5. Market Responses Around the Publication Dates of Annual Financial Report

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Abstract

This research intends to investigate the market efficiency in the semi-strong shape by examining the response from the market participation around the annual financial report publication dates as the event. Moreover, to attain this intention, this study uses thirty-three consumer goods companies in the Indonesian capital market between 2018 and 2020 as samples. We use the Slovin formula and simple random sampling technique separately to count and take them. Furthermore, we check the proposed hypothesis by a one-sample t-test for each response from the market during the event period, i.e., twenty-one days. Based on the examination of market reaction, we infer that this reaction happens before, on, and after the publication date of the financial report. In other words, this circumstance supports the inefficient market in this shape.

Keywords: Inefficient Market in the Semi-Strong Shape, Informational Content, Market Reaction

1. Introduction

One of the industries with the highest contribution to the Indonesian gross domestic products is manufacturing. As a result, according to Szirmai and Verspagen (2015), this industry becomes the engine to create economic growth. Based on this situation, this industry has ranked fifth among the G20 since 2018 (Ministry of Industry of the Indonesia Republic, 2019). In this industry, the companies transform the materials into finished goods through production (Siyanbola, 2012). As one of the manufacturing industries, consumer products are essential for society because the companies provide daily needs for people (Grabner-Kräuter, 2018; Ong & Marheni, 2021).

Similarly, manufacturing has become one of the industries in the Indonesian capital market, including consumer goods as its sub-sector (Hartono, 2017). Moreover, investors trade their shares for capital gain in a secondary place. In this place, they can get it by utilizing the public information-related events (Sunariyah, 2011), divided by two types: (1) the government regulation to the specific industry: the change in reserve requirement set by the

central bank and (2) the company initiative: merger, acquisition, dividend, the change in accounting method applied, and so on (Hartono, 2017).

The financial report publication can be categorized as the company initiative-associated event required by the regulation (Hartono, 2017). Suppose the companies do not obey it on time; in that case, they are sanctioned to pay an administrative fine based on the late days until the revocation of the business license [see Setyastrini and Kaluge (2019)]. When the market is informationally inefficient in semi-strong shape, the market reacts to the annual financial report publication around three moments: before, on, and after the date by required conditions (Hartono, 2017).

Furthermore, this testing associated with market reaction around the financial publication is conducted by Virginia, Manurung, and Muliawati (2012) with the Indonesian data. In their study, Virginia et al. (2012) utilize market reaction from 2009 to 2011 around the earnings announcement dates. After examining the data, they did not find a market reaction before and at the event but a positive reaction after the event in 2009 and 2010. Meanwhile, in 2011, they located no response at the event, the negative and positive responses before and positive reactions afterward.

With three types of news: good, bad, and disappeared, Syed and Bajwa (2018) find that when good news exists, a positive reaction happens on the ninth day before the event, the seventh and tenth days after the earnings announcement date in the Saudi Arabian capital market. Then, the negative occurs on the first day before and at the occasion. When bad news happens, a negative market response emerges from the third day before the event until the second day after the incident. Furthermore, a positive reaction exists on the eighth day before the event when information is unavailable. An adverse response occurs on the first day before the event and at the announcement date.

Besides them, the effort to prove the market reaction still comes from Shanti (2012) with Indonesia data, Menike and Wang (2013) and Nirujah (2015) with Pakistan data, Sharma and Chander (2009) with Indian data. Unfortunately, their results are contradictory:
- The research investigating the market response before the publication date can demonstrate the absence (Sharma & Chander, 2009; Menike & Wang, 2013; Nirujah, 2015) and lousy indication (Shanti, 2012).
- The studies testing the market response on the publication date can show disappearance (Sharma & Chander, 2009; Shanti, 2012; Menike & Wang, 2013) and a positive sign (Nirujah, 2015).
- The investigation checking the market response after the publication date can demonstrate non-attendance (Sharma & Chander, 2009; Shanti, 2012; Menike & Wang, 2013) and a positive sign (Nirujah, 2015).

