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Analysis of the Effect of Liquidity, Inventory Variability on Profit Before Tax for FIFO & Average Inventory Accounting Methods

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ABSTRACT: This study aims to determine the effect of liquidity inventory variability on profit before tax for the Fifo and average inventory method. The sample used in this study is a pharmaceutical company listed on the Indonesia Stock Exchange during the research period 2016-2020, which presents reports of financial statements that have been audited successively, with eight companies as research samples using the purposive sampling method. The results of research with discriminant analysis Liquidity have a significant effect on Profit Before Tax for the FIFO Inventory Method, and the average discriminant analysis of Inventory Variability has a substantial effect on Profit Before Tax for the FIFO Inventory Method and the average in the Pharmaceutical sector listed on the Indonesia Stock Exchange for the period 2016 -2020.

Keywords: Inventory Accounting, Liquidity, Inventory Variability, Profit before tax

INTRODUCTION

The goal of every company is to have high profits. That way the company can continue to grow and develop. One way to get high profits is to look at how to manage the company's existing inventory. Inventory is one of the things that every trading and manufacturing company must have. Inventory plays an important role in the part of assets which includes inventory of goods for sale in normal business activities for trading companies, so that companies can know the steps that must be taken to get maximum profits. In manufacturing companies, inventory is divided into three, namely, raw materials, semi-finished materials, and finished materials. By observing the levels and changes in levels of these three types of inventory, users of financial reports can gain insight into management's production plans (Weygandt J., 2013)

The function of inventory is as a function of the price of goods sold in the income statement and has a function as an element of current assets in the balance sheet report. Inventory assessment functions so that the company knows how much-remaining inventory the company has, which will function for the company to determine the value or purchase decisions.

The choice of inventory method greatly influences the company's balance sheet and profit and loss statement. When there are problems with inventory, for example, delays in inventory, the production process will automatically be hampered which will also have an impact on the ability to make a profit (Rioni, 2020). For example, in conditions where inflation occurs (increasing price conditions), using the FIFO method in conditions of inflation will benefit the company and provide greater profits than when the company uses the average inventory accounting method (Ayem & Harjanta, 2018). Therefore, companies must be appropriate in choosing inventory methods for the company according to the company's conditions.

Based on PSAK 14 (revised 2014) in the Indonesian Accounting Association (IAI), it is stated that only 2 inventory methods are recognized, namely FIFO and WAC. This research uses pharmaceutical sector companies for 2 reasons, the first is related to the increasing population in Indonesia from year to year.

Figure 1. Graph of Population Growth Rate in Indonesia

Source: Processed Data, 2022 (Central Statistics Agency)

The image above shows that this is in line with statistics from the Central Statistics Agency which summarizes Indonesia's population census statistics for 2016-2020, showing population growth every year. This causes an increase in the selling price of pharmaceutical goods for daily needs, of course, this can have an impact on the share prices of pharmaceutical companies in Indonesia. The second is that the pharmaceutical business is one sector that may currently receive various interest from the authorities in their efforts to overcome the COVID-19 phenomenon that passed in early 2019 until now. The upward thrust of the COVID-19 situation has made all commercial sectors both in Indonesia and abroad experience changes, of course, one of which is the pharmaceutical sector. How the pharmaceutical sector manipulates product stocks amidst excessive price demands due to the COVID-19 situation, makes the author choose pharmaceutical companies indexed on the Indonesia Stock Exchange (BEI) for the 2016-2020 period. Apart from that, the diversity of businesses in the pharmaceutical sector is quite a pattern in this research. Differences in the choice of stock accounting valuation approach applied with the help of company use will have an impact on three aspects, especially the final inventory price, the cost of the products offered, and the company's internet profits.

In a situation of rising prices (inflation), the FIFO approach will result in excessive final stock prices and low costs of products offered, which then results in excessive internet revenues. On the other hand, a LIFO approach will result in low ending inventory, excessive product costs offered, and coffee internet revenues. Meanwhile, the general approach will produce final stock prices, product costs offered, and internet revenues whose prices are between the FIFO approach and the LIFO approach.

