

Analysis of Differences in Measurement of Fair Value and Historical Value of Biological Assets on Income Smoothing (Study on Agricultural Companies in Southeast Asia And Australia)

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ABSTRACT

Biological assets are assets of living things in the form of animals and plants. There have been various debates regarding the measurement of biological assets. The debate is related to the use of fair value and historical value in measuring biological assets. Historical value is considered less relevant because it does not reflect present value, while fair value is not considered as expected because it causes fluctuations in earnings and retains manipulation. This study aims to analyze the effect of fair value and historical value measurements on biological assets on income smoothing and the tendency of earnings manipulation in companies that use fair value. The results of different tests show that there is not enough evidence to state that companies that use fair value tend to have higher income smoothing than companies that use historical value. Based on the results of this study, it is suggested that investors should not only focus on company profits but also use other considerations such as future economic conditions, management performance, and government regulations.

Keywords: Biological Assets, Fair Value, Historical Value, Income Smoothing

INTRODUCTION

Selection of the right accounting method is necessary to ensure that each element in the financial statements has been treated according to applicable rules in order to avoid biased information. In several business fields that have special characteristics, for example agribusiness companies that have biological assets, require different accounting treatment from other business fields.

IAS 41 describes biological assets as assets of living things in the form of animals and plants, which have unique characteristics because they continue to change from time to time. Biological transformation consists of processes of growth, degeneration, production and procreation that cause qualitative and quantitative changes in the life of these animals and plants. These assets can also generate new assets in the form of derivatives of similar biological assets. Because the biological assets continue to experience changes in product capacity, measurements are needed that can show the value of these assets fairly in accordance with their role in generating economic benefits for the company.

There are two methods of valuing biological assets, namely using historical value and using fair value. Based on historical value, biological assets are recorded at cost plus

costs incurred during the maintenance of the biological assets. Meanwhile, the measurement of biological assets based on fair value is in accordance with the *International Accounting Standards* (IAS) 41 issued by the IASC, biological assets are measured at fair value less costs to sell. Fair value is determined using official market prices in active markets (level 1 input). If there is no official market price, fair value is determined using the value of similar assets (level 2 input). If the value of similar assets cannot be obtained, then fair value is generated through an appraisal by an independent appraiser (level 3 input). Different methods of measuring biological assets result in different biological asset values which will also affect the overall asset value.

In Indonesia, PSAK has not specifically regulated the treatment of biological assets, so there is no standard regulating how information on biological assets can be used as reliable and relevant information in decision making. As an agricultural country, the agricultural sector has a strategic role in national development in Indonesia. Plantation is part of agriculture, through the oil palm plantations as one of the main commodities that have become a source of non-oil and gas foreign exchange earnings for Indonesia, absorbing plantation labor and a source of income for farmers.

Indonesia's potential in the agricultural sector will encourage investors to invest in this sector. Selection of the appropriate accounting method will produce relevant and reliable financial reports that will assist investors in making investment decisions. Based on data *Oilworld*, the total production of 17 types of vegetable oils and fats in the world will reach 236 million tons in 2020 with palm oil and soybean oil as the main production. The high demand for palm oil is an opportunity for Indonesia to fill the demand, considering that Indonesia is the world's largest producer of palm oil (www.kelapasawitindonesia.com, 2010).

In the international world, there have been various debates regarding the measurement of biological assets. The debate relates to the use of fair value and historical value in measuring biological assets. Biological assets are initially measured using historical values. Along with the development of science, historical value is seen as less relevant because it does not reflect current values.

Sonbay (2010:2) explains that the historical value method in accounting records contained in the financial statements does not reflect the true value. This is due to changes in the value of the currency from time to time. Many historical figures that appear in financial statements are not economically relevant because prices continue to change. Historical value can be used if economic conditions are normal (no inflation).

Barlev (2003:384) states that historical value-based financial reports obscure the real financial statements and results of company operations and provide a lot of room for manipulation. Often the book values of assets and liabilities have values that are significantly different from market values. This situation allows management to manipulate reported earnings to hide their poor performance.

Fair value emerged as a response to dissatisfaction with historical value. However, the fair value is deemed not in line with expectations. Watts (2003: 3) argues that fair value is the subject of manipulation and adjustment, therefore fair value is a weak measurement tool in valuation and performance compared to the use of fair value. Rayman (2007:211) concluded that fair value accounting is responsible for misleading

information. Ronen (2008:200) reinforces the criticism of fair value by explaining that fair value accounting is less reliable and is the subject of manipulation.