Based on this mixed evidence, this study aims to prove the market reaction around financial report publication dates by employing the consumer goods companies in the Indonesian capital market between 2018 and 2020 and the twenty-one days as the window period by referring to Virginia et al. (2012), Menike and Wang (2013), Nirujah (2015), and Syed and Bajwa (2018).

2. Literature Reviews

Shanti (2012) examines the eleven days of market reaction to the fifty-one Indonesian listed companies publishing their financial report in the mass media between 2015 and 2017. After investigating eleven days in the window period, she demonstrates that an unfavorable market reaction only exists on the second day before publication.

By employing 47 non-financial companies becoming the Kompas 100 index for three years, 2019 between 2011, Virginia et al. (2012) investigate twenty-one days in the window period to analyze the market reaction to the earnings announcement. After checking the related data in 2019, they show no market reactions before and at the event, except the positive response on the ninth day after this announcement. Furthermore, they demonstrate that a positive market reaction only exists on the fifth and sixth days once the announcement date in 2010. For 2011, they describe the terrible reaction on the ninth day and a positive response on the third day before the event. However, the negative response appears after the first date of this announcement.

Menike and Wang (2013) investigate the twenty-one days of market reaction of the Sri Lankan banks publishing their annual financial report from 2008 to 2012 in the Colombo capital market. After testing the related data, they exhibit no market reaction.

Nirujah (2015) uses the twenty-one days of market reaction of the thirty Sri Lankan banks and insurance companies publishing their annual financial report from 2009 to 2013 in the Colombo stock exchange. After verifying the data, they find the market response is available on several dates: the event, the first, fourth, sixth, and ninth after the event.

Syed and Bajwa (2018) learn the stock market reaction of 115 firms announcing earnings between 2010 and 2014 in the Saudi Arabian stock exchange based on three news: good, bad, and unavailable. Once testing the market responses for twenty-one days in the window period, this study infers that:

a. When good news exists, a positive reaction happens on the ninth day before the event, the seventh and tenth days after the occasion. Then, the negative occurs on the first day before and at the announcement time.

b. When bad news happens, a negative market response occurs from the third day before the event until the second day after the incident.

c. When news is not available, a positive reaction exists on the eighth day before the event. An adverse reaction occurs on the first day before the event and at the announcement time.

The market reaction is a tool to detect the informational content of the event. Likewise, the market reaction speed must be considered to determine market efficiency informationally. If the market quickly responds, the efficient market theory in the semi-strong is accepted, and vice versa. Supposing no market reaction is around the publication date, this efficient market status cannot be determined (Hartono, 2017). By denoting the explanation from Hartono (2017), reinforced by the associated studies, we express the first research hypothesis:

H_1:   If the market reaction exists and vanishes immediately in the window period, the market will be efficient informationally.

3. Research Method

This research utilizes a single variable to analyze, i.e., market reaction for every day in the window period. Moreover, to measure it, we use the abnormal share return, i.e., the difference between real return in the window period and expected return calculated by the market model for each stock. After getting it, we average this return. Furthermore, we apply 21 days as the estimation period by denoting Virginia et al. (2012), Menike and Wang (2013), Nirujah (2015), and Syed and Bajwa (2018) and 150 days as the window and estimation period by mentioning Nirujah (2015). Additionally, these periods are obtainable in Figure 1.
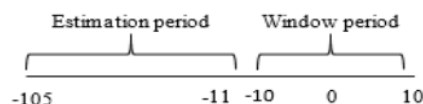

Figure 1: Estimation and Window Periods

Source: Modified figure of Hartono (2017)

The population of this research is the stocks belonging to the companies in the consumer goods industry in the Indonesian capital market from 2018 to 2020, and their size (PS) is 49. To calculate the sample size needed (SS), we use the Slovin formula in Suliyanto (2009) with a 10% error margin (EM) (see equation one).

