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The market reactions for deferred compliance of IAS 41: an analysis of the agriculture sector in Indonesia

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Abstract

Research aims: This study aims to investigate the market reaction of post-IAS 41 implementation in Indonesia. IAS 41 Agriculture requires companies to measure biological assets at fair value, which will increase asset values and profit in the first year of its implementation. The increase in the asset values can have a favorable impact on companies' share prices as fair value was not applied in Indonesia prior to the adoption of IAS 41. In addition, this study analyzes the disclosure compliance of IAS 41 in the interim reports during the implementation year.

Design/Methodology/Approach: This study used non-parametric statistics, precisely the Wilcoxon Signed Rank Test and content analysis of financial statement disclosure about IAS 41 Agriculture. The sample of the study comprised 27 Indonesian companies with agriculture assets during the first year of the implementation of IAS 41.

Research findings: The results of this study suggest no significant difference in market abnormal return after the first annual financial statements post-IAS 41 implementation were released in the first quarter of 2018. The results also indicate that at least 50% of the 27 sample companies did not use fair value for their biological assets in their first quarter of interim report during the implementation year. The use of fair value was only observed in the last quarter of 2018, as most companies made an effort to apply fair value. The late implementation of fair value in IAS 41 may explain the insignificance of the market's abnormal return reaction in the first quarter of the adoption year when the financial reports were released.

Practitioner/Policy implication: The adoption of the new standard requires companies to comply with it right in the first quarter of the implementation year. The capital market regulator should impose stricter requirements for listed companies to apply the new standard starting with the first quarter of financial reports.

Research limitation/Implication: The limitations of this study concern the observation period used for calculating abnormal returns, which did not conclude a 'pure' market reaction, and the sample of this research was limited to three industries: agriculture, basic chemicals, and consumer goods.

Keywords: IAS 41; Event Study; Disclosure Content Analysis; Agriculture Assets; Market Reaction



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Introduction

The adoption of International Accounting Standard 41: Agriculture (IAS 41) was issued by the International Accounting Standard Committee (IASC) in 2001 and became effective for annual reporting periods beginning from 1 January 2003. IAS 41 prescribes accounting treatment for biological assets, which comprise living plants and animals. Before the adoption of IAS 41, Indonesia did not have any accounting standard for biological assets; thus, most biological assets were measured using the historical cost method. Therefore, for biological assets, Indonesia implemented PSAK 201: Presentation of Financial Statements (IAS 1), PSAK 202 (IAS 2): Inventory, PSAK 216 (IAS 16): Property Plant and Equipment, and PSAK 236 (IAS 36): Impairment of Assets for Agricultural Companies (Rachmawati et al., 2019).

The diversity of accounting standards created challenges for stakeholders in the agricultural sector (Hsu et al., 2019). Indeed, the standards used have some flaws, where the measurement of biological assets employed the acquisition cost (cost model). However, the cost model did not consider the fair value since assets are recorded by incurred costs (Rachmawati et al., 2019). Hence, it is deemed necessary to investigate how the market reacts to the new requirements of information they were presented to, this time, the fair value of biological assets (Gao et al., 2019).

Furthermore, accounting standards for agricultural companies have been an interest in emerging economies, especially those of high reliance on agricultural sectors of their economy. Being the largest archipelago in the world, Indonesia relies heavily on its natural resources for its economic development, one of which is the agriculture sector. Nevertheless, the agriculture sector in Indonesia has been declining over the last 10 years. In 2018, it made up 12.23% of Indonesia's Gross Domestic Product (Abduh, 2023). While the sector's contribution to the GDP might not be as significant as it used to be due to the advancement in other major sectors, it remains an income generator for the majority of Indonesian households. The adoption of IAS 41 means that Indonesia adopted fair value accounting for the first time and abandoned the cost method for agricultural assets, such as plants and animal stocks.

