

AN EMPIRICAL ANALYSIS OF CONSTRUCTION COMPANIES USING TIME SERIES APPROACH: DO EVA AND MVA INDICATE FINANCIAL PERFORMANCE?

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ABSTRACT

In the era of increasingly fierce business competition, companies are required to be able to compete with other companies, both large and small companies. Competitive advantage is a company strategy formulation that is prepared to achieve opportunities that cannot be imitated by competitors to maximize profits. Industrial growth in Indonesia in recent years has been quite rapid. However, it is different from the construction industry, which has not progressed so well in recent years. When other industries are experiencing fairly good growth, the construction industry is the opposite. In economic theory, the rise and fall of stock prices is something natural because it is driven by the forces of supply and demand. This study aims to analyze and determine the performance of construction companies in the infrastructure sector which are listed on the Indonesia Stock Exchange (IDX) using the Economic Value Added (EVA) and Market Value Added (MVA) approaches using the time series approach. The results of the study show that first, the financial performance of construction companies listed on the IDX in 2019-2021 using EVA calculations generally has a poor performance, except for PT Paramita Bangun Sarana Tbk and PT Superkrane Mitra Utama Tbk. Second, the performance of construction finance companies listed on the IDX in 2019-2021 using the MVA calculation generally has a poor performance, except for PT Acset Indonusa Tbk, PT Paramita Bangun Sarana Tbk, PT Totalindo Eka Persada Tbk, PT Total Bangun Persada Tbk, and PT Wijaya Karya (Persero) Tbk.

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1. INTRODUCTION

A company is an organization that combines and organizes various resources to be able to produce goods or services until they are finally sold to consumers (Julyanthry et al., 2020). "Company value describes the prosperity of shareholders in the long term so that the company's goal in the long term is to maximize the value of the company." Firm value is very important because with high corporate value, it will be followed by high shareholder prosperity (Hardian & Fun, 2016).

The theory of the firm recognizes that the company will maximize profit as the main goal to be achieved by the company, namely by maximizing short-term profits, then in the long term by maximizing the expected value (Setiono, 2018). "Shareholder wealth often translates into rising stock market prices."

In an era of increasingly fierce business competition, companies are required to be able to compete with other companies, both large and small companies (Pakaya, 2011). "Competitive advantage is the key to success for organizations or companies that are in an environment that is continuously experiencing rapid changes in an environment of intense competition and in an increasingly short period of time" (Adiputra & Mandala, 2017).

The government, with various efforts to control Covid-19, has succeeded in increasing national economic growth by 3.69% in 2021 (Basmar et al., 2021). Improvements in Indonesia's economy have occurred from Quarter II to Quarter IV 2021. According to the Coordinating Minister Airlangga, economic growth in Quarter IV-2021 has increased market confidence in Indonesia's economic recovery. This is reflected in the strengthening of the JCI which has exceeded the psychological index of 6,800.

Data for 2019-2020 working capital for PT Acset Indonusa Tbk shows a deficit (lack of it) so that it is unable to obtain net working capital for the company. This happened because PT Acset Indonusa Tbk experienced a shortage of net working capital due to smaller current assets compared to current liabilities. In 2019 and 2020 the total current assets of PT Acset Indonusa Tbk are IDR 9,456,832 and IDR 2,210,364.

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The low value of current assets is affected by the low inventory account owned by PT Acset Indonesia Tbk with inventory in 2019 of IDR 35,739, and in 2020 of IDR 44,983. Meanwhile, in 2019 the amount of current debt was IDR 9,994,920, and in 2020 it was IDR 2,620,265. With a high value of liabilities from accounts payable third parties in 2019 amounting to IDR 4,821,449 and in 2020 amounting to IDR 706,081. However, in 2021 PT Acset Indonusa Tbk succeeded in creating net working capital by reducing short-term bank loans, loans from shareholders, and third party finance lease liabilities with a nominal value of Rp. 0- for each account.

PT Cahayasakti Investindo Sukses Tbk in 2019 was also unable to obtain net working capital for the company. This happens because the value of current liabilities is greater than the current assets owned by the company. In 2019, the value of current liabilities of PT Cahayasakti Investindo Sukses Tbk amounted to Rp. 263,682, while the value of current assets was only Rp. 74,406. The low value of current assets owned by PT Cahayasakti Investindo Sukses Tbk is affected by the low inventory which only has a value of Rp. 3,452 in 2019. Meanwhile, the high value of current liabilities owned by PT Cahayasakti Investindo Tbk is influenced by the high value of short-term bank debt accounts of Rp. 17,250, followed by the high value of accounts payable third parties of Rp 27,927 and the high accounts payable of other related parties of Rp 140,848 in 2019.

In 2020 and 2021 PT Cahayasakti Investindo Sukses Tbk succeeded in creating net working capital for the company by increasing the value of current assets for the inventory account with a value of IDR 398,406 in 2020 and IDR 387,991 in 2021. In addition to increasing these two accounts, PT Cahayasakti Investindo Sukses Tbk can reduce the value of short-term bank debt accounts by IDR 13,991 followed by a decrease in the value of other related party debt accounts which decrease by IDR 26,430 in 2020. Meanwhile in 2021 PT Cahayasakti Investindo Sukses Tbk can reduce the value of short-term bank loans amounting to IDR 2,704 from 2020 with a value in 2021 of only IDR 554. Other accounts payable to related parties also decreased by IDR 18,675 from 2020 with a value in 2021 of only IDR 95,743.

