stock split is to decrease the stock price without any impact on its balance sheet. A stock split is commonly conducted when the stock price is considered too

high such that the ability and willingness of investors to trade the stock deteriorate. Hence, a stock split is an effort by management to manage the optimum level of stock price.

McGough (1993) argues that benefits expected from conducting a stock split are to: (1) decrease the stock price to attract investors and improve liquidity, (2) enhance the marketability and market efficiency, (3) change the investors' preferences from odd lots to round lots, and (4) give a strong signal to the market that management is optimistic about the company's future growth. However, some academics and practitioners warn that stock splits may not increase value for the following reasons: (1) the future stock price range has to be decided with caution such that the firm will not be an acquisition target, (2) the current stock price may be insufficient to warranty a stock split decision, (3) the stock price upon a stock split could position the firm at the lower level in the industry, (4) the increase in the number of shareholders may lead to increased expenses, and (5) the cost of conducting a stock split is considerable (McGough 1993).

In general, a stock split would benefit the firm if its stock price is relatively high compared to peers within the same industry. The stock price is to be maintained at an optimum range based on price movement estimates. Accordingly, management basically tries to avoid a stock price that is too high or too low in comparison with competitors in the industry. If the stock price is too low, it may destroy value and company image and will send the wrong signal to the market. On the other hand, too high a stock price will hinder investors' interests in purchasing the stock such that stock trading liquidity impoverishes (McGough 1993). According to Baker and Powell (1993), the motivations to conduct stock splits can be divided into a liquidity hypothesis and signaling hypothesis. The liquidity hypothesis argues that the motivation of management to conduct a stock split is to improve its stock trading liquidity. Meanwhile, the signaling hypothesis argues that although a stock split announcement does not affect the firm's assets and operations, the announcement per se will increase firm value as investors interpret the announcement as a positive signal about the firms future prospects.

Empirical research on stock splits has been widely conducted. Pilotte (1997) reports positive abnormal returns on the announcement date. Ikenberry et al. (1996) also find evidence of positive abnormal returns for splitting firms, indicating that the market considers a stock split announcement good news. A study by Fatmawati (1999) on Indonesian firms shows that stock splits have information contents and the market interprets the announcements as a positive signal about firm performance. However, stock split announcements are not always received positively. Reboredo (2003) conducts research on companies doing stock splits in Spain in the period of 1998-1999. The result shows that a negative abnormal return, rejecting the signaling hypothesis. Similarly, Kurniawati (2001) documents a negative influence of stock splits on stock prices.

This research tries to analyze this issue more in depth by dividing the firms along their growth patterns. Specifically, firms categorized as growing and non-growing are compared. This purports to observe the impact of different characteristics of companies conducting stock splits. The following hypotheses are then examined:

H1: There are abnormal returns around stock split announcement dates for splitting firms.
H2: There are abnormal returns around stock split announcement dates for growing splitting firms.
H3: There are abnormal returns around stock split announcement date for non-growing splitting firms.
H4: There is a difference in abnormal returns between growing splitting firms and non-growing splitting firms around stock split announcement dates.

Intra-industry effect appears when a company announces information and that information influences other companies' stock prices within the same industry. Various studies on information transfer have proved that an event announcement by a reporter will have an impact on stock price of non-reporting

firms within the same industry. For non-splitting firms, the direction of stock price movement depends on whether the information has net contagion effect or competitive effect (Asquith et al. 1989). If the stock prices of non-splitting firms reacts in the same direction as those of splitting firms, the contagion effect prevails. Otherwise, it is known as a competitive effect. Previous research shows mixed finding on this issue. Asquith et al. (1989) find that positive information conveyed through stock splits leads to significant increases in stock prices of non-splitting firms. Meanwhile, Lang and Stulz (1992) report that in a concentrated industry, a particular event may trigger a change in competition within the industry. Hence, an event announcement by a firm would result in the opposite effect on the stock prices of other firms in the industry. This reaction is called competitive effect. Akhigbe and Madura (1996) find that the existence of contagion effects and competitive effects is influenced by industry characteristics (cash flow, leverage, change opportunity, and monopolistic power). Their research documents that the contagion effect is more likely for non-splitting firms that have high growth opportunities and high leverage whereas a competitive effect is more likely to appear when splitting firms have a high monopolistic power. In this study, the following hypotheses are to be tested:

H5: Stock split announcements result in abnormal returns for non-splitting firms within the same industry.
H6: Stock split announcements by growing firms result in abnormal returns for non-splitting firms within the same industry.
H7: Stock split announcements by non-growing firms result in abnormal returns for non-splitting firms within the same industry.

