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Determinants of Profitability : Evidence from Construction Companies Listed on Indonesian Securities Market

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Abstract
An asset management role is required to analyze and optimize revenue sources and efficient systems to reduce costs. Construction service companies that tend to have fewer fixed assets than their current assets have constraints in suppressing production prices and must be able to manage them efficiently to maintain their existence in the market. The data shows the growth in the number of construction service companies which continues to increase and the construction price index which continues to decline, requiring efficient asset management to reduce production costs. For this reason, this study aims to determine the effect of Account Receivable Turnover (ARTO) asset management instruments, Fixed Asset Turnover (FATO), Inventory Turnover (IT), and Total Asset Turnover (TATO) on Operating Profit Margin (OPM) in construction service companies in Indonesia. The research sample is 5 large-scale construction companies in Indonesia with vulnerable observation periods from 2017 to 2021. The method used in this research is panel data regression to examine the relationship between research variables. The results of this study indicate that Fixed Asset Turnover (FATO) and Total Assets Turnover (TATO) have an effect on the Operational Profit Margin (OPM) of construction service companies in Indonesia. Meanwhile, Account Receivable Turnover (ARTO) and Inventory Turnover (IT) have no effect on OPM in Indonesian construction service companies. The results of this study have implications for construction service companies that asset management is very important for the company's progress, especially in increasing profits. This research contributes to the ability of construction service companies to manage their assets effectively, because the construction service business actor is the party responsible for implementing infrastructure development in Indonesia.

Introduction

Asset management is the application of management, financial, economics and work practices to tangible assets with the aim of providing outstanding service at the lowest possible

cost. Asset management is required to evaluate and improve service systems and efficient revenue sources to lower costs through profit-oriented cost-cutting measures. Financial information about a business is presented in financial reports. It is expected that interested parties will consider the information in these financial statements when making financial choices (Rusli, 2009). Company growth as measured by asset growth is one of the many variables that can affect company value (Dhani & Utama, 2017).

The company's growth correlates with the profits that all businesses, big and small, want to achieve (Horne & John, 2012). Profit plays an important role in the company's ability to survive as its main goal. The size of the company which is determined by the total assets of the company is used in this study as a proxy for the company's assets. Many factors can encourage management to use earnings management (Scott, 2000).

The construction industry makes an important contribution to a country's economy through its ability to absorb unskilled, semi-skilled and skilled workers. The construction process requires inputs in the form of raw materials and inputs from other industries such as equipment, labor, land, capital and special work service suppliers. The construction industry has direct and indirect impacts through a complex system of interaction relationships (Lean, 2001).
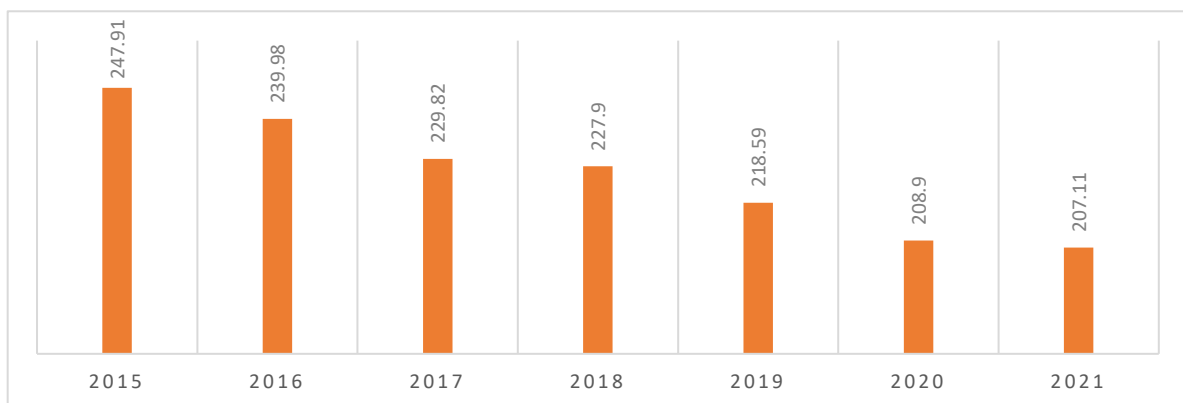
Source: Central Bureau of Statistics (2022)
Figure 1. Indonesia's Construction Cost Index 2015-2021