PT Waskita Karya (Persero) Tbk succeeded in creating net working capital for the company in 2019 and 2021. However, in 2020 PT Waskita Karya (Persero) Tbk was unable to create net working capital for the company due to the high value of current liabilities compared to the value current assets. The increase in current liabilities in 2020 was influenced by short-term bank debt accounts for related parties which increased from 2019 amounting to IDR 10,548,870 and in 2020 amounting to IDR 17,256,241 an increase of IDR 6,707,371 in 2020. The same thing also happened to long-term bank loan accounts that mature within a year which increased in 2020 with a value of 1,220,249, which in 2019 was only IDR 833,000, an increase of IDR 387,249 in 2020.

During the study period, PT Acset Indonusa Tbk experienced a net loss from 2019-2021. This was influenced by the low net income earned by the company compared to the company's cost of revenue, besides that the high selling expenses were also the cause of PT Acset Indonusa Tbk experiencing a net loss during the study period. General and administrative expenses also played a role in the losses experienced by PT Acset Indonusa Tbk, in 2019 the value of general and administrative expenses was IDR 187,312, in 2020 it was IDR 154,742 and in 2021 it was IDR 133,252. Even though there was a decrease in general and administrative expenses every year, this decrease did not really affect the losses experienced by the company.

PT Indonesia Pondasi Raya Tbk experienced a net loss for two consecutive years during the research period in 2020 and 2021. Losses in 2020 experienced by PT Indonesia Pondasi Raya Tbk were influenced by the high cost of revenue followed by high financial costs which reached a value amounting to IDR 43,182 whereas in 2019 it was only IDR 3,613, there was an increase in financial expenses of IDR 39,569 in 2020. Losses in 2021 were affected by an increase in other expenses which reached IDR 24,288 from 2020 which only had a value of Rp60 an increase of Rp24,228 in 2021. The low other income in 2021 also affected the occurrence of a loss at PT Indonesia Pondasi Raya Tbk, in 2021 the company's other income only obtained a value of Rp11,556 while in 2020 the company obtained a value of IDR 21,505, the decrease in other income in 2021 reached IDR 9.949.

Apart from PT Indonesia Pondasi Raya Tbk, PT Surya Semesta Internusa Tbk also experienced successive losses in 2020 and 2021. PT Surya Semesta Internusa Tbk's losses in 2020 were affected by an increase in financial costs of IDR 25,216, which was previously in 2019 only IDR 176.649, but in 2020 it reaches a figure of IDR 201,865. In 2021 the loss was affected by a loss in the profit (loss) portion of the joint venture entity amounting to IDR 9,217 which previously in 2020 managed to create a joint venture entity profit of IDR 4,105.

PT Totalindo Eka Persada Tbk experienced losses in 2019 and 2020. The losses experienced by PT Totalindo were affected by the low other income and high other expenses during the year. In 2019 PT

Totalindo Eka Persada Tbk only received other income of IDR 10,809 and IDR 34,297 in 2020. Compared to 2021, PT Totalindo Eka Persada Tbk experienced an increase in other income of IDR 57. 370 from 2020 with other income recorded in 2021 of IDR 91,667. other expenses also affected the loss of PT Totalindo Eka Persada Tbk, other expenses in 2019 and 2020 amounted to Rp56,334 and Rp53,774. However, in 2021 PT Totalindo Eka Persada Tbk succeeded in reducing other expenses by IDR 23,890 from 2020 and recorded in 2021 the value of other expenses was only IDR 29,884.

PT Waskita Karya (Persero) Tbk experienced losses in 2020 and 2021. In 2020 PT Waskita Karya (Persero) Tbk had operating revenues of IDR 16,190 with a cost of revenue of IDR 18,168, the high cost of revenue made PT Waskita Karya (Persero) Tbk suffered a loss in 2020. In 2021 PT Waskita Karya (Persero) succeeded in suppressing the losses experienced by the company even though the company still suffered losses due to an increase in income tax expense of IDR 752,492 from 2020 which was only IDR 262,887. By obtaining other net income of IDR 3,736,078 and increasing the net profit share of associates and joint ventures by IDR 4,075,569, the company can minimize the company's losses in 2021.

Based on these data, if measured from the accounting profit of the financial performance of construction companies which are the object of research, there is an increase and decrease. However, will financial performance as measured by Economic Value Added (EVA) experience the same thing? From these data companies that experience an increase in terms of working capital do not necessarily experience an increase in terms of net profit, and vice versa.

The stock prices of construction companies that are the object of research in 2019-2021 fluctuate (Prastika, 2023). Meanwhile, PT Wijaya Karya (Persero) Tbk and PT Pembangunan Perumahan (Persero) Tbk became construction companies with the highest share prices in 2021, namely IDR 1,105 and IDR 990. The construction companies with the lowest share price acquisitions were PT Totalindo Eka Persada of IDR 50 and PT Cahayasakti Investindo Sukses Tbk amounting to IDR 151.

In economic theory, the rise and fall of stock prices is commonplace because it is driven by the forces of supply and demand. If the demand is high, the price will go up, otherwise if the supply is high, the price will go down. In general, there are several factors that influence the rise and fall of a company's stock price, including (1) macroeconomic fundamentals (2) fluctuations in the rupiah exchange rate against foreign currencies (3) government policies (4) a state of panic (5) company fundamentals (6) corporations company (7) company performance projections in the future.