The agriculture sector has distinctive value, and its assets have specific characteristics. They grow, produce, and have a specific cycle depending on the type of biological assets. This process affects the accounting treatment, and therefore, specific regulation is needed to represent the amount and nature of biological assets. Lutfi et al. (2022) mentioned that accounting information in financial statements is expected to be useful for decision-makers. To provide this, financial statements should meet some basic characteristics. "If financial information is to be useful, it must be relevant and faithfully represent what it purports to represent. The usefulness of financial information is enhanced if it is comparable, verifiable, timely, and understandable," as then quoted in the study from the conceptual framework. Specifically, accounting for agriculture is a unique case. To recognize biological assets in financial statements, a few conditions must be satisfied (Sedláček, 2010) are reasonable certainty that the biological assets will bring

economic future benefits to the company, the right to control and manage this profit, the purchase price of biological assets can be reliably set.

The adoption of IAS 41 in Indonesia started with the ratification of IAS 41 by the Indonesian Financial Accounting Standard Board on 16 December 2015, and the standard was to be effective on 1 January 2018. This statement sets out accounting treatments, which include recognition, measurement, and disclosure of biological assets in the scope of agriculture. Before the statement was issued, agriculture companies recorded biological assets according to the cost of acquisition (unless early implementation of the standard is applied), which does not represent the fair value of the biological assets nor the quality and ability of it. Another thing is that biological assets vary from short-lived plants and animals to the ones that can live up to a hundred or more years. Biological transformation, which covers the processes of growth, degeneration, production, and reproduction, was also not accounted for. After the implementation of IAS 41 starting in 2018, the market represents new and more reliable information in the financial statements of public companies.

Additionally, the volatility of stock prices is an important indicator to analyze market reaction. Conventionally, stock markets in many countries are considered semi-strong form efficient, meaning the market reacts to public information available rationally and without any bias. This public and additional information is reflected in stock price volatility, which can be measured by its abnormal return (Setiono & Strong, 1998). However, the “genuine” market reaction can be acquired by analyzing how it reacts the moment the new event is presented to the public, in this case, the moment companies state and disclose IAS 41 information in their financial statements. Therefore, in addition, this study aims to analyze the disclosure of IAS 41 in financial statements.

Furthermore, the debate between fair value and historical cost as a tool of measurement has been going on for decades. Numerous amount of studies mentioned fair value as a more reliable tool to present financial statement elements as it shows the fair value of the elements (Hsu et al., 2019; Sellhorn & Stier, 2019). IAS 41 implementation shifts how companies state their agriculture assets from historical cost to fair value. This shift certainly affects not only assets but also many other accounts related to it (i.e., deferred tax, unrealized gains or losses, and others). However, it is strongly believed that the notion of fair value measurement increases reliability for agriculture assets is indeed proven and reasonable.

For that reason, this paper aims to investigate the market reaction to the implementation of IAS 41 Agriculture, which requires biological assets to be measured by fair value. This paper also analyzes the disclosure of IAS 41 in financial statements of Indonesian companies and their punctuality in releasing financial statements. As of 2020, there were 691 listed companies in Indonesia, retrieved from the IDX's official website. This paper used agriculture, basic chemicals, and consumer goods companies with biological assets, which means they are required to apply for IAS 41 after 2018. This paper also contributes to the literature on the efficient market hypothesis by providing evidence of the lack of market reaction due to the delayed implementation of the new accounting standard.

Literature Review and Hypotheses Development

Signaling Theory

Signaling theory states that investors will react immediately to new news, become active upon it accordingly, and thus, will provide a measurable reaction to signals from a credible signaler (Yasar et al., 2020). The reliance on information is an important aspect of the stock market since an announcement or disclosure presented to the public can be interpreted differently by investors. In this case, abnormal return is one of the indicators to analyze the market. Abnormal return can be positive or negative, depending on how the market reacts to certain information provided. Greater abnormal return means greater market reaction and how the market indulges the information. The main question of this study is whether the announcement of financial statements after IAS 41 implementation, which gave the market new information regarding agriculture assets, generates abnormal returns.