Figure 1 shows the construction cost index from 2015 to 2021, the Construction Cost Index fell from 247.91 in 2015 to 207.11 in 2021. This decrease reflects the increasingly efficient and successful management of construction companies in Indonesia. Economies of scale, according to Pearson and Wisner (1993), can be divided into two types: volume economies and learning economies of scale. Volume economies of scale are cost reductions achieved by expanding production capacity. Learning economies of scale refer to the reduction in unit costs resulting from enterprise transformation, such as improvements in employee capabilities, production methods, and planning that accumulate over time. The learning economies of scale are related to the learning curve concept, which says that if a procedure is repeated, the unit cost decreases (Pahlevi & Jati, 2023).

The Indonesian people benefit from reduced construction costs due to business growth and competition between companies. In 2021, construction service companies in Indonesia will complete projects worth a minimum of 1,300 trillion rupiah. Along with the increasing demand for infrastructure and buildings, this figure will continue to increase. The number of construction service businesses in Indonesia continues to increase in line with the increasing demand for construction services.

Source: Central Bureau of Statistics (2022)
Figure 2. Number of Construction Companies in Indonesia in 2000-2021

Figure 2 shows data on the number of construction companies from the Central Statistics Agency (BPS) in 2021 , there were 203,403 construction service companies in Indonesia. The number of Indonesian construction companies is dominated by 167,605 small companies, 34,048 medium companies, and 1,750 large companies. One of the company's efforts to be able to compete in the construction services industry is to increase its assets to encourage production effectiveness and efficiency so as to reduce costs. Based on research by Tumelep et al 2014, the factors that most influence performance construction service companies are internal factors, followed by market competition factors and also external factors related to raw material prices. Asset size is needed by companies to help estimate long-term profit capabilities and assess investment risk (Jumingan, 2014). Assets as a company size can affect company profits Andriani (2017), but there are differences in the findings of Nugroho & Radyasa (2019) where company size does not affect profits (Adawiyah & Suprihhadi, 2017).

Several empirical studies have tested the effect of assets on firm value, including research conducted by Saraswathi et al (2016), Chaidir (2015), Novianto (2016), and Suastini et al (2016), showing that asset growth has an effect on firm value . . Meidiawati and Mildawati (2016) conducted the same research but found different findings, namely that asset growth has no effect on firm value. Some of these studies indicate that there are still differences in findings (research gap) between researchers. The disparity in results is due to variations in sampling techniques, population size, and study locations. In addition, the study of profit is more important because it relates to the main goal of establishing every company, namely the pursuit

of significant profits for the welfare of everyone (Horne & John, 2012). The novelty of this research lies in the research object which is a construction service company in Indonesia. This research is different from other studies also lies in the variables taken are purely variables that are influenced by the ability to manage assets in the company. In addition, this novelty is also supported by data showing competition in the form of a growth in the number of companies that continues to increase and the construction cost index that continues to decline. This research is expected to be able to identify the important role of assets in efforts to increase production effectiveness and efficiency, with the aim of supporting productivity so as to be able to reduce cost levels.

Literature Review

Profitability is determined through financial research. Financial analysis is carried out by examining the company's financial records. Financial analysis can be carried out by various parties for various reasons. While financial reports are prepared using technical terms, it is believed that users understand the technical language of accounting as well as the nature of the information reported (Cahyo et al, 2023). Because financial statements in their original form are difficult to understand, financial ratios are a method of analysis. Financial ratios are intended to assist us in evaluating financial overview (Brigham & Houston, 2009). Operating margin is an important ratio to describe the pure profit from a company's operations.

