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Financial Performance Analysis Using EVA, MVA, FVA, and REVA Methods for Telecommunication Sub-Sector Companies Listed on the IDX

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ABSTRACT

The purpose of this study was to analyze financial performance using the Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA) methods in telecommunications sector companies listed on the Stock Exchange of Indonesia (IDX). This research method used quantitative data types and secondary data sources obtained through the website at https://www.idx.co.id/. The data presented on the website of each company were in the form of data on the Financial Position Report (Balance Sheet) and the annual Profit and Loss Report of the Telecommunication sub-sector companies already listed on the Indonesian Stock Exchange. The results of this study demonstrated that a telecommunications company had a positive EVA value, which meant that it had succeeded in creating economic value. The three Telecommunication companies had positive MVA values which meant that they provided added value through market capitalization. Of the four telecommunications companies, a positive FVA score showchased that the company's management had succeeded in providing financial added value to the company. One of the four telecommunications companies produced a positive REVA value which meant

that there was more economic value after the company had paid all obligations to the funders, both creditors and shareholders in the capital market.
***Keywords*:** Financial Performance, Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), Refined Economic Value Added (REVA)

INTRODUCTION

Technological developments in Indonesia are currently progressing. One of them is the existence of Smartphone technology and internet networks which have reached the peak of 5 G. Apart from that, it can be seen from the level of internet users in Indonesia in early 2022 as it reached 210 million people. Of this number, the majority of users access the internet via cell phones to open social media. The internet is dominated from the age of 13-18 years as much as 99.16%. This has been revealed in the latest report entitled "Indonesian Internet Profile 2022" released by the Association of Indonesian Internet Service Providers (APJII). Based on the APJII report, the total population of Indonesia is currently estimated to reach 272.68 million in 2021. This means that the internet penetration rate in Indonesia in the period 2021 to the first quarter of 2022 reached 77.02%. The internet penetration rate increased from the beginning of 2019 to the previous second quarter of 2020, which was 73.7%. During this period, it was reported that there were 196.71 million Indonesians connected to the internet. In 2018, the number of internet users in Indonesia was
171.17 million, with a penetration of only 64.8%. Other main reasons for the users connected to the internet fall into the following: (1) 92.21% to access information/news; (2) To work or study from home by 90.21%; (3) To access public services by 84.9%; (4) To use e-mail services by 80.7%; (5) To make online transactions by 79%; (6) To access entertainment content by 77.25%; (7) To access online transportation by 76.47%; (8) To access financial services as much as 72.32% (www.kompas.com).

Advances in technology and information can affect economic growth in Indonesia. Companies need to develop effective strategies to survive in the market. One way that can be done is to pay attention to the welfare of shareholders or investors in terms of company value. An investor is someone who invests in a company with the hope of getting a return on the invested capital. Company capital basically comes from company owners and from creditors (Horton, 2022).

Companies that are oriented towards company progress must always increase the quantity and quality of their business, so that they can get the expected benefits. Management is required to be able to anticipate this condition by always evaluating the condition of the company, especially from a financial perspective because this is the key to a company's survival. The condition of the company can also be monitored by analyzing the financial statements which generally consist of a Statement of Financial Position, Income Statement or Comprehensive Income Statement, Cash flow statement, and Statement of Changes in Equity (Kieso et al., 2019).

The Statement of Financial Position presents information about investments in the entity's resources, obligations to creditors, and owner's equity which helps decision makers to predict big, time, and cash flow uncertainty. The Profit and Loss Report is a report that measures the success of an entity's operations over a period of time. The Statement of Changes in Equity presents the amount of dividends distributed to owners and the value of dividends per share. The Cash Flow Statement displays where cash is obtained from and where cash is spent or being spent (Kieso et al., 2019).

Measurement of the company's financial performance is needed to determine success in achieving these goals. Measurement of financial performance based on financial reports is mostly done using financial ratios. The advantage of this measurement is the ease of calculation as long as historical data is available. While the weakness is that this method cannot

accurately measure company performance. This is because the data used is accounting data which cannot be separated from the interpretation of estimates which can result in various kinds of distortions so that the company's financial performance is not measured precisely and accurately (Rahadjeng, 2019).

Analysis of company financial statements is generally used to measure financial performance using conventional methods, namely financial ratio analysis. In practice, although the financial ratio analysis used has quite a lot of functions and uses for companies in making decisions, it does not mean that the financial ratios had guaranteed 100% of the true financial conditions and position (Yoshino & Taghizadeh-Hesary, 2019). The use of financial ratio analysis has a major weakness, namely it does not pay attention to the risks faced by the company by ignoring the cost of capital. Hence, to overcome the problems that arise in measuring financial performance by using financial ratio analysis, the thought of measuring financial performance based on value then has spawn (Choi et al., 2021). EVA and MVA are used as a company performance appraisal method, which focuses on creating corporate value and can help management to find out what the actual cost of capital of the company and business is, so that the net rate of return on capital is obtained and what the actual amount of capital invested in the business can be revealed. Along with the Law No. 36/1999 on telecommunications and a 2002 government regulation allowing foreign cellular operators to enter the Indonesian market, the telecommunications industry in Indonesia entered the telecommunications liberalization phase.

PT Telekomunikasi Indonesia Tbk encountered various obstacles due to the COVID-19 pandemic; in fact, it was seen as an opportunity to accelerate digital acceleration, by providing services and solutions in the field of information and communication technology. As part of the components of the nation, Telkom Group has the spirit to help the people and the Government of Indonesia in dealing with the pandemic and getting back up to face the future.

Telkom Group provides various services and solutions to all customers and the public with the support of digital connectivity infrastructure, digital platforms, and digital services. Amidst various challenges throughout the year under review, Telkom Group continues to expand and improve digital connectivity infrastructure, strengthening digital platforms and developing various digital services, to provide the best digital customer experience.

The telecommunications industry market players, which were initially only PT Telkomsel Tbk and PT Indosat Tbk, currently has grown to ten operators, namely: PT Telkomsel Tbk, PT Indosat Tbk, PT XL Axiata Tbk, PT Bakrie Telecom Tbk, PT Mobile 8 Telecom Tbk, PT Natrindo Seluler Tbk, PT Sampoerna Telekom Tbk, PT Pasifik Satellite Nusantara Tbk, PT Hutchison CP Tbk, and PT Sinarmas Tbk. Based on Statistics of the Directorate General of Post and Telecommunication Semester II of 2009, five telecommunications companies, namely PT Telkom Tbk, PT Indosat Tbk, PT XL Axiata Tbk, PT Bakrie Telecom Tbk, PT Mobile 8 Telecom Tbk, currently controls almost 100% of the cellular telephone industry market in Indonesia and is a company that has gone public. Therefore, the company's responsibility increases, besides how to maintain market share and even win the competition, companies are also challenged to be able to increase the company's economic value for investors in the capital market. To determine the company's ability to manage paid-up capital by investors in increasing the company's economic value, It is necessary to measure the company's performance. Various aspects need to be considered in measuring this performance, especially the expectations of the parties who invest the funds.

The average EVA value for the telecommunication industry in Indonesia which is listed on the IDX for 2014-2018 is positive, which is IDR 1.306.424.783.653. Masyiyan and Isynuwardhana's (2020) research found that the results of the MVA calculation, the significance value of the MVA variable is 0,091 > 0,05. Judging from the five telecommunications companies listed on

the Indonesia Stock Exchange from 2015-2020, all companies have positive MVA values so that telecommunications companies for the 2015-2020 period have succeeded in increasing company wealth. The purpose of this study is to analyze financial performance using the Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA) methods in telecommunications sector companies listed on the Indonesia Stock Exchange.

LITERATURE REVIEW

This section sheds some lights on the theoretical concepts of several variables incorporated into the present study. Such variables are composed of financial statements, economic value added, market value added, financial value added, and revined economic value added.

Financial statements

Financial Reports are reports that show the company's financial condition at this time or in a certain period (Osadchy et al., 2018). Based on the description above, it can be concluded that the Financial Report shows the company's current condition, namely the company's financial condition on a certain date, and a certain period.

Financial statements present information about entities which include: assets, liabilities, equity, income and expenses including profits and losses, contributions from and distributions to owners in their capacity as owners and cash flows (Sonia et al., 2014). According to Grigoraș-Ichim et al. (2018), A complete Financial Report usually includes a Statement of Financial Position, a Profit and Loss Report, a Statement of Changes in Equity, and a Statement of Cash Flows.

In general, financial reports are made with the aim of conveying information to interested parties, both about the company's financial condition

and the company's performance during a certain period. According to Statement of Financial Accounting Standards (PSAK) No. 1 (2015: 3), the purpose of financial reports is to provide information about the financial position, financial performance, and cash flows of entities that are useful to most report users in making economic decisions.

Financial performance is work performance in the financial sector that has been achieved by the company and is contained in the financial statements of the company. The financial performance of a company can be assessed using analytical tools (Cantele & Zardini, 2018).

Economic Value Added (EVA)

EVA is an estimate of economic profit for the year in question and is very much different from accounting profit. EVA offers a fairly objective parameter because it departs from the concept of the cost of capital, namely reducing profits with the cost of capital. The burden of capital costs reflects the level of compensation or return. Calculating Economic Value Added (EVA) uses the following formula:

EVA = NOPAT - Charge

Information:

NOPAT: Net Operating Profit After Tax (After operating profit tax)

WACC: Weighted Average Cost of Capital (Average cost of capital weighted average)

IC : Invested Capital

D : Capital level of debt

Rd : Percentage of cost of debt

E : Capital level of equity

Re : Percentage of cost of equity

Taxes : Percentage of tax rate

EVAs : Economic Value Added

Market Value Added (MVA)

MVA is the difference between the total market value of the company's equity and the amount of equity capital invested by investors (Sonia et al., 2014). Market Value Added is the difference between the company's market value and the invested capital. The following is the formula for MVA:

Market Value Added = Market Value – Invested Capital

In this case, the measurements according to Rudianto (2013) as cited in Moezaque and Daito (2020) are as follows:

MVA value > 0 or positive MVA shows management has succeeded in providing added value through growth.

MVA value < 0 or negative MVA shows management is unable to provide added value through the growth of the market capitalization value of the shares issued.

Financial Value Added (FVA)

FVA is a method for measuring company performance and added value. This method considers the contribution of fixed assets in generating the company's net profit (Olarewaju & Msomi, 2021). Here's the FVA formula:

FVA = NOPAT – (ED – D)

Information:

FVA : Financial Value Added

NOPAT : Net Operating Profit after Tax

ED : Equivalent Depreciation

TR : Total Resources

D : Depreciation

FVA value > 0 or positive FVA

Shows the company's management has succeeded in providing financial added value to the company.

FVA value < 0 or negative FVA

Shows there is no process of adding financial value to the company.

FVA value = 0 or breakeven point

Shows the management is not successful in providing added value or financial reduction.

Refined Economic Value Added (REVA)

Considering stock market prices and abnormal returns formed by the difference between stock returns and market returns, while EVA is based on share value (Pinochi et al., 2019). The formula used to calculate Refined Economic Value Added (REVA) is as follows:

$$\mathbf{REVA_t = NOPAT_t – (MV_{t-l} \times KW)}$$

Information:

REVA t : Refined Economic Value Added in the t-period

NOPAT t : Net Operating Profit After Tax in the t-period

MV t-1 : Market Value of the business entity in period t-1 (Market Value of Equity).

Kw : The cost of capital is the cost of borrowing interest and fees equity and calculated on a weighted average basis (WACC). Using the Refined Economic Value Added (REVA) method can be interpreted as follows:

If REVA > 0, this indicates that there has been a process of economic added value for the company

If REVA < 0, this indicates that the company does not process economic added value or the company is unable to pay its obligations to funders.
If REVA = 0, this indicates that there is no process of economic added value or economic reduction.