RESEARCH METHOD

In this section we discuss the research methodology. The discussion is divided into three sections. In the first section we discuss the data sources and sample. In the second section the research variables are identified. In the third section the analysis methods are presented.

Data Sources and Sample

Data used are secondary data collected from: (1) Center for Business and Economic Database of Faculty of Economics and Business, Universitas Gadjah Mada. Information on stock prices, stock returns, Jakarta composite index, daily abnormal returns, corporate actions, stock split dates were obtained from this source; (2) Indonesian Capital Market Directory from 2000 to 2007 was used to identify companies conducting stock splits, their announcement dates, industry categories, outstanding shares, and book values of equity; and (3) Indonesian Stock Exchange (ISX). This study observes stock split announcements in the period of 2000-2006.

The sample employed includes companies that announced stock splits from 2000 to 2006 and all other companies in the same industries. The sample is divided into two groups: (1) splitting firms and (2) non-splitting firms. The splitting firms are further categorized into: (1) growing splitting firms and (2) non-growing splitting firms. We exclude from the sample firms that announced other events or corporate actions such as earnings, mergers and acquisitions, dividends, and right issues. Based on the criteria, 69 companies are included in the sample for splitting firms, comprising 46 growing splitting firms and 23 non-growing splitting firms. There are 526 companies for the sample of non-splitting firms. Table 1 describes the sample distributions of splitting and non-splitting firms.

Research Variables

This study is focused on abnormal returns on splitting and non-splitting firms within the industry to observe intra-industry effects. Hence, several measures are used in this study, and described as follows:

Abnormal return is defined as the difference between realized return and expected return. Abnormal return in this study is calculated using the market-adjusted model, which assumes that the best estimator of stock return is the market return on that day. The ISX is considered a developing capital market with a thin trading problem where some stocks are inactively traded. The window period in this study follows numerous previous studies, which are from t-10 to t-1 for the pre-stock split period and from t+1 to t+10 for the post-stock split period. This method is applied both to splitting firms and non-splitting firms. Steps taken are as follows:

Table 1: Sample Distributions of Splitting and Non-Splitting Firms

Year	Initial Sample	Final Sample	Sample Not Used
Panel A: Splitting Firms			
2000	20	16	1 stock dividend 3 incomplete data
2001	14	12	2 cash dividends
2002	11	9	2 cash dividends
2003	8	5	1 share bonus 1 dividend bonus 1 incomplete data
2004	15	14	1 right issue
2005	7	5	1 incomplete data 1 cash dividend
2006	9	8	1 incomplete data
Total	84	69	
Panel B: Non-Splitting Firms			
2000	120	108	9 cash dividends 3 share bonus
2001	102	96	5 cash dividends 1 right issue
2002	85	74	8 cash dividends 1 right issue 2 reverse stock splits
2003	51	49	1 stock dividend 1 reverse stock split
2004	105	102	1 cash dividend 1 reverse stock split 1 incomplete data
2005	46	44	2 cash dividends
2006	57	53	2 cash dividends 2 reverse stock split
Total	566	526	

Panel A shows sample distribution of splitting firms whereas Panel B shows sample distribution of non-splitting firms.

Step 1 Calculate stock return:

$$R_{i,t} = \frac{P_{i,t} - P_{i,t-1}}{P_{i,t-1}} \quad (1)$$

where:

$R_{i,t}$ = return on stock i on day t

$P_{i,t}$ = price of stock i on day t

$P_{i,t-1}$ = price of stock i on day t-1

In order to calculate the return when a stock split takes place, an adjustment should be made to take into consideration the decrease in stock price due to the split. The adjusted return is:

$$R_{i,t} = \frac{(P_{i,t} x\ SF) - P_{i,t-1}}{P_{i,t-1}} \quad (2)$$

where SF = split factor

Step 2 Calculate market return:

$$R_{m,t} = \frac{JCI_t - JCI_{t-1}}{JCI_{t-1}} \quad (3)$$

where:

$R_{m,t}$ = market return on day t
JC_{It} = Jakarta composite index on day t
JC_{It-1} = Jakarta composite index on day t-1

Step 3 Calculate abnormal return using the market-adjusted model:

$$AR_{i,t} = R_{i,t} - R_{m,t} \quad (4)$$

where:
$AR_{i,t}$ = abnormal return on stock i on day t
$R_{i,t}$ = return on stock i on day t
$R_{m,t}$ = market return on day t

Step 4 Compute the Market-to-book (M/B) ratio

M/B ratio is used as a proxy for the characteristic of growing versus non-growing firm.

$$M/B = \frac{Outstanding\ \ shares\ x\ Closing\ \ stock\ \ price}{Total\ \ equity} \quad (5)$$

The difference between market value and book value of equity indicates a company's investment opportunities. Companies with M/B ratio higher than one (high investment opportunity) are categorized as growing firms. Firms with M/B ratio is less than one (low investment opportunity) are classified as non-growing.