Measurement of company performance is a material consideration for them in making decisions to maintain their investment or have to look for other investment alternatives (Sanjaya & Rizky, 2018). Meanwhile for management, performance measurement is used to assess potential changes in economic resources that may be controlled in the future and predict the capacity of the company to generate cash flow from its resources.

Performance analysis is considered important to do. The analysis is through the activities of analyzing financial statements, namely the comparison of the company's performance with other companies in the same industry in a certain period of time. Analysis of company performance can be done both based on income and based on the value owned by the company such as economic value added and market added value which have recently become increasingly popular.

The analysis used by the company is financial ratio analysis, financial ratio analysis is a way to see the relationships that exist between various parts of financial information. "The use of ratios will eliminate size problems because the size will be effectively divided so that in the end the results obtained are percentages, multiples, or time periods" (Ridhawati, 2014). In other words ratio analysis is easier to read and understand. However, performance measurement using ratio analysis has weaknesses as a measuring tool. Limitations of accounting size will affect the effectiveness of the ratio. The concepts of Economic Value Added (EVA) and Market Value Added (MVA) can overcome the weaknesses of financial ratio analysis because they can measure performance accurately while still paying full attention to the expectations of creditors or shareholders (Hafiyah, 2021).

The use of EVA in performance measurement allows management to know the added value generated by the company from the investment which can be measured by reducing the cost of capital incurred as a result of the investment made.

The Market Value Added (MVA) is the difference between the company's market value and the invested capital. If EVA is focused on managerial effectiveness for a particular year, then MVA is focused on the influence of managerial actions since the company's founding (Ridhawati, 2014).

The reasons behind the use of EVA in this study are: (1) EVA is able to describe the return on capital issued to invest by companies so that EVA is able to become a benchmark in decision making by investors

from their own capital, (2) the use of EVA can stand alone without need to be analyzed in comparison with similar companies or make a trend or trend analysis like other financial ratios.

Analysis of Economic Value Added (EVA) and Market Value Added (MVA) with the Time Series Approach in evaluating company financial performance during a pandemic in the agricultural industry in Indonesia which is listed on the IDX (Rezha et al., 2021). The results of his research were to find that financial performance used Economic Value Added (EVA) and Market Value Added (MVA) with a Time Series Approach in the agricultural industry sector which was listed on the Indonesia Stock Exchange during the 2020 pandemic, the average rating of Economic Value Added Analysis (EVA)) and the Market Value Added (MVA) in the agricultural industry sector in Indonesia which was listed on the Indonesia Stock Exchange during the 2020 pandemic of 1,006,193.77 showed positive results (Rezha et al., 2021). This shows that the condition of the agricultural industry sector in Indonesia as a whole is said to be performing well.

Economic Value Added and Market Value Added as a measuring tool for financial performance at PT Agung Maluku, the distributor company PT Unilever Tbk (Silvia & Wangka, 2022). Analysis of financial performance using the EVA and MVA methods produces a positive value, which means the company is able to create added economic value for its investors, even though it is a company that is just starting out (Silvia & Wangka, 2022).

2. METHOD

The research location is on the official website of the Indonesia Stock Exchange, namely www.idx.co.id. In October 2022 to December 2022. With a population of construction companies on the Indonesia Stock Exchange during the 2019-2020 period, namely 14 companies, through a purposive sampling technique. The following is a list of samples in this study:

Table 1 List of Research Samples

No	Issuer Code	Name of Company	BUMN/Private
1	ADCST	Acset Indonusa	Private
2	CSIS	Cahayasakti Investindo Sukses Tbk	Private
3	DGIK	Nusa Konstruksi Enjiniring Tbk	Private
4	IDPR	Indonesia Pondasi Raya	Private
5	NRCA	Nusa Raya Cipta	Private
6.	PBSA	Paramita Bangun Sarana Tbk	Private
7	PTPP	Pembangunan Perumahan	BUMN
8	SKRN	Superkrane Mitra Utama	Private
9	SSIA	Surya Semesta Internusa Tbk	Private
10	TOPS	Totalindo Eka Persada Tbk	Private
11	TOTL	Total Bangun Persada Tbk	Private
12	WEGE	Wijaya Karya Bangunan Gedung Tbk	BUMN
13	WIKA	Wijaya Karya	BUMN
14	WKST	Waskita Karya	BUMN

In this study the type of data used is secondary data (Sunyoto, 2013). The secondary data in this study comes from data on the annual financial reports of construction companies that have been listed on the Indonesia Stock Exchange (IDX) for the 2019-2021 period. Data collection techniques were carried out using the documentation method (Cahyandari et al., 2021). This research uses quantitative analysis with a descriptive statistical approach (Asrial et al., 2021). This study uses the Time Series Approach analysis in analyzing data from the financial statements of construction companies listed on the IDX for the 2019-2021 period.

