Market Reaction on Reverse Stock Split Announcement: Empirical Evidence in Indonesian Stock Market

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Abstract: This research focuses on reverse stock split announcements. We are trying to examine stock returns behavior on days prior and following the reverse split announcements. The sample of this study is reverse stock split events on an Indonesian stock market within the year of 2002-2018. An earlier abnormal stock price movement before the announcement shows a sign of insider trading existences, and a delayed abnormal stock price movement following the announcement shows a slow respond of market reaction to particular new information. We are using cumulative abnormal return (CAR) and cumulative market-adjusted return (CMAR) to identify the abnormal stock price movement. The results show that there are positive abnormal returns before the announcement, and then it declines further into negative abnormal returns until post the announcement. However, when we segregate the sample into four price fractions, we find positive abnormal returns patterns only appear on two-five thousand rupiahs price fraction. Meanwhile, the other price fraction categories show declining patterns of negative abnormal returns. Overall, we temporarily suggest that there are illegal insider trading activities in the Indonesian Stock Market. The immediate market reactions show that the market is quite efficient, and its responses regarding the reverse stock split event follow the prediction of the trading range hypothesis.

1 INTRODUCTION

Reverse stock split (reverse split) is a less popular corporate action relative to a regular (forward) stock split. The literature has frequently discussed stock splits across periods and equity markets of countries. However, the reverse splits have not received many interests in the academic community since the first studies by (Fama *et al.*, 1969). The reverse split is a technical merging number of outstanding shares to form a smaller number of proportionally higher-priced shares. Since it is supposed to be purely cosmetic, theoretically, the reverse split should not affect future cash flows nor the total value of the company.

Nevertheless, many studies show mostly negative market reactions to the stock price following reverse split announcement (Woolridge and Chambers, 1983; Lamoureux and Poon, 1987; Peterson and Peterson, 1992; Hwang, 1995; Desai and Jain, 1997). Following the efficient market hypothesis (Fama, 1969)—the stock price will react to new information. Thus, the public considers reverse split announcement as unfavorable information of a firm.

There are three theories—signaling hypothesis, trading range hypothesis, and liquidity hypothesis, that may explain what kind of information conveyed by a stock split announcement, which causes a market reaction. The signaling hypothesis posits that the firm's management wants to convey favorable private information about the firm's prospect and therefore signals undervaluation of the splitting firms (Brennan and Copeland, 1988; Byun and Rozeff, 2003). The trading range hypothesis posits that the stock split is an instant attempt to put the stock price back on an optimal trading range, which is preferable to investors (Copeland, 1979; Ikenberry, Rankine, and Stice, 1996; Amihud, Mendelson and Uno, 1999). The liquidity hypothesis posits that the stock split is an attempt to increase the liquidity or trading volume, which in turn increases its split-adjusted price (Muscarella and Vetsuypens, 1996; Lin, Singh, and Yu, 2009). For the reverse split cases, trading range hypothesis is a more suitable explanation, since usually managers are forced to do a reverse split rather than do it deliberately (Peterson and Peterson, 1992; Martell and Webb, 2008).

Since stock splits usually convey favorable information about the firms, thus positive abnormal

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returns, particularly those coming shortly before a split's announcement date, should raise strong suspicions of insider trading, particularly in nations with weak regulatory structures (Nguyen, Tran, and Zeckhauser, 2017). The insider traders may exploit the leakage of information by buying shares of splitting firms few days before a split's announcement is going public, where it may cause a sudden increase in the stock prices during that period. On the contrary, if the insider trader also exists in reverse split events, then hypothetically, there will be negative abnormal returns on days before reverse split's announcements since the reverse splits are considered conveying unfavorable information.

Indonesia is one of developing countries with "adolescence" stock market, yet has excellent growth potential, and characterized by nonsynchronous trading, where shares of some listed firms are rarely traded or not traded at all during a specific period. Reverse splits in Indonesia stock market usually are conducted by less big listed firms, which it has nonsynchronous trading characteristic and rarely becomes the object of studies. Since Indonesia is one of the emerging markets, then we can assume that the Indonesian stock market has no strong regulatory structure. Thus it may be threatened by some illegal trading activities.