A number of studies addressing similar variables of the present study have been done. Nonetheless, such studies delved into the variables the variable of financial statements, economic value added, market value added, financial value added, and refined economic value added in separate ways. In terms of the variable of financial statements, Ding et al. (2022) sought to see the extent to which the teams of top management are interconnected to the comparability of financial statement. Their study was conducted in the context of experienced foreign CEOs or the so-called FCEOs. Their study revealed that financial and accounting expertise, as well as international work experience, seem to strengthen the link between FCEOs and the comparability of financial statement. As economic policy uncertainty rises, the correlation between the two weakens. Their study comes into a conclusion that financial reporting is a critical conduit for understanding the connection between FCEOs and the comparability of financial statement. Subsequently, Salijeni et al. (2021) executed a study on the growth of Big Data and Analytics (BDA) tools as has been a significant advancement in audit technology, along with how auditors are putting those tools to use. The investigation of BDA users' interactions with the technology's features during an audit draws on sociomateriality literature as well as observations, documentary materials, and 25 semi-structured interviews with people actively using BDA. Their research indicated that BDA features like scripts have enabled widespread automation of audit procedures, opening up new possibilities for broadening the breadth and depth of audit evidence. Their study concluded that BDA has changed the way audit companies' various departments and service offerings interact with one another and with clients.

In terms of the variable of economic value added, Kordalska and Olczyk (2022) conducted a study to determine the factors that influence the development of global value chains (GVCs) in a few chosen Central and Eastern European (CEE) countries, with a focus on functional specialization (FS). They found a novel FS pattern among subgroups of CEEs by combining data on jobs from the World Input-Output Database. The global value chain (GVC) position of Poland and Slovakia is unfavorable since they focus on low value-added fabrication. They determined the elements responsible for the improvement of various forms of FS in GVCs. The road to increased value- added in practically all business activities is bolstered by the convergence of salaries in CEEs with those in developed countries and by strong GVC backward connections. Subsequently, (Yang, 2022) executed a study on testing the impacts of various trade standards on China's value-added and total exports in global value chains by using a gravity model. The study pointed to the fact that China's exports of both categories benefit from harmonization with international norms. Therefore, the nation should not skimp on enforcing regulations. Exports are more affected by mandatory criteria than by voluntary ones. In addition, the trade-promoting impact of mandated worldwide harmonized standards is stronger on overall exports than on exports of value. Value-added exports are more negatively impacted by voluntary country- specific requirements than overall exports. There is no statistically significant effect of voluntary globally harmonized standards on either category of exports.

In terms of the variable of market value added, Blind et al. (2018) analyzed the influence of formal standards on commerce in global value chains (GVCs) in Europe. Using a gravity model technique for panel data, they evaluated the effect of national, European and worldwide standards on trade in value-added and gross trade flows within Europe. They found that national standards on their own restrict commerce in European value chains whereas European and international standards stimulate trade. European standards have

stronger impact on commerce in inner-European value chains but international standards have favorable effects on imports entering Europe from third nations. European standards thereby eliminate knowledge asymmetries between market participants in the value chains of the European Single Market. International standards serve as a form of worldwide communication amongst international trading partners. In addition, they discovered a favorable impact of an interaction term between national and European standards in European value chains demonstrating the significance of national standardizing. Subsequently, Lutz and Tadesse (2017) conducted a study on exploring the difficulties encountered by smallholder producer cooperatives from developing nations in their pursuit of entry into agricultural global value chains. They evaluated the competitiveness issue caused by incorrect selection and a lack of dedication. The policy discussion on farmers' market groups often assumes that open membership is more important than selection. They contended that although open membership might succeed in community-focused groups, it poses a serious problem for innovative farmer's market organizations.

In terms of the variable of financial value added, Mirza et al. (2019) conducted a study to investigate, from the vantage point of a developing nation that has adopted the full complement of IFRS, how the value relevance of financial reporting has changed. Their study made use of the Ohlson pricing model to ascertain whether or not financial statements are meaningful. Their study demonstrated the importance of cash flow from operations in the Malaysian Capital Market, whereas profits, book value of equity, and cash flow from operations are all relevant for investment decision making in general. The perceived management bias in reported profits and book value of equity in the Malaysian Capital Market during the period 2012-2006 is at odds with the justification supplied by conceptual framework for financial reporting about the supremacy of earnings in investment decision making. The results of their study have significant implications for regulators and local standards-setting bodies,

who may use this information to crack down on earnings management methods and improve the reliability of general-purpose financial reporting by enhancing the quality of profits and the book value of stock. Subsequently, Kaibuchi et al. (2022) worked in the realm of managing financial risks, the Value-at-Risk (VaR) as a common tool. VaR (value at risk) estimate for extreme loss return distributions is an essential problem in financial applications from both operational and regulatory viewpoints, with a lot of research focusing on dynamically estimating extreme VaR based on recent history. As such their study proposed GARCH-UGH (Unbiased Gomes-de Haan), a new two-step bias-reduced estimation methodology for the estimation of one-step ahead dynamic extreme VaR, in which financial returns are first filtered using an AR- GARCH model, and then a bias-reduced estimator of extreme quantiles is applied to the standardized residuals. Based on in-sample and out-of-sample backtesting of historical daily returns on several financial time series, they found that GARCH-UGH estimates of the dynamic extreme VaR are more accurate than those obtained by historical simulation, conventional AR-GARCH filtering with Gaussian or Student-t innovations, or AR-GARCH filtering with standard extreme value estimates.

In terms of the variable of refined economic value added, Dewri (2022) conducted research to (1) determine the relationship between corporate governance, financial performance, and refined economic value added (REVA), and (2) determine the degree to which these three factors converge in predicting firm value (FV) and return on stock (RoS). The dataset of companies trading on the Dhaka Stock Exchange between 2013 and 2018 was subjected to the GMM estimator's methodology. The study’s results showed that FV and RoS are highly correlated with CG, FP, and REVA traits. Adopting effective CG within company management practice may greatly increase FP and continually provide positive economic value for both enterprises and shareholders throughout the term, hence enhancing FV and RoS. In addition, businesses that demonstrate

sustained increases in FV are in a position to pay out a healthy return on investment (RoI) to their shareholders. Managers will be motivated to adopt strong CG inside their businesses, and investors will have confirmation that the company is maintaining healthy FP and continuing REVA growth.

Several studies presented above have contributed to providing rich knowledge for the researcher of the present study because such studies have addressed the present study's variables in single ways. However, the above studies are different form the current study. First, the above studies were undertaken in other countries instead of Indonesia. The present study brings with it a specific context of Indonesia. Second, the above studies only worked on the variables addressed in the current studies in single ways. Nonetheless, the present study incorporates the variables (financial statements, economic value added, market value added, financial value added, and refined economic value added) all at once into this study as the main orientation.

METHODOLOGY

This type of research is descriptive analysis with a quantitative approach. The data sources used are secondary data, namely the percentage level of financial inclusion in each province of Indonesia obtained from the Financial Services Authority through the website www.ojk.go.id, the percentage of poverty, unemployment, and GDP to measure economic growth by presenting data covering each province in Indonesia published by the Central Statistics Agency through the website www.bps.go.id. Data analysis and hypothesis testing in this study used the Partial Least Square (PLS).

Object of research

The object of research in this research is a telecommunications sub- sector service company that is registered as a public company (issuer) on the Indonesia Stock Exchange (IDX). Telecommunications sub-sector companies

are one of the most important industries in supporting the internet network in a country.

Population and Population Sampling Procedure

The populations of this study are telecommunications companies listed on the Indonesia Stock Exchange. The method of determining the sample in this study is purposive sampling (intentional sampling).

Table 1. Sample Criteria

No.	Sample Selection Criteria	According to Criteria	Does Not Meet Criteria
1.	Telecommunications Sector Companies Listed on the IDX	5	-
2.	Companies that publish audited financial statements	4	-
3.	Telecommunications Sector Companies Listed on the IDX Become Cellular Operators Incomplete	4	-
4.	Telecommunications Sector Companies for Research	-	1
Number of Companies Used		**4**	
Total Data for 5 Years		**20**	

Source: Author Processed Data (2022)

Based on the criteria that have been determined using the purposive sampling method, the number of sample companies in this research object is 4 companies according to predetermined criteria. Hence, the samples used in this study were 20 samples with annual reports.

Table 2 Research Sample

No	Code	Company name	Sector
1	EXCL	PT XL Axiata Tbk	Telecommunication

2	FREN	PT Smartfren Telecom Tbk	Telecommunication
3	ISAT	PT Indosat Tbk	Telecommunication
4	TLKM	PT Telekomunikasi Indonesia Tbk	Telecommunication

Source: Data processed in 2022

The type of data used in this research is quantitative data. The data used in this research is secondary data obtained through the websitehttps://www.idx.co.id/, in the form of a Statement of Financial Position (Balance Sheet) and a Profit and Loss Report, especially for telecommunications companies listed on the Indonesian Stock Exchange.

Analysis Techniques

The technique for analyzing financial performance in this study is to use the Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA) methods, namely:

1. Economic Value Added(EVA)

According to Dewi (2017), the steps used in calculating EVA are as follows:

a. *Net Operating Profit After Tax* (NOPAT)

$$\mathbf{NOPAT = LabaBersih\ Setelah\ \ Pajak + BiayaBunga}$$

b. Invested Capital (IC)

$$\boldsymbol{InvestedCapital} = \mathbf{Total\ Hutang}\ \&\ Ekuitas\ -\ Hutang\ Jangka\ Pendek$$

c. Debt Capital Level (D)

$$\mathbf{Tingkat\ Modal\ (D)} = \frac{\mathbf{TotalHutang}}{\mathbf{Total\ Hutang\&Ekuitas}}\ \mathbf{x\ 100\%}$$

d. Cost of Debt or Cost of Debt (rd)

$$\text{BiayaHutang}(rd) = \frac{\text{Biaya Bunga}}{\text{Total Hutang}} \text{x } 100\%$$

e. Tax rate / Tax (t)

$$\text{TingkatPajak } (t) = \frac{\text{BebanPajak}}{\text{Laba SebelumPajak}} \text{x } 100\%$$

f. Capital Level of Equity (E)

$$\text{TingkatModal dari Ekuitas } (E) = \frac{\text{TotalEkuitas}}{\text{Total Hutang\&}Ekuitas} \text{x } 100\%$$

g. Cost of Equityor Cost of Equity (re)

$$\text{BiayaEkuitas } (re) = \frac{\text{LabaPer Lembar Saham (EPS)}}{\text{Harga Saham}} \text{x } 100\%$$

h. Weighted Average Cost of Capital (WACC)

$$\text{WACC} = \{(\text{Dx rd}(1 - \text{tax}) + (\text{E x re})\}$$

i. Capital Charges (CC)

$$\text{Capital Charge} = \text{Invested Capital x WACC}$$

j. Economic Value Added (EVA)

$$\text{EVA} = \text{NOPAT} - \text{Capital Charge}$$

According to Gómez-Bezares et al. (2017), to assess the financial performance of a company with the EVA method can be grouped into 3 (three) categories, namely:

1. If EVA > 0 or EVA is positive

The company's financial performance can be said to be good because the company can add business value. In this case, employees are entitled to

bonuses, creditors still receive interest and shareholders can get returns equal or more than what was invested.

2. If EVA = 0

Economically "break even" because all profits are used to pay obligations to funders, both creditors and shareholders, so that employees do not get bonuses, only salaries.

3. If EVA < 0 or EVA is negative

The company's financial performance is said to be unhealthy because the company cannot provide added value. In this case employees cannot get bonuses, it's just that creditors still get interest and shareholders don't get returns commensurate with what they invested.