Liquidity is a ratio that shows a company's ability to pay short-term debt (liabilities). Liquidity can also influence the choice of stock technique to be taken with the help of the use of the company with the help of the use of the company's liquidity cost search. Today's ratio is usually used to expect the company's ability to meet the integrity of the company's short time. Stock variability is the stock version within the company offered in the stability sheet, and income before tax is the cost of profitability that does not consist of hobby costs or taxes, where income before tax will influence the company in choosing stock techniques.

Political value speculation is the reason that once a company has a large cost of revenue, this can attract interest from the side of customers and the media with the intention of in the long run causing excessive tax costs. From the reasons above and the characteristics of appropriate stock techniques for companies according to conditions, it can be concluded that stock techniques for companies are an important element in every buying and selling and production company on the way to getting maximum results. cost of income.

Based on previous research, including (Adibah Yahya, 2021)), this research discusses the selection of accounting techniques for stock valuation and the variables that influence it, by looking at this it can be concluded that currently, the ratio for production businesses has an impact on the selection of accounting techniques. stock valuation, on the other hand, for the buying and selling business, the current ratio no longer influences the choice of stock valuation accounting techniques.

In this case, it can be concluded that the Current ratio and Leverage ratio, which are proxied through the debt-to-asset ratio, do not have a big influence on the choice of stock valuation accounting techniques in the production business and buying and selling business. The next study was carried out using ((Leny Susan, 2021)), analyzing the impact of company size, stock variability, variability in the value of products purchased, and income before tax on stock accounting techniques.

In this study, 46.3% of stock accounting technique choices in the wholesale and retail trading sub-quarters indexed on the Indonesia Stock Exchange in the 2016-2019 period have been driven simultaneously using company size, stock variability, variability in the value of products purchased, and income. before tax has been affected drastically and the 53.7% closing is stimulated using different factors.

Further research was conducted by ((Erwin Febriansyah, 2020)), examining the influence of inventory variability, company size, and inventory intensity on the choice of inventory valuation methods. In this research, it is concluded that inventory variability does not influence the choice of inventory assessment method.

Further research was conducted by ((Ni Komang Dwi Mirandani, 2019)), this researcher examined the influence of company size, inventory variability, financial leverage, profit before tax, and variability in the cost of goods sold on the choice of inventory accounting method. This research states that inventory variability has a positive effect on the choice of inventory recording method.

If a company has a fairly strong stock value, the impact on the earnings version may be small, even as in an organization that has a stock value that changes every year, subsequent earnings will even vary. Companies with little stock variability may choose to apply the general method, even when organizations with excessive stock variability will use the FIFO method.

Based on the results of research conducted by (Brian, 2014), (Mahardika R et al, 2015)), and (Rahayu, 2019) it is concluded that the choice of stock accounting strategy is stimulated drastically through stock variability, even (Mashuri, 2016)) conclude that stock accounting strategy choices are no longer stimulated through stock variability. Liquidity shows a company's ability to pay short-term debt with its assets. Liquidity can influence the choice of stock strategy, if a company has excessive liquidity, the company will generally tend to try to choose strategies that can increase profits. The use of this variable is the author's choice to analyze apart from the impact of liquidity on the choice of stock accounting strategy with special intervals and samples. Inventories are part of modern assets, so they must be linked to liquidity carefully. Meanwhile, especially based on studies conducted through means (Marwah S, 2012) and (Mashuri, 2016) it is said that liquidity does not have a large enough impact on the choice of stock method. The above phenomenon is a gap phenomenon so the author wishes to study it further.