Analysis Methods

The data analysis methods employed in this research are basically divided into two main approaches: (1) the examinations of hypotheses one to four are conducted using an event study approach with the market-adjusted model. A t-test is utilized to test their significances. (2) the influence of firm characteristic (growing or non-growing firm) proxied by market-to-book value of equity is analyzed using ordinary least squares regression. Analysis methods are formulated as follows:

Calculate daily average abnormal return (AAR) on all stocks observed during the event period:

$$AAR_{N,t} = \frac{\sum_{i=1}^{N} AR_{i,t}}{N} \quad (6)$$

where:
$AAR_{N,t}$ = average abnormal return on all stocks on day t
$AR_{i,t}$ = abnormal return on stock i on day t
N = number of stocks in the subsample

Calculate cumulative average abnormal return (CAAR):

$$CAAR_{t-x,t} = \sum_{x=10}^{t-1} AAR_{N,t} \quad (7)$$

where:

$CAAR_{t-x,t}$ = cumulative average abnormal return from day t-x to day t

Calculate standard error of estimate:

$$SEE_t = \sqrt{\frac{\sum_{i=1}^{k}(AR_{i,t}-\overline{AR_{i,t}})^2}{N-1}}\, x\, \frac{1}{\sqrt{N}} \quad (8)$$

where:
SEE_t = standard error of estimate on day t
$AR_{i,t}$ = abnormal return on stock i on day t
$\overline{AR_{i,t}}$ = abnormal return on k-stocks on day t
N = number of stocks in the subsample

Calculate t-statistic:

$$t - statistic = \frac{AAR_{N,t}}{SEE_t} \quad (9)$$

where:

$AAR_{N,t}$ = average abnormal return on all stocks on day t
SEE_t = standard error of estimate on day t

RESULTS AND ANALYSIS

This study firstly examines the information content of stock split announcements. It is hypothesized that there are abnormal returns around the stock split announcement dates. In order to test this hypothesis, average abnormal returns (AARs) are calculated in every event period from all stocks in the sample that announce stock splits. A t-test, is used to determine whether AAR in every event period is significantly different from zero. Positive abnormal returns indicate good news and negative ones represent bad news. We use a significance level (alpha) of five percent.

Table 2 shows that days t-5, t+1, t+2, t+3, t+4, t+5, t+6, t+8, t+10 have negative AARs, indicating that investors earn stock returns lower than expected. However, only negative AARs on days t-8, t-7, t+5, and t+6 are statistically significant where three of them (t-7, t+5, and t+6) are negatively significant. On the announcement day, the market reacts positively with an AAR of 0.005058696, but it is not significant.

Table 2: One Sample t-test on Splitting Firms' AARs

Day	AAR	CAAR	Day	AAR	CAAR
t-10	0.0019	0.0019	t+1	-0.0224	0.0472
t-9	0.0083	0.0103	t+2	-0.0017	0.0455
t-8	0.0125***	0.0228	t+3	-0.0068	0.0386
t-7	0.0144***	0.0373	t+4	-0.0040	0.0345
t-6	0.00003	0.0373	t+5	-0.0108**	0.0237
t-5	-0.0143	0.0230	t+6	-0.0136***	0.0100
t-4	0.0058	0.0289	t+7	0.0001	0.0102
t-3	0.0171	0.0460	t+8	-0.0067	0.0035
t-2	0.0152	0.0613	t+9	0.0004	0.0039
t-1	0.0033	0.0646	t+10	-0.0264	-0.0225
t-0	0.0050	0.0697			

**significant at 10% level, **significant at 5% level, ***significant at 1% level. Table 2 shows splitting firms' average abnormal returns (AARs) and cumulative AARs where* $AAR_{N,t} = \frac{\sum_{i=1}^{N} AR_{i,t}}{N}$ *and* $CAAR_{t-x,t} = \sum_{x=10}^{t-1} AAR_{N,t}$

The negative reaction in the wake of stock split announcements (days t+5 and t+6) suggests that a stock split may be considered bad news. This is probably impacted by a large change in stock price after the split, and investors feel uncertain about the company's prospects in the future. This finding does not substantiate the signaling hypothesis that stocks splits function as management's signals of good future prospects. The evidence also shows that the market has reacted on days t-8 and t-7 before the stock split; nevertheless, the significant reaction disappears after t-7. The market is considered quick in collecting and reacting to new information, and able to capitalize on it.