In this paper, we conduct an event study of reverse split events in Indonesia stock market. We are trying to identify the stock price behavior of reverse splitting firms by analyzing whether there are abnormal returns during the event window—30 days prior and 30 days post the announcement date. The abnormal returns before the announcement date may indicate that there were illegal trading activities. On the other hand, the abnormal returns post the announcement date shows a market inefficiency due to the information delay. Lastly, since reverse splits are rarely become the object of studies, we hope that our findings may give a significant contribution to the reverse split event study literature, particularly in the emerging market context.

2 LITERATURE REVIEW

Reverse splits are desperate efforts by the firms to raise their prices high enough to meet the minimum price required to maintain a listing on the stock exchange (Martell and Webb, 2008). Sixty-five percent of the firms with multiple reverse splits end up being liquidated or delisted. If one reverse split is a sign of desperation, then multiple reverse splits are a sign of extreme distress (Crutchley and Swidler, 2015). Reverse split announcements are interpreted as unfavorable information of the firm because the manager is considered do not have any other ways to raise the stock price, thus it results in a negative effect on the stock returns that happened both on the announcement date and the effective date of the reverse splits (Woolridge and Chambers, 1983). The further researches find negative abnormal returns since the announcement date of reverse splits, which continued to accumulate in the short term (Hwang, 1995) and also in the long term (Desai and Jain, 1997).

The signaling hypothesis posits that the abnormal returns during the stock split show a signal from the firm's management that conveys favorable private information about the firm's prospects (Brennan and Copeland, 1988). The increasing stock prices after the split are followed by increased future dividends that assume the firms had better performance (Fama *et al.*, 1969). Splitting firms yield higher earnings growth than similar, non-splitting firms in the five years before the split (Lakonishok and Lev, 1987). Nevertheless, stock splits that are not followed by a subsequent abnormal return in the long term period show that the market is efficient (Byun and Rozeff, 2003). In reverse split cases, the signaling hypothesis is not applicable because it is improbable the manager would do a deliberate reverse split just to let the public knows that the price stock is somewhat overvalued.

The trading range hypothesis suggests that there is an optimal trading range, and that splits realign share prices. At the optimal trading range, the stock will be more frequently traded and get become more attractive to the investors. Stock splits generally occur when stocks trade at high prices preceding the split announcement, which is consistent with the view that splits are typically used to realign share prices to an average trading range (Ikenberry, Rankine, and Stice, 1996). Meanwhile, firms do a reverse split is to increase the marketability of their stocks because the market will consider a stock with too lower price as a penny stock, which is speculative and less attractive, particularly to the institutional investors (Peterson and Peterson, 1992).

The liquidity hypothesis posits that stock splits may improve trading continuity, alleviate liquidity risk and give more benefit to the less liquid stocks (Lin, Singh and Yu, 2009). A reduction in the minimum trading unit greatly increases a firm's base of individual investors and its stock liquidity, and it is associated with a significant increase in the stock price (Amihud, Mendelson and Uno, 1999). Copeland (1979) shows that there were increasing trading volume following the stock splits, but not increased proportionally to its split factor. The increasing liquidity following the stock split may reduce the liquidity risk and cause the split-adjusted stock price to increase substantially. On the contrary, there is a possibility the liquidity risk will be decreased following the reverse split, so that it may cause the split-adjusted stock price to decrease. Nevertheless, it would be very unlikely that decreasing liquidity becomes the ulterior motive behind the reverse split.

Insider trader—the corporate insider who has more direct access to firm wellbeing, may exploit their informational advantage about the company to gain unfair profit from trading activities. In most nations, it is considered as illegal activities if the trade was made based on non-public material information. However, illegal trading is much harder to be studied, given that perpetrators try to hide their tracks and that broadly effective detection methods are not available. Nevertheless, some existing studies have creatively detected evidence of illegal trades. Bhattacharya, Daouk, Jorgenson, and Kehr (2000) suggest the researcher be suspicious of illegal trading activity if there is nothing happened during the day of the corporate action announcement and something happened during the days before the pre-announcement. Cheng, Nagar, and Rajan (2007) suggest that the corporate insider has misused the delay of legal insider trading disclosure to perform information-based trading.