Hypothesis Development

In their paper, Sun et al. (2014) analyzed how the market reacted to IFRS implementation. They examined 31 firms in Indonesia three days before and after the announcement date. Their paper's results confirmed that abnormal returns three days before and after the announcement date were not found. However, the abnormal return was captured on the announcement date. On a broader aspect, Landsman et al. (2012) investigated information content in the form of abnormal stock price and abnormal volume trading of earnings announcements between 16 countries that implemented IFRS and 11 countries that did not implement IFRS during 2002-2007 and uncovered information content of earnings announcements increased in countries that implemented IFRS compared to those who did not implement IFRS. From here, the authors derived the following hypothesis:

H₁: Release of financial statements after implementing IAS 41 generates significant abnormal stock return for companies with agriculture assets in Indonesia.

Research Method

The approach used to achieve the paper's objective was applying event study and using descriptive analysis to summarize and investigate the punctuality of IAS 41 implementation by Indonesian companies. Implementation of IAS 41 was measured on the annual financial statements release date for each company (t=0).

This type of research is a secondary-quantitative. This event study involved analyzing abnormal return volatility during the observation period, three days before and after financial statement release dates (day -3 to +3) in 2018. Data on financial statement releases were obtained from the Indonesian Stock Exchange website (www.idx.com).

Meanwhile, data on daily stock prices and daily market prices were collected from Yahoo! Finance (finance.yahoo.com).

The population suitable for this research was companies with agricultural assets in Indonesia in 2017 and 2018. These companies were listed on the Indonesian Stock Exchange (IDX) and published their 2017 and 2018 financial statements. The sample selection criteria were those companies who had biological assets since 2017; thus, the investors of the company might expect an increase of fair value in the following year. This research used nonprobability sampling, namely the purposive sampling method. The sample was selected based on several criteria, namely (1) Listed on the Indonesia Stock Exchange; (2) Categorized in the industries of Agriculture, Consumer Goods, or Basic Industry and Chemicals; and (3) Companies with biological assets in their financial statement for 2017 and 2018. Table 1 shows the sample selection process in this study.

Table 1 Sample Selection

Selection Criteria	Number of Sample Firms
Listed on the Indonesia Stock Exchange	692
Not categorized in the industries of Agriculture, Consumer Goods, or Basic Industry and Chemicals	(534)
Categorized in the industries of Agriculture, Consumer Goods, or Basic Industry and Chemicals	158
Companies that did not report any biological asset in their financial statements for 2017 and 2018	(128)
Companies with biological assets in their financial statement for 2017 and 2018	30
Companies listed in IDX after their 2017 financial statement release date	(3)
Total Sampled Firms	27

The most common approach used to estimate the relationship between a stock price and market returns is the OLS (Ordinary Least Squares) regression model. The relationship is then used to estimate expected returns. This method is explained in Armitage's (1995) paper and is called the market Model 1.

$$R_{it} = \alpha_i + \beta_i R_{mt} + e_{it} \dots (1)$$

Where α_i and β_i is OLS regression estimates of market model parameters, which are estimated for d-15 to d+15, 15 days before and after the announcement date in 2017; e_{it} is error term for OLS regression; R_{mt} is rate of return on IHSG (Indonesia Composite Stock Index) on t event day; and R_{it} is stock price of firm i on day t .

After learning the value of α_i and β_i from the model above, the abnormal return could then be calculated using the market model abnormal return by inserting α_i and β_i value and the actual stock price on the market during normal and observation period (3 days before and after release date in 2018). Calculation of the market abnormal return shown in Model 2.

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt}) \dots (2)$$

Where α_i and β_i is OLS regression estimates of market model parameters, which are estimated for d-3 to d+3, three days before and after the announcement date; R_{mt} is compounded rate of return on IHSG on t event day; and R_{it} is compounded stock price of firm i on day t.

Upon acquiring abnormal returns for 27 sample companies during three days before and after each financial statement release date, hypothesis testing was conducted to test the significance of abnormal return differences. This study employed non-parametric statistics, precisely the Wilcoxon Signed Rank Test, for a group of samples from the same population but with different means (not normally distributed).

