Research.

Sales Volatility, Operating Cash Flow Volatility, Debt, and Firm Size on Future Earnings Persistence

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Abstract. This study aims to find out the impact of sales volatility, operating cash flow volatility, debt, and firm size on earnings persistence in agricultural sector companies listed on the Indonesia Stock Exchange for the period 2009-2022. The sample in this study is 14 companies using the purposive sampling method. This type of research is quantitative research. The analytical tool used was SPSS with multiple linear regression testing. The results of the tests carried out are that sales volatility has a negative and insignificant effect on future earnings persistence, conversely, the volatility of operating cash flows and debt has a positive but not significant impact on future earnings persistence, but firm size have positive effect on future earnings persistence in agricultural sector companies listed on the Indonesia Stock Exchange for the 2009-2022 period. Suggestions can be submitted to management to monitor the company's sales value so that there are no significant changes in a very short period of time, and avoid recording errors or manipulation of the company's sales value.

Keywords: Debt, Firm Size, Future Earnings Persistence, Operating Cash Flow Volatility, Sales Volatility

INTRODUCTION

Background

Indonesia is known as a country with enormous potential to develop natural products for agricultural products. The agricultural sector produces crops such as crops, oil palm, rice, soybeans, peanuts, and so on. Investing in companies in the agricultural sector will have quite a big risk because it can be seen that Indonesia is a disaster-prone country. There are two different climates, namely a hot climate, and a rainy climate. So that it will affect the yield. If the yields are of poor quality, it will affect the scarcity of raw materials that will be sold by the company. So, sales have decreased. If there is a decrease in sales, it will affect the company's profits. The explanation above is an external factor from the company's efforts to maintain its profits (Suhardjo et al., 2022).

Fanani (2010) find a significant correlation between sales volatility and earnings persistence. Meanwhile, Sulastri (2014), states that there is no significant influence of sales volatility to earnings persistence. So, there are differences in results between Fanani's (2010) and Sulastri's (2014) research.

The persistence of earnings can be affected by another internal factor, namely, the volatility of operating cash flows. This variable was adopted by Dechow & Dichev

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(2002) and Fanani (2010). Operating cash flow figures will vary each period according to the company's needs, so it will be difficult to predict the value. If the change in the operating cash flow volatility value is very significant in a short time, it may be indicated that the operating cash flow volatility value has been recorded in the financial statements. Therefore, this will affect the company in maintaining its profits.

The results of research by Kusuma & Sadjiarto (2014) indicate a significant correlation between the volatility of operating cash flows and earnings persistence. Meanwhile, research by Solastri (2014) indicates no significant correlation between operating cash flow volatility and earnings persistence. Based on these differences, the authors will conduct research again on these variables.

Debt is also a factor affecting earnings persistence. Research has already been conducted by Linawati (2015) and Fanani (2010). Debt is a company's loan that is used as business capital, either to expand a business or to start a business. So, the amount of debt encourages the company to expand its business so that it is more advanced so that there is a good view in the eyes of investors or auditors.

Research from Putri and Supadami (2016), there is a significant relationship between debt and earnings persistence. Meanwhile, Sa'adah, Fadila, & Nurhayati (2017), showed no significant correlation between debt and earnings persistence. From the difference in these results, the authors will conduct another study to prove the correlation between debt and earnings persistence.

Based on data obtained from the official website of the Indonesia Stock Exchange, in table 1 it is known that three agricultural sector companies for the 2020-2022 period experienced profit fluctuations and reflected indications of inconsistency in company profits.

<table>
<thead>
<tr>
<th>No</th>
<th>Code</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>First Firm</td>
<td>2114.3</td>
<td>2113.6</td>
<td>1520.7</td>
</tr>
<tr>
<td>2</td>
<td>Second Firm</td>
<td>592.8</td>
<td>763.4</td>
<td>329.4</td>
</tr>
<tr>
<td>3</td>
<td>Third Firm</td>
<td>459.4</td>
<td>303.0</td>
<td>63.6</td>
</tr>
</tbody>
</table>

Source: IDX, 2023

The table above shows that the company's profit is not stable every year. The company obtains high-profit figures in a certain year but decreases in the next year or vice versa.

Profit is a fairly broad element to describe the company's performance, and profit information (Sudarno, Putri, et al., 2022) is a measure of the company's success. So, this research needs to be done because earnings persistence can be used to see companies in maintaining their profits and to help provide information about the condition of the company.

What distinguishes this study from previous studies is that this study uses future earnings persistence because researchers suspect that the impact of current volatility and debt will be felt in the future. Then, this study tries to prove it with current earnings persistence as a comparison.