Nguyen et al. (2017) find that there are incredibly high abnormal returns and increasing trading volume before the split announcement, which may indicate illegal trading activities in the Vietnam stock market. We suggest that the Indonesian stock market probably has a weak regulatory structure since it is also one of the emerging markets as well as Vietnam.

Hypothesis 1: There are earlier abnormal returns before the reverse split announcement as an indication of illegal trading activities.

Unlike the regular stock split, successful firms that receive much attention from the market is unlikely to conduct a reverse split. On the contrary, it is usually quite popular among less attractive firms. Thus, we suggest that the market will react slowly to an announcement made by this kind of company.

Hypothesis 2: There are delayed abnormal returns post to the reverse split announcement as an indication of market inefficiency.

The reverse split theoretically is more in line with the trading range hypothesis instead of the two others. The literature mentions that the primary purposes of the reverse split are fulfilling the listing requirement (Martell and Webb, 2008) and avoiding the penny stock label (Peterson and Peterson, 1992). Thus, we suggest that the market will favor the reverse split announcement by showing positive abnormal returns. On the other hand, the literature has documented empirical evidence of negative market reactions following reverse split announcements (Woolridge and Chambers, 1983; Lamoureux and Poon, 1987; Peterson and Peterson, 1992; Hwang, 1995; Desai and Jain, 1997).

Hypothesis 3: There are unpredicted abnormal return patterns following reverse split announcements.

3 METHOD

We analyze 60 days stock return data—30 days prior and 30 days post to the reverse split announcement—as the event window. The sample is stocks listed on the Indonesia Stock Exchange in the year 2002 to 2018. There were 49 reverse split events during those years, but due to the limitation of data, we can only observe 44 split events as the research sample. The stock split announcement dates are derived from KSEI's (Kustodian Sentral Efek Indonesia) official website. The stock prices and market index are gathered from the Thomson Reuters Data Stream. The daily stock return and market return are calculated using a simple stock return formula, as in equation (1) and (2).

$$R_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}} \tag{1}$$

$$R_{mt} = \frac{Index_t - Index_{t-1}}{Index_{t-1}} \tag{2}$$

We were using two kinds of abnormal return measurements—Cumulative Market Adjusted Return (CMAR) and Cumulative Abnormal Return (CAR)—to analyze the market reaction during the event window as in equation (3) and (4).

$$CMAR_{i,n} = \left(\prod_{t=-30}^{n} (1 + R_{it} - R_{mt})\right) - 1 \tag{3}$$

$$CAR_{i,n} = \sum_{t-30}^{n} R_{it} - (\alpha_i + \beta_i R_{mt}) \tag{4}$$

We measure the alpha and beta of each stock using the single index model in equation (5) by regressing 250 daily returns before the event window.

$$R_{it} = \alpha_i + \beta_i R_{mt} + u_{it} \tag{5}$$

We analyze the univariate test—using SPSS 24 statistic software—for hypothesis testing. We use the one-sample t-test and Kolmogorov-Smirnov test in identifying whether abnormal return and cumulative abnormal return are significantly different from zero and not normally distributed during a particular event day.

4 RESULTS AND DISCUSSION

Table 1 shows the detail of the reverse stock split announcement sample. The reverse stock split events most frequently happened during the year of 2002 – 2005 and becoming less frequent in years after, with the most commonly chosen split factor are between 1:4 and 1:10.