Subsequently, we examine the information content of stock split announcements made by growing firms. In order to conduct this test, AARs of 46 growing firms that announce stock splits are calculated in every event period. Using t-test, this study identifies whether AAR in every event period is significantly different from zero. Table 3 Panel A shows the evidence of this test.

Table 3: One Sample t-tests on Growing and Non-Growing Splitting Firms' AARs

	Panel A: Growing Splitting Firms		**Panel B: Non-Growing Splitting Firms**	
Day	AAR	CAAR	AAR	CAAR
t-10	0.0029	0.0029	-0.00006	-0.00006
t-9	0.0071	0.0101	0.0107	0.0106
t-8	0.0137	0.0239	0.0100	0.0206
t-7	0.0113**	0.0352	0.0207	0.0414
t-6	-0.0001	0.0350	0.0004	0.0419
t-5	-0.0203	0.0147	-0.0023	0.0396
t-4	0.0005	0.0152	0.0166	0.0562
t-3	0.0272	0.0424	-0.0030	0.0531
t-2	0.0132	0.0556	0.0193	0.0725
t-1	0.0009	0.0566	0.0082	0.0807
t-0	0.0007	0.0573	0.0136	0.0944
t+1	-0.0124	0.0448	-0.0423	0.0520
t+2	-0.0052	0.0396	0.0053	0.0574
t+3	-0.0063	0.0333	-0.0080	0.0493
t+4	-0.0028	0.0304	-0.0066	0.0427
t+5	-0.0101**	0.0203	-0.0120	0.0306
t+6	-0.0106***	0.0097	-0.0198	0.0108
t+7	0.0001	0.0098	0.0003	0.0111
t+8	-0.0079	0.0019	-0.0043	0.0067
t+9	-0.0035	-0.0016	0.0082	0.0149
t+10	-0.0378	-0.0394	-0.0037	0.0112

**significant at 10% level, **significant at 5% level, ***significant at 1% level, Panel A of Table 3 shows growing splitting firms' AARs and CAARs while Panel B of Table 3 shows growing splitting firms' AARs and CAARs;* $AAR_{N,t} = \frac{\sum_{i=1}^{N} AR_{i,t}}{N}$ *and* $CAAR_{t-x,t} = \sum_{x=10}^{t-1} AAR_{N,t}$

The result is not much different from that of splitting firms as a whole. The table above shows that negative AARs are noticed on days t-5, t-6, t+1, t+2, t+3, t+4, t+5, t+6, t+8, t+9, and t+10. However, only days t+5 and t+6 show significantly negative AARs. These significant AARs indicate that stock split announcements convey information. On the announcement date, the market reacts positively with an AAR of 0.000758913, but this is insignificant. Negative reaction on consecutive days after the split announcement implies that stock splits may be considered bad news by the market. Again, this finding does not corroborate the signaling hypothesis. Furthermore, this evidence indicates that although investors on the Indonesian Stock Exchange are quick in finding new information, they are not so smart with respect to making decisions based on the information. The split announcement made by growing firms should have been received positively by the investors. Hence, they do not pay attention to the characteristic of a company announcing the stock split.

The third test is conducted on non-growing firms that announce stock splits. Twenty-three stocks of non-growing companies in the sample are used to calculate an AAR in each event period. Table 3 Panel B shows that days t-10, t-5, t-3, t+1, t+3, t+4, t+5, t+6, t+8, and t+10 have negative AARs, but these are not significant. It means that there is no information content in stock split announcements made by non-

growing firms. On the announcement day, the market reacts positively with an AAR of 0.013658261, but this is insignificant. This finding basically supports the theory that a stock split entails costs such that only companies with good prospects have a willingness to bear the costs (Copeland, Weston, and Shastri 2005). On the other hand, companies with no good prospect may try to convey an invalid signal through a stock split, but this signal will not result in a reaction if market participants are well informed.