Market Value Added (MVA)

The steps used to calculate MVA (Zavadskas et al., 2017) are as follows:

a. Market Value (Market value)

Market Value =Stock Market Price x Number of Shares

b. Invested Capital (invested capital)

Invested Capital= Nominal Value x Number of Shares

c. Market Value Added (MVA)

Market Value Added = Market Value – Invested Capital

In this case, the measurements are as follows:

1. MVA value > 0 or positive MVA

Shows management has succeeded in providing added value through the growth in market capitalization value of shares issued or the company is able to sell shares in the market at a premium price.

2. MVA value < 0 or negative MVA

   Shows management is unable to provide added value through the growth of the market capitalization value of the shares issued or the stock price in the market below the book value (equity per share).

3. MVA value = 0

   It shows that management has failed to provide added or reduced value through the growth of the market capitalization value of shares because the stock price in the market is the same as the book value (equity per share).

Financial Value Added (FVA)

According to Rodryguez, in Octaviani and Husaini (2017), the steps used in the FVA calculation are as follows:

a. Net Operating Profit After Tax (NOPAT)

NOPAT = Net Profit After Tax + Interest Cost

b. Total Resources (TR)

TR = Long Term Debt (D) + Total Equity (E)

c. Equivalent Depreciation (ED)

ED = Weighted Average Cost of Capital (k) x TR

d. Financial Value Added (FVA)

FVA = NOPAT – (ED – D)

The measurement results using the Financial Value Added (FVA) method (Octaviani & Husaini, 2017) can be interpreted as follows:

4. FVA value > 0 or positive FVA

   Shows that the company's management has succeeded in providing financial added value to the company or there is more finance when the company's net profit is able to cover the Equivalent Depreciation (ED).

5. FVA value < 0 or negative FVA

   Shows that there is no process of financial added value for the company or the company's net profit and depreciation are unable to cover Equivalent Depreciation (ED).

6. FVA value = 0 or breakeven point

   Shows that management has failed to provide added value or financial reductions because the company's net profit and depreciation have been used up to pay Equivalent Depreciation (ED).

Refined Economic Value Added (REVA)

The formula used to calculate Refined Economic Value Added (REVA) (Octaviani & Husaini, 2017) is as follows:

$$REVA\ t = NOPAT\ t - (MV\ t\text{-}1 \times Kw)$$

The measurement results using the Refined Economic Value Added (REVA) method can be interpreted as follows:

1. If REVA > 0, this indicates that there has been a process of economic added value for the company or that there is more economic value after the company has paid all obligations to the funders, both creditors and shareholders in the capital market.
2. If REVA < 0, this indicates that there is no economic added value process for the company or the company is unable to pay its obligations to the funders, both creditors and shareholders in the capital market.

3. If REVA = 0, this indicates that there is no process of economic added value or economic reduction because profits have been used up to pay obligations to funders, both creditors and shareholders in the capital market.

RESULT AND DISCUSSION

The telecommunications companies selected as samples in this study include:

1. **PT. XL Axiata Tbk (EXCL)**

   PT. XL Axiata Tbk (formerly PT Excelcomindo Pratama Tbk) is a mobile telecommunication operator company in Indonesia.

2. **PT. Smartfren Telecom Tbk (FREN)**

   PT Smartfren Telecom Tbk was established on December 2, 2002 under the name PT Mobile-8 Telecom based on Deed No. 11 dated December 2, 2002. PT Smartfren Telecom Tbk is one of the leading telecommunication service providers in Indonesia. In 2015 Smartfren innovated by launching the first commercial 4G LTE Advanced service in Indonesia.

3. **PT Indosat Tbk (ISAT)**

   Established as a foreign capital company by the Indonesian government. Commenced commercial operations in September 1969 to build transfer and operate the International Telecommunications Satellite Organization, or Intelsat, a ground station in Indonesia to access Intelsat of Indian Ocean Region satellites.

4. **PT Telekomunikasi Indonesia Tbk (TLKM)**

   Telkom's majority shareholder is the Government of the Republic of Indonesia with 52.09%, while the remaining 47.91% is controlled by the public. Telkom shares are traded on the Indonesia Stock Exchange (IDX) with the code "TLKM" and the New York Stock Exchange (NYSE) with the code "TLK".

Economic Value Added (EVA) Calculation Results

The first step in determining EVA is finding net operating profit after tax. Net Operating Profit After tax (NOPAT) is a measure of profit that does not include the tax costs and benefits of debt financing. It can be concluded that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of NOPAT.

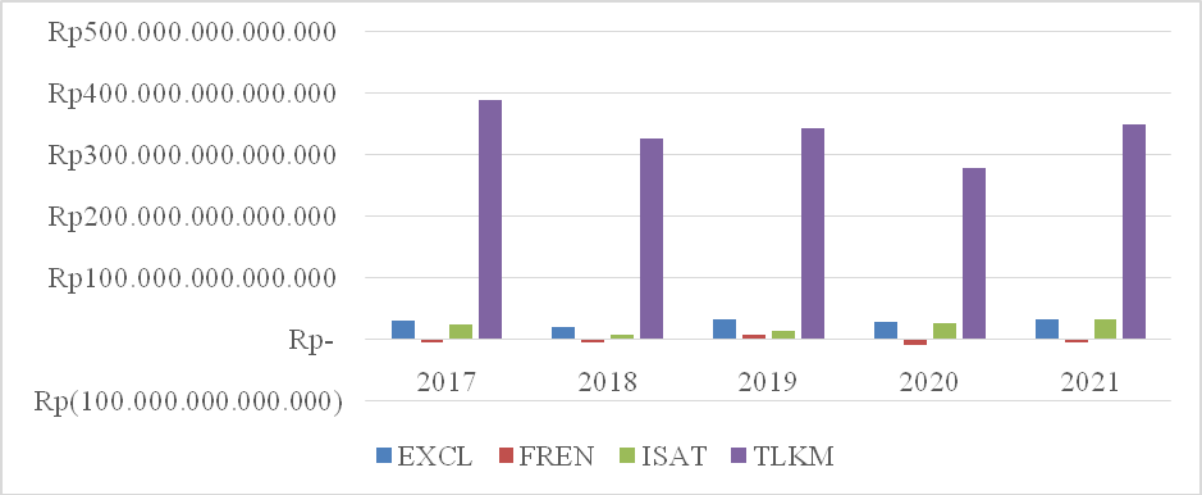

Figure 2. Chart *Market Value Added* (MVA) (In IDN)

Source: Data processed in 2022

The results of Market Value Added (MVA) research are in line with Masyiyan and Isynuwardhana's (2020) study which determines that the MVA value in each company still has negative and positive values. In companies that produce a positive MVA value, it means that the company's management has succeeded in providing added value through the growth of the market capitalist value of the shares issued.

Financial Value Added (FVA) Calculation Results

The first step to determining FVA is finding net operating profit after tax. Net Operating Profit After tax (NOPAT) is a measure of profit that does not include the tax costs and benefits of debt financing. It can be concluded

that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of the calculation of FVA.

Table 6. *Financial Value Added* (FVA) (In IDN)

CODE	2017	2018	2019	2020	2021
EXCL	18.592.453.381.891	25.424.742.660.075	22.945.239.362.615	34.988.912.187.688	32.318.537.174.115
FREN	13.955.201.633.196	12.228.564.573.029	11.388.950.913.335	21.792.850.251.042	20.783.335.628.765
ISAT	20.708.077.341.973	20.357.786.244.802	35.503.950.196.509	27.980.072.436.540	31.369.050.027.658
TLKM	69.674.460.007	64.546.831.017	67.841.739.994	80.640.533.029	90.746.596.714

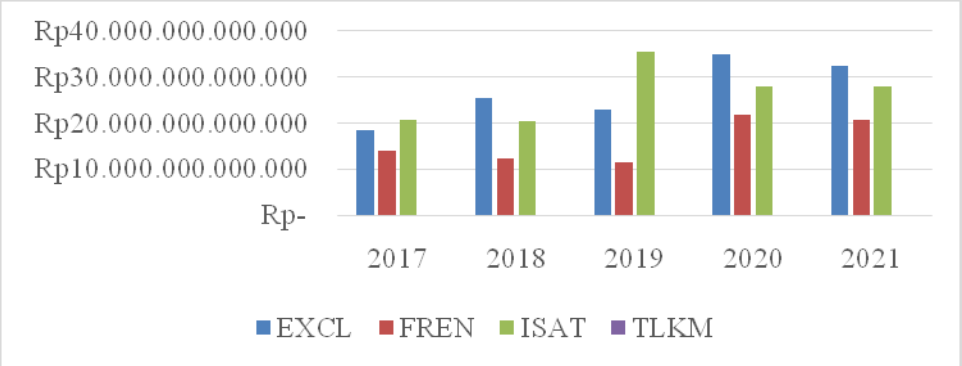

Figure 3. Chart Financial Value Added (FVA) (In IDN)

Source: Data Processed 2022

The results of Financial Value Added (FVA) research are in line with a study conducted by Bayraktaroglu et al. (2019) which found that the FVA value in each company still has negative and positive values. In companies that produce a positive FVA value, it means that the company's management has been able to create added financial value for the company or the company's net profit and depreciation are able to cover Equivalent Depreciation.

Refined Calculation Results Economic Value Added (REVA)

The first step to determining REVA is finding net operating profit after tax. Net Operating Profit After tax (NOPAT) is a measure of profit that does

not include the tax costs and benefits of debt financing. It can be concluded that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of REVA.

Table 7. *Refined Economic Value Added* (REVA) (In rupiah)

CODE	2017	2018	2019	2020	2021
EXCL	(898.193.420.745)	(1.403.485.350.769)	1.045.042.053.623	3.554.539.617.440	2.614.575.765.514
FREN	3.272.547.199.794	4.626.824.507.733	2.904.069.087.972	1.277.801.484.901	(540.220.425.394)
ISAT	1.627.683.127.606	121.188.267.780	17.164.876.477.116	1.282.952.284.288	7.020.433.499.586
TLKM	(3.519.427.059.425)	(3.656.834.714.811)	(2.631.501.427.737)	(2.488.592.893.509)	(2.837.361.088.982)

Source: Data processed in 2022

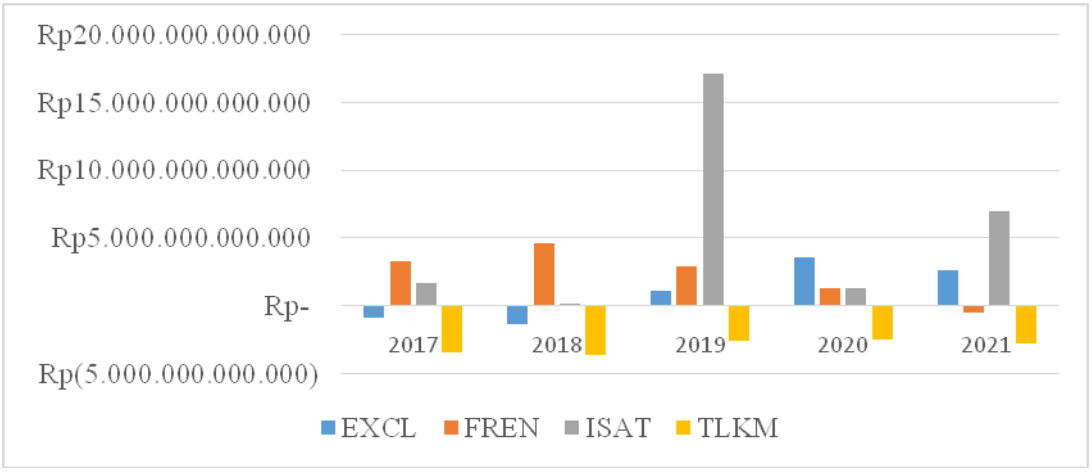

Figure 4. Chart Refined Economic Value Added (REVA) (In IDN)

Source: Data Processed 2022

The results of Refined Economic Value Added (REVA) research are in line with Geng et al. (2021) which determines that the REVA value in each company still has negative and positive values. In companies that generate a positive REVA value, it means that there has been a process of economic added value for the company and more economic value after the company has paid all obligations to creditor bank funders and shareholders in the capital market.