**Problem Formulation**

According to the background above, the problems in this research are as follows:

1. Does sales volatility have an effect on future earnings persistence?
2. Does operating cash flow volatility have an effect on future earnings persistence?
3. Does debt have an effect on future earnings persistence?
4. Does firm size have an effect on future earnings persistence?

**LITERATURE REVIEW**

**Signal Theory**

Information is an important element needed by investors to know the condition of the company. The theory used as a reference in research is the signal theory. Ross (1977), there are two forms of information provided by a company, namely good signal and bad signal information. Information is provided to see the condition of the company in the future, and have good or bad prospects.

Earnings persistence is used to determine if a company's profits are persistent profits. According to Penman (2001), Dewi & Putri (2015) stated that earnings persistent is profit in which each period does not experience significant changes or the profit is stable. So that it can help those who need company information in making decisions. Stable profits can provide good signal information (good news), while unstable profits can provide bad signal information (bad news).

Earnings persistence can be affected by sales volatility. Based on Dechow & Dichev (2002) and Indra (2014) sales volatility is the sales value that changes either by increasing or decreasing. Based on the signal theory, the sales volatility variable can provide information to internal or external parties of the company. The information provided is in the form of an increase or decrease in sales value each period (Sudarno, Renaldo, et al., 2022).

Getting informed helps investors make decisions because the results of selling the company will affect the amount of profit earned. So high-profit persistence implies low sales volatility, so the information has a positive sign (good news). Meanwhile, low-profit persistence indicates high sales volatility, so the information has a bad sign (bad news).

Sales activity in the company will affect the company's operating cash flow. Based on Dechow & Dichev (2002) and Indra (2014) that the volatility of operating cash flows is the value of cash flows that experience changes either increasing or decreasing. So based on the theory of volatility variable signal operating cash flow can give good or bad signals.

A given signal is in the form of operating cash flow conditions for each period, as the outflow or inflow of cash affects the company's profit. So that a high barter in the value of operating cash flows can indicate low earnings persistence, it will show a bad signal (bad news). Meanwhile, the lower or more stable the value of operating cash flow indicates high-profit persistence, it will show a good signal (good news).

One source of company funds to carry out sales activities and company operating activities is debt. According to Nurochman & Solikhah (2015), that debt is an amount of money given to the company to be used as capital which will then be paid in the future. Based on the debt signal theory, it provides information to investors or creditors about the company's debt amount.

Debt information can show investors that high debt indicates increased company performance. More debt, more persistence in earning, so that information has a good signal (good news), vice versa.

**Earnings Persistence**

Earnings persistence reflects the quality of a company's earnings and shows that a company can maintain profits from time to time, not just because of certain events. In addition, earnings persistence is also an income property that describes a company's ability to maintain profits from now to the future. Earnings persistence as the expected
future revisions of accounting earnings based on current year’s earnings. This value is irrelevant in the income component as a result of temporary events or the application of the accrual accounting concept of write-downs, write-offs or allowance for losses. These aspects will cause limited relevance when applied in the valuation of a company (Fatma & Hidayat, 2020).

Sales Volatility

Low volatility affects company profits, where low volatility can indicate the ability of profits to predict cash flow from company sales in the future. Sales volatility is the level of distribution of sales from the company or the ups and downs of sales that occur in the company (Tantera, 2022).

Operating Cash Flow Volatility

Cash flow volatility is the level of distribution of cash flows owned by the company. When cash flow volatility increases, this can cause the profits generated by the company to be deemed not in accordance with the facts or the truth of these results will be increasingly questioned because when changes in cash flow volatility are high, earnings persistence will be lower. Conversely, if the cash flow volatility is low, then the profits generated by the company are considered to be in accordance with the facts or it can be said that earnings persistence will be higher (Tantera, 2022).

Debt

Debt can be defined as financial obligations owed by an entity (eg a company) to other parties that occurred as a result of past transactions or operational activities (Kieso et al., 2019).

Firm Size

Investors and the public will more easily trust large companies because these companies are considered to have better performance and are more developed and have good consistency (Tantera, 2022).

The Effect of Sales Volatility on Future Earnings Persistence

Earnings Persistence based on Ross’ signal theory (1977), sales volatility variables can provide investors with information about the number of sales over a period. If the company’s sales volatility information varies significantly from period to period, it indicates that there is an estimation error in the sales value and does not reflect the actual sales value. This reduces persistence in earning. Sales can be used as the main source of profit for a company. The performance of a company can be seen from the number of sales and requests for products marketed.