Penttinen *et al.* (2014:67) states that measurement using fair value will not be achieved if the value cannot be measured reliably. This study also claims that measurement using fair value causes unrealistic fluctuations in profit in forestry companies. Meanwhile, Argiles (2009:1) in his study denied this by stating that there is no difference in the relevance of cash flow information between fair value and historical value. Argiles (2009) revealed that there is no significant difference between income and profitability volatility using fair value and historical value.

In Indonesia, Aryanto (2011:3) in his study states that the use of fair value in assessing biological assets can cause a difference between book value and fair value which affects the recognition of *unrealized gains and losses*, thereby increasing the volatility of unrealized financial performance. In the case of biological assets certain, profits increase sharply at the beginning and fall sharply in subsequent periods. Actually, *unrealized gains and losses* are only a matter of time. But the problem is, the IASB does not take into account that there are biological assets that have very long realization times. Meanwhile, Subramanyam and Wild (2011: 125) state that fair value is vulnerable to manipulation. This relates to the methods used in measuring biological assets. The use of management assumptions causes the valuation of biological assets that uses fair value to have low objectivity, making it vulnerable to manipulation and practices *income smoothing*.

Fluctuating profit will increase the company's risk. In accordance with positive accounting theory, managers with the authority they have will choose an accounting method that can regulate the size of profits and take actions *income smoothing*. *Income smoothing* is defined as the practice of determining the timing of the recognition of income and expenses carefully to flatten the amount of reported profit from one period to the next (Hery, 2009: 45). This action is carried out by the manager with the aim of creating a stable profit, so that it can influence investors to assess the company's performance. If the assessment of the company is good, it is expected that stock prices and stock returns will increase. This condition will help managers in maintaining their positions. *Income smoothing*, which is part of *earnings management*, often creates a bad perception from the public. This action has generated a lot of controversy. On the one hand, *earnings management* is an action that does not violate existing and generally accepted regulations. However, on the other hand, Stolowy and Breton (2000: 4) argue that *earnings management* is a form of accounting manipulation.

Practice *Income smoothing* reduces the reliability of financial statements. This is because *income smoothing* tends to measure profits or report profits that do not reflect the actual conditions. This action occurs because there is an opportunity provided by accounting standards so as to encourage the possibility of manipulation. Kaur (2013: 8) states that fair value supporters argue that income smoothing and earnings management are possible if using historical value. If the company's performance deteriorates, the company can influence the income statement through the sale of assets, profit is reported if the net selling price of the assets is greater than the book value based on historical value. Meanwhile, by using fair value assets are already valued at fair value so that profits are reflected in the income statement and reduce the possibility of income smoothing.

Maruli and Mita (2010: 20) state that there is no significant difference in the value and volatility of assets, income, earnings, ROA and *income smoothing index* between companies that use the fair value approach using the historical value approach. The study also stated that there was no different effect between the use of the fair value approach and those using the historical value approach on the volatility of *earnings* company. Meanwhile, this research is different from the research conducted by Tudor (2010: 76) which states that there is an increase in income smoothing practices in England, France and the Netherlands after the use of fair value in accordance with IFRS

Based on the description above, the authors are interested in conducting research on the effect of using value. fair and historical value of biological assets against practices *income smoothing*. The samples taken are agricultural companies in Southeast Asia and Australia. Southeast Asia was chosen because it is one of the most productive agricultural areas in the world. In 2012, this region produced 129 million tons of rice, 40 million tons of corn, 171 million tons of sugar cane, 1.44 million tons of soybeans, and 70 million tons of cassava (<http://investasean.asean.org/>, 2013). In addition, Southeast Asia is also the world's largest producer of palm oil (www.kelapasawitindonesia.com, 2010). However, most agricultural companies in Southeast Asia still use historical values so that Australia was chosen as the comparison.

Sukendar (2010: 95) states that Australia is one of the first countries to introduce the concept of fair value which is used to calculate biological assets in the environment of plantation and livestock companies. In addition, Australia is the largest producer of wool and meat and is the largest organic agricultural country in the world (www.radioaustralia.net.au, 2015). Therefore, it is necessary to conduct further research titled of **"Analysis Difference Measurements Fair Value and Value of Historical on Assets Biological Against *Income Smoothing* (Study on Companies Agriculture in Southeast Asia and Australia)**

The decision can be interpreted as an option, the choice of one or more possible. Setiadi (2008:17) explains that decision making is the process of selecting the best alternative from several alternatives systematically to be followed up (used) as a way of solving problems. Salusu (2000:47) states that decision making is the process of choosing an alternative way of acting with an efficient method according to the situation. Meanwhile, Prawirosentono (2002: 5) defines decision-making theory as how to provide guidance or guidance to people or organizations in making decisions, as well as improve the decision-making process in uncertain conditions.