CONCLUSION

Based on the established procedural method, the company's financial performance using the Economic Value Added (EVA) method is generated from the EVA values for the 2017–2021 period for PT XL Axiata Tbk, PT Smartfren Telecom Tbk, PT Indosat Tbk, and PT Telekomunikasi Indonesia Tbk. plus the same economy and still fluctuating. The company's financial performance as measured by the Market Value Added (MVA) approach is profitable for PT XL Axiata Tbk, PT Indosat Tbk, and PT Telekomunikasi Indonesia Tbk. PT Smartfren Telecom Tbk has a negative market value added (MVA). A positive MVA indicates that business management has succeeded in generating added value. The company's financial performance uses the Financial Value Added (FVA) method for the 2017-2021 period which has a positive value at PT XL Axiata Tbk, PT Smartfren Telecom Tbk, PT Indosat Tbk and PT Telekomunikasi Indonesia Tbk. A positive FVA means that the company's management has been able to create added financial value for the company or the company's net profit and depreciation has been able to cover equivalent depreciation. The company's financial performance uses the Refined Economic Value Added (REVA) method for which has a positive value at PT Indosat Tbk. Refined Economic Value Added (REVA) which has a negative value at PT XL Axiata Tbk, PT Smartfren Telecom Tbk and PT Telekomunikasi Indonesia Tbk. REVA which has a positive value has resulted in a process of economic added value for the company and more economic value after the company has paid all obligations to the funders, both creditors and shareholders.

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Bukti konfirmasi review dari editor dan bagian yang direvisi oleh penulis

(18 Januari 2023 dan 22 Januari 2023)

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article No. 1103

Ирина Довгаль <vestnikfinu@mail.ru> 18 Januari 2023 pukul 12.51
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Dear Dr. Muhammad Istan,

I am sending your article No. 1103 with comments. Please make sure that the Vancouver style citations and references are correct. Also provide the Jel of the article and your orcid. Please send the revised manuscript to my email address.

Regards, Irina Dovgal,
Managing editor, Finance: Theory and Practice
vestnikfinu@mail.ru

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JEL ???

Financial Performance Analysis Using EVA, MVA, FVA, and REVA Methods for Telecommunication Sub-Sector Companies Listed on the IDX

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ABSTRACT

The purpose of this study was to analyze financial performance using the Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA) methods in telecommunications sector companies listed on the Stock Exchange of Indonesia (IDX). This research method used quantitative data types and secondary data sources obtained through the website at https://www.idx.co.id/. The data presented on the website of each company were in the form of data on the Financial Position Report (Balance Sheet) and the annual Profit and Loss Report of the Telecommunication sub-sector companies already listed on the Indonesian Stock Exchange. The results of this study demonstrated that a telecommunications company had a positive EVA value, which meant that it had succeeded in creating economic value. The three Telecommunication companies had positive MVA values which meant that they provided added value through market capitalization. Of the four telecommunications companies, a positive FVA score showchased that the company's management had succeeded in providing

financial added value to the company. One of the four telecommunications companies produced a positive REVA value which meant that there was more economic value after the company had paid all obligations to the funders, both creditors and shareholders in the capital market.
***Keywords*:** Financial Performance, Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), Refined Economic Value Added (REVA)

INTRODUCTION

Technological developments in Indonesia are currently progressing. One of them is the existence of Smartphone technology and internet networks which have reached the peak of 5 G. Apart from that, it can be seen from the level of internet users in Indonesia in early 2022 as it reached 210 million people. Of this number, the majority of users access the internet via cell phones to open social media. The internet is dominated from the age of 13-18 years as much as 99.16%. This has been revealed in the latest report entitled "Indonesian Internet Profile 2022" released by the Association of Indonesian Internet Service Providers (APJII). Based on the APJII report, the total population of Indonesia is currently estimated to reach 272.68 million in 2021. This means that the internet penetration rate in Indonesia in the period 2021 to the first quarter of 2022 reached 77.02%. The internet penetration rate increased from the beginning of 2019 to the previous second quarter of 2020, which was 73.7%. During this period, it was reported that there were 196.71 million Indonesians connected to the internet. In 2018, the number of internet users in Indonesia was 171.17 million, with a penetration of only 64.8%. Other main reasons for the users connected to the internet fall into the following: (1) 92.21% to access information/news; (2) To work or study from home by 90.21%; (3) To access public services by 84.9%; (4) To use e-mail services by 80.7%; (5) To make online transactions by 79%; (6) To

access entertainment content by 77.25%; (7) To access online transportation by 76.47%; (8) To access financial services as much as 72.32% (www.kompas.com).

Advances in technology and information can affect economic growth in Indonesia. Companies need to develop effective strategies to survive in the market. One way that can be done is to pay attention to the welfare of shareholders or investors in terms of company value. An investor is someone who invests in a company with the hope of getting a return on the invested capital. Company capital basically comes from company owners and from creditors (Horton, 2022).

Companies that are oriented towards company progress must always increase the quantity and quality of their business, so that they can get the expected benefits. Management is required to be able to anticipate this condition by always evaluating the condition of the company, especially from a financial perspective because this is the key to a company's survival. The condition of the company can also be monitored by analyzing the financial statements which generally consist of a Statement of Financial Position, Income Statement or Comprehensive Income Statement, Cash flow statement, and Statement of Changes in Equity (Kieso et al., 2019).

The Statement of Financial Position presents information about investments in the entity's resources, obligations to creditors, and owner's equity which helps decision makers to predict big, time, and cash flow uncertainty. The Profit and Loss Report is a report that measures the success of an entity's operations over a period of time. The Statement of Changes in Equity presents the amount of dividends distributed to owners and the value of dividends per share. The Cash Flow Statement displays where cash is obtained from and where cash is spent or being spent (Kieso et al., 2019).

Measurement of the company's financial performance is needed to determine success in achieving these goals. Measurement of financial performance based on financial reports is mostly done using financial ratios.

Commented [И1]: references to sources should be made as follows:
A. Horton [1]. And so on, throughout the text, the sources should be numbered in the order in which they are mentioned. The list of references should be Vancouver style. There are samples on our website

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

article No. 1103

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id> 22 Januari 2023 pukul 16.22
Kepada: Ирина Довгаль <vestnikfinu@mail.ru>

Dear Dr. Irina Dovgal,
Thank you for your information regarding the revision I have to make. The following attachment is the revision I just made according to the given notes in the paper.

Best regards
Muhammad Istan

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JEL G00

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access entertainment content by 77.25%; (7) To access online transportation by 76.47%; (8) To access financial services as much as 72.32% (www.kompas.com).

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The Statement of Financial Position presents information about investments in the entity's resources, obligations to creditors, and owner's equity which helps decision makers to predict big, time, and cash flow uncertainty. The Profit and Loss Report is a report that measures the success of an entity's operations over a period of time. The Statement of Changes in Equity presents the amount of dividends distributed to owners and the value of dividends per share. The Cash Flow Statement displays where cash is obtained from and where cash is spent or being spent: D.E. Kieso, J.J. Weygandt, T.D. Warfield, I.M. Wiecek, B.J. McConomy [2].

Measurement of the company's financial performance is needed to determine success in achieving these goals. Measurement of financial

performance based on financial reports is mostly done using financial ratios. The advantage of this measurement is the ease of calculation as long as historical data is available. While the weakness is that this method cannot accurately measure company performance. This is because the data used is accounting data which cannot be separated from the interpretation of estimates which can result in various kinds of distortions so that the company's financial performance is not measured precisely and accurately: E.R. Rahadjeng [3].

Analysis of company financial statements is generally used to measure financial performance using conventional methods, namely financial ratio analysis. In practice, although the financial ratio analysis used has quite a lot of functions and uses for companies in making decisions, it does not mean that the financial ratios had guaranteed 100% of the true financial conditions and position N. Yoshino, F. Taghizadeh-Hesary [4]. The use of financial ratio analysis has a major weakness, namely it does not pay attention to the risks faced by the company by ignoring the cost of capital. Hence, to overcome the problems that arise in measuring financial performance by using financial ratio analysis, the thought of measuring financial performance based on value then has spawn: J. Choi, A. Menon, H. Tabakovic [5]. EVA and MVA are used as a company performance appraisal method, which focuses on creating corporate value and can help management to find out what the actual cost of capital of the company and business is, so that the net rate of return on capital is obtained and what the actual amount of capital invested in the business can be revealed. Along with the Law No. 36/1999 on telecommunications and a 2002 government regulation allowing foreign cellular operators to enter the Indonesian market, the telecommunications industry in Indonesia entered the telecommunications liberalization phase.

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article No. 1103

Ирина Довгаль <vestnikfinu@mail.ru> 22 Januari 2023 pukul 19.29
Balas Ke: Ирина Довгаль <vestnikfinu@mail.ru>
Kepada: Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

Dear Dr. Muhammad Istan,

your article has been sent for a blind review. I will let you know the results within a month.

Regards, Irina Dovgal,
Managing editor, Finance: Theory and Practice
vestnikfinu@mail.ru

> Воскресенье, 22 января 2023, 12:23 +03:00 от Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>:
> [Kutipan teks disembunyikan]

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

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Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id> 22 Januari 2023 pukul 19.54
Kepada: Ирина Довгаль <vestnikfinu@mail.ru>

Dear Dr. Irina Dovgal

Thank you

Best regards
Muhammad Istan

Bukti konfirmasi review beserta lampiran dari reviewer

(3 Maret 2023)

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

article No. 1103

Ирина Довгаль <vestnikfinu@mail.ru> 3 Maret 2023 pukul 13.52
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Dear Dr. Muhammad Istan,

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Financial Performance Analysis Using EVA, MVA, FVA, and REVA Methods for Telecommunication Sub-Sector Companies Listed on the IDX

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ABSTRACT

The purpose of this study was to analyze financial performance using the Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA) methods in telecommunications sector companies listed on the Stock Exchange of Indonesia (IDX). This research method used quantitative data types and secondary data sources obtained through the website at https://www.idx.co.id/. The data presented on the website of each company were in the form of data on the Financial Position Report (Balance Sheet) and the annual Profit and Loss Report of the Telecommunication sub-sector companies already listed on the Indonesian Stock Exchange. The results of this study demonstrated that a telecommunications company had a positive EVA value, which meant that it had succeeded in creating economic value. The three Telecommunication companies had positive MVA values which meant that they provided added value through market capitalization. Of the four telecommunications companies, a positive FVA score showchased that the company's management had succeeded in providing financial added value to the company. One of the four telecommunications companies produced a positive REVA value which meant that there was more economic value after the company had paid all obligations to the funders, both creditors and shareholders in the capital market.