Operating profit as defined by Sawir (2009) is called pure in the sense that the actual amount is obtained from the company's activities by ignoring financial obligations in the form of interest and obligations to the government in the form of tax payments. If the company's operations are better, the greater the profit margin, the better. Organizational capacity to generate profits before interest and taxes related to sales is measured by operating profit margin (OPM) (Sudana, 2019).

Asset management, according to Brigham & Houston (2009), is the capacity of an organization to generate income at a certain level of assets. Businesses manage assets through company operational policies to prevent accumulation of assets to create existing assets and prevent company assets from being idle or failing to generate returns (Supriadi & Puspitasari, 2012). Measurement of asset management is carried out through financial research (Jati, 2022). Financial ratios are used to analyze a company's financial statements in order to conduct financial research. Brigham & Houston (2010) lists the following asset management ratios: 1) Inventory turnover is expressed as sales divided by inventory. When a company's inventory turnover ratio is lower than the industry average, it indicates that the company is holding too much inventory. Excess inventory is, of course, unproductive, and represents an investment with low or zero returns. 2) Account Receivable Turnover (ARTO) is used to assess receivables, and is

calculated by dividing receivables by the average sales to find out how long sales are still recorded in receivables. Thus, ARTO reflects the average length of time a company must wait to receive cash after making a sale. 3) Fix Assets Turnover (FATO) measures how effectively a company uses its plant and equipment. This is the ratio of sales to net fixed assets. When a company has a fixed asset turnover ratio that matches the industry average, it shows that the company has used its fixed assets with the same intensity as other companies in the industry. 4) Total Assets Turnover (TATO) measures the turnover of all company assets, this ratio is calculated by dividing sales by total assets. When a company's total asset turnover is below the industry average, this indicates that the company is not generating sufficient business volume in terms of its total assets. Companies must take steps to increase sales, sell some assets, or a combination of both.

Hypothesis

1. Inventory Turnover affects the operating profit of construction companies in Indonesia.
2. Receivable Turnover affects the operating profit of construction companies in Indonesia.
3. Fix Assets Turnover affects the operating profit of construction companies in Indonesia.
4. Total Asset Turnover affects the operating profit of construction companies in Indonesia.

Method

The research uses panel regression using a fixed effect model approach, so this is included in quantitative research. By using panel data, where there are several advantages in it compared to time series data and cross section data, among others, it is suitable for showing the dynamics of change, detecting and measuring impacts, has small collinearity, and is able to control heterogeneity (Baltagi, 2008). Sugiono (2016) claims that quantitative research is a study based on the philosophy of positivism, which is used to test certain samples and reach a set hypothesis. Secondary data becomes the basis of research data. The financial reports of Indonesian construction companies from 2017 to 2021 are the source of the data used in this study. The data used is a combination of cross section panel data and time series data from five Indonesian construction companies. The variables used in this study were entered into an equation which was then developed into the following equation:

$$OPM_{it} = \beta_0 + \beta_1 IT_{it} + \beta_2 ARTO_{it} + \beta_3 FATO_{it} + \beta_4 TATO_{it} + \varepsilon_{it} \qquad (1)$$

Where OPM is the Company's Operating Profit Margin in percent units, IT is the company's Inventory Turnover in ratio units, ARTO is the Company's Receivable Turnover in ratio unit, FATO is the company's Fix Asset Turnover in ratio units, TATO is the company's Total Asset Turnover in ratio units, and ε_{it} is an error term. Before conducting data analysis, the panel must decide on the estimation model to be used. According to Sugiyono (2016), in panel data three models of estimation techniques must be used: common effect, fixed effect, and random effect.