$$SS = \frac{PS}{1 + P.EM^2} \quad .... \text{(Equation 1)}$$

By utilizing this formula, we get the sample size $= \frac{49}{1 + 49(0.1)(0.1)} = \frac{49}{1.49} = 32.88 \approx 33$ shares. After that, we take 33 from 49 shares randomly, and their name is as follows: (1) ADES: Akasha Wira International, (2) AISA: FKS Food Sejahtera, (3) ALTO: Tri Banyan Tirta, (4) BTEK: Bumi Teknokultura Unggul, (5) BUDI: Budi Starch &

Sweetener, (6) CAMP: Campina Ice Cream Industry, (7) CEKA: Wilmar Cahaya Indonesia, (8) CLEO: Sariguna Primatirta, (9) DLTA: Delta Djakarta, (10) HOKI: Buyung Poetra Sembada, (11) ICBP: Indofood CBP Sukses Makmur, (12) INDF: Indofood Sukses Makmur, (13) MLBI: Multi Bintang Indonesia, (14) MYOR: Mayora Indah, (15) PCAR: Prima Cakrawala Abadi, (16) ROTI: Nippon Indosari Corpindo, (17) SKBM: Sekar Bumi, (18) SKLT: Sekar Laut, (19) GGRM: Gudang Garam, (20) HSMP: Hanjaya Mandala Sampoerna, (21) RMBA: Bentoel Internasional Investama, (22) WIIM: Wismilak Inti Makmur, (23) INAF: Indofarma, (24) PYFA: Pyridam Farma, (25) SIDO: Industri Jamu dan Farmasi Sido Muncul, (26) TSPC: Tempo Scan Pacific, (27) KINO: Kino Indonesia, (28) MBTO: Martina Berto, (29) MRAT: Mustika Ratu, (30) TCID: Mandom Indonesia, (31) UNVR: Unilever Indonesia, (32) CINT: Chitose Internasional, (33) LMPI: Langgeng Makmur Industri.

Moreover, to examine market response having a ratio scale as the single variable, this study employs the parametric test and one-sample t-test by mentioning Hartono (2012). To ensure the normality of market response happens, we use the Kolmogorov-Smirnov to examine, as Ghozali (2016) suggests.

4. Result and Discussion

4.1. The Normality Examination Result

Table 1 presents the market reaction normality test result in the window period. This table shows that the market reaction, measured by average abnormal return on the ninth day before the publication date, is not generally distributed at the 1% tightened significance level, demonstrated by the probability (2-tailed) Z-statistic of 0.001. Conversely, the other returns achieve the normality testing because these rest probabilities are above this level, shown by the value between 0.030 and 0.931.

Table 1: The Normality Test Result of Market Reaction Around the Window Period

Market reaction	Sample size	Z-statistic of Kolmogorov-Smirnov	Probability (2-tailed)
ABR_LAG10	33	1.402	0.039
ABR_LAG9	33	1.992	0.001*
ABR_LAG8	33	1.060	0.212
ABR_LAG7	33	0.806	0.535
ABR_LAG6	33	0.966	0.309
ABR_LAG5	33	1.374	0.046
ABR_LAG4	33	0.919	0.368
ABR_LAG3	33	1.136	0.151
ABR_LAG2	33	0.826	0.502
ABR_LAG1	33	0.814	0.521
ABR_0	33	0.904	0.387
ABR_LEAD1	33	0.569	0.902
ABR_LEAD2	33	0.810	0.528
ABR_LEAD3	33	0.630	0.823
ABR_LEAD4	33	0.954	0.322
ABR_LEAD5	33	1.450	0.030
ABR_LEAD6	33	0.681	0.742
ABR_LEAD7	33	0.760	0.610
ABR_LEAD8	33	0.645	0.800
ABR_LEAD9	33	0.884	0.415
ABR_LEAD10	33	0.541	0.931

Notes: * means significant at a 1% level.