Positive accounting theory explains why companies choose accounting policies as part of the deep problem of minimizing contract costs and to achieving efficiency *corporate governance*. Belkaoui (2007: 188) explains that positive accounting theory is based on the argument that managers, shareholders and regulatory officials / politicians are rational. Managers try to maximize the usefulness that is directly related to compensation and welfare. Watts and Zimmerman (1986) in Rahmawati (2012: 75) explain that there are three hypotheses that are applied to make predictions in positive accounting theory regarding management's motivation to manage earnings. The three hypotheses described are as follows, first, the hypothesis *bonus plan*: if the company plans a bonus based on *net income*, then the company will choose an accounting procedure that shifts *earnings* future to the present period. Second, the debt covenant

hypothesis: firms tend to lower their debt / equity ratio by increasing their current profit by shifting from tomorrow's profit. The motivation of the company to do this is to avoid being close to debt covenants and to get a lower loan interest rate, because the lower the debt / equity ratio the lower the risk of company bankruptcy. Third, the political cost hypothesis: firms tend to reduce current earnings by shifting to the profit of tomorrow's period. The motivation of companies to do this is for example to avoid political pressure such as accusations of monopoly by showing that company profits are not excessive as suspected, lobbying to the congress to protect the industry from imported goods that cause industrial profits to decline, avoiding demands from trade unions by showing that company profits are decreasing and so on. Companies can reduce profits by changing accounting methods or procedures.

From the explanation above, it can be concluded that management will select the optimal accounting procedure to improve its welfare. This is done based on three hypotheses, namely the bonus plan hypothesis, debt contracts and the political process.

RESEARCH METHOD

This research is a comparative descriptive study. According to Arikunto (2006: 36), comparative research is research that wants to compare the status of two or more phenomena. This study aims to examine the differences in *income smoothing* company using fair value and historical value. The population of this study was 130 companies consisting of agricultural companies represented by agricultural companies in Southeast Asia and Australia in the 2013- 2014 period. The sampling technique is a technique to determine the sample that will be used in the research. The technique used in sampling is *purposive sampling* or technique with certain considerations. After the reduction of the criteria, the final sample of this study was obtained as many as 60 companies results are

Hypothesis testing used to draw conclusions from the research results. In this study, hypothesis testing is used to determine whether their differences in *income smoothing* are significant between agricultural companies that use fair value and historical value. Tests were carried out using the *independent sample t-test*.

The results of the *independent sample t-test* are as follows:

Based on table 1.1, it can be seen that the significance value is $0.908 > 0.05$, then H_0 is accepted. This means that even though there is an average difference of -1.90664, there is not enough evidence to state that companies that use the fair value approach have a higher *income smoothing index* than companies that use historical values.

Table 1.1 Results of the *Independent Sample t-Test*

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
IS Equal variances assumed	.013	.908	-1.622	58	.110	-1.90664	1.17571	-4.26007	.44679
IS Equal variances not assumed			-1.622	47.89	.111	-1.90664	1.17571	-4.27057	.45729

RESULTS AND DISCUSSION

The Effect of Fair Value Measurement on Biological Assets on *Income Smoothing*

The results of data analysis described in the previous chapter show that measuring fair value on biological assets has no significant effect on the level of *income smoothing* of agricultural companies in Southeast Asia and Australia. This means that whether the company uses or does not use fair value in measuring biological assets, the company will continue or will not carry out practices' *income smoothing*.

The results of this study are inconsistent with the theory that the use of fair value in measuring biological assets affects practices *income smoothing*. This is indicated by the average value of Agrinurture Inc.'s biological assets, which is quite low among the sample companies amounting to \$ 3,811,091.83, but it is included in companies that distribute profits with an *income smoothing index* of -3.83. Meanwhile, Indo Agri Resources Ltd. those with a fairly high average value of biological assets of \$ 1,312,984,648.26 are not included in the profit-leveling companies.

This research also contradicts the results of Bangun's (2013: 5) study which states that the use of fair value results in a measurement made based on the current conditions being relevant but it is difficult to determine the fair value of assets or liabilities that are not actively traded resulting in the determination of fair value through estimates or assumptions of the *appraisal* subjective, thus enabling great earnings management. Beatrice (2013: 96) states that when the value of agricultural products cannot be assessed reliably using fair value, this condition can reduce the quality of decisions and open up opportunities for manipulation. Feleaga (2012: 37) states that the use of fair value in the valuation of biological assets causes an increase in earnings volatility.