Based on the background explanation above and differences in the results of previous researchers, this is a reference for researchers to research with the same variables but with different companies and the latest period. As for the title

"This research is to analyze the effect of liquidity and inventory variability on profit before tax for inventory accounting methods (Study of Pharmaceutical Sector Companies listed on the BEI for the 2016-2020 period)"

Formulation of the problem :

1. Does liquidity affect profit before tax for the Fifo inventory method and
2. The correct average for pharmaceutical sector companies listed on the BEI (Indonesian Stock Exchange) for the 2016-2020 period?
3. Does inventory variability affect profit before tax for the appropriate Fifo and Average inventory methods for pharmaceutical sector companies listed on the BEI (Indonesian Stock Exchange) for the 2016-2020 period?

Research purposes

1. To determine and analyze the effect of liquidity on profit before tax for the Fifo and Average inventory methods for pharmaceutical sector companies listed on the BEI (Indonesian Stock Exchange) for the 2016-2020 period.
2. To determine and analyze the effect of Inventory Variability on profit before tax for the Fifo and Average inventory methods for pharmaceutical sector companies listed on the BEI (Indonesian Stock Exchange) for the 2016-2020 period.

Positive Accounting Theory

Positive Accounting Theory is evidence or reasons to scientifically reveal the reality of accounting statements or phenomena because they may be consistent with facts. The fact is used as a target (Daniel, 2018) In this case the supervisor of a company has a tendency to choose the accounting scope that generates the most income which is known as opportunistic behavior, so the author takes this date with a related title, that after the company wants to get maximum income, companies also need to know stock techniques. taken through the company.

Agency Theory

The principle of Agency Theory explains that there is a bond or closeness between the party who distributes authority, namely the principal, and the agent who is given authority. (Tandiontong, 2016 5) states that the agency principle emphasizes that it means the owner of the company, in this case, the shareholder, to provide management of the company to reliable personnel who are called agents who are more knowledgeable in carrying out the business sector.

Understanding Inventory

Inventory control includes the management of goods used in manufacturing techniques or produced on the market in the normal course of operations of the company((Sulindawati et al., 2020)). It can be said that inventory is the stock of goods used in producing goods to be sold by the company.

Profit before tax

Operating profit plus other income and profits and deducting other expenses and losses will produce profit before income tax ((Hery, 2019)). Profit before tax is the profit generated by an entity from business income plus non-business income minus expenses before being subject to tax rates following applicable tax regulations (Leny, 2021).

Liquidity

The liquidity ratio is a ratio that shows the company's ability to fulfill its obligations or pay short-term debt (Hery, 2018:149).

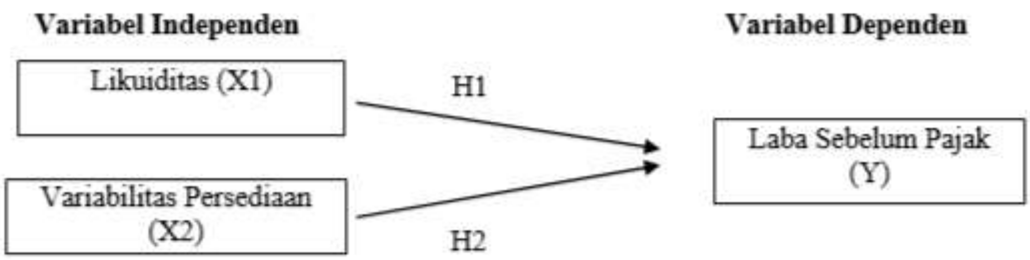
Inventory Variability

Inventory variability is the variation in inventory in a company that is presented in the balance sheet report. Inventory variability can be calculated by the inventory variation coefficient over four years. This coefficient can be found by dividing the standard deviation by the average inventory (Gaol, 2015). So we get the following formula:

$$\text{Inventory variability} = \frac{\text{Inventory Standard Deviation}}{\text{Average Ending Inventory}}$$

(Ayem & Harjanti, 2018)

Figure 2 Thinking Framework



Hypothesis

The current ratio is used generally to predict a company's ability to meet the company's short-term needs. This is supported by previous research, one of which was research conducted by Adibah where in this research it was concluded that the current ratio for manufacturing companies influences the choice of inventory valuation accounting method. Referring to the explanation, this research activity carries out the submission of a hypothesis, namely:

H1: Liquidity has a positive effect on Profit Before Tax

Inventory variability is the variation in inventory in a company that is presented in the balance sheet report. Of course, differences in company inventory variations will affect the value of profit before tax for the inventory accounting method. This is supported by one of the researchers who discussed the influence of inventory variability on inventory methods, including Sri Ayem (2018) who stated that inventory variability has a positive effect on inventory methods in companies. Referring to the explanation, this research activity carries out the submission of a hypothesis, namely:

H2: Inventory Variability has a positive effect on Profit Before Tax

METHOD

Variables and Measurement

Profit before tax

The intermediate size between profit from sales and net profit is called profit before tax, following the political cost hypothesis which explains that when a company has a large profit value, this will attract attention from consumers and the media which will ultimately lead to a high tax value. tall. Profit before tax formula:

Profit + Income outside business – Expenses outside business

(Leny & Ichwanul, 2021)

Liquidity

In this research, the author uses the current ratio. The current ratio is a ratio to measure a company's ability to pay short-term obligations or debts that are immediately due when they are collected in full (Kasmir, 2014: 134). The formula for calculating the current ratio (CR) is as follows:

$$Rasio\ Lancar = \frac{Aktiva\ Lancar}{\textbf{Current debt}}$$

(Yahya & Hidayat, 2020)

Inventory Variability

The inventory variation coefficient can calculate inventory variability over four years. This coefficient can be found by dividing the standard deviation by the average inventory (Gaol, 2015). So we get the following formula:

$$\textbf{Inventory variability} = \frac{\textbf{Inventory Standard Deviation}}{\textbf{Average Inventory}}$$

(Ayem & Harjanti, 2018)

Population, Sample, and Research Sampling

This research activity uses population data obtained through the Indonesian Stock Exchange and sampling is carried out using the Purposive Sampling method. When taking samples, this is based on the Purposive Sampling method, namely determining samples that have certain criteria. Referring to these criteria, a total of 8 companies were obtained which were used as samples in this research activity from 12 pharmaceutical companies listed on the Indonesian Stock Exchange.

Data Collection Techniques

The data collection technique used is a documentation technique, namely collecting data carried out through learning or collecting recorded documents related to the problem you want to research. This research activity uses secondary data. The reason for using secondary data is that the data is obtained through records, magazines, and books, including financial reporting from company publications, government reports, articles, and various theoretical books. Through the use of secondary data from Pharmaceutical Sector Companies during the 2016-2020 period. The data sources used in this research activity were obtained using IDX, Xampus, and so on.

Data analysis method

The data analysis techniques used in this research include a discriminant analysis test which consists of a normality test, equality of variance-covariance matrix test and multicollinearity test, hypothesis test (Sudarno, 2021), discriminant analysis using the help of the IBM SPSS version 26 application. This is done so that the results obtained from the analysis and testing can provide precise answers related to the variables studied.

RESULT AND DISCUSSION

Table 1 Hypothesis Testing

	Wilks' Lambda	F	df1	df2	Say.
X1	,953	,162	1	38	,021
X2	,927	3,584	1	38	,030

Based on Table 1 above, the first independent variable, namely Liquidity, has a significant value of 0.021. This means that liquidity has a significant and positive effect on Profit Before Tax because the significant value is smaller than 0.05 and the Wilks' lambda value is 0.953. Furthermore, the second independent variable, namely Inventory Variability, gives a significant value of 0.030. This means that Inventory Variability has a significant and positive effect on Profit Before Tax because the significant value is smaller than 0.05 and the Wilks' lambda value is 0.927.

Table 2

Determining the Discriminant Function

Canonical Discriminant Function Coefficients

	Function
	1
X1	,469
X2	,772
(Constant)	,685

From the results of the discriminant analysis test above, the discriminant function is produced as below:

Z = 0.685 +(0.469X1)+(0.685X2)

The Influence of Liquidity on Profit Before Tax

Based on the results of the hypothesis test in Table 1 which has been carried out, the Wilks' lambda coefficient value for the independent variable Liquidity is 0.953 with a significance level of 0.021 which is lower than 0.05. So it can be revealed that liquidity has a positive effect and has a significant relationship to Profit Before Tax in Pharmaceutical Sector Companies 2016-2020.