Sekaran and Bougie (2020) explained financial statement disclosure showed IAS 41 characteristics was categorized based on [a] agriculture assets are stated at fair value, less cost to sell with further explanation about its fair value measurement approach. If agriculture assets are stated at amortized cost, further explanation regarding why fair value measurement is considered unreliable is to be disclosed and explained thoroughly (IAS 41.8). The main focus of the characteristic is agriculture assets measurement and unless stated why fair value option cannot be used reliably, companies must account for their agriculture assets at fair value less cost to sell and [b] Disclosure matters stated in IAS 41.7, agriculture asset types are to be disclosed and described quantitatively or descriptively.

Based on the information regarding variables explained before, the relationship among variables in the hypothesis is depicted in the theoretical framework in Figure 1.

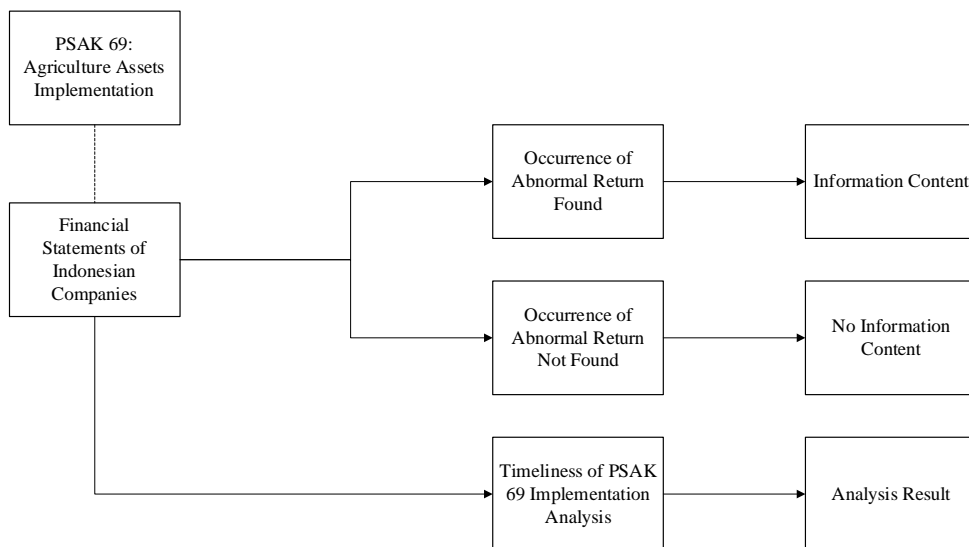


Figure 1 Framework Model

Result and Discussion

Abnormal Return Analysis

Alpha and beta from Table 2 are the intercept and slope during the normal period used to detect abnormality during the observation period. The value was then inserted into the equation in Model 3 to calculate the abnormal return for each company for each day three days before and after their financial statement release dates.

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt}) \dots \dots \dots (3)$$

Where α_i and β_i is OLS regression estimates of market model parameters, which are estimated for d-3 to d+3, three days before and after the announcement date; R_{mt} is compounded rate of return on IHSG on t event day; and R_{it} is compounded stock price of firm i on day t.

Table 2 Equation 1 Results - Alpha and Beta

Company Code	Alpha	Beta
AAJI	0.0034	0.8987
ANJT	-0.0006	0.2980
BISI	0.0031	0.2959
BRPT	0.0014	0.5505
BWPT	0.0000	0.6513
CPIN	0.0046	2.0741
CPRO	0.0000	0.0000
DSNG	0.0040	0.6090
ETWA	-0.0063	-0.4325
GZCO	0.0025	1.1570
IIKP	-0.0005	0.3419
INDF	-0.0001	1.2202
INRU	0.0104	2.2485
JAWA	0.0005	-0.0155
JPFA	-0.0002	0.6527
KMTR	0.0163	-1.4823
LSIP	0.0015	0.8440
MAIN	0.0042	0.3462
PALM	0.0009	-0.3303
SGRO	-0.0005	0.1116
SIMP	0.0065	1.7894
SIPD	0.0007	0.1801
SMAR	0.0103	-0.3684
SSMS	-0.0008	-0.2214
TBLA	0.0029	0.3465
ULTJ	0.0023	1.1865
UNSP	0.0025	0.5156

After calculating abnormal returns for a total of six days for each 27 sample companies, there were then two groups of abnormal returns for every company. One is before the

financial statement was released and another one is after. The summarized results can be seen in Table 3.