Danbolt & Rees (2007: 2) found that the consistent use of fair value is more relevant than historical value, they also find consistent evidence *forewarnings management* in the form of income smoothing. Penttinen *et al.* (2014: 67) states that measurement using fair value will not be achieved if the value cannot be measured reliably. This study also claims that measurement using fair value causes unrealistic fluctuations in profit in forestry companies.

The factors that cause fair value measurement on biological assets do not affect practices, *income smoothing* among others a) the sample companies that use fair value in measuring biological assets do not use management assumptions in measuring biological assets, b) sample companies have applied Good corporate governance is seen from the elements of the audit committee, c) there is high investor protection in the country where the sample companies are. The first factor that causes fair value measurement to have no effect on *income smoothing* is that the sample companies that use fair value in the measurement of biological assets do not much use management assumptions. As previously explained, input level three is an unobservable input that reflects management's own assumptions regarding the assumptions made by market players so that it is considered a gap that encourages managers to undertake practices *income smoothing*. Of the 30 sample companies that used fair value in measuring their biological assets, only 4 companies used management assumptions, namely *First Resources Limited*, *Good hope Asia Holding Limited*, *Kencana Agri Limited* and *Sterling Plantation Limited*. The remainder use level one inputs or the official active market price in valuing biological assets. The use of market prices provides the most reliable evidence in fair value valuation because they are measured at prices available in an active market without adjustments and managerial assumptions that prevent manipulation.

The second factor is that the sample companies have implemented good corporate governance seen from the elements of the audit committee. Good *corporate governance* is a set of rules governing the relationship between shareholders, company management, creditors, employees and other internal and external stakeholders relating to their rights and obligations or in other words a system that regulates and controlling the company. Sutedi (2011: 2) states that there are four main components needed in the GCG concept, namely *fairness*, *transparency*, *accountability*, and *responsibility*. These four components are important because the consistent application of GCG principles has been shown to improve the quality of financial reports and become an obstacle to performance manipulation which results in financial reports not reflecting the company's fundamental value. The GCG system provides effective protection to shareholders and creditors so that they can be sure that they will get their investment back fairly and with high value.

The sample companies already have audit committees with more than 3 members and the members of the independent audit committee. The audit committee is one of the committees formed by the Board of Commissioners and is responsible to the Board of Commissioners with the main duties and responsibilities to ensure the principles of GCG in a company, where independence, transparency, accountability and responsibility, and fairness are the principles and foundation of the organization. company. Gradiyanto (2012: 32) states that to build an effective audit committee, the range of members needed is 3-5 people, because the larger the size of the audit committee will increase the function supervisory of the audit committee on management. Yang and Khrisnan (2005) in Lin (2006) prove that there is a negative

relationship between audit committee size and earnings management (*discretionary accrual*). These results indicate that the greater the size of the audit committee, the more guaranteed the quality of financial reporting. The size of the audit committee can minimize the occurrence of earnings management. This is consistent with research by Melurmutia (2014), Kusumaningtyas (2012), and Pamudji (2010) which states that the independence of the audit committee has a negative effect on *income smoothing*.

In addition to the size of the audit committee, the independence of the audit committee is also one of the reasons that the fair value measurement on biological assets does not affect *income smoothing*. Independence is intended to maintain integrity and an objective view in the report as well as the preparation of recommendations proposed by the audit committee, because independent individuals tend to be fairer and more impartial and objective in handling a problem. Independence in the audit committee will suppress manipulation, one of which is in the form of earnings management.

The third factor that causes fair value measurement to have no effect on *income smoothing* is that there is high investor protection in the sample countries. The sample companies that use fair value in measuring biological assets are dominated by companies from Singapore and Australia. Based on the *Strength of Investors Protection Index* released by the World Bank, Singapore ranks the highest in terms of investor protection from 189 countries. *The Strength of Investors Protection Index* is assessed based on various indicators, including:

a) gender insecurity, b) shareholder rights, c) ownership and supervision, d) company transparency, e) licensing and transparency, f) shareholder actions and access to evidence. This indicates a high level of investor protection regulations. Singapore also has various investor protection agencies that have been established since 2001, namely SPIF.