***Keywords*:** Financial Performance, Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), Refined Economic Value Added (REVA)

Анализ финансовой деятельности с использованием методов EVA, MVA, FVA и REVA для компаний телекоммуникационного ~~под~~сектора, зарегистрированных на Индонезийской фондовой бирже~~IDX~~

АННОТАЦИЯ

Целью данного исследования был анализ финансовых показателей с использованием методов определения экономической добавленной стоимости (EVA), рыночной добавленной стоимости (MVA), финансовой добавленной стоимости (FVA) и уточненной экономической добавленной стоимости (REVA) в компаниях телекоммуникационного сектора, зарегистрированных на Индонезийской фондовой бирже~~Фондовой бирже Индонезии~~ (IDX). В данном методе исследования использовались количественные типы данных и вторичные источники данных, полученные через веб-сайт биржи https://www.idx.co.id/. Данные, представленные на сайте каждой компании, были в виде данных отчета о финансовом положении (Balance Sheet) и годового отчета о прибылях и убытках компаний телекоммуникационного ~~под~~сектора, ~~уже~~ зарегистрированных на Индонезийской фондовой бирже. Результаты данного исследования показали, что телекоммуникационная компания имела положительное значение EVA, что означало, что она преуспела в создании экономической стоимости. Три телекоммуникационные компании имели положительное значение MVA, что означало, что они обеспечили добавленную стоимость за счет рыночной капитализации. Из четырех телекоммуникационных компаний положительный показатель

FVA свидетельствовал о том, что руководство компании преуспело в обеспечении финансовой добавленной стоимости компании. Одна из четырех телекоммуникационных компаний показала положительное значение REVA, что означало увеличение экономической стоимости после того, как компания погасилавыплатила все обязательства перед финансистами, как кредиторами, так и акционерами на рынке капитала.

Ключевые слова: финансовые показатели; экономическая добавленная стоимость (EVA); рыночная добавленная стоимость (MVA); финансовая добавленная стоимость (FVA); уточненная экономическая добавленная стоимость (REVA)

INTRODUCTION

Technological developments in Indonesia are currently progressing. One of them is the existence of Smartphone technology and internet networks which have reached the peak of 5 G. Apart from that, it can be seen from the level of internet users in Indonesia in early 2022 as it reached 210 million people. Of this number, the majority of users access the internet via cell phones to open social media. The internet is dominated from the age of 13-18 years as much as 99.16%. This has been revealed in the latest report entitled "Indonesian Internet Profile 2022" released by the Association of Indonesian Internet Service Providers (APJII). Based on the APJII report, the total population of Indonesia is currently estimated to reach 272.68 million in 2021. This means that the internet penetration rate in Indonesia in the period 2021 to the first quarter of 2022 reached 77.02%. The internet penetration rate increased from the beginning of 2019 to the previous second quarter of 2020, which was 73.7%. During this period, it was reported that there were 196.71 million Indonesians connected to the internet. In 2018, the number of internet users in Indonesia was

171.17 million, with a penetration of only 64.8%. Other main reasons for the users connected to the internet fall into the following: (1) 92.21% to access information/news; (2) To work or study from home by 90.21%; (3) To access

public services by 84.9%; (4) To use e-mail services by 80.7%; (5) To make online transactions by 79%; (6) To access entertainment content by 77.25%; (7) To access online transportation by 76.47%; (8) To access financial services as much as 72.32% (www.kompas.com).

Advances in technology and information can affect economic growth in Indonesia. Companies need to develop effective strategies to survive in the market. One way that can be done is to pay attention to the welfare of shareholders or investors in terms of company value. An investor is someone who invests in a company with the hope of getting a return on the invested capital. Company capital basically comes from company owners and from creditors: A. Horton [1].

Companies that are oriented towards company progress must always increase the quantity and quality of their business, so that they can get the expected benefits. Management is required to be able to anticipate this condition by always evaluating the condition of the company, especially from a financial perspective because this is the key to a company's survival. The condition of the company can also be monitored by analyzing the financial statements which generally consist of a Statement of Financial Position, Income Statement or Comprehensive Income Statement, Cash flow statement, and Statement of Changes in Equity: D.E. Kieso, J.J. Weygandt, T.D. Warfield, I.M. Wiecek, B.J. McConomy [2].

The Statement of Financial Position presents information about investments in the entity's resources, obligations to creditors, and owner's equity which helps decision makers to predict big, time, and cash flow uncertainty. The Profit and Loss Report is a report that measures the success of an entity's operations over a period of time. The Statement of Changes in Equity presents the amount of dividends distributed to owners and the value of dividends per share. The Cash Flow Statement displays where cash is obtained from and

where cash is spent or being spent: D.E. Kieso, J.J. Weygandt, T.D. Warfield, I.M. Wiecek, B.J. McConomy [2].

Measurement of the company's financial performance is needed to determine success in achieving these goals. Measurement of financial performance based on financial reports is mostly done using financial ratios. The advantage of this measurement is the ease of calculation as long as historical data is available. While the weakness is that this method cannot accurately measure company performance. This is because the data used is accounting data which cannot be separated from the interpretation of estimates which can result in various kinds of distortions so that the company's financial performance is not measured precisely and accurately: E.R. Rahadjeng [3].

Analysis of company financial statements is generally used to measure financial performance using conventional methods, namely financial ratio analysis. In practice, although the financial ratio analysis used has quite a lot of functions and uses for companies in making decisions, it does not mean that the financial ratios had guaranteed 100% of the true financial conditions and position N. Yoshino, F. Taghizadeh-Hesary [4]. The use of financial ratio analysis has a major weakness, namely it does not pay attention to the risks faced by the company by ignoring the cost of capital. Hence, to overcome the problems that arise in measuring financial performance by using financial ratio analysis, the thought of measuring financial performance based on value then has spawn: J. Choi, A. Menon, H. Tabakovic [5]. EVA and MVA are used as a company performance appraisal method, which focuses on creating corporate value and can help management to find out what the actual cost of capital of the company and business is, so that the net rate of return on capital is obtained and what the actual amount of capital invested in the business can be revealed. Along with the Law No. 36/1999 on telecommunications and a 2002 government regulation allowing foreign cellular operators to enter the

Indonesian market, the telecommunications industry in Indonesia entered the telecommunications liberalization phase.

PT Telekomunikasi Indonesia Tbk encountered various obstacles due to the COVID-19 pandemic; in fact, it was seen as an opportunity to accelerate digital acceleration, by providing services and solutions in the field of information and communication technology. As part of the components of the nation, Telkom Group has the spirit to help the people and the Government of Indonesia in dealing with the pandemic and getting back up to face the future. Telkom Group provides various services and solutions to all customers and the public with the support of digital connectivity infrastructure, digital platforms, and digital services. Amidst various challenges throughout the year under review, Telkom Group continues to expand and improve digital connectivity infrastructure, strengthening digital platforms and developing various digital services, to provide the best digital customer experience.

The telecommunications industry market players, which were initially only PT Telkomsel Tbk and PT Indosat Tbk, currently haves grown to ten operators, namely: PT Telkomsel Tbk, PT Indosat Tbk, PT XL Axiata Tbk, PT Bakrie Telecom Tbk, PT Mobile 8 Telecom Tbk, PT Natrindo Seluler Tbk, PT Sampoerna Telekom Tbk, PT Pasifik Satellite Nusantara Tbk, PT Hutchison CP Tbk, and PT Sinarmas Tbk. Based on Statistics of the Directorate General of Post and Telecommunication Semester II of 2009, five telecommunications companies, namely PT Telkom Tbk, PT Indosat Tbk, PT XL Axiata Tbk, PT Bakrie Telecom Tbk, PT Mobile 8 Telecom Tbk, currently controls almost 100% of the cellular telephone industry market in Indonesia and is a company that has gone public. Therefore, the company's responsibility increases, besides how to maintain market share and even win the competition, companies are also challenged to be able to increase the company's economic value for investors in the capital market. To determine the company's ability to manage paid-up capital by investors in increasing the company's economic value, it is necessary

to measure the company's performance. Various aspects need to be considered in measuring this performance, especially the expectations of the parties who invest the funds.

The average EVA value for the telecommunication industry in Indonesia which is listed on the IDX for 2014-2018 is positive, which is IDR 1.306.424.783.653.? R.A. Masyiyan's and D. Isynuwardhana's research found that the results of the MVA calculation, the significance value of the MVA variable is 0,091 > 0,05 [6]. Judging from the five telecommunications companies listed on the Indonesia Stock Exchange from 2015-2020, all companies have positive MVA values so that telecommunications companies for the 2015-2020 period have succeeded in increasing company wealth. The purpose of this study is to analyze financial performance using the Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA) methods in telecommunications sector companies listed on the Indonesia Stock Exchange.

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LITERATURE REVIEW

This section sheds some lights on the theoretical concepts of several variables incorporated into the present study. Such variables are composed of financial statements, economic value added, market value added, financial value added, and revined economic value added.

Financial statements

Financial Reports are reports that show the company's financial condition at this time or in a certain period: E.A. Osadchy, E.M. Akhmetshin, E.F. Amirova, T.N. Bochkareva, Y. Gazizyanova, A.V. Yumashev [7]. Based on the description above, it can be concluded that the Financial Report shows the company's current condition, namely the company's financial condition on a certain date, and a certain period.

Financial statements present information about entities which include: assets, liabilities, equity, income and expenses including profits and losses, contributions from and distributions to owners in their capacity as owners and cash flows: R. Bergitta Sonia, Z.A. Zahroh, D.F. Azizah [8]. According to C.E. Grigoraș-Ichim, C.G. Cosmulese, D. Savchuk, A. Zhavoronok, A complete Financial Report usually includes a Statement of Financial Position, a Profit and Loss Report, a Statement of Changes in Equity, and a Statement of Cash Flows [9].

In general, financial reports are made with the aim of conveying information to interested parties, both about the company's financial condition and the company's performance during a certain period. According to Statement of Financial Accounting Standards (PSAK) No. 1 (2015: 3), the purpose of financial reports is to provide information about the financial position, financial performance, and cash flows of entities that are useful to most report users in making economic decisions.

Financial performance is work performance in the financial sector that has been achieved by the company and is contained in the financial statements of the company. The financial performance of a company can be assessed using analytical tools S. Cantele, A. Zardini [10].

Economic Value Added (EVA)

EVA is an estimate of economic profit for the year in question and is very much different from accounting profit. EVA offers a fairly objective parameter because it departs from the concept of the cost of capital, namely reducing profits with the cost of capital. The burden of capital costs reflects the level of compensation or return. Calculating Economic Value Added (EVA) uses the following formula:

$$\mathbf{EVA = NOPAT - Charge}$$

Information:

NOPAT: Net Operating Profit After Tax (After operating profit tax)

WACC: Weighted Average Cost of Capital (Average cost of capital weighted average)

IC : Invested Capital

D : Capital level of debt

Rd : Percentage of cost of debt

E : Capital level of equity

Re : Percentage of cost of equity

Taxes : Percentage of tax rate

EVAs : Economic Value Added

What is the link between the formula and these indicators? And what is charge?

Market Value Added (MVA)

MVA is the difference between the total market value of the company'' s equity and the amount of equity capital invested by investors R. Bergitta Sonia, Z.A. Zahroh, D.F. Azizah [8]. Market Value Added is the difference between the company'' s market value and the invested capital. The following is the formula for MVA:

Market Value Added = Market Value – Invested Capital

In this case, the measurements according to Rudianto as cited in D.L. Moezaque, A. Daito [11] are as follows:

MVA value > 0 or positive MVA shows management has succeeded in providing added value through growth.

MVA value < 0 or negative MVA shows management is unable to provide added value through the growth of the market capitalization value of the shares issued.

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Financial Value Added (FVA)

FVA is a method for measuring company performance and added value. This method considers the contribution of fixed assets in generating the company's net profit O.M. Olarewaju, T.S. Msomi [12]. Here's the FVA formula:

$$FVA = NOPAT - (ED - D)$$

Information:

FVA : Financial Value Added

NOPAT : Net Operating Profit after Tax

ED : Equivalent Depreciation

TR : Total Resources absent in the formula

D : Depreciation

FVA value > 0 or positive FVA

Shows the company's management has succeeded in providing financial added value to the company.