Next, we wish to test whether there is a difference in reaction between stock split announcements made by growing companies and those made by non-growing firms. Event periods observed are from t-0 to t+3. The result of this testing is not significant, meaning that there is no difference in cumulative abnormal returns around stock split announcement days between splits made by growing firms and those made by non-growing firms. This is in line with the findings shown in Table 3 that stock split announcements made by both growing and non-growing firms trigger the same reaction, a negative reaction. Again, this finding also indicates the tendency of the market to analyze information without relating the information to the characteristic of company. Subsequently, we want to see if there is an intra-industry information impact on non-splitting firms as a result of a stock split announcement. For this, AARs on the non-splitting firms are calculated around stock split announcement dates for every event period. The result is shown in Table 4 below.

Table 4: AARs on Non-splitting Firms around Stock Split Announcement Dates

Day	AAR	Day	AAR
t-10	-0.0007	t+1	-0.0065**
t-9	0.0016	t+2	0.0013
t-8	-0.0002	t+3	-0.0030
t-7	0.0023	t+4	0.0003
t-6	-0.0026	t+5	-0.0000
t-5	-0.0003	t+6	-0.0024
t-4	0.0023	t+7	0.0001
t-3	-0.0019	t+8	-0.0000
t-2	-0.0011	t+9	-0.0008
t-1	0.0020	t+10	-0.0018
t-0	-0.0042		

**significant at 10% level, **significant at 5% level, ***significant at 1% level. Table 2 shows non-splitting firms' AARs around stock split announcement dates where* $AAR_{N,t} = \frac{\sum_{i=1}^{N} AR_{i,t}}{N}$

Table 4 shows that after the stock split announcement, there is one day found with significant AAR, which is day t+1, and the AAR is negative. The negative AAR substantiates the contagion effect, suggesting that the reaction of non-splitting firms is in the same direction with that of splitting firms. This evidence is possibly led by homogeneity of companies within the same industry such that information released by a company in a particular direction will be responded in the same direction by other companies in the industry. Besides, the significant AAR also shows that stock split is not only a firm-specific event, but it also influences the industry. The intra-industry effect can also be separated into: (1) intra-industry effect of growing splitting firms on non-splitting firms and (2) intra-industry effect of non-growing splitting firms on non-splitting firms.

Table 5 Panel A depicts that AARs are significantly negative on the stock split announcement date and one day after the announcement. This also supports the contagion effect where the reaction takes place in the same direction between growing firms that announce stock splits and other non-splitting companies in the same industry. Meanwhile, Table 5 Panel B depicts the test results on intra-industry effect of stock split announcements made by non-growing firms on non-splitting firms in the same industry. The only significant reaction happens on day t+6 with an AAR of -0.00496. The reaction on other days is not significant. Recall from Table 3 Panel B that all AARs for every event period around stock split announcements made by non-growing firms are not significant. Hence, Table 5 Panel B basically corresponds with Table 3 Panel B in which reaction in the same direction is observed between non-

growing splitting firms and non-splitting firms. Both earn insignificant AARs, showing a contagion effect.

Table 5: AARs on Non-splitting Firms around Stock Split Announcement Dates Made by Growing and Non-Growing Splitting Firms

	Panel A: Split Announcements Made by Growing Firms	**Panel B: Split Announcements Made by Non-Growing Firms**
Day	AAR	AAR
t-10	-0.0014	0.00450
t-9	-0.0004	0.00244
t-8	0.0012	-0.00027
t-7	0.0010	0.00190
t-6	-0.0011	-0.00299
t-5	-0.0021	0.00340
t-4	0.0034	0.00384
t-3	-0.0018	-0.00411
t-2	-0.0009	0.00243
t-1	0.0051	0.00135
t-0	-0.0048**	-0.00346
t+1	-0.0060**	-0.00344
t+2	0.0022	0.00422
t+3	-0.0001	-0.00316
t+4	0.0003	-0.00331
t+5	-0.0000	-0.00050
t+6	-0.0016	-0.00496**
t+7	-0.0037	0.00349
t+8	-0.0003	0.00194
t+9	-0.0026	-0.00111
t+10	-0.0050	-0.00034

**significant at 10% level, **significant at 5% level, ***significant at 1% level. Panel A of Table 5 shows non-splitting firms' AARs around stock split announcement dates made by growing spitting firms while Panel B of Table 5 shows non-splitting firms' AARs around stock split announcement dates made by non-growing spitting firms;* $AAR_{N,t} = \frac{\sum_{i=1}^{N} AR_{i,t}}{N}$