3. RESULT AND DISCUSSION

Analisis Economic Value Added

Based on NOPAT values for each period 2019-2021. In 2019, the highest NOPAT value was owned by PT Waskita Karya (Persero) Tbk with a value of IDR 4,649,431. However, this did not continue, in 2020 PT Waskita Karya (Persero) Tbk experienced a decrease in NOPAT with a value of (Rp. 4,754,509) this is because in that year PT Waskita Karya (Persero) Tbk experienced a loss with a net loss after tax of (Rp 9,495,726). This loss was caused by a decrease in operating income of Rp. 15,196,933 from the previous year of Rp. 31,387,389, an increase in other expenses in 2020 of Rp. 1,186,645 from the previous year of

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only Rp. 197,802 which also resulted in a loss in 2020. However, in 2021 the NOPAT value again increased by IDR 3,001,452. This happened because PT Waskita Karya (Persero) Tbk had the highest net profit after tax among its competitors.

The lowest NOPAT value was owned by PT Acset Indonusa Tbk with a value of (Rp. 512,214) in 2019, this was influenced by the interest expense that was owned that year which was higher than in subsequent years. In 2019, 2020 and 2021, PT Total Bangun Persada Tbk occupies the last position in the NOPAT value in 2019 with only a NOPAT value of IDR 175 and in 2020 IDR 108 and IDR 101 in 2021. This is influenced by net profit after tax which owned by PT Total Bangun Persada Tbk is the lowest profit in 2019, 2020 and 2021. In addition, PT Total Bangun Persada Tbk also has no financial burden.

Analisis Invested Capital (IC)

Based on the available Invested Capital value in each 2019-2021 period. In 2019, the highest Invested Capital value was owned by PT Waskita Karya (Persero) Tbk with a value of IDR 77,565,764. In 2020 and 2021, PT Waskita Karya (Persero) Tbk is still a company that has the highest Invested Capital value among its rival companies, namely IDR 57,351,125 and IDR 76,301,318. This happened due to an increase in short-term debt followed by an increase in the amount of debt and equity. The increase in short-term debt in 2020 was influenced by an increase in short-term bank debt accounts for related parties of IDR 10,548,870 followed by an increase in advances for short-term third party contracts of IDR 327,600 and an increase in the value of long-term lease liabilities that mature within a year of IDR 30.379. The increase in the amount of debt and equity in 2021 was influenced by the additional paid-in capital account which increased from the previous year of IDR 6,646,306.

The lowest Invested Capital value is owned by PT Total Bangun Persada Tbk, namely in 2019 it was IDR 1,358, 2020 it was IDR 1,413 and in 2021 it had a value of IDR 1,432. Changes in the value of available Invested Capital from 2019-2021 are influenced by the amount of the company's total liabilities and equity and short-term debt. The low trade payables, other payables, and total equity owned by the company resulted in PT Total Bangun Persada Tbk being the company with the lowest Invested Capital value during the study period.

Analisis Weighted Average Cost of Capital (WACC)

Based on changes in the capital level of each construction company's debt in the 2019-2021 period which tends to fluctuate. The increase or decrease was caused by debt and passive which experienced a greater increase or decrease than the previous year. The highest value in 2019 was obtained by PT Acset Indonusa Tbk of 0.9725. In 2020 the highest value was again obtained by PT Acset Indonusa Tbk of 0.8939. However, in 2021 PT Waskita Karya (Persero) Tbk became the company that obtained the highest score of 0.8507. Meanwhile the lowest scores in 2019, 2020 and 2021 were obtained by PT Paramita Bangun Sarana Tbk with values of 0.2559, 0.2366 and 0.2522.

Based on the value of the income tax rate of construction companies which are the object of research from the 2019-2021 period, it has fluctuated. The high value of the tax rate is caused by an increase in tax expense and a decrease in net profit, while the value of a decrease in income tax rate is due to a decrease in tax expense and net income which has increased again. The highest income tax rate value was obtained in 2019 of IDR 11.8498 by PT Indonesia Pondasi Raya Tbk and while the lowest income tax rate value was obtained in 2019-2021 of 0 by PT Nusa Raya Cipta Tbk. This is because PT Nusa Raya Cipta Tbk in the year of research analysis has an interest/financial expense of IDR 0.

Based on the high level of capital from equity in construction companies which are the object of research from 2019-2021 it tends to increase because the passive value has decreased from previous years. The highest capital level value occurred in 2020 owned by PT Paramita Bangun Sarana Tbk of 0.7633 while the lowest capital level value occurred in 2019 owned by PT Acset Indonusa Tbk with a value of 0.0274.

Based on the value of the level of capital costs in construction companies, which are the object of research for the 2019-2021 period, it tends to fluctuate. In 2019-2021 the value of the cost of capital has increased and decreased, this increase was due to an increase in net profit and total equity and the decrease that occurred was due to a decrease in net profit (loss) from the previous year. The highest cost of capital was achieved by PT Superkrane Mitra Utama Tbk in 2019 of 0.1863 while the lowest value was obtained by PT Acset Indonusa Tbk in 2020 of 4.1356, this happened because in 2020 PT Acset Indonusa Tbk experienced a loss of (1,340,079).

Based on changes in WACC values for each construction company that is the object of research in the 2019-2021 period. During 2019 to 2021, PT Acset Indonusa Tbk has the highest WACC values with values of 374.36%, 273.93% and 86.19. PT Paramita Bangun Sarana Tbk has the lowest WACC value in 2019,

namely 2.36%. Furthermore, in 2020 to 2021 the lowest WACC values are owned by PT Nusa Construction Enjiniring Tbk with values of 5.06% and 2.44%. Based on the data presented, it shows the ups and downs of the WACC value in each construction company that is the object of research. That is, there is a possibility that the EVA value for each company will be positive and negative.