FVA value < 0 or negative FVA

Shows there is no process of adding financial value to the company.

FVA value = 0 or breakeven point

Shows the management is not successful in providing added value or financial reduction.

Refined Economic Value Added (REVA)

Considering stock market prices and abnormal returns formed by the difference between stock returns and market returns, while EVA is based on share value M. Pinochi, F. Fais, M [13]. The formula used to calculate Refined Economic Value Added (REVA) is as follows:

$$REVA_t = NOPAT_t - (MV_{t-1} \times KW)$$

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Information:

REVA t : Refined Economic Value Added in the t-period

NOPAT t : Net Operating Profit After Tax in the t-period

MV t-1 : Market Value of the business entity in period t-1 (Market Value of Equity).

Kw : The cost of capital is the cost of borrowing interest and fees equity and calculated on a weighted average basis (WACC). Using the Refined Economic Value Added (REVA) method can be interpreted as follows:

If REVA > 0, this indicates that there has been a process of economic added value for the company

If REVA < 0, this indicates that the company does not process economic added value or the company is unable to pay its obligations to funders.

If REVA = 0, this indicates that there is no process of economic added value or economic reduction.

A number of studies addressing similar variables of the present study have been done. Nonetheless, such studies delved into the variables the variable of financial statements, economic value added, market value added, financial value added, and refined economic value added in separate ways. In terms of the variable of financial statements, N. Ding, I. Ullah, K. Jebran sought to see the extent to which the teams of top management are interconnected to the comparability of financial statement [14]. Their study was conducted in the context of experienced foreign CEOs or the so-called FCEOs. Their study revealed that financial and accounting expertise, as well as international work experience, seem to strengthen the link between FCEOs and the comparability of financial statement. As economic policy uncertainty rises, the correlation between the two weakens. Their study comes into a conclusion that financial

reporting is a critical conduit for understanding the connection between FCEOs and the comparability of financial statement. Subsequently, G. Salijeni, A. Samsonova-Taddei, and S. Turley executed a study on the growth of Big Data and Analytics (BDA) tools as has been a significant advancement in audit technology, along with how auditors are putting those tools to use [15]. The investigation of BDA users' interactions with the technology's features during an audit draws on sociomateriality literature as well as observations, documentary materials, and 25 semi-structured interviews with people actively using BDA. Their research indicated that BDA features like scripts have enabled widespread automation of audit procedures, opening up new possibilities for broadening the breadth and depth of audit evidence. Their study concluded that BDA has changed the way audit companies' various departments and service offerings interact with one another and with clients.

In terms of the variable of economic value added, A. Kordalska and M. Olczyk conducted a study to determine the factors that influence the development of global value chains (GVCs) in a few chosen Central and Eastern European (CEE) countries, with a focus on functional specialization (FS) [16]. They found a novel FS pattern among subgroups of CEEs by combining data on jobs from the World Input-Output Database. The global value chain (GVC) position of Poland and Slovakia is unfavorable since they focus on low value-added fabrication. They determined the elements responsible for the improvement of various forms of FS in GVCs. The road to increased value-added in practically all business activities is bolstered by the convergence of salaries in CEEs with those in developed countries and by strong GVC backward connections. Subsequently, Yang L executed a study on testing the impacts of various trade standards on China's value-added and total exports in global value chains by using a gravity model [17]. The study pointed to the fact that China's exports of both categories benefit from harmonization with international norms. Therefore, the nation should not skimp on enforcing

regulations. Exports are more affected by mandatory criteria than by voluntary ones. In addition, the trade-promoting impact of mandated worldwide harmonized standards is stronger on overall exports than on exports of value. Value-added exports are more negatively impacted by voluntary country-specific requirements than overall exports. There is no statistically significant effect of voluntary globally harmonized standards on either category of exports.

In terms of the variable of market value added, K. Blind, A. Mangelsdorf, C. Niebel, F. Ramel analyzed the influence of formal standards on commerce in global value chains (GVCs) in Europe [18]. Using a gravity model technique for panel data, they evaluated the effect of national, European and worldwide standards on trade in value-added and gross trade flows within Europe. They found that national standards on their own restrict commerce in European value chains whereas European and international standards stimulate trade. European standards have stronger impact on commerce in inner-European value chains but international standards have favorable effects on imports entering Europe from third nations. European standards thereby eliminate knowledge asymmetries between market participants in the value chains of the European Single Market. International standards serve as a form of worldwide communication amongst international trading partners. In addition, they discovered a favorable impact of an interaction term between national and European standards in European value chains demonstrating the significance of national standardizing. Subsequently, C. Lutz and G. Tadesse conducted a study on exploring the difficulties encountered by smallholder producer cooperatives from developing nations in their pursuit of entry into agricultural global value chains [19]. They evaluated the competitiveness issue caused by incorrect selection and a lack of dedication. The policy discussion on farmers' market groups often assumes that open membership is more important than selection. They contended that although open membership might succeed in community-

focused groups, it poses a serious problem for innovative farmer's market organizations.

In terms of the variable of financial value added, A. Mirza, M. Malek, M.A. Abdul-Hamid conducted a study to investigate, from the vantage point of a developing nation that has adopted the full complement of IFRS, how the value relevance of financial reporting has changed [20]. Their study made use of the Ohlson pricing model to ascertain whether or not financial statements are meaningful. Their study demonstrated the importance of cash flow from operations in the Malaysian Capital Market, whereas profits, book value of equity, and cash flow from operations are all relevant for investment decision making in general. The perceived management bias in reported profits and book value of equity in the Malaysian Capital Market during the period 2012-2006 is at odds with the justification supplied by conceptual framework for financial reporting about the supremacy of earnings in investment decision making. The results of their study have significant implications for regulators and local standards-setting bodies, who may use this information to crack down on earnings management methods and improve the reliability of general-purpose financial reporting by enhancing the quality of profits and the book value of stock. Subsequently, H. Kaibuchi, Y. Kawasaki, and G. Stupfler worked in the realm of managing financial risks, the Value-at-Risk (VaR) as a common tool. VaR (value at risk) estimate for extreme loss return distributions is an essential problem in financial applications from both operational and regulatory viewpoints, with a lot of research focusing on dynamically estimating extreme VaR based on recent history. As such, their study proposed GARCH-UGH (Unbiased Gomes-de Haan), a new two-step bias-reduced estimation methodology for the estimation of one-step ahead dynamic extreme VaR, in which financial returns are first filtered using an AR-GARCH model, and then a bias-reduced estimator of extreme quantiles is applied to the standardized residuals. Based on in-sample and out-of-sample backtesting of historical daily

returns on several financial time series, they found that GARCH-UGH estimates of the dynamic extreme VaR are more accurate than those obtained by historical simulation, conventional AR-GARCH filtering with Gaussian or Student-t innovations, or AR-GARCH filtering with standard extreme value estimates [21].

In terms of the variable of refined economic value added, L.V. Dewri conducted research to (1) determine the relationship between corporate governance, financial performance, and refined economic value added (REVA), and (2) determine the degree to which these three factors converge in predicting firm value (FV) and return on stock (RoS). The dataset of companies trading on the Dhaka Stock Exchange between 2013 and 2018 was subjected to the GMM estimator's methodology. The study's results showed that FV and RoS are highly correlated with CG, FP, and REVA traits. Adopting effective CG within company management practice may greatly increase FP and continually provide positive economic value for both enterprises and shareholders throughout the term, hence enhancing FV and RoS. In addition, businesses that demonstrate sustained increases in FV are in a position to pay out a healthy return on investment (RoI) to their shareholders. Managers will be motivated to adopt strong CG inside their businesses, and investors will have confirmation that the company is maintaining healthy FP and continuing REVA growth [23].

Several studies presented above have contributed to providing rich knowledge for the researcher of the present study because such studies have addressed the present study's variables in single ways. However, the above studies are different form the current study. First, the above studies were undertaken in other countries instead of Indonesia. The present study brings with it a specific context of Indonesia. Second, the above studies only worked on the variables addressed in the current studies in single ways. Nonetheless, the present study incorporates the variables (financial statements, economic value

added, market value added, financial value added, and refined economic value added) all at once into this study as the main orientation.

METHODOLOGY

This type of research is descriptive analysis with a quantitative approach. The data sources used are secondary data, namely the percentage level of financial inclusion in each province of Indonesia obtained from the Financial Services Authority through the website www.ojk.go.id, the percentage of poverty, unemployment, and GDP to measure economic growth by presenting data covering each province in Indonesia published by the Central Statistics Agency through the website www.bps.go.id. Data analysis and hypothesis testing in this study used the Partial Least Square (PLS).

Object of research

The object of research in this research is a telecommunications sub- sector service company that is registered as a public company (issuer) on the Indonesia Stock Exchange (IDX). Telecommunications sub-sector companies are one of the most important industries in supporting the internet network in a country.

Population and Population Sampling Procedure

The populations of this study are telecommunications companies listed on the Indonesia Stock Exchange. The method of determining the sample in this study is purposive sampling (intentional sampling).

Table 1. Sample Criteria

No.	Sample Selection Criteria	According to Criteria	Does Not Meet Criteria
1.	Telecommunications Sector Companies Listed on the IDX	5	-

2.	Companies that publish audited financial statements Telecommunications Sector	4	-
3.	Companies Listed on the IDX Become Cellular Operators Incomplete	4	-
4.	Telecommunications Sector Companies for Research	-	1
Number of Companies Used		**4**	
Total Data for 5 Years		**20**	

Source: Author Processed Data (2022)

Based on the criteria that has~~ve~~ been determined using the purposive sampling method, the number of sample companies in this research object is 4 companies according to predetermined criteria. Hence, the samples used in this study were 20 samples with annual reports.

Table 2 Research Sample

No	Code	Company name	Sector
1	EXCL	PT XL Axiata Tbk	Telecommunication
2	FREN	PT Smartfren Telecom Tbk	Telecommunication
3	ISAT	PT Indosat Tbk	Telecommunication
4	TLKM	PT Telekomunikasi Indonesia Tbk	Telecommunication

Source: Data processed in 2022

~~The type of data used in this research is quantitative data.~~ The data used in this research is secondary data obtained through the websitehttps://www.idx.co.id/, in the form of a Statement of Financial Position (Balance Sheet) and a Profit and Loss Report, especially for telecommunications companies listed on the Indonesian Stock Exchange.

Analysis Techniques

The technique for analyzing financial performance in this study is to use the Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA) methods, namely:

1. Economic Value Added(EVA)

According to M. Dewi [23], the steps used in calculating EVA are as follows:

a. *Net Operating Profit After Tax* (NOPAT)

$$\mathbf{NOPAT = Laba Bersih Setelah\ Pajak + Biaya Bunga}$$??????

b. Invested Capital (IC)

$$\mathbf{\mathit{Invested Capital} = Total\ Hutang\ \&\ \mathit{Ekuitas} - \mathit{Hutang\ Jangka\ Pendek}}$$???????

c. Debt Capital Level (D)

$$\mathbf{Tingkat\ Modal\ (D) = \frac{Total Hutang}{Total\ Hutang \& Ekuitas} x\ 100\%}$$??????

d. Cost of Debt or Cost of Debt (rd) ??? twice the same

$$\mathbf{Biaya Hutang (rd) = \frac{Biaya Bunga}{Total\ Hutang} x\ 100\%}$$?????

e. Tax rate / Tax (t)

$$\mathbf{Tingkat Pajak\ (t) = \frac{Beban Pajak}{Laba\ Sebelum Pajak} x\ 100\%}$$?????

f. Capital Level of Equity (E)

$$\mathbf{Tingkat Modal\ dari\ Ekuitas\ (E) = \frac{Total Ekuitas}{Total\ Hutang \& \mathit{Ekuitas}} x\ 100\%}$$?????

g. Cost of Equityor Cost of Equity (re)

$$\mathbf{Biaya Ekuitas\ (re) = \frac{Laba Per\ Lembar\ Saham\ (EPS)}{Harga\ Saham} x\ 100\%}$$????