Table 3 Equation 2 Result - Abnormal Return Three Days Before and After Event Date

Code	AR d-3	AR d-2	AR d-1	AR d-0	AR d+1	AR d+2	AR d+3
AALI	-0.0027	-0.0076	0.0080	-0.0131	-0.0104	-0.0093	-0.0287
ANJT	-0.0002	0.0041	0.0014	-0.0285	0.0148	-0.0111	0.0035
BISI	0.0293	0.0421	-0.0405	-0.0228	-0.0402	-0.0113	0.0069
BRPT	0.0140	0.0166	-0.0078	0.0154	-0.0060	0.0404	-0.0306
BWPT	0.0114	-0.0060	-0.0037	-0.0037	-0.0051	0.0142	0.0287
CPIN	-0.0204	-0.0095	-0.0687	-0.1184	0.0084	-0.0044	-0.0569
CPRO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DSNG	0.0016	-0.0096	-0.0016	-0.0074	-0.0079	0.0026	-0.0062
ETWA	0.0061	0.0774	-0.0496	0.0085	0.0057	0.0235	-0.0355
GZCO	-0.0319	0.0020	-0.0090	0.0189	-0.0373	0.0521	-0.0243
IIKP	-0.0044	-0.0081	0.0293	-0.0015	-0.0096	-0.1068	0.0174
INDF	-0.0207	-0.0091	0.0015	0.0195	-0.0073	-0.0001	0.0025
INRU	-0.0301	0.0059	0.0059	-0.0162	0.0157	-0.0045	-0.0059
JAWA	-0.0077	-0.1247	-0.0005	0.1328	-0.0153	-0.0080	-0.0005
JPFA	0.0175	0.0034	-0.0119	-0.0130	0.0168	-0.0191	0.0019
KMTR	-0.0170	0.0272	-0.0106	-0.0191	0.0161	-0.0232	-0.0303
LSIP	-0.0085	0.0099	-0.0221	0.0324	-0.0148	-0.0120	-0.0477
MAIN	0.0107	-0.0117	-0.0718	-0.1441	-0.1000	-0.0960	0.0084
PALM	0.0247	0.0016	-0.0249	0.0069	-0.0075	0.0003	-0.0451
SGRO	0.0121	-0.0196	-0.0418	0.0709	0.0009	-0.0002	0.0007
SIMP	-0.0164	-0.0057	-0.0075	-0.0134	-0.0006	-0.0252	-0.0230
SIPD	0.0102	0.0001	0.0233	-0.0012	-0.0013	0.0025	-0.0023
SMAR	-0.0105	-0.0093	-0.0089	-0.0124	-0.0090	-0.0095	-0.0112
SSMS	-0.0172	0.0076	-0.0096	0.0021	0.0004	0.0099	-0.0079
TBLA	0.0045	-0.0147	0.0020	-0.0158	-0.0264	-0.0061	0.0168
ULTJ	-0.0027	-0.0098	0.0015	0.0144	-0.0010	0.0143	-0.0129
UNSP	-0.0015	-0.0234	-0.0087	-0.0302	-0.0016	0.0072	-0.0212

Table 3 shows that the abnormal return for each sample company did have a clear pattern. If IAS 41 fair value information has significant value relevance for the investor, some pattern of positive abnormal return during the reporting period or right after can be expected. Instead, Table 3 for the reporting day displays random positive and negative abnormal returns of the study's sample companies and also for one day after.