Table 1. Reverse Stock Split Announcement Sample

Year	Split Factor					
	1:2	1:4-6	1:8-10	1:15-25	1:100	Total
02-05	2	4	10	4	1	**21**
06-10	4	5	1	1	-	**11**
11-14	-	1	2	1	-	**4**
15-18	-	2	5	-	1	**8**
Total	**6**	**12**	**18**	**6**	**2**	**44**

Figure 1 shows the average and median of CAR of the reverse stock split events. Both graphs show a similar pattern that the CAR is increasing since day t-30, and it starts to decline after day t-20. After the announcements, the CAR is dropping further and begins to rebound on day t+20. Figure 2 shows the average and median of CMAR of the reverse stock split events. The graphs of CMAR tell a similar story, but it already shows indications of negative abnormal return before the announcements.

Table 2 and Table 3 show the descriptive statistics of CAR and CMAR on the event window. We only use 36 reverse split events on CAR calculation, since we could not estimate the coefficient regression of the single index model due to the inactive transaction of the stocks during the estimation period. One Sample t-test shows a significantly positive result on CAR and CMAR on the day t-20. Meanwhile, the Kolmogorov-Smirnov test shows a significant result for all day before the announcement for both CAR and CMAR. On the one hand, the average CAR on the days before the announcement shows a positive sign. On the other hand, the median CAR, average CMAR, and median CMAR have already reversed the sign to be negative before the announcement day.

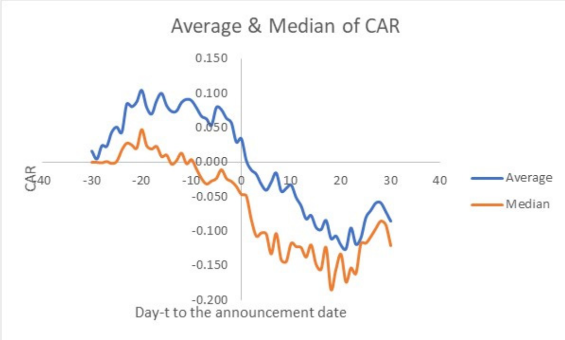

Figure 1: Average CAR and Median CAR of Reverse Split Events

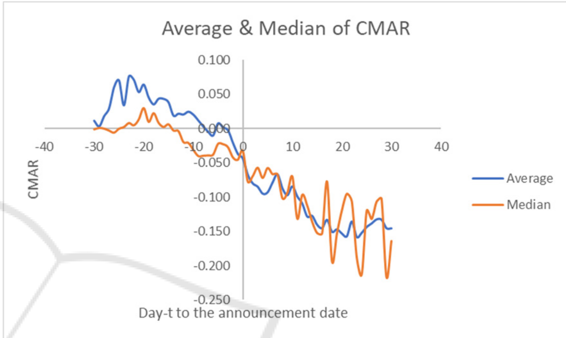

Figure 2: Average CMAR and Median CMAR of Reverse Split Events

CAR and CMAR show a declining pattern post of the announcement day. For the CAR, the one-sample t-tests do not show any significant result. Meanwhile, the Kolmogorov-Smirnov tests show a significant result at least for ten days post to the announcement day. On the contrary, the one-sample t-tests show a longer-term significance on CMAR, while the Kolmogorov-Smirnov tests provide similar results in comparison with CAR. According to these findings, on the averages, our results support the first hypothesis rather than the second hypothesis.

Just like a regular stock split, a reverse split is also not just a purely cosmetic. These findings provide evidence that the reverse splits convey specific information. Our results in line with the previous literature (Woolridge and Chambers, 1983; Lamoureux and Poon, 1987; Peterson and Peterson, 1992; Hwang, 1995; Desai and Jain, 1997) that the market reacts negatively on the stock prices following the reverse split announcement. These reactions are immediate following the announcement. Thus, we may suggest that the Indonesian stock market is quite efficient regarding this matter.