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h. Weighted Average Cost of Capital (WACC)

$$WACC = \{(Dx\ rd(1 - tax) + (E\ x\ re)\}$$

i. Capital Charges (CC)

$$Capital\ Charge = Invested\ Capital\ x\ WACC$$

j. Economic Value Added (EVA)

$$EVA = NOPAT - Capital\ Charge$$

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According to F. Gómez-Bezares, W. Przychodzen, J. Przychodzen [24], to assess the financial performance of a company with the EVA method can be grouped into 3 (three) categories, namelySTYLE:

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1. If EVA > 0 or EVA is positive

The company''s financial performance can be said to be good because the company can add business value. In this case, employees are entitled to bonuses, creditors still receive interest and shareholders can get returns equal or more than what was invested.

2. If EVA = 0

Economically ''"break even"'' because all profits are used to pay obligations to funders, both creditors and shareholders, so that employees do not get bonuses, only salaries.

3. If EVA < 0 or EVA is negative

The company''s financial performance is said to be unhealthy because the company cannot provide added value. In this case employees cannot get bonuses, it''s just that creditors still get interest and shareholders don''t get returns commensurate with what they invested.

Market Value Added (MVA)

The steps used to calculate MVA, according to E.K. Zavadskas, R. Bausys, A. Kaklauskas, I. Ubarte, A. Kuzminske, and N. Gudiene [25] are as follows:

a. Market Value (Market value)

Market Value =Stock Market Price x Number of Shares

b. Invested Capital (invested capital)

Invested Capital= Nominal Value x Number of Shares

c. Market Value Added (MVA)

Market Value Added = Market Value – Invested Capital

In this case, the measurements are as follows:

1. MVA value > 0 or positive MVA

   Shows management has succeeded in providing added value through the growth in market capitalization value of shares issued or the company is able to sell shares in the market at a premium price.

2. MVA value < 0 or negative MVA

   Shows management is unable to provide added value through the growth of the market capitalization value of the shares issued or the stock price in the market below the book value (equity per share).

3. MVA value = 0

   It shows that management has failed to provide added or reduced value through the growth of the market capitalization value of shares because the stock price in the market is the same as the book value (equity per share).

Financial Value Added (FVA)

According to Rodryguez, in A. Octaviani, A. Husaini [26], the steps used in the FVA calculation are as follows:

a. Net Operating Profit After Tax (NOPAT)

NOPAT = Net Profit After Tax + Interest Cost

b. Total Resources (TR)

TR = Long Term Debt (D) + Total Equity (E)

c. Equivalent Depreciation (ED)

ED = Weighted Average Cost of Capital (k) x TR

d. Financial Value Added (FVA)

FVA = NOPAT – (ED – D)

The measurement results using the Financial Value Added (FVA) method, as suggested by A. Octaviani and A. Husaini [26] can be interpreted as follows:

4. FVA value > 0 or positive FVA

   Shows that the company''s management has succeeded in providing financial added value to the company or there is more finance when the company''s net profit is able to cover the Equivalent Depreciation (ED).

5. FVA value < 0 or negative FVA

Shows that there is no process of financial added value for the company or the company'' s net profit and depreciation are unable to cover Equivalent Depreciation (ED).

6. FVA value = 0 or breakeven point

Shows that management has failed to provide added value or financial reductions because the company'' s net profit and depreciation have been used up to pay Equivalent Depreciation (ED).

Refined Economic Value Added (REVA)

The formula used to calculate Refined Economic Value Added (REVA), as suggested by A. Octaviani and A. Husaini [26] is as follows:

$$REVA\ t = NOPAT\ t - (MV\ t\text{-}1 \times Kw)$$

The measurement results using the Refined Economic Value Added (REVA) method can be interpreted as follows:

1. If REVA > 0, this indicates that there has been a process of economic added value for the company or that there is more economic value after the company has paid all obligations to the funders, both creditors and shareholders in the capital market.
2. If REVA < 0, this indicates that there is no economic added value process for the company or the company is unable to pay its obligations to the funders, both creditors and shareholders in the capital market.
3. If REVA = 0, this indicates that there is no process of economic added value or economic reduction because profits have been used up to pay obligations to funders, both creditors and shareholders in the capital market.

RESULT AND DISCUSSION

The telecommunications companies selected as samples in this study include:

1. **PT. XL Axiata Tbk (EXCL)**

   PT. XL Axiata Tbk (formerly PT Excelcomindo Pratama Tbk) is a mobile telecommunication operator company in Indonesia.

2. **PT. Smartfren Telecom Tbk (FREN)**

   PT Smartfren Telecom Tbk was established on December 2, 2002 under the name PT Mobile-8 Telecom based on Deed No. 11 dated December 2, 2002. PT Smartfren Telecom Tbk is one of the leading telecommunication service providers in Indonesia. In 2015 Smartfren innovated by launching the first commercial 4G LTE Advanced service in Indonesia.

3. **PT Indosat Tbk (ISAT)**

Established as a foreign capital company by the Indonesian government. Commenced commercial operations in September 1969 to build transfer and operate the International Telecommunications Satellite Organization, or Intelsat, a ground station in Indonesia to access Intelsat of Indian Ocean Region satellites.

4. **PT Telekomunikasi Indonesia Tbk (TLKM)**

Telkom's majority shareholder is the Government of the Republic of Indonesia with 52.09%, while the remaining 47.91% is controlled by the public. Telkom shares are traded on the Indonesia Stock Exchange (IDX) with the code "TLKM" and the New York Stock Exchange (NYSE) with the code "TLK".

Economic Value Added (EVA) Calculation Results

The first step in determining EVA is finding net operating profit after tax. Net Operating Profit After tax (NOPAT) is a measure of profit that does not include the tax costs and benefits of debt financing. It can be concluded that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of NOPAT.

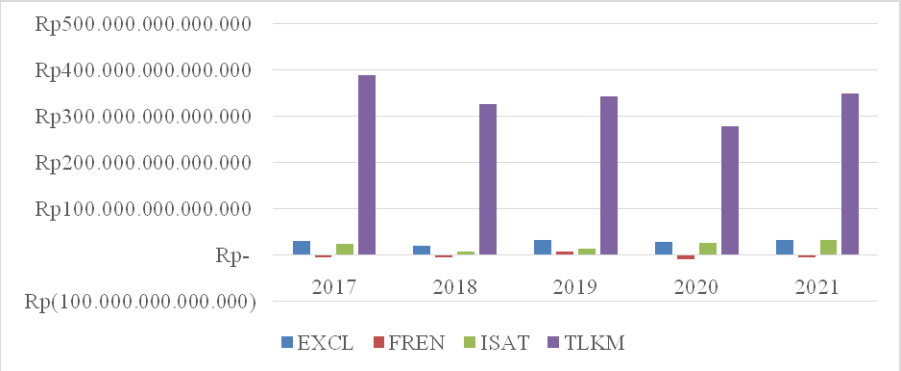

Figure 2. ~~Chart~~ *Market Value Added* (MVA) (In IDN)

Source: Data processed in 2022 Ed. Data is not source

The results of Market Value Added (MVA) research are in line with R.A. Masyiyan and D. Isynuwardhana's study which determines that the MVA value in each company still has negative and positive values [6]. In companies that produce a positive MVA value, it means that the company'' s management has succeeded in providing added value through the growth of the market capitalist value???? Of the shares issued.

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Financial Value Added (FVA) Calculation Results

The first step to determining FVA is finding net operating profit after tax. Net Operating Profit After tax (NOPAT) is a measure of profit that does not include the tax costs and benefits of debt financing. It can be concluded that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of the calculation of FVA.

Table 6. *Financial Value Added* (FVA) (In IDN)

CODE	2017	2018	2019	2020	2021
EXCL	18.592.453.381.891	25.424.742.660.075	22.945.239.362.615	34.988.912.187.688	32.318.537.174.115

FREN	13.955.201.633.196	12.228.564.573.029	11.388.950.913.335	21.792.850.251.042	20.783.335.628.765
ISAT	20.708.077.341.973	20.357.786.244.802	35.503.950.196.509	27.980.072.436.540	31.369.050.027.658
TLKM	69.674.460.007	64.546.831.017	67.841.739.994	80.640.533.029	90.746.596.714

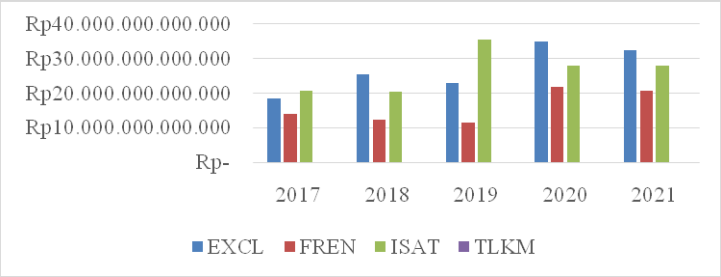

Figure 3. ~~Chart~~ Financial Value Added (FVA) (In IDN)

Source: Data Processed 2022 The same

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The results of Financial Value Added (FVA) research are in line with a study conducted by A.E. Bayraktaroglu, F. Calisir, and M. Baskak which found that the FVA value in each company still has negative and positive values [27]. In companies that produce a positive FVA value, it means that the company's management has been able to create added financial value for the company or the company's net profit and depreciation are able to cover Equivalent Depreciation.

Refined Calculation Results Economic Value Added (REVA)

The first step to determining REVA is finding net operating profit after tax. Net Operating Profit After tax (NOPAT) is a measure of profit that does not include the tax costs and benefits of debt financing. It can be concluded that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of REVA.

Table 7. *Refined Economic Value Added* (REVA) (In rupiah)

CODE	2017	2018	2019	2020	2021
EXCL	(898.193.420.745)	(1.403.485.350.769)	1.045.042.053.623	3.554.539.617.440	2.614.575.765.514
FREN	3.272.547.199.794	4.626.824.507.733	2.904.069.087.972	1.277.801.484.901	(540.220.425.394)
ISAT	1.627.683.127.606	121.188.267.780	17.164.876.477.116	1.282.952.284.288	7.020.433.499.586
TLKM	(3.519.427.059.425)	(3.656.834.714.811)	(2.631.501.427.737)	(2.488.592.893.509)	(2.837.361.088.982)

Source: Data processed in 2022

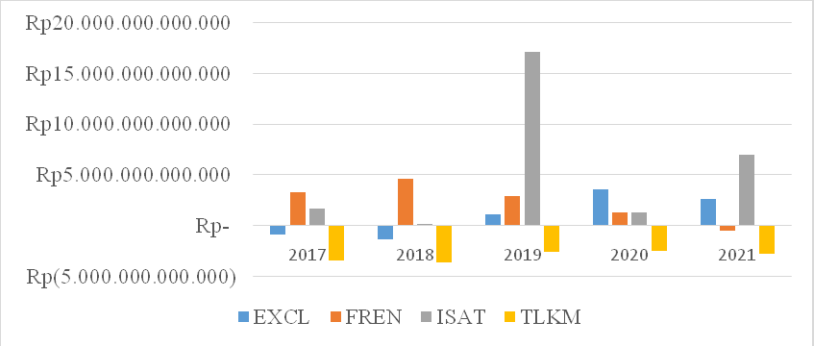

Figure 4. ~~Chart~~ Refined Economic Value Added (REVA) (In IDN)

Source: Data Processed 2022

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The results of Refined Economic Value Added (REVA) research are in line with S. Geng, S. Liu, and X. Liao which determines that the REVA value in each company still has negative and positive values [28]. In companies that generate a positive REVA value, it means that there has been a process of economic added value for the company and more economic value after the company has paid all obligations to creditor bank funders and shareholders in the capital market.