There are several previous studies that found results from research on sales volatility on earnings persistence. Sulastri (2014) states that no significant correlation between sales volatility and earnings persistence. Indra (2014) states that there is no significant correlation between sales volatility and earnings persistence. Based on the above research findings, a hypothesis can be formulated, namely:

H1: Sales volatility has a negative effect on future earnings persistence

The Effect of Operating Cash Flow Volatility on Future Earnings Persistence

Based on Ross’s (1977) signal theory, the volatility variable of operating cash flow gives a signal in the form of operating cash flow conditions for each period, as cash inflow or outflow affects the company's profit. A significant change in the value of a company’s operating cash flows over a short period of time may indicate a recording error. Information is misrepresented because operating cash flow does not reflect the true state of affairs. Then it affects the profitability of the company.

The Indonesian Accounting Association (1994), states that cash flow is an activity in the form of incoming and outgoing cash within a company. Exit and cash entry

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activities of a company can generate profits. The persistence of a company's earnings can be seen through the value of operating cash flow each period. But the required value is a stable value and does not experience very significant changes. So, it will be easy to predict future profits.

There are several previous studies that have found different results on the volatility of operating cash flows on earnings persistence. Lutfia (2016), explains that no significant relationship between operating cash flow volatility and earnings persistence. Sulastri (2014), explains that no significant relationship between operating cash flow volatility and earnings persistence. Based on the above research findings, a hypothesis can be formulated, namely:

H2: Operating cash flow volatility has a negative effect on future earnings persistence

**The Effect of Debt on Future Earnings Persistence**

Based on Ross' signal theory (1977), a firm with high debt increases its earnings persistence. So that will provide good information. The high debt of a company can also indicate that the company has good performance. Debt is also used as a source of funds for a company obtained by creditors to carry out company activities. From this debt, the company seeks to expand its business and obtain the desired profit.

Debt can affect the persistence of company profits. The company has to pay interest on the loan as per the predetermined time. A company faces failure if it is unable to pay its debts up to the specified maturity. Thus, increasing the persistence of the company's profits with the aim of continuing its performance and paying off its debts. Lenders expect good performance so they have confidence in the company to lend.

There are several previous studies that found the results of debt research on earnings persistence. Putri & Supadmi (2016), that there is a significant influence between debt and earnings persistence. Darmansyah (2016), that there is a significant influence between debt and earnings persistence. Based on the above research findings, a hypothesis can be formulated, namely:

H3: Debt has a positive effect on future earnings persistence

**The Effect of Firm Size on Future Earnings Persistence**

Firm size can describe how small a company is which can be identified by total assets or total net sales. Firm size is described through the total assets owned by the company where more the total assets of a company, more the control and turnover of total assets, and it will impact on firm's profit. Based on the above research findings, a hypothesis can be formulated, namely:

H4: Firm Size has a positive effect on future earnings persistence

**RESEARCH METHOD**

*Research Approach*

The data used is financial statement data, which can be quantified in the form of numbers. The financial statements used in this study are the agricultural sector listed on the Indonesian Stock Exchange for the period 2009-2022. The data in this study uses company-published data.

*Population and Sample*

The data was obtained from the website of companies registered in the agricultural sector. The population in this study is 21 agricultural sector companies listed on the Indonesia Stock Exchange for the 2009-2022 period. Then filtered to obtain samples with techniques based on certain criteria (purposive sampling). There are criteria that must be met to obtain a sample, namely: (1) Agricultural Sector Companies Listed on
the Indonesian Stock Exchange for the Period 2009-2022; (2) Companies include report data according to variables; and (3) The company did not incur any losses during the study period. After all of these criteria were met, the sample used was 14 companies.

Variables Measurement

Future Earnings Persistence

Future earnings persistence is profit that does not experience significant fluctuations each period, so predicting the future is easy. Earnings persistence is calculated using the same ratio as Delvira & Nelvirita’s research (2013), namely using the SPSS application to do the equation for the previous year’s after-tax profit with the current year’s after-tax profit (Renaldo et al., 2022):

\[ E_{it} = \beta_0 + \beta_1 E_{it-1} + \epsilon_{it} \]

Information:
- \( E_{it} \) : Earnings after tax
- \( E_{it-1} \) : Earnings after tax one year before
- \( \beta_0 \) : Constant
- \( \beta_1 \) : Future Earnings persistence
- \( \epsilon_{it} \) : Error term

Companies have high persistent profits if they get an earnings persistence value \( \beta_1 > 1 \). If a company has persistent profits, then earnings persistence \( \beta_1 > 0 \). Meanwhile, companies that are not persistent get a profit persistence value \( \beta_1 \leq 0 \).