Finally, in order to further analyze the intra-industry effect, we regress the cumulative abnormal returns on non-splitting firms (CARNS) on the cumulative abnormal returns on splitting firms (CARS) for days or periods when market reaction is significant and market-to-book (M/B) of splitting firms. This test is conducted on all companies, both growing and non-growing firms. The regression model is as follows:

$$CARNS = \alpha 0 + \beta 1 CARS + \beta 2 M/B + \epsilon \quad (10)$$

CARS is defined as the cumulative abnormal returns on splitting firms around stock split announcement dates. CARNS is the cumulative abnormal returns on non-splitting firms in the same industry around stock split announcement dates made by splitting firms. The event periods or days used in the regression are only dates with significant AARs on splitting firms (days t-8, t-7, t+5, and t+6). M/B ratio of splitting firms is a proxy for company growth.

Since the data are not stationary, a smoothing process is conducted by calculating the first differences. The result indicates that the coefficient on CARS is positive (0.171409) and significant. It means that abnormal returns on splitting firms influence abnormal returns on non-splitting firms in the same direction. Overall, this finding is led by the contagion effect and the homogeneity of companies in the same industry. However, M/B ratio has no significant relationship with CARNS, again supporting the above conclusion that company characteristics are neglected by the market in analyzing the stock split event.

CONCLUSION

This study examines the information content of stock split announcements. It is hypothesized that there are abnormal returns around stock split announcement dates. Significantly negative AARs are found on days t-8, t-7, t+5, and t+6. The negative reaction in the wake of stock split announcement (days t+5 and t+6) suggests that a stock split may be considered bad news. This is probably impacted by a large change in stock price after the split, and investors feel uncertain about the company's prospect in the future. This finding does not substantiate the signaling hypothesis that stocks splits function as management's signal of good future prospect. The evidence also shows that the market has reacted on days t-8 and t-7 before the stock split; nevertheless, the significant reaction disappears after t-7. The market is considered quick in collecting and reacting to new information, and able to capitalize on it.

For growing firms, the result is not much different from the full sample of splitting firms. Only days t+5 and t+6 show significantly negative AARs. This evidence indicates that although investors on the Indonesian Stock Exchange are quick in finding new information, they are not so smart with respect to making decisions based on the information. The split announcement made by growing firms should have resulted in a positive response by investors. Hence, they do not pay attention to the characteristic of company announcing the stock split. For the test on non-growing firms, days t-10, t-5, t-3, t+1, t+3, t+4, t+5, t+6, t+8, and t+10 have negative AARs, but these are not significant. It means that there is no information content in stock split announcements made by non-growing firms.

The examination of the intra-industry effect shows that after the stock split announcement, there is one day found with significant AAR, which is day t+1, and the AAR is negative. The negative AAR substantiates the contagion effect, suggesting that the reaction of non-splitting firms is in the same direction with that of splitting firms. This evidence is possibly led by homogeneity of companies within the same industry such that information released by a company in a particular direction will be responded in the same direction by other companies in the industry. Besides, the significant AAR also shows that stock splits are not only a firm-specific event, but it also influences the industry. Finally, the regression of the cumulative abnormal returns on non-splitting firms (CARNS) on the cumulative abnormal returns on splitting firms (CARS) for days or periods when market reaction is significant and market-to-book (M/B) of splitting firms finds that the coefficient on CARS is positive (0.171409) and significant. It means that abnormal returns on splitting firms influence abnormal returns on non-splitting firms in the same direction. Overall, this finding is led by the contagion effect and the homogeneity of companies in the same industry. However, M/B ratio has no significant relationship with CARNS, again supporting the above discussion that company characteristic are neglected by the market in analyzing the stock split event.

This research has several limitations. This study only uses an event study approach, which observes the market reaction around stock split announcements, without paying attention to the market reaction or firm performance before and after the stock splits. In addition, this study only emphasizes information content by observing abnormal returns around stock split announcements, but puts less emphasis on liquidity aspects. Moreover, this study only employs company growth to divide the sample of firms announcing stock splits. We suggest that subsequent researchers on this issue improve the following aspects. First, firm performance before and after the stock split announcements could be used to see the effect of the announcements. Second, future research could harness other approaches to calculate the abnormal return. Third, future studies could conduct research on the liquidity aspect behind the stock split announcements. Fourth, the classification of firm characteristic may use proxies other than firm growth merely based on market to book value of equity, such as size or other measures.

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