Table 2: Cross-sectional Average and Median of CAR and CMAR Between Day -30 and Day 0

Day-t	CAR		CMAR	
	Average	Median	Average	Median
-30	0.016	0.000***	0.012	-0.002***
-29	0.005	0.000***	0.003	0.001***
-28	0.024	-0.001***	0.018	-0.001***
-27	0.023	0.001***	0.030	-0.003***
-26	0.044	-0.002***	0.060	-0.006***
-25	0.051	0.001***	0.071	-0.001***
-24	0.043	0.017***	0.034	0.002***
-23	0.084	0.027***	0.076	0.008***
-22	0.081	0.025***	0.071	0.004***
-21	0.088	0.020***	0.053	0.013***
-20	0.104*	0.047***	0.064*	0.029***
-19	0.080	0.024***	0.046	0.009***
-18	0.070	0.019***	0.036	0.022***
-17	0.089	0.022***	0.044	0.008***
-16	0.100	0.008***	0.044	0.002***
-15	0.082	0.010***	0.039	0.006***
-14	0.074	-0.003***	0.019	-0.003***
-13	0.074	0.002***	0.022	-0.004***
-12	0.087	0.013***	0.021	-0.020***
-11	0.091	-0.003***	0.025	-0.021***
-10	0.089	0.003***	0.021	-0.031***
-9	0.079	-0.010***	0.012	-0.040***
-8	0.067	-0.024***	0.004	-0.040***
-7	0.063	-0.032***	-0.004	-0.039***
-6	0.054	-0.028***	-0.010	-0.038***
-5	0.079	-0.024***	0.008	-0.023***
-4	0.076	-0.011***	0.002	-0.023***
-3	0.064	-0.024***	-0.002	-0.027***
-2	0.057	-0.028***	-0.020	-0.042***
-1	0.029	-0.035***	-0.037	-0.046***
0	0.034	-0.047***	-0.043	-0.033***

Notes: *, **, and *** denote statistically different than zero at 10%, 5%, and 1% levels respectively for one-sample t-test (on the average column) and one-sample Kolmogorov-Smirnov test (on the median column)

Figure 3 and Figure 4 show the average and the median of CAR, on various expected stock price faction after the reverse split is executed—day 0 price times the split factor. We arbitrarily determine the nominal price classification just based on the current BEI's price fraction for regular trading. The nominal price fraction of two thousand until five thousand rupiahs has a positive value in the average and the median of CAR for the whole event window periods. Meanwhile, the other price fractions show a negative value with a declining pattern, whereas the price fraction above five thousand rupiahs has the most extreme declining.

Table 3: Cross-sectional Average and Median of CAR and CMAR Between Day 0 and Day +30

Day-t	CAR		CMAR	
	Average	Median	Average	Median
0	0.034	-0.047***	-0.043	-0.033***
1	0.002	-0.049***	-0.067	-0.078***
2	-0.011	-0.083***	-0.080*	-0.069**
3	-0.017	-0.107***	-0.085**	-0.057***
4	-0.032	-0.102***	-0.095**	-0.072***
5	-0.041	-0.104**	-0.093**	-0.058***
6	-0.029	-0.133**	-0.078	-0.067***
7	-0.016	-0.103**	-0.066	-0.067**
8	-0.042	-0.141*	-0.087*	-0.102***
9	-0.038	-0.144*	-0.097**	-0.093*
10	-0.033	-0.118**	-0.084*	-0.070**
11	-0.051	-0.122	-0.099*	-0.132**
12	-0.064	-0.124	-0.109**	-0.097**
13	-0.082	-0.137	-0.128**	-0.112
14	-0.077	-0.120	-0.127**	-0.136
15	-0.095	-0.147	-0.140***	-0.152
16	-0.098	-0.155	-0.145***	-0.153
17	-0.084	-0.123	-0.133***	-0.078**
18	-0.111	-0.184	-0.150***	-0.194
19	-0.107	-0.155	-0.147***	-0.153
20	-0.120	-0.133	-0.153***	-0.119
21	-0.126	-0.173	-0.157***	-0.095
22	-0.095	-0.153	-0.135**	-0.106
23	-0.119	-0.161	-0.158***	-0.188
24	-0.110	-0.118	-0.152***	-0.213
25	-0.080	-0.117	-0.143**	-0.120
26	-0.070	-0.108	-0.138**	-0.132**
27	-0.059	-0.096	-0.132**	-0.107
28	-0.059	-0.085	-0.133**	-0.102
29	-0.072	-0.091	-0.145**	-0.217
30	-0.086	-0.121	-0.145**	-0.164