Analisis Capital Charges

Based on the magnitude of the value of Capital Charges in construction companies which are the object of research for the 2019-2021 period, they have fluctuated. The highest Capital Charges value was in 2020 by PT Waskita Karya (Persero) Tbk of IDR 10,632,898 and the lowest Capital Charges value was owned by PT Total Bangun Persada Tbk with a CC value of IDR 830 in 2021.

Calculating Value Economic Value Added (EVA)

Based on the magnitude of the value of Capital Charges in construction companies which are the object of research for the 2019-2021 period, they have fluctuated. The highest Capital Charges value was in 2020 by PT Waskita Karya (Persero) Tbk of IDR 10,632,898 and the lowest Capital Charges value was owned by PT Total Bangun Persada Tbk with a CC value of IDR 830 in 2021.

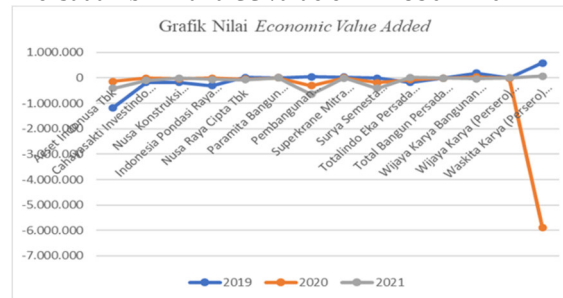


Figure 1. EVA Value of Research Objects for 2019-2021

Based on the results of the EVA calculation above, the following are the results of the interpretation of the EVA values for the 2019-2021 period from each company:

PT Acset Indonusa Tbk has a negative EVA value in the 2019-2021 period. Even though there was an increase in the EVA value in 2020 to -135,964, in 2021 it dropped again to -411,602. The decline in the value of EVA occurred because there was a decrease in operating profit (loss) after tax and total company capital owned by PT Acset Indonusa Tbk. Because PT Acset Indonusa Tbk has a negative EVA value in the 2019-2021 period, it can be concluded that it has not performed well and is unable to create added value for its shareholders seen from the EVA indicator.

PT Cahayasakti Investindo Sukses Tbk has a negative EVA value in the 2019-2021 period. Not much different from PT Acset Indonusa Tbk, PT Cahayasakti Investindo Sukses Tbk experienced a drastic decrease in EVA value in 2019 of -172,316. However, in 2020 the EVA value of PT Cahayasakti Investindo Sukses Tbk has increased to -13,166. This increase occurred because there was a decrease in after-tax operating loss in 2020. However, in 2021 after-tax operating loss increased again which resulted in the EVA value of PT Cahayasakti Investindo Sukses Tbk again experiencing a decrease of -100,751. Because PT Cahayasakti Investindo Sukses Tbk has a negative EVA value in the 2019-2021 period, it can be concluded that it has not performed well and is unable to create added value for its shareholders seen from the EVA indicator.

PT Nusa Construction Enjiniring Tbk has a negative EVA value in the 2019-2021 period. In contrast to the two previous companies, PT Nusa Construction Enjiniring Tbk experienced a drastic increase in EVA value during the study period, although it was still within the scope of a negative value. The EVA value of PT Nusa Construction Enjiniring Tbk in 2020 rose to -33,291, which was previously in 2019 of -180,712. This increase occurred because there was a decrease in after-tax operating profit loss and a decrease in capital costs in 2020. Meanwhile, in 2021, PT Nusa Construction Enjiniring Tbk again experienced a decrease in after-tax operating profit loss. Because PT Nusa Construction Enjiniring Tbk has a negative EVA value in the 2019-2021 period even though it has increased, it can be concluded that it has performed poorly and is unable to create added value for its shareholders seen from the EVA indicator.

PT Indonesia Pondasi Raya Tbk has a negative EVA value in the 2019-2021 period. PT Indonesia Pondasi Raya Tbk experienced a drastic increase in EVA value in 2020, namely -5,473, which was -305,378 in 2019. However, in 2021 the EVA value of PT Pondasi Raya Tbk has again decreased to -56,342. this

decrease occurred due to an increase in operating loss after tax in 2021. Because PT Indonesia Pondasi Raya Tbk has a negative EVA value in the 2019-2021 period, it can be concluded that it has performed poorly and is unable to create added value for its shareholders seen from the EVA indicator.

PT Nusa Raya Cipta Tbk has a positive EVA value in 2019 of 24,928. This shows that PT Nusa Raya Cipta Tbk has performed well and is able to provide added value to its shareholders seen from the EVA indicator that year. However, in 2020-2021 PT Nusa Raya Cipta Tbk actually experienced a decline in the EVA value which caused the EVA value of PT Nusa Raya Cipta Tbk for the 2020-2021 period to be negative. The EVA value of PT Nusa Raya Cipta Tbk in 2020 decreased to -47,637 and -71,371 in 2021. This decrease occurred due to a decrease in operating profit after tax (loss) and there was a decrease in the cost of capital in 2020-2021. Because PT Nusa Raya Cipta Tbk has a negative EVA value, it can be concluded that in 2020-2021 it has not performed well and has not been able to provide added value to its shareholders in that period, seen from the EVA indicator.