The event date for each company was different due to variations in the time they released their financial statement. The output table above was then grouped into a 'before and after' by summing up each company's abnormal returns during the event window using the Cumulative Abnormal Return (CAR_{it}) formula in Model 4.

$$CAR_{it} = \frac{1}{N} \sum_{t=1}^{t=N} \varepsilon_{it} \dots (4)$$

Where CAR_{it} is cumulative abnormal return (CAR) for firm i at time t; N is observed days in a group; and ε_{it} is abnormal return during observed days for a group.

Abnormal returns for three days before the release date and three days after the release date show in Table 4.

Table 4 Correlation Analysis

Code	CAR Before Event Date	CAR After Event Date
AALI	-0.0008	-0.0162
ANJT	0.0018	0.0024
BISI	0.0103	-0.0149
BRPT	0.0076	0.0013
BWPT	0.0006	0.0126
CPIN	-0.0328	-0.0176
CPRO	0.0000	0.0000
DSNG	-0.0032	-0.0038
ETWA	0.0113	-0.0021
GZCO	-0.0130	-0.0032
IIKP	0.0056	-0.0330
INDF	-0.0094	-0.0016
INRU	-0.0061	0.0017
JAWA	-0.0443	-0.0079
JPFA	0.0030	-0.0001
KMTR	-0.0002	-0.0125
LSIP	-0.0069	-0.0248
MAIN	-0.0243	-0.0625
PALM	0.0005	-0.0174
SGRO	-0.0164	0.0005
SIMP	-0.0098	-0.0163
SIPD	0.0112	-0.0004
SMAR	-0.0096	-0.0099
SSMS	-0.0064	0.0008
TBLA	-0.0027	-0.0052
ULTJ	-0.0037	0.0001
UNSP	-0.0112	-0.0052

From Table 4, the cumulative Abnormal Return (CAR) before and after the event date seemed to vary among sample companies. Some companies had increased CAR after the event date (ANJT, BWPT, CPIN, GZCO, INDF, INRU, JAWA, SGRO, SSMS, ULTJ, UNSP), but some companies owned decreased CAR after the event date (AALI, BISI, BRPT, DSNG, ETWA, IIKP, JPFA, KMTR, LSIP, MAIN, PALM, SIMP, SIPD, SMAR, TBLA). The hypothesis posits that the CAR would be increased after the event date, which means that IAS 41 fair value use had significant informative value to the investor. The numbers in Table 4 seem counter-intuitive to this study’s hypothesis. However, it still needs to be tested statistically to confirm the preliminary findings in Table 4.

Hypothesis Testing

Wilcoxon signed-rank test for paired sample results are summarized in Table 5.

Table 5 Wilcoxon Signed Rank Test for Paired Sample Results

	Before-After	P/critical value	Decision
Z	-0.952	1.96	H ₁ is not supported
Asymp. Sig (2tailed)	0.341	0.05	H ₁ is not supported

Table 5 reveals hypothesis testing results to test the significance of abnormal returns before and after annual financial statements were released. Using the Wilcoxon signed rank test, the p-value exceeded the z-value, indicating no significant difference before and after the financial statements were released, thus H₁ is not supported. The event date used for this statistical test was the Q4 (annual) financial statement release date, which is March or April 2019, approximately one year after IAS 41 was announced to be mandatory in 2018. The information was believed to be learned way before the information was presented to the investors, which is why it is believed to be the reason why the market reacted poorly to the entirely new standard. Nevertheless, signaling theory states that investors will react immediately to new news (Yasar et al., 2020).