Sales Volatility

Sales volatility is the movement of sales up or down from one period to another. The formula for sales volatility refers to previous research, namely Fanani (2010), as follows:

\[ SV_{it} = \frac{\sigma(Sales \ for \ 5 \ years)_{it}}{Total \ Assets_{it}} \]

Information:
- \( SV_{it} \) : Sales volatility
- \( \sigma(Sales \ for \ 5 \ years)_{it} \) : Standard deviation for 5 years sales
- \( Total \ Assets_{it} \) : Total assets of the company for the year

Operating Cash Flow Volatility

Operating cash flow volatility is the change in the value of operating cash flows each period. The volatility of operating cash flow is useful for viewing future profits. To calculate the volatility of operating cash flows, the authors use measurements according to Fanani (2010), referring to Dechow & Dichev (2002) which is to find the standard deviation value of the company’s operating cash flows per year and then divide it by the total assets per year. The operating cash flow volatility formula is as follows:

\[ OCFV_{it} = \frac{\sigma(CFO)_{it}}{Total \ Assets_{it}} \]

Information:
- \( OCFV_{it} \) : Operating Cash Flow Volatility
- \( \sigma(CFO)_{it} \) : Standard deviation for 5 years operating cash flows
- \( Total \ Assets_{it} \) : Total assets of the company for the year

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Debt

Debt is a fund for operational and investment activities lent by creditors. The debt used is the total debt as a whole, namely short-term and long-term debt. The formula refers to Putri & Supadmi's research (2016), which uses the Debt to Total Asset Ratio (Suyono et al., 2022):

\[
DAR_{it} = \frac{Total Debt_{it}}{Total Assets_{it}}
\]

Information:

- \(DAR_{it}\) : Debt to total assets ratio
- \(Total Debt_{it}\) : Total debt of the company
- \(Total Assets_{it}\) : Total assets of the company

Firm Size

Firm size can describe how small a company is which can be identified by total assets or total net sales. The size of the company is defined by the total assets owned by the company, where the higher the total assets of the company, the higher the total assets control and turnover (Suyono, et al., 2021).

\[
Firm Size = LN(Total Assets)
\]

Data Analysis Method

Statistical analysis methods using SPSS version 22 with multiple linear regression models. This regression model can describe the functional relationship between one dependent variable and more than one independent variable. The equation model for testing the hypothesis is as follows:

\[
Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon_{it}
\]

- \(Y\) : Earnings persistence
- \(X_1\) : Sales Volatility
- \(X_2\) : Operating Cashflow Volatility
- \(X_3\) : Debt
- \(X_4\) : Firm Size
- \(\beta_0\) : Constant
- \(\beta_{1...4}\) : Coefficient
- \(\varepsilon_{it}\) : Error

There are several classical assumption tests that must be met, including the F test (significant), normality (alpha > 0.05), autocorrelation (asympt. sig. > 0.05), multicollinearity (VIF <10), and heteroscedasticity (sig. > 0.05) in accordance with the conditions that must be met. Then proceed with hypothesis testing where the alpha value <0.05 means the hypothesis is accepted.

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RESULTS AND DISCUSSION

Table 2. Testing Result

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>t count</th>
<th>Sig. 1</th>
<th>VIF</th>
<th>Sig. 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>4.696</td>
<td>2.294</td>
<td>0.010</td>
<td>0.665</td>
<td></td>
</tr>
<tr>
<td>Sales Volatility</td>
<td>-8.674</td>
<td>-1.683</td>
<td>0.064</td>
<td>1.146</td>
<td>0.431</td>
</tr>
<tr>
<td>Operating Cash Flow Volatility</td>
<td>1.525</td>
<td>1.657</td>
<td>0.051</td>
<td>1.585</td>
<td>0.537</td>
</tr>
<tr>
<td>Debt</td>
<td>2.052</td>
<td>0.525</td>
<td>0.303</td>
<td>1.200</td>
<td>0.207</td>
</tr>
<tr>
<td>Firm Size</td>
<td>1.022</td>
<td>1.654</td>
<td>0.055</td>
<td>1.104</td>
<td>0.719</td>
</tr>
</tbody>
</table>

F test (Sig) | 5.987 (0.000) | OS-KS Test | 0.158
Adj. R Square | 0.475 | Run Test | 0.110

Source: Processed data, 2023

Based on table 2, all the classic assumption already met the criteria. Then proceed with hypothesis testing and discussion.