PT Paramita Bangun Sarana Tbk has a positive EVA value in the 2019-2021 period. PT Paramita Bangun Sarana Tbk always experiences an increase in EVA value for the 2019-2021 period. The EVA value of PT Paramita Bangun Sarana Tbk in 2020 rose to 3,309 from 826 in 2019. In 2021 the EVA value of PT Paramita Bangun Sarana Tbk experienced a drastic increase of 12,036. This increase occurred because PT Paramita Bangun Sarana Tbk has an increase in operating profit after tax every year. Because PT Paramita Bangun Sarana Tbk has a positive EVA value in the 2019-2021 period, it can be concluded that it has performed well and is able to create added value for its shareholders seen from the EVA indicator.

PT. Housing Development Tbk has a positive EVA value in 2019 of 50,881. This shows that PT Pembangunan Perumahan (Persero) Tbk has performed well and is able to provide added value to its shareholders as seen from the EVA indicator for that year. However, in 2020-2021 PT Pembangunan Perumahan (Persero) Tbk actually experienced a decrease in the EVA value which caused the EVA value of PT Pembangunan Perumahan (Persero) Tbk for the 2020-2021 period to be negative. The EVA value of PT Pembangunan Perumahan (Persero) Tbk in 2020 dropped drastically to -307,119 and -642,419 in 2021. This decrease occurred due to a decrease in operating profit after tax (loss) and there was a decrease in the cost of capital in 2020-2021. Because PT Pembangunan Perumahan (Persero) Tbk has a negative EVA value, it can be concluded that in 2020-2021 it has not performed well and has not been able to provide added value to its shareholders in that period, seen from the EVA indicator.

PT Superkrane Mitra Utama Tbk has positive EVA values in 2019-2020, namely 28,579 and 9,997. This shows that PT Superkrane Mitra Utama Tbk has performed well and is able to provide added value to its shareholders as seen from the EVA indicator for that year. However, in 2021 PT Superkrane Mitra Utama Tbk actually experienced a decrease in the EVA value which caused the EVA value of PT Superkrane Mitra Utama Tbk for the 2021 period to be negative. The EVA value of PT Superkrane Mitra Utama Tbk in 2020 dropped drastically to -12,573 in 2021. This decrease occurred due to a decrease in operating profit after tax (loss) and there was a decrease in capital costs in 2021. Because PT Superkrane Mitra Utama Tbk has a negative EVA value, it can be concluded that in 2021 it has not performed well and is not able to provide added value to its shareholders in that period seen from the EVA indicator.

PT Surya Semesta Internusa Tbk has a negative EVA value in the 2019-2021 period. PT Surya Semesta Internusa Tbk has always experienced a decrease in EVA value for the 2019-2021 period. The EVA value of PT Surya Semesta Internusa Tbk in 2020 fell to -192,945 from -12,382 in 2019. In 2021 the EVA value of PT Surya Semesta Internusa Tbk experienced a drastic decrease of -412,326. This decrease occurred because PT Surya Semesta Internusa Tbk has decreased operating profit after tax (loss) every year. Because PT Surya Semesta Internusa Tbk has a negative EVA value in the 2019-2021 period, it can be concluded that it has not performed well and is unable to create added value for its shareholders seen from the EVA indicator.

PT Totalindo Eka Persada had negative EVA values in 2019-2020, namely -180,488 and -77,191. This shows that PT Totalindo Eka Persada Tbk did not perform well and was unable to provide added value to its shareholders as seen from the EVA indicator that year. However, in 2021 PT Totalindo Eka Persada Tbk actually experienced an increase in the EVA value which caused the EVA value of PT Totalindo Eka Persada Tbk for the 2021 period to be positive. The EVA value of PT Totalindo Eka Persada Tbk in 2020 rose dramatically to 21,275 in 2021. This increase occurred due to an increase in operating profit after tax and an increase in capital costs in 2021. Because PT Totalindo Eka Persada Tbk has a positive EVA value, it can be concluded in 2021 has good performance and is able to provide added value to its shareholders in that period seen from the EVA indicator.

PT Total Bangun Persada Tbk has a negative EVA value in the 2019-2021 period. Even though there was an increase in the EVA value in 2020 to -777, in 2021 it dropped again to -729. The decrease in the

value of EVA occurred because there was a decrease in operating profit (loss) after tax and the company's total capital owned by PT Total Bangun Persada Tbk. Because PT Total Bangun Persada Tbk has a negative EVA value in the 2019-2021 period, it can be concluded that it has not performed well and is unable to create added value for its shareholders seen from the EVA indicator.

1. PT Wijaya Karya Gedung Gedung Tbk has positive EVA values in 2019-2020, namely 189,500 and 30,989. This shows that PT Wijaya Karya Gedung Tbk has performed well and is able to provide added value to its shareholders seen from the EVA indicator that year. However, in 2021 PT Wijaya Karya Gedung Gedung Tbk actually experienced a decrease in the EVA value which caused the EVA value of PT Wijaya Karya Gedung Gedung Tbk for the 2021 period to be negative. The EVA value of PT Wijaya Karya Gedung Gedung Tbk in 2020 dropped drastically to -34,485 in 2021. This decrease occurred due to a decrease in operating profit after tax (loss) and there was a decrease in capital costs in 2021. Because PT Wijaya Karya Gedung Gedung Tbk has an EVA value negative, it can be concluded that in 2021 it will not perform well and will not be able to provide added value to its shareholders in that period, seen from the EVA indicator.