Notes: *, **, and *** denote statistically different than zero at 10%, 5%, and 1% levels respectively for one-sample t-test (on the average column) and one-sample Kolmogorov-Smirnov test (on the median column)

Table 4 and Table 5 show a cross-sectional average of CAR on each price fraction category during the event window. One-sample t-test shows a weakly significantly positive CAR on a few days before the announcement for the two-five thousand rupiahs price fraction. On the contrary, there is a significantly negative CAR on days post the announcement for the above five thousand rupiahs price fraction.

Table 6 and Table 7 show a cross-sectional median of CAR on each price fraction category during the event window. Kolmogorov-Smirnov test shows significant results only for the days before the announcement. The results are entirely consistent, that positively significant CAR is found on two-five thousand rupiahs price fraction, while negatively significant CAR is found on the other price fractions. Thus, overall, our findings support the third hypothesis.

Table 4: Cross-sectional Average of CAR on Expected Stock Price Fraction Between Day -30 and Day 0

Day-t	CAR			
	<500	500-1999	2000-4999	>5000
-30	0.047	-0.017	0.048	0.008
-29	0.008	-0.015	0.047	-0.014
-28	0.005	-0.057*	0.175	-0.007
-27	0.000	-0.089	0.209	0.002
-26	0.026	-0.098*	0.282	0.007
-25	0.055	-0.121	0.298	0.030
-24	0.102*	-0.106	0.265	-0.018
-23	0.106*	-0.095	0.349	0.044
-22	0.091*	-0.110	0.395*	0.013
-21	0.078	-0.047	0.327*	0.033
-20	0.072	0.019	0.312	0.033
-19	0.059	0.005	0.298	-0.025
-18	0.018	0.023	0.276	-0.039
-17	-0.002	0.035	0.318	-0.006
-16	-0.067	0.088	0.334*	-0.007
-15	-0.144	0.075	0.363*	-0.038
-14	-0.132	0.078	0.319*	-0.040
-13	-0.140	0.056	0.346*	-0.030
-12	-0.150	0.083	0.364*	-0.028
-11	-0.125	0.058	0.382*	-0.011
-10	-0.132	0.074	0.386*	-0.038
-9	-0.165	0.082	0.370*	-0.053
-8	-0.196	0.070	0.383*	-0.080
-7	-0.189	0.046	0.375*	-0.060
-6	-0.131	0.021	0.376*	-0.103
-5	-0.076	0.048	0.392*	-0.087
-4	-0.105	0.037	0.381*	-0.056
-3	-0.121	-0.008	0.383*	-0.037
-2	-0.139	0.035	0.334	-0.058
-1	-0.138	-0.034	0.341	-0.086
0	-0.079	-0.002	0.297	-0.105

Notes: *, **, and *** denote statistically different than zero at 10%, 5%, and 1% levels respectively for one sample t-test.

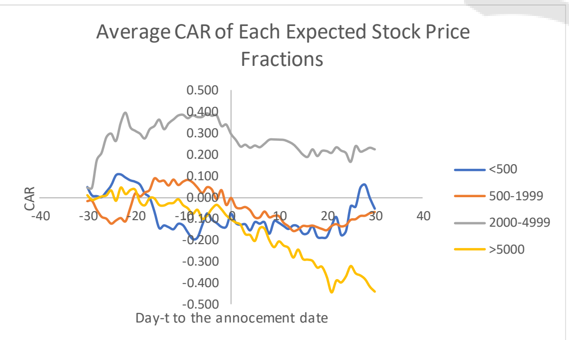

Figure 3: Average CAR of Each Expected Stock Price Fractions

Our findings are also in line with the trading range hypothesis and liquidity hypothesis. We temporarily suggest that the nominal price in between two thousand and five thousand rupiahs is the optimal trading range. Thus the market reacts positively to the reverse split attempts to put the nominal stock price in that ranges (Ikenberry, Rankine, and Stice, 1996).