Liquidity shows a company's ability to meet its short-term obligations. the level of a company's ability to meet its short-term debt with the use of modern assets. This proves that there is a match between principles and learning outcomes. Large companies tend to choose a general approach that can reduce income to limit tax payments, and conversely, small companies will choose a FIFO approach that can increase income to offer a desired picture of the company's overall performance so that the chances of obtaining a mortgage budget from lenders will grow.

Companies with excessive liquidity tend to choose a general approach that results in revenue reduction to achieve tax savings, while organizations with low liquidity will

use a FIFO approach to revenue growth so that they display the desired overall performance. This study shows that liquidity has a tremendous impact on the stock accounting approach.

The results of this research are supported by Mardi and Faradula, 2016 who stated that the liquidity ratio can be useful for external parties in the company, one of the uses is for investors regarding the distribution of cash dividends. This liquidity ratio is used as a tool to measure the ability of a company's business results to maximize company profits.

The Effect of Inventory Variability on Profit Before Tax

Based on the results of the hypothesis test in Table 1 which has been carried out, the value of the Wilks' lambda coefficient on the independent variable Inventory Variability is 0.927 and with a significance level of 0.030 which is lower than 0.05. It can be revealed that Inventory Variability has a positive influence and has a significant relationship to Profit Before Tax in Pharmaceutical Sector Companies 2016-2020.

As a result of price changes, choosing an inventory method based on cost will have a different effect on the balance sheet and ending inventory. So companies that have a goal of saving taxes or political costs will choose the average method. Meanwhile, if a company wants to increase its profits, it will choose the FIFO method. Because an increase in prices will affect the company's income.

So businesses with small stock variability generally tend to choose to apply general techniques to reduce income to save taxes. Companies with small stock variability may choose to apply the general technique, which results in a reduced effect compared to using the FIFO technique so that the business can make tax savings.

Meanwhile, businesses with excessive stock variability will use the FIFO technique so that the profits generated are large and cannot make tax savings. The effect of this research is in line with Rudi Mahardika, et al (2015) study that stock variability has a full-size impact on the choice of stock accounting method. Meanwhile, Mashuri (2016) tested that stock variability does not affect the choice of stock accounting method.

CONCLUSION

Referring to the final test results and discussion in the previous chapter, this research was carried out to analyze the influence of Liquidity and inventory Variability on Profit Before Tax for the FIFO & AVERAGE Inventory Accounting Method in the Pharmaceutical Sector Companies for the 2016-2020 period. So the final results of the research can be shortened as follows:

1. Liquidity has a positive effect and has a significant relationship to Profit Before Tax in Pharmaceutical Sector Companies Listed on the Stock Exchange

   Indonesian Effects for the 2016-2020 period. This is because companies with excessive liquidity tend to choose a general approach that results in decreasing revenues to achieve tax savings, while organizations with low liquidity will use a FIFO approach to revenue growth so that they display the desired overall performance.

2. Inventory Variability has a positive effect and has a significant relationship to Profit Before Tax in Pharmaceutical Sector Companies Listed on the Indonesian Stock Exchange for the 2016-2020 period. This is because companies with small stock variability may choose to apply general techniques, which produce a reduced effect compared to using FIFO techniques so that businesses can make tax savings. Meanwhile, businesses with excessive stock variability will use the FIFO technique so that the profits generated are large and cannot make tax savings.

The author realizes that there are still many shortcomings in this research. With that said, here are several points of advice for further research, as follows below:

1. Future research should add several variables related to increasing the value of profit before tax, such as ownership structure, liquidity, and gross income margin
2. Further research can upload different research objects, including buying and selling and production companies so that the share of companies using the FIFO approach and the general approach can be balanced.

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