In addition, a slight negative reaction from the market was detected in calculating the abnormal return but not significant enough to reject the H₀ hypothesis. The abnormal return was not significant, meaning the market might not consider this as new information and has known its impact since IAS 41 was announced to be mandatory before 2018 and event window observation is approximately one year after the standard was deemed mandatory. According to the efficient market hypothesis, the price of the shares should reflect all information available to the investors (Fama, 1970). This study's result that there is no significant CAR before and after the event aligns with the argument that Indonesia's capital market is a semi-strong type of market (Amelda & Kristina, 2021; Nelmidia, 2020; Ningrum & Risman, 2022). Information about the adoption of IAS 41 was widely known to the market participants long before the financial reports were released. Thus, the investors have slowly included that information in that price. In a semi-strong market, abnormal returns are still possible as the price does not reflect all possible information available to the investors. However, as the market becomes stronger, the abnormal returns become harder to achieve (Batista et al., 2018).

Content Analysis of Financial Statement Disclosure

Analysis of Financial Statement Release Punctuality

According to the Indonesian capital market regulator, deadlines for releasing financial statements are show in Table 6.

Table 6 Financial Statement Release Deadline – Market Regulator Rule No 346/BL/2011

Quarter	Deadline
Quarter 1 (as of 31 March)	30 April
Quarter 2 (as of 30 June)	31 July
Quarter 3 (as of 30 September)	31 October
Quarter 4 (as of 31 December)	31 March

Financial statements are to be downloaded and easily discovered by the market at the IDX website (idx.co.id) and/or company website. This regulation was used as a guideline in this study to determine the punctuality of financial statements released for all 27 sample companies. The financial statements' release date was discovered through the Board of Directors' Statement, which is regulated by Peraturan Otoritas Jasa Keuangan Nomor 75 /POJK.04/2017 Tentang Tanggung Jawab Direksi Atas Laporan Keuangan (OJK, 2017). The regulation mandated that directors of public companies are obligated to attach statements with a certain format in the financial statements file, for both quarterly and annually.

Figure 2 illustrated the condition of releasing financial statements during every quarter of 2018 and every one of the 27 sample companies.

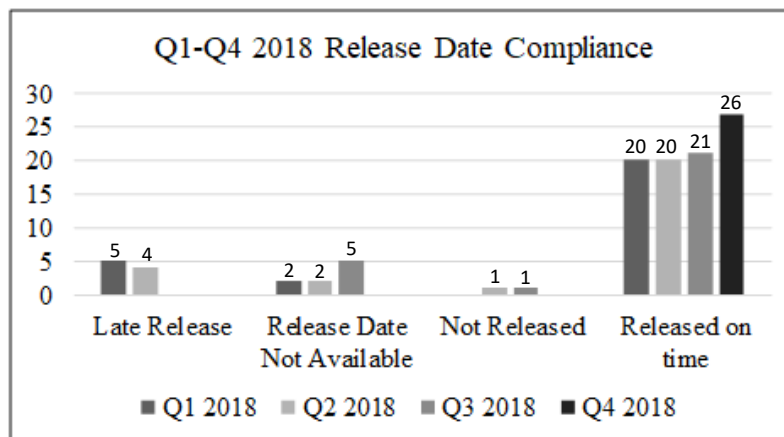


Figure 2 Sample Companies Release Date Compliance 2018

The above figure displays that companies slowly complied with regulations as the year-end was approaching. This is believed because independent auditors mostly audit annual financial statements, and it is required for annual tax purposes.

For the release date, companies are given one month to publish quarterly financial statements and three months for annual financial statements. It was found that four to five companies published their financial statements late during quarters 1 and 2 in 2018. Also, some companies failed to attach the Board of Directors statements to their financial statements, which is mandatory by government regulation and made them lose the credibility of publishing their financial statement before the deadline date. However, all companies published their financial statements before the deadline date, making its timeliness aspect fulfilled.

IAS 41 Disclosure Analysis

The previous section investigates whether companies published their financial statements late, which could cause an asymmetry of information in the market. This section then explores whether companies disclosed IAS 41. Asymmetry information can arise if some companies disclose IAS 41 in their financial statement, but the rest do not.

IAS 34 Interim Financial Reporting (or PSAK 234) regulates quarterly financial statements. Written inside is that companies have to comply with accounting standards when presenting interim statements, just like they do with annual ones. This study investigates IAS 41 adoption in the form of whether they disclosed and measured agricultural assets accordingly and at the mandated time.