PT Wijaya Karya (Persero) Tbk has a negative EVA value in the 2019-2021 period. PT Wijaya Karya (Persero) Tbk experienced a fairly drastic increase in EVA values during the study period, although it was still within the scope of a negative value. The EVA value of PT Wijaya Karya (Persero) Tbk in 2020 rose to -1,483, which was previously in 2019 of -11,035. This increase occurred because there was a decrease in after-tax operating profit loss and a decrease in capital costs in 2020. Meanwhile, in 2021, PT Wijaya Karya (Persero) Tbk again experienced a decrease in after-tax operating profit loss. Because PT Nusa Construction Enjiniring Tbk has a negative EVA value in the 2019-2021 period even though it has increased, it can be concluded that it has not performed well and is not able to create added value for its shareholders seen from the EVA indicator

PT Waskita Karya (Persero) Tbk has positive EVA values in 2019 and 2021, namely 592,742 and 71,482. This shows that PT Waskita Karya (Persero) Tbk has performed well and is able to provide added value to its shareholders seen from the EVA indicator that year. However, in 2020 PT Waskita Karya (Persero) Tbk actually experienced a decrease in the EVA value which caused the EVA value of PT Waskita Karya (Persero) Tbk for the 2020 period to be negative. The EVA value of PT Waskita Karya (Persero) Tbk in 2019 dropped drastically to -5,878,398 in 2020. This decrease occurred due to a decrease in operating profit after tax (loss) and a decrease in capital costs in 2020. Because PT Waskita Karya (Persero) Tbk has a negative EVA value, it can be concluded that in 2020 it has not performed well and is unable to provide added value to its shareholders in that period seen from the EVA indicator.

PT Paramita Bangun Sarana Tbk has an EVA value that continues to increase every year. Even though PT Waskita Karya (Persero) Tbk held the highest EVA value in 2019 and 2021, PT Waskita Karya (Persero) Tbk experienced a decrease in EVA value in 2020 and was recorded as the highest EVA value decline during the study period. In contrast to PT Paramita Bangun Sarana Tbk which continues to experience an increase in EVA value every year. Unlike the two companies above, PT Wijaya Karya Gedung Gedung Tbk and PT Superkrane Mitra Utama Tbk continue to experience a decline in EVA value every year. This means that PT Wijaya Karya Gedung Gedung Tbk and PT Superkrane Mitra Utama Tbk are still able to create economic added value for their shareholders in 2019 and 2020 but are no longer able to create economic added value for their shareholders in 2021. Thus, PT Paramita Bangun Sarana Tbk can be taken into consideration for investors if they want to invest in construction companies from the EVA indicator.

After knowing the magnitude of the value of Economic Value Added from the EVA calculation, it can be seen whether there is value creation in construction companies which are the object of research. If EVA is more than zero ($EVA > 0$) or has a positive value, then there has been economic added value in the company, so that the greater the EVA value generated, the expectations of the funders can be fulfilled properly, namely getting the same or more return on investment than expected. Invested and creditors earn interest. Vice versa, if EVA is less than zero ($EVA < 0$) or has a negative value, there will be no added value creation in the company, so that the smaller the EVA (negative) value generated, the expectations of investors and creditors will not be fulfilled. It can be seen that the measurement of financial performance was carried out using the Economic Value Added method from 2019-2021 in construction companies which were the objects of research obtaining positive EVA values ($EVA > 0$) and negative EVA values ($EVA < 0$).

Discussion

For companies that have gone public, being able to create added value is proof that the company is able to provide a level of return for investors who invest their capital.

An Empirical Analysis Of Construction Companies Using Time Series Approach: Do Eva And Mva Indicate Financial Performance? Andika Tarumidi, et al

One important indicator that can be used to assess a company's financial performance is the EVA approach. A positive EVA indicates that the company is able to create added value for the company and capital owners. Meanwhile, a negative EVA indicates that the company failed or was unable to create added value for the company.

Market Value Added in analyzing the company's financial performance, if MVA is positive ($MVA > 0$) it can be said that management has been able to increase shareholder wealth and a negative Market Value Added (MVA) ($MVA < 0$) indicates a reduced value of shareholder capital. And the results of this study construction companies managed to have a positive value, which means that the management has been able to increase shareholder wealth.

The following is a table of EVA and MVA values for construction companies in the 2019-2021 period, including:

Table 2 Summary of EVA and MVA Values of Research Objects for the 2019-2021 Period

No.	Kode Emiten	EVA			MVA		
		2019	2020	2021	2019	2020	2021
1.	ADCST	-1.178.392	-135.964	-441.602	227.401	2.392.229	1.471.781
2.	CSIS	-172.316	-13.166	-100.751	-96.399	-204.284	-110.360
3.	DGIK	-180.712	-33.291	-5.295	-499.966	-473.200	368.509
4.	IDPR	-305.378	-5.473	-56.342	-781.266	-627.317	-514.959
5.	NRCA	24.928	-47.637	-71.371	-365.802	-313.976	-528.492
6.	PBSA	826	3.309	12.036	496.404	340.243	503.903
7.	PTPP	50.881	-307.119	-642.419	-16.535.046	-13.922.816	-19.290.365
8.	SKRN	28.579	9.997	-12.573	-567.854	-149.927	164.629
9.	SSIA	-12.382	-192.945	-412.326	-4.238.386	-3.057.163	-4.022.991
10.	TOPS	-180.488	-77.191	21.275	7.015.069	108.078	183.258
11.	TOTL	-759	-777	-729	1.451.302	1.113.657	1.113.638
12.	WEGE	189.500	30.989	-34.485	-210.382	-467.412	-1.092.337
13.	WIKA	-11.035	-1.483	-431	17.818.442	17.781.412	9.879.380
14.	WKST	592.742	-5.878.398	71.482	-52.997.001	-37.804.706	-59.590.731

Based on the table, EVA for each company has a positive and negative value where the EVA value fluctuated during the study period. In general, a decrease in the value of EVA experienced by companies with a negative EVA value is caused by a decrease in the company's profit or even suffers a loss caused by a decrease in the company's income. As for the increase in EVA value experienced by companies that are positive due to increased income and low capital charges owned by the company.