Effect of Sales Volatility on Future Earnings Persistence

The results show that sales volatility has a negative effect on future earnings persistence. So, the first hypothesis is accepted.

Based on signal theory, the value of sales volatility is difficult to predict, because if there is a very significant change in the sales value in a short time, it indicates an error in the estimation of the sales value. So, it will give lousy signal information. This shows that the increase in sales volatility causes a decrease in future earnings persistence.

High volatility indicates that there is an error in estimating the value of sales, and thus profit persistence is low. Sales are the basic operating cycle for a company as profits can be generated through sales. If the change in the value of sales each period is low, it is easier to predict future cash flows. But even though the sales value fluctuates very high, it will not significantly affect the persistence of profits.

The results of testing this hypothesis are in line with Sulastri (2014) and Indra (2014), that sales volatility has a negative effect on earnings persistence. This states that sales volatility has high fluctuations so it cannot interpret future profits.

Effect of Operating Cash Flow Volatility on Future Earnings Persistence

The results show that the volatility of operating cash flows has a positive but not significant effect on future earnings persistence. This states that the second hypothesis is rejected.

Based on the signal theory, companies reflect the volatility of operating cash flows through financial reports. The results of research on this variable are that there is a positive but not significant effect on operating cash flow volatility on earnings persistence. The existence of a positive influence indicates the increasing persistence of a company's profits.

The results are in line with Sulastri (2014) and Lutfiyah (2016), whose research results in state that the volatility of operating cash flows has a positive but not significant effect on future earnings persistence. Changes in operating cash flows that are not significant can represent very low uncertainties, making it easy to interpret earnings in future periods.

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Effect of Debt on Future Earnings Persistence

The results show that the debt variable has a positive but not significant effect on future earnings persistence. These states the third hypothesis is rejected.

In line with the debt signal theory, it provides information that if the company is able to pay off debt, then the earnings persistence will be high. The persistence of earnings recorded in the company's financial statements will be valued both in the eyes of investors and creditors so that it can be considered a good signal to assist in making investment decisions.

Debt will affect future earnings persistence but does not have a significant influence on company and investor decisions. And will not affect the stability of the company in the future.

The test is accordance with Sa'adah et al. (2017) and Kusuma & Sadjiarto (2014), debt has a positive but not significant effect on earnings persistence. High debt will lead to high-profit persistence as well, meaning that the debt given to the company is managed properly for the business so that the profit earned is greater. As well as showing the influence of debt on earnings persistence.

Effect of Firm Size on Future Earnings Persistence

The results show that the firm size variable has a positive effect on future earnings persistence. These states the fourth hypothesis is accepted.

Large companies have been able to operate their companies well for several periods. This is the company's advantage in being able to work better so that the profit persistence is good. Larger companies generally have access to more resources, such as financial capital, skilled workforce, and advanced technology. This allows them to make strategic investments in research and development, marketing, and expansion, which can have a positive impact on earnings persistence. Conversely, smaller firms may face limited resources and may be more vulnerable to market fluctuations and competitive pressures.

Large companies often enjoy market power and competitive advantage due to brand recognition, economies of scale, and an established customer base. These factors can contribute to more stable and predictable earnings, as they have a stronger market position and face less competition compared to smaller companies.

CONCLUSION AND SUGGESTION

Conclusion

It can be concluded that first, sales volatility has a negative and insignificant effect on future earnings persistence. Second, the volatility of operating cash flow has a positive and insignificant effect on future earnings persistence. Third, debt has a positive and insignificant effect on future earnings persistence. Forth, firm size has a positive and insignificant effect on future earnings persistence.

Implication

Research results can provide the impetus for companies to develop product or market diversification strategies, improve supply chain management, or seek stability in a volatile business environment. Then more efficient inventory management, improved credit policies, diversified sources of income, or better management of foreign currency risk. Management is expected to control the use of debt so that the condition remains stable and can finance the activities because investors will have a positive view in line with the increasing persistence of the company's profits so that it will bring benefits to the company. It is important for small companies to be aware of the challenges they may face and may need specific strategies to maintain their persistent profits.

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Suggestions

Suggestions can be submitted to management to monitor the company's sales value so that there are no significant changes in a very short period of time, and avoid recording errors or manipulation of the company's sales value. Companies can use debt to diversify their sources of income. By acquiring or expanding businesses that have different revenue cycles or operate in different sectors, companies can reduce the risks associated with fluctuations within one market or industry. Smart diversification can help increase revenue stability and earnings persistence in the future.

REFERENCES


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