The high level of investor protection will cause accountants to be more careful in preparing financial reports. This is in accordance with the research of Leuz *et al.* (2003) which states that strong law enforcement for the rights of investors or non-controlling shareholders will limit the incentives for management to take actions that only benefit management or controlling shareholders. Reduced incentives prevent management from undertaking earnings management because there is less to cover from investors. Kaur (2013: 8) states that by using fair value assets are already valued at fair value so that profits are reflected in the income statement and reduce the possibility of *income smoothing*.

Based on the description of the research findings and related theories above, it can be concluded that the use of fair value in measuring biological assets has no effect on practices *income smoothing*.

Effect of Measurement of Historical Value on Biological Assets on *Income Smoothing*

The results showed that measurement of historical value on biological assets has a positive and significant effect on the level of *income smoothing* of agricultural companies. Changes in the variable value of biological assets that are measured using historical values will cause changes in the level *income smoothing* companies. The results of this study are in line with the existing theory, which is indicated by the relatively low average value of PT Provident Agro, Tbk's biological assets among the sample companies, which is \$ 3,811,091.83, not included in the companies that

distribute profits. Meanwhile, Indo Agri Resources Ltd. those with a fairly high average value of biological assets of \$ 486,145,831.61 are among the companies that are income-leveling.

The factors that cause measurement using historical value have an effect on *income smoothing* are a) the falling currency exchange rate of the country where the sample companies tend to fall so that the use of historical value in measuring biological assets is considered more profitable, b) weak investor protection in the country where the sample companies are located. The first factor that causes the use of historical value to affect *income smoothing* is the currency exchange rate of the country where the sample companies tend to fall so that the use of historical value in measuring biological assets is considered more profitable. The sample companies that use historical values are dominated by companies from Indonesia as many as 14 companies. The Indonesian rupiah exchange rate during 2012-2014 tended to weaken against the dollar. Sonbay (2010: 6) states that using historical value, the value of assets recorded in the balance sheet will be lower when compared to the latest developments in the purchase price of money. In addition, there are also rapid changes in exchange rates for assets and liabilities in foreign currencies controlled by the company so that it experiences difficulties in calculating the correct foreign exchange differences. This will cause companies that use historical value to report lower earnings when exchange rates tend to rise. However, the weakening of the exchange rate causes assets to be more profitable if they are valued using historical values. This occurs because assets are valued based on expense rather than their present value.

This research is in line with Sonbay's research (2010: 2) which explains that the historical value method in accounting records contained in the financial statements does not reflect the true value. This is due to changes in the value of the currency from time to time. In addition, Barlev (2003: 384) in his research states that historical value-based financial reports obscure the real financial statements and results of company operations and provide plenty of room for manipulation. Often the book values of assets and liabilities have values that are significantly different from their market values. This situation allows management to manipulate reported earnings to hide their poor performance. Kaur (2013: 8) states that:

Advocates of fair value argue that income smoothing and earnings management are possible under the historical cost framework. If corporate results turn out badly, management can influence reported income under historical cost accounting through the sale of assets, as a profit is reported if the net selling price of an asset is larger than the book value based on historical costs. But, under fair value accounting, the asset is already at fair value and the result is reflected in the income statement, reducing the possibility of income smoothing.

The study explains that fair value proponents argue that income smoothing and earnings management are possible when using historical values. If the performance of a company deteriorates, the company can influence the income statement through the sale of assets, profit is reported if the net selling price of the assets is greater than the book value based on historical value. This factor then encourages management to do income smoothing so that reported earnings look better. This is in accordance with positive accounting theory which describes a process that uses the ability, understanding and appropriate accounting policies of managers to maximize the existence function that is directly related to compensation and prosperity that managers

will receive.

The second factor that causes the use of historical value in measuring biological assets to affect income smoothing is that investor protection tends to be weak in the country where the sample companies are. The sample companies that use historical value are dominated by companies from Indonesia. In the research year, namely 2013-2014, investor protection in Indonesia tends to be weak. Based on the Strength of Investor Protection Index, Indonesia ranks 88 out of 189.

Based on what was reported on okezone.com, several cases of manipulation of customer funds had occurred in the Indonesian capital market, such as the cases of PT Sarijaya Sekuritas and PT Antaboga Delta Sekuritas which caused many investors to suffer losses. Currently, Indonesia has an investor protection agency, namely PT P3IEI. However, PT P3IEI was only established in 2013 and operated in 2014, so that in the research year this institution had not yet fully performed its function.

Based on the description of the research findings and related theories above, it can be concluded that the use of historical values in measuring biological assets has a positive and significant effect on income smoothing practices. The regression test results show that the use of historical value in measuring biological assets has an effect of 44% and the rest is influenced by other factors.