NOPAT Developments for 2019-2021 in Construction Companies

NOPAT values in construction companies fluctuate. The decrease was caused by a lower level of net income than the cost of revenue, causing a net loss to the company. In addition, the high value of selling expenses resulted in a decrease in net profit (loss) in construction companies. From the other side, financial costs have actually decreased every year, but are still relatively high and result in losses for the company.

NOPAT or net operating profit after tax greatly influences the creation of economic added value for construction companies in terms of activities or projects that provide returns higher than the cost of capital. If the NOPAT value is greater than Capital Charges, the resulting EVA will be positive. Conversely, the smaller the NOPAT value, the smaller the EVA generated. If NOPAT is less than Capital Charges, the resulting EVA is negative. How to increase the NOPAT value, namely: first, increase sales (projects). Second, looking for investors who can increase the company's capital. Third, reduce existing costs.

Development of Invested Capital 2019-2021 in Construction Companies

Based on the results of Invested Capital calculations, it is known that in 2019-2021 there will be fluctuations (rising and falling IC values) in each construction company. The increase in the value of IC is due to the increase in the value of total debt and equity every year. The increase in Invested Capital is also due to the increase in the amount of funds invested by the company, and vice versa when there is a decrease in the value of IC. Invested Capital is the total amount of the company's loans excluding short-term interest-free loans. The greater the value of Invested Capital, the greater the value of Capital Charges which will generate an EVA value.

Development of the 2019-2021 Weighted Average Cost of Capital (WACC) in Construction Companies.

The average WACC value of construction companies has fluctuated in 2019-2021. Decreases and increases in value occur because companies generate high or lower levels of capital from debt, short-term debt, capital income tax from equity and costs of capital. The smaller the WACC value, the more likely the EVA value will be positive or $EVA > 0$.

WACC is a measure to determine the level of the cost of capital which describes the level of return on investment expected by investors. The greater the WACC value, the greater the Capital Charges value will be generated to determine the EVA value of the company and a large WACC value can provide an increase in the cost of capital.

Development of 2019-2021 Capital Charges in Construction Companies

Capital charges are obtained from the proceeds of WACC and Invested Capital. The smaller the value of Capital Charges generated, the greater the EVA generated. If Capital Charges are smaller than NOPAT, the EVA value generated will be greater because of Capital Charges.

Development of Economic Value Added (EVA) 2019-2021 in Construction Companies

Based on the calculation of Economic Value Added (EVA) in 2019-2021 there will be fluctuations. A positive EVA value will give a good name/image for the construction company. A positive EVA is caused by the NOPAT value or net operating profit after tax being greater than Capital Charges resulting in a positive EVA value. The negative EVA value is caused by the Capital Charges value which is higher than the net profit or net loss experienced by construction companies. Economic Value Added factors that become negative are the lack of maximum management of the company in managing company funds, both from the company's own capital and from the company's liabilities.

Development of Company Values for 2019-2021 in Construction Companies

Based on the calculation of the company's value in 2019-2021 it has fluctuated. The decline in company value was caused by the low share price followed by the low number of outstanding shares, and vice versa. The rise and fall of construction company stock prices tend to be caused by external parties to the company.

Development of Market Value Added for 2019-2021 in Construction Companies

Based on the calculation of the MVA value in 2019-2021 it can be seen that the MVA value has fluctuated. The decline in the value of MVA was caused by the high value of Invested Capital owned by the company followed by the low market value of the construction company that was the object of research. Meanwhile, the increase in the value of MVA is caused by the high market value of a company which is influenced by the price and number of outstanding shares followed by the low IC value owned by the company.

A positive MVA indicates that the company has succeeded in creating market added value for shareholders and reflects that the company's past financial performance has been good.

4. CONCLUSION

Based on the results of the research and analysis that the author has carried out regarding the results of measuring the financial performance of construction companies above, it can be concluded that based on the results of measuring EVA values, construction companies that have been listed on the Indonesia Stock Exchange in 2019-2021 have positive and negative values. The positive value obtained shows good performance and creates added value for its shareholders.

A negative EVA value indicates that the company's performance is not good and is unable to create added value for its shareholders. Apart from the fact that the after-tax operating profit of each company tends to decrease (incur a loss), the cost of capital owned by the company is also relatively high and the cost of capital tends to increase. So it can be concluded that the cost of capital used by companies to finance their business activities is getting higher, and vice versa for companies that have positive EVA values during the 2019-2021 research period. A negative EVA value does not always result in a negative MVA value, and vice versa. This is proven by some of the results of calculating the MVA value which is positive even though the company's EVA value is negative.

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