The trend of how companies started to adopt IAS 41 can be observed in Figure 2. It exposes that in the first quarter of 2018, more than half the companies mandated to adopt IAS 41 failed to do so, but with time, they gradually began to implement the standard with its peak seen at quarter 4 or annual reports. The punctuality and release date of financial statements analyzed in the previous section is due to audit season and annual tax purposes.

Upon the analysis of whether the 27 sample companies published financial statements within the given time before the deadline and whether those financial statements comply with IAS 41, failure to comply with standards and regulations was mostly found during the first quarter of the year. Afterward, it gradually decreased until the annual financial statement release, which is often seen as the most important season and financial statement as it captures the companies' situation of the year. This is why the abnormal return calculated in the previous section uses the last quarter as its event window. Most companies still used the cost method for measuring agriculture assets and did not consider agriculture products. For the second and third quarters, 13 and 12 companies still did not show any IAS 41 adoption characteristics. This can be considered an improvement, but those companies still failed to comply with mandatory standards. Lastly, for the annual financial statements, a year after IAS 41 was officially mandatory, two companies still did not disclose any characteristic of IAS 41 adoption, and one company partly did.

The annual financial statements have proved to be more stable, comparable, and complied with mandatory regulations and standards. However, the low significance of abnormal returns found might be the result of this failure of adoption. IAS 41 requires companies to measure biological assets at fair value at less cost to sell starting from the 1 January 2018 market, which has expected and known this change of information. In addition, not all companies complied with the standard at the same time, causing incomparability and untimeliness for market participants. The probability of abnormal returns must be calculated under different event windows for different companies, in this case, to obtain optimal results.

Analysis of release date and adoption can help gain better insight into the market reaction due to the comparability of financial statements and the timeliness of information. Such asymmetrical information can disrupt the market and, therefore, distort abnormal returns. IAS 41 was mandatory starting 1 January 2018. Hence, the market knew the new changes before the companies published their financial statements and did not consider it new information anymore, which can be the reason why abnormal returns did not increase or decrease significantly before the release of financial statements. In addition, the cases of late release and failure in adoption could also play a role in it. Some

companies applied the standard earlier than others, making market participants aware of the changes without having to experience it if their target companies deferred in adopting an accounting standard.

Conclusion

From the analysis and calculations conducted above, a few conclusions can be derived from this study. First, abnormal returns generated after financial statements were released are not considered significant. However, a slight negative reaction from the market was captured. This is believed to be the result of well-known information before the observation period. The announcement of IAS 41 was made before 1 January 2018. It is possible that the market knew about the new information and did not consider it new information anymore when companies published their annual financial statements. Second, failure to comply with standards and regulations was mostly found during the first semester of the year. In terms of adoption, companies 16, 13, 12, and 2 failed to show IAS 41 disclosure characteristics during the first to last quarter of 2018, respectively. In terms of financial statement release punctuality, five and four companies published their financial statements late during the first and second quarters. One company did not publish its financial statement for the second quarter. However, during quarter 4 (annual), no companies failed to comply with the regulations. This is assumed because annual financial statements are audited and necessary for annual tax purposes.

The limitation of this study is that the observation period used for calculating abnormal returns did not conclude a 'pure' market reaction for sample companies because some companies applied the standard earlier than others. Second, the sample of this research was limited to three industries: agriculture, basic chemicals and industry, and consumer goods. Companies with agriculture assets might also be found outside these industries. Third, the adoption analysis of IAS 41 was performed purely from data provided by financial statements. Deeper insights into how each companies apply this standard can be achieved through interview sessions. Future researchers should enhance studies by considering a longer time range for calculating abnormal returns with a bigger sample size. Interview sessions to understand the adoption of accounting standards deeper and why the companies failed to comply with the mandatory standard can help enhance the analysis of the adoption of an accounting standard.

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Wahyuni, Lucin & Azhar

The Market Reactions for Deferred Compliance of IAS 41 ...

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Conflicts of Interest

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