On the other hand, within the context of reverse split, we temporarily suggest that the market still considers the stock traded below two thousand rupiahs as a penny stock (Peterson and Peterson, 1992) and the stock traded above five thousand rupiahs will become further less liquid (Amihud, Mendelson and Uno, 1999; Lin, Singh and Yu, 2009). Therefore, the market reacts negatively to these categories of the reverse split.

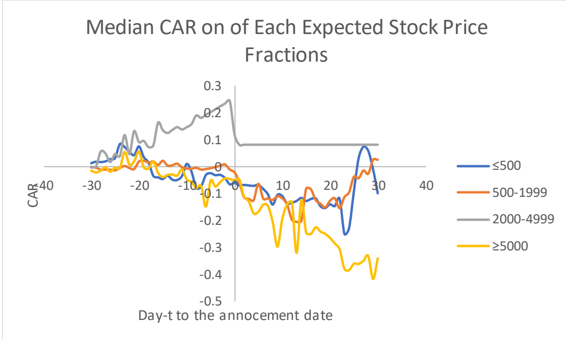

Figure 4: Median CAR of Each Expected Stock Price Fractions

Table 5: Cross-sectional Average of CAR on Expected Stock Price Fraction Between Day 0 and Day +30

Day-t	CAR			
	<500	500-1999	2000-4999	>5000
0	0.047	-0.017	0.048	0.008
1	0.008	-0.015	0.047	-0.014
2	0.005	-0.057	0.175	-0.007
3	0.000	-0.089	0.209	0.002*
4	0.026	-0.098	0.282	0.007*
5	0.055	-0.121	0.298	0.030*
6	0.102	-0.106	0.265	-0.018*
7	0.106	-0.095	0.349	0.044*
8	0.091	-0.110	0.395	0.013**
9	0.078	-0.047	0.327	0.033**
10	0.072	0.019	0.312	0.033**
11	0.059	0.005	0.298	-0.025*
12	0.018	0.023	0.276	-0.039*
13	-0.002	0.035	0.318	-0.006**
14	-0.067	0.088	0.334	-0.007*
15	-0.144	0.075	0.363	-0.038**
16	-0.132	0.078	0.319	-0.040**
17	-0.140	0.056	0.346	-0.030**
18	-0.150	0.083	0.364	-0.028**
19	-0.125	0.058	0.382	-0.011**
20	-0.132	0.074	0.386	-0.038**
21	-0.165	0.082	0.370	-0.053**
22	-0.196	0.070	0.383	-0.080**
23	-0.189	0.046	0.375	-0.060**
24	-0.131	0.021	0.376	-0.103**
25	-0.076	0.048	0.392	-0.087**
26	-0.105	0.037	0.381	-0.056***
27	-0.121	-0.008	0.383	-0.037**
28	-0.139	0.035	0.334	-0.058**
29	-0.138	-0.034	0.341	-0.086**
30	-0.079	-0.002	0.297	-0.105**

Notes: *, **, and *** denote statistically different than zero at 10%, 5%, and 1% levels respectively for one sample t-test.

Table 6: Cross-sectional Median of CAR on Expected Stock Price Fraction Between Day -30 and Day 0