Income Smoothing Difference in Companies That Use Fair Value and Historical Value

The results of data analysis show that there is not enough evidence to state that companies that use fair value tend to have a higher income smoothing index than companies that use historical value. This study is in line with the research of Argiles (2001) and Maruli & Mita (2010) which provide the same results. The results of this study are also in line with the results of the analysis of hypothesis 1 which states that there is no effect between the use of fair value in measuring biological assets on income smoothing and hypothesis 2 which states that the use of historical value in measuring biological assets affects income smoothing.

The results of this study are not in line with research by Liang & Wen (2007) which states that fair value inherits a lot of manipulation and reduces investment efficiency. And contrary to the research of Bangun (2005), Beatrice (2013), Feleaga (2012), and Danbolt & Rees (2007) which states that fair value opens opportunities for greater profit manipulation. This insignificant research result is caused by several factors including: a) the sample companies that use fair value do not use that much management assumptions in measuring biological assets, while companies that use historical value in the measurement of biological assets are dominated by companies from countries that experienced a weakening in exchange rates in the study year b) companies that use fair value are dominated by companies that have high investor protection.

The first factor that causes the research results to be insignificant is that the sample companies that use fair value do not use that much management assumptions in the measurement of biological assets, while companies that use historical value in the measurement of biological assets are dominated by companies originating from countries that experienced a depreciation in exchange rates in the study year. As explained in Hypothesis 1, the use of management assumptions is considered as an opening for management to manipulate. Subramanyam and Wild (2011: 125) state that

fair value is vulnerable to manipulation. This relates to the methods used in measuring biological assets. The use of management assumptions causes the valuation of biological assets that uses fair value to have low objectivity, making them vulnerable to manipulation and income smoothing practices. There are only 4 sample companies that use management assumptions in measuring biological assets, while 26 other companies use active market prices that are free from management assumptions.

On the other hand, companies that use historical value are dominated by companies originating from Indonesia, where in the research year Indonesia was experiencing a weakening of the exchange rate. The resulting depreciation in exchange rates makes valuation using historical value more profitable because biological assets are carried at their book value, not their present value. This factor then encourages management to do income smoothing so that the reported earnings look better. This is in accordance with positive accounting theory which describes a process in which by using the ability, understanding and appropriate accounting policies managers will maximize the function of existence which is directly related to compensation and prosperity that managers will get.

The second factor that causes this research to be insignificant is that companies that use fair value are dominated by companies that have high investor protection. The sample companies that use fair value in measuring biological assets are dominated by companies from Australia and Singapore. Based on the Strength of Investor Protection published by the World Bank in 2014, Australia ranks 66th and Singapore ranks first. Meanwhile, the sample companies that use historical value in measuring biological assets are dominated by Indonesia, which is in the 88th position.

The high level of investor protection will cause accountants to be more careful in preparing financial reports. This is in accordance with the research of Leuz et al. (2003) stated that the existence of strong law enforcement for the rights of investors or non-controlling shareholders would limit the incentives for management to take actions that only benefit management or controlling shareholders. The reduction in incentives prevents management from undertaking earnings management as there is less to cover from investors. Based on the description of the research findings and related theories above, it can be concluded that there is not enough evidence to state that companies that use fair value in measuring biological assets tend to have a higher income smoothing than companies that use historical value.

Based on the results of the research analysis that has been carried out in the previous chapter, the following conclusions can be drawn:

1. The use of fair value in the measurement of biological assets has no effect on the company's income smoothing practices. The factors that cause fair value measurement on biological assets that have no effect on income smoothing practices are (a) the sample companies that use fair value in measuring biological assets do not use management assumptions in measuring their fair value, (b) sample companies have implement GCG consistently and (c) there is high investor protection in the country where the sample companies are.
2. The use of historical value in the measurement on biological assets affects the income smoothing practice that done by the company. This is due to several factors, namely a) the sample companies came from a country that experienced a weakening of the exchange rate in the study year, b) the sample companies came from a country with weak investor protection in the research year.

3. There is not enough evidence to state that the companies that use fair value tend to have higher income smoothing than companies that use the historical value. Some factors that cause the insignificant research result are: a) sample companies that use fair value do not use that much management assumptions in measuring biological assets, while companies that use historical value in measuring biological assets are dominated by the companies from countries that experience exchange rate weakness in the research year b) companies that use fair value are dominated by the companies that have high investor protection.

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