The Chow test, Hausman test, and Larange multiplier were used in this study to determine the best estimation model between the common effect, fixed effect, and random effect. Can be seen in Figure 3.
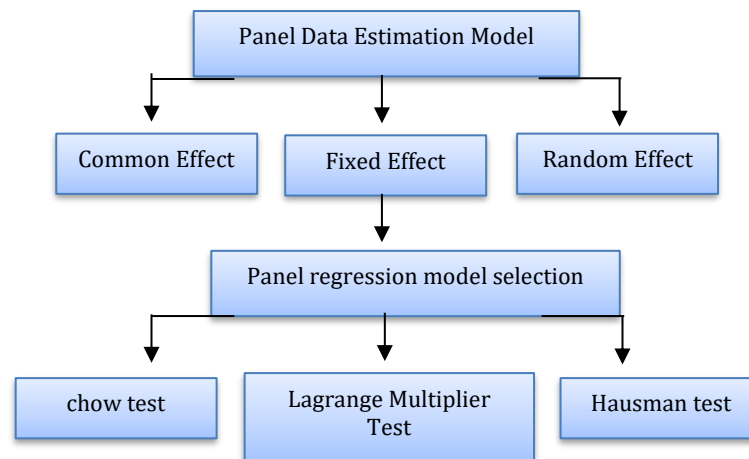
Source: Processed (2022)
Figure 3. The best Estimation Model

Result and Discussion

The Common Effect Model, Fixed Effect Model, and Random Effect Model approaches can be used to determine the panel data regression model. Next, testing will be carried out to select the best model from the three models (CEM, FEM, and REM) that will be used in data analysis in this study. To evaluate assumptions and model fit, the Classical Assumption Test was used. In this study, hypothesis testing was also carried out to find out how much influence the independent variables (Accounts Receivable Turnover, Fixed Asset Turnover, Inventory Turnover, and Total Asset Turnover) had on the dependent variable (Operating Profit Margin). Multiple linear regression with panel data approach was used with E-Views12 software.

Table 1. Best Model Testing Results

Test	Possibility	Selected Models
Chow test	0.0010	Fixed Effect
Hausmann's test	0.0000	Fixed Effect

Table 1. Shows the model fit test from the Chow test results that the prob value on the chi-square cross section is 0.0010 which is less than 0.05 which means that the fixed effect is selected. Meanwhile, the results of the Hausman test show that the prob value in the random cross-section is 0.0000 which is less than 0.05, which means that the fixed effect model is the best. Thus the chosen model is the fixed effect model. From the two tests above, namely the Chow Test and the Hausman Test, it can be concluded that the best model chosen is the fixed

effect model, so there is no need for a Langrange multiplier test. Table 2 below shows a summary of the fixed effect model.

Table 2 Fixed Effect Model Estimation Results

Variable	Coefficient	T-Statistics	Possibility
ARTO	-0.019980	-0.142880	0.8878
FATO	2.152349	5.542448	0.0000
HE	2.048538	2.076296	0.0510
TATTOO	-55.93625	-3.188132	0.0046
Adjusted R-Square		0.695376	
F-statistics		14,696	

Source: Processed data, 2023.

ARTO has no effect on operating profit margins in construction companies. Table 2 shows that the results of hypothesis testing show a probability value of the ARTO variable of 0.8878 > from a significance level of 0.05 so that it can be decided that the ARTO variable has no effect on OPM. This research is inversely proportional to research conducted by Tiong (2017) and Kamila (2017) which states that accounts receivable turnover has a positive effect on company profits. Apart from that, this research is also supported by the findings of Juliana & Sidik (2020) which states that accounts receivable turnover has a negative effect on company profits. This research is in line with Ermaya & Novitasari's research (2016) which uses company data from PT. Akasha Wira Internasional Tbk, in this study states that accounts receivable turnover has no effect on company profits seen from t count <t table (-0.446 <2.920) then H0 is accepted and Ha is rejected (no effect). This is because the higher the receivables will not affect the size of the company's operating profit. Operating profit or OPM occurs because of the company's operating activities, an increase in OPM depends on the company's effectiveness and efficiency in managing its assets.