Day-t	CAR			
	<500	500-1999	2000-4999	>5000
-30	0.013**	-0.001***	0.001***	-0.013**
-29	0.019	-0.002***	0.001***	-0.019
-28	0.017**	-0.010**	0.057***	-0.013
-27	0.020**	-0.009***	0.050***	0.000
-26	0.028	-0.010**	0.018***	-0.017*
-25	0.033	-0.012***	0.048***	-0.001**
-24	0.084	-0.003***	0.039***	-0.004*
-23	0.073	0.004***	0.119**	0.057
-22	0.056	-0.003**	0.048***	0.009
-21	0.043	-0.007	0.134**	0.021
-20	0.076	0.021	0.092**	0.058
-19	0.036	0.024	0.097**	-0.001***
-18	0.015	0.017	0.074*	-0.005
-17	-0.034	0.021***	0.080**	0.021
-16	-0.040	0.008***	0.166	-0.021*
-15	-0.046	0.024**	0.138	-0.037
-14	-0.033***	0.005**	0.126	-0.029
-13	-0.048	0.007	0.138*	-0.027
-12	-0.049	0.013**	0.149	-0.032
-11	-0.034**	-0.001*	0.140	-0.009**
-10	0.011*	-0.005*	0.148	-0.045
-9	-0.018*	-0.006**	0.160	-0.055
-8	-0.078*	-0.003*	0.192	-0.078**
-7	-0.074*	-0.009	0.183	-0.069**
-6	-0.031	-0.007**	0.195	-0.147
-5	-0.024	-0.004	0.205	-0.050
-4	-0.032	0.000	0.215	-0.072
-3	-0.030	0.005	0.226	-0.056
-2	-0.042*	0.010	0.236	-0.042
-1	-0.065	-0.009	0.247	-0.044
0	-0.060	-0.019	0.121	-0.049

Notes: *, **, and *** denote statistically different than zero at 10%, 5%, and 1% levels respectively for Kolmogorov-Smirnov test.

Table 7: Cross-sectional Median of CAR on Expected Stock Price Fraction Between Day -30 and Day 0

Day-t	CAR			
	<500	500-1999	2000-4999	>5000
0	-0.060	-0.019	0.121	-0.049
1	-0.070	-0.056	0.083	-0.046
2	-0.068	-0.112	0.083	-0.109
3	-0.070	-0.118	0.083	-0.128
4	-0.071	-0.123	0.083	-0.172
5	-0.067	-0.062	0.083	-0.166
6	-0.083	-0.117	0.083	-0.140
7	-0.102	-0.117	0.083	-0.143
8	-0.141	-0.122	0.083	-0.203
9	-0.104	-0.108	0.083	-0.296
10	-0.109	-0.116	0.083	-0.193
11	-0.136	-0.139	0.083	-0.139
12	-0.134	-0.196	0.083	-0.130
13	-0.127	-0.204	0.083	-0.319
14	-0.116	-0.201	0.083	-0.122
15	-0.127	-0.080	0.083	-0.243
16	-0.120	-0.083	0.083	-0.249
17	-0.118	-0.123	0.083	-0.224
18	-0.147	-0.136	0.083	-0.240
19	-0.153	-0.150	0.083	-0.248
20	-0.140	-0.125	0.083	-0.263
21	-0.146	-0.116	0.083	-0.284
22	-0.119	-0.153	0.083	-0.305
23	-0.250	-0.111	0.083	-0.379
24	-0.228	-0.094	0.083	-0.383
25	-0.092	-0.036	0.083	-0.360
26	0.032	-0.041	0.083	-0.360
27	0.075	-0.013	0.083	-0.349
28	0.059	-0.025	0.083	-0.331
29	-0.010	0.027	0.083	-0.416
30	-0.099	0.027	0.083	-0.339

Notes: *, **, and *** denote statistically different than zero at 10%, 5%, and 1% levels respectively for Kolmogorov-Smirnov test.

5 CONCLUSIONS

The reverse split announcement events are responded well in the Indonesian stock market, even though it was a less popular corporate event conducted by less popular firms. It shows that the Indonesian stock market is quite efficient. The declining pattern of cumulative abnormal returns shows that the market sees the reverse split events as a negative signal, and we find our results are consistent with the previous literature. The early market reactions on several days before the announcement may indicate the existence of illegal insider trading activities. These reactions may be various, but we find that it may depend on the expected stock price after the reverse split is executed. The positive abnormal returns average on certain price fraction, particularly between two thousand and five thousand rupiahs, show that there is an optimal trading price as predicted by the trading-range hypothesis. Meanwhile, the declining pattern of negative abnormal returns on the above five thousand rupiahs price fraction is consistent with the liquidity hypothesis' prediction.

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