Source: Output of IBM SPSS 20

4.2. The Hypothesis Testing Result

Considering the dominant probability of Z-statistic exceeding the 1% constrained significance level for the normality test (see Table 1), we apply the one-sample t-test on each abnormal return to test the efficient market in the semi-strong form. After checking every return, we find a positive market response exists on the eighth, seventh, sixth, fifth, second, first days before publication, on publication date, and the first, second, fourth, sixth, seventh, and eighth days after publication, demonstrated by the probability (1-tailed) below the 10% relaxed significance level: 0.036, 0.000, 0.027, 0.044, 0.016, 0.040, 0.003, 0.032, 0.015, 0.056, 0.016, 0.021, and 0.022 (see Table 2).

Table 2: Market Reaction around Publication Dates of the Annual Financial Report

Market reaction	t-statistic	Degree of freedom	Probability 2-tailed	Probability 1-tailed	Mean Difference
ABR_LAG10	0.595	32	0.556	0.278	0.00487
ABR_LAG9	-0.754	32	0.456	0.228	-0.00653
ABR_LAG8	1.861	32	0.072	0.036*	0.00920
ABR_LAG7	4.154	32	0.000	0.000*	0.01006
ABR_LAG6	2.004	32	0.054	0.027*	0.00592
ABR_LAG5	1.764	32	0.087	0.044*	0.00841
ABR_LAG4	0.720	32	0.477	0.239	0.00291
ABR_LAG3	0.466	32	0.645	0.323	0.00192
ABR_LAG2	2.253	32	0.031	0.016*	0.00674
ABR_LAG1	1.812	32	0.079	0.040*	0.00716
ABR_0	2.929	32	0.006	0.003*	0.01396
ABR_LEAD1	1.924	32	0.063	0.032*	0.00728
ABR_LEAD2	2.280	32	0.029	0.015*	0.00916
ABR_LEAD3	1.093	32	0.283	0.142	0.00451
ABR_LEAD4	1.635	32	0.112	0.056**	0.00541
ABR_LEAD5	0.021	32	0.984	0.492	0.00013
ABR_LEAD6	2.243	32	0.032	0.016*	0.01019
ABR_LEAD7	2.121	32	0.042	0.021*	0.00684
ABR_LEAD8	2.102	32	0.043	0.022*	0.00879
ABR_LEAD9	0.040	32	0.968	0.484	0.00015
ABR_LEAD10	-0.858	32	0.398	0.199	-0.00251

Note: * and ** mean significant at 5% and 10% levels, singly.

Source: Output of IBM SPSS 20

4.3. Discussion

Based on the examination result of market reaction, we find that a positive market reaction happens around the publication date of the annual report: before, after, at this time. It means the market reaction is available for a long time: this study supports the semi-strong inefficient market based on the informational content. Therefore, the public investors can get short-term profits during this event.

By considering the abnormal return in Table 2, the investors are suggested buying the stocks at the lowest return on the ninth day before this event: -0.00653 and selling them on several days with a significant positive return as the alternative, for example, days 8, 7, 6, 5 before the publication date: 0.00920, 0.01006, 0.00592, 0.00841, and days 2, 4, 6, 7, 8 after the publication date: 0.00916, 0.00541, 0.01019, 0.00684, 0.00879. As the best strategy, the investors can sell the shares purchased on day nine before this event on the publication date to get the maximum return, i.e., 0.01396.

5. Conclusion

Learning market efficiency in the semi-strong shape needs market reaction testing during the event. To achieve this intention, we examine the market response to the published annual financial report of the thirty-three sampled firms in the consumer goods industry in the Indonesian capital market from 2018 until 2020. After examining the market reaction in the window period consisting of twenty-one days, we deduce that a positive response exists lengthly around the publication dates, confirming the inefficient market based on the informational content. Despite significant market reactions, this study is still limited based on two aspects. Firstly, this study only utilizes firms from one sub-industry manufacturing industry in a single country: Indonesia. Secondly, the number of years is three years, reflecting a short period. By considering these limitations, this study recommends that the following academics use all manufacturing companies in multiple countries in Southeast Asia as the population, for example, and take them by stratified random sampling by treating the states and the manufacturing sub-industry as the strata. Also, the subsequent scholars can encompass the observational times become five until ten years to make the better research result of the market reaction around the publication dates.

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