The results of this study indicate that Fix Assets Turnover has a positive effect on operating profit margins. The results of hypothesis testing show a probability value of 0.0000 < a significance level of 0.05 (see table 2), so that it can be decided that the FATO variable has an effect on OPM. A positive FATO coefficient indicates that an increase in fixed asset turnover will increase the company's profit margin. The more productive and efficient the company uses its fixed assets will have a significant impact on operating profit. A coefficient value of 2.152349 means that every 1 percent increase in FATO will increase the operating profit margin by 2.15 percent.

Fixed assets are long-term investments which are presented in the non-current assets section. In addition, they can wear and tear, making their productivity decrease over time and because of this, companies shrink them over time. For this reason, companies must make the best use of it. Higher fixed asset turnover is better because it shows the company is using its

fixed assets more efficiently. As a result, every dollar invested in fixed assets generates more income. The results of this study contradict research conducted by Diansyah (2020) which states that fixed asset turnover has no effect on company profit growth. In line with Olatunji and Adegbite (2014) stating that investment in fixed assets has a strong and positive statistical impact on profitability. The greater the turnover of fixed assets, the better because each round generates profits in the form of profits (Gunawan and Wahyuni, 2013). This also happens because the fixed assets of construction companies are not as many as manufacturing companies, their assets are only in the form of production equipment and are more nominated by their current assets. The results of this study indicate that Inventory Turnover has no effect on the company's operating profit margin.

Further hypothesis testing for the inventory turnover variable shows that the probability value of the TI variable is 0.0510 greater than the significance level of 0.005 (see table 2), so it can be concluded that the TI variable has no effect on OPM. This research is inversely proportional to research conducted by Ainiyah (2020) which states that inventory turnover affects the company's profit growth. However, this research is in line with the research of Wibowo (2014) which states that inventory turnover has no effect on company profits. Construction companies are different from other companies in that the company is engaged in services. Companies engaged in the service sector tend not to prioritize inventory. Another thing is that construction service companies work more on projects based on customer requests rather than doing the construction projects themselves.

Hypothesis test shows that Total Assets Turnover has a negative effect on operating profit margins. Table 2 shows a probability value of 0.0046 which is less than the significance level of 0.05, so it can be decided that the TATO variable has an effect on OPM. The negative TATO coefficient indicates that a decrease in total asset turnover will increase the company's profit margin. The more productive and efficient the company uses its fixed assets will have a significant impact on operating profit. The composition of construction service company assets is dominated by current assets. The results of this study contradict research conducted by Novita et al (2022) which states that TATO has no effect on company profits.

High Total Asset Turn Over (TATO) comes from adding assets sourced from debt, so that the company has an obligation to pay interest, and this interest expense will reduce the company's profits. This shows similarities with the results of research by Jenni et al (2019), which explains the results that total asset turnover has a significant effect on company profits. High current assets channeled from debt will also provide high interest expenses, so that the company's net profit will decrease. Construction service companies need a lot of capital to carry out their projects so that these capital requirements are met through working capital loans. In addition,

the gradual payment system that is often used in projects also makes construction companies have to bear production costs before the project is completed.

Conclusion

From the results of research that has been conducted with the coverage of five large-scale construction companies in Indonesia with a vulnerability of 2017 to 2021. With reference to the Fixed Effect Model approach, several conclusions can be drawn that Fixed Asset Turnover and Total Asset Turnover affect margins operating profit of construction service companies in Indonesia. Then, Account Receivable and Inventory Turnover do not affect Operating Profit Margins in construction service companies in Indonesia. These findings suggest the company that (1) The company must maximize the use of fixed assets by taking into account any depreciation costs for these assets; (2) Companies with a high proportion of debt to current assets may consider other funding sources; (3) For the government and associations of construction entrepreneurs, it is hoped that they will be able to properly control the growth of construction service companies so that oversupply does not occur. In addition, users of construction services are also expected to choose credible and experienced companies to work on their projects. Indonesia is a vast archipelagic country that requires good infrastructure development, for this reason the role of construction service companies is urgently needed. This research contributes to construction service companies in optimizing their asset management to increase profits and corporate sustainability.

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