CONCLUSION

Based on the established procedural method, the company's financial performance using the Economic Value Added (EVA) method is generated from the EVA values for the 2017–2021 period for PT XL Axiata Tbk, PT

Smartfren Telecom Tbk, PT Indosat Tbk, and PT Telekomunikasi Indonesia Tbk. plus the same economy and still fluctuatingSTYLE. The company's financial performance as measured by the Market Value Added (MVA) approach is profitable for PT XL Axiata Tbk, PT Indosat Tbk, and PT Telekomunikasi Indonesia Tbk. PT Smartfren Telecom Tbk has a negative market value added (MVA). A positive MVA indicates that business management has succeeded in generating added value. The company's financial performance uses the Financial Value Added (FVA) method for the 2017-2021 period which has a positive value at PT XL Axiata Tbk, PT Smartfren Telecom Tbk, PT Indosat Tbk and PT Telekomunikasi Indonesia Tbk. A positive FVA means that the company's management has been able to create added financial value for the company or the company's net profit and depreciation has been able to cover equivalent depreciation. The company's financial performance uses the Refined Economic Value Added (REVA) method for which has a positive value at PT Indosat Tbk. Refined Economic Value Added (REVA) which has a negative value at PT XL Axiata Tbk, PT Smartfren Telecom Tbk and PT Telekomunikasi Indonesia Tbk. REVA which has a positive value has resulted in a process of economic added value for the company and more economic value after the company has paid all obligations to the funders, both creditors and shareholders.

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(11 Maret 2023)

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

article No. 1103

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id> 11 Maret 2023 pukul 22.48
Kepada: Ирина Довгаль <vestnikfinu@mail.ru>

Dear the editor of Finance: Theory and Practice

I hope you are doing great. Thank you for the reviewer's report. Via this email, I would like to submit the revision result I have made. There are two files attached below. The first file is the colored one in which any part revised is highlighted in blue. The second file is the colorless one in which the previous color has been removed so that the editor can just use the colorless file for further process. I have made efforts to revise the paper according to all comments and suggestions given by the reviewer. I hope that this revision can be accepted. Thank you.

Best regards

Muhammad Istan

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Financial Performance Analysis Using EVA, MVA, FVA, and REVA Methods for Telecommunication Sub-Sector Companies Listed on the IDX

ABSTRACT

The purpose of this study was to analyze financial performance using the Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA) methods in telecommunications sector companies listed on the Stock Exchange of Indonesia (IDX). This research method used quantitative data types and secondary data sources obtained through the website at https://www.idx.co.id/. The data presented on the website of each company were in the form of data on the Financial Position Report (Balance Sheet) and the annual Profit and Loss Report of the Telecommunication sub-sector companies already listed on the Indonesian Stock Exchange. The results of this study demonstrated that a telecommunications company had a positive EVA value, which meant that it had succeeded in creating economic value. The three Telecommunication companies had positive MVA values which meant that they provided added value through market capitalization. Of the four telecommunications companies, a positive FVA score showchased that the company's management had succeeded in providing financial added value to the company. One of the four telecommunications companies produced a positive REVA value which meant that there was more economic value after the company had paid all obligations to the funders, both creditors and shareholders in the capital market.

***Keywords*:** Financial Performance, Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), Refined Economic Value Added (REVA)

Анализ финансовой деятельности с использованием методов EVA, MVA, FVA и REVA для компаний телекоммуникационного сектора, зарегистрированных на Индонезийской фондовой бирже

АННОТАЦИЯ

Целью данного исследования был анализ финансовых показателей с использованием методов определения экономической добавленной стоимости (EVA), рыночной добавленной стоимости (MVA), финансовой добавленной стоимости (FVA) и уточненной экономической добавленной стоимости (REVA) в компаниях телекоммуникационного сектора, зарегистрированных на Индонезийской фондовой бирже (IDX). В данном методе исследования использовались количественные типы данных и вторичные источники данных, полученные через веб-сайт биржи https://www.idx.co.id/. Данные, представленные на сайте каждой компании, были в виде данных отчета о финансовом положении (Balance Sheet) и годового отчета о прибылях и убытках компаний телекоммуникационного сектора, зарегистрированных на Индонезийской фондовой бирже. Результаты данного исследования показали, что телекоммуникационная компания имела положительное значение EVA, что означало, что она преуспела в создании экономической стоимости. Три телекоммуникационные компании имели положительное значение MVA, что означало, что они обеспечили добавленную стоимость за счет рыночной капитализации. Из четырех телекоммуникационных компаний положительный показатель FVA свидетельствовал о том, что руководство компании преуспело в обеспечении финансовой добавленной стоимости компании. Одна из четырех телекоммуникационных компаний показала положительное значение REVA, что означало увеличение экономической

стоимости после того, как компания погасила все обязательства как кредиторам, так и акционерам.
Ключевые слова: финансовые показатели; экономическая добавленная стоимость (EVA); рыночная добавленная стоимость (MVA); финансовая добавленная стоимость (FVA); уточненная экономическая добавленная стоимость (REVA)

INTRODUCTION

Indonesia is witnessing rapid growth in its technology industry, particularly in the smartphone and internet sectors with the latest 5G network. As of early 2022, the number of internet users in Indonesia has reached a staggering 210 million, with the majority accessing social media through their mobile devices. According to the "Indonesian Internet Profile 2022" report released by the Association of Indonesian Internet Service Providers (APJII), 99.16% of internet users in Indonesia are between the ages of 13-18. The APJII estimates that the population of Indonesia in 2021 was around 272.68 million, resulting in an internet penetration rate of 77.02% for the first quarter of 2022. This rate has increased from 73.7% in the previous quarter of 2020, with a reported 196.71 million Indonesians connected to the internet. The main reasons for internet usage in Indonesia include accessing information and news (92.21%), working or studying from home (90.21%), accessing public services (84.9%), using e-mail services (80.7%), making online transactions (79%), accessing entertainment content (77.25%), accessing online transportation (76.47%), and accessing financial services (72.32%) (www.kompas.com).

Advances in technology and information can affect economic growth in Indonesia. Companies need to develop effective strategies to survive in the market. One way that can be done is to pay attention to the welfare of shareholders or investors in terms of company value. An investor is someone who invests in a company with the hope of getting a return on the invested

capital. Company capital basically comes from company owners and from creditors: A. Horton [1].

To achieve expected benefits, companies must increase business quantity and quality. Management must assess the company's financial condition through regular evaluations of financial statements, including the Statement of Financial Position, Income Statement, Cash flow statement, and Statement of Changes in Equity, as financial perspective is crucial for a company's survival: D.E. Kieso, J.J. Weygandt, T.D. Warfield, I.M. Wiecek, B.J. McConomy [2].

The financial position statement shows investments, liabilities, and equity, which help decision makers anticipate cash flow uncertainty. The profit and loss report measures the success of operations over time. The equity statement displays dividends and value per share. The cash flow statement shows sources and uses of cash. Analyzing these statements helps managers assess the financial health of a company and make informed decisions: D.E. Kieso, J.J. Weygandt, T.D. Warfield, I.M. Wiecek, B.J. McConomy [2]. Financial performance measurement is crucial to determine a company's success in achieving its goals. Financial ratios, calculated from available historical data, are commonly used to measure performance. However, this method has limitations since accounting data is subjective and can result in inaccurate measurements. Estimates may cause distortions, leading to imprecise measurements of financial performance: E.R. Rahadjeng [3].

Analysis of company financial statements is generally used to measure financial performance using conventional methods, namely financial ratio analysis. In practice, although the financial ratio analysis used has quite a lot of functions and uses for companies in making decisions, it does not mean that the financial ratios had guaranteed 100% of the true financial conditions and position N. Yoshino, F. Taghizadeh-Hesary [4]. The use of financial ratio analysis has a major weakness, namely it does not pay attention to the risks faced by the company by ignoring the cost of capital. Hence, to overcome the

problems that arise in measuring financial performance by using financial ratio analysis, the thought of measuring financial performance based on value then has spawn: J. Choi, A. Menon, H. Tabakovic [5]. EVA and MVA are utilized as methods for assessing a company's performance, focusing on creating corporate value, aiding management in determining the actual cost of capital and revealing the amount of capital invested. Support from Law No. 36/1999 on telecommunications and a 2002 government regulation enabled foreign mobile operators to enter the Indonesian market, ushering in the telecommunications industry's liberalization phase in Indonesia.

PT Telekomunikasi Indonesia Tbk faced COVID-19 obstacles but used it as an opportunity to accelerate digitalization by offering ICT services and solutions. Telkom Group aims to assist the nation and government in facing the pandemic and the future. They provide services and solutions aided by digital connectivity infrastructure, platforms, and services to customers and the public. Despite challenges, Telkom Group improves digital infrastructure, platforms and develops services to ensure excellent digital customer experience.

The Indonesian telecommunications industry now has ten operators, including PT Telkomsel, PT Indosat, PT XL Axiata, PT Bakrie Telecom, PT Mobile 8 Telecom, PT Natrindo Seluler, PT Sampoerna Telekom, PT Pasifik Satellite Nusantara, PT Hutchison CP, and PT Sinarmas. As the industry is dominated by a few companies that have gone public, these companies must not only maintain their market share but also increase their economic value for investors. Measuring company performance is necessary to determine their ability to manage paid-up capital and increase economic value. Various aspects, particularly the expectations of investors, must be considered in measuring performance. Despite these challenges, telecommunications companies have continued to expand their services and improve their digital connectivity infrastructure to provide the best possible customer experience.

The average EVA value for the telecommunication industry in Indonesia listed on the IDX for 2014-2018 grew significantly. In detail, the result of Economic Value Added (EVA) calculation for the telecommunication industry in Indonesia listed on the Indonesia Stock Exchange (BEI) in 2014 was negative, amounting to -514,684,002,483. However, in 2015, the value turned positive and experienced an increase to 1,978,484,129,235. Subsequently, in 2016, there was a decline, but still with a positive value, which was 922,333,214,645. In 2017, there was an increase again, reaching 1,142,095,810,347 with a positive value. Moreover, it increased again in 2018, with a positive value of 3,003,894,766,520. The average EVA value for the telecommunication industry in Indonesia listed on the BEI from 2014 to 2018 was positive, amounting to 1,306,424,783,653.

R.A. Masyiyan's and D. Isynuwardhana's research found that the results of the MVA calculation, the significance value of the MVA variable is 0,091 > 0,05 [6]. Judging from the five telecommunications companies listed on the Indonesia Stock Exchange from 2015-2020, all companies have positive MVA values so that telecommunications companies for the 2015-2020 period have succeeded in increasing company wealth. The purpose of this study is to analyze financial performance using the Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA) methods in telecommunications sector companies listed on the Indonesia Stock Exchange.

LITERATURE REVIEW

This section sheds some lights on the theoretical concepts of several variables incorporated into the present study. Such variables are composed of financial statements, economic value added, market value added, financial value added, and revined economic value added.

Financial Statements

Financial Reports are reports that show the company's financial condition at this time or in a certain period: E.A. Osadchy, E.M. Akhmetshin, E.F. Amirova, T.N. Bochkareva, Y. Gazizyanova, A.V. Yumashev [7]. Based on the description above, it can be concluded that the Financial Report shows the company's current condition, namely the company's financial condition on a certain date, and a certain period.

Financial statements present information about entities which include: assets, liabilities, equity, income and expenses including profits and losses, contributions from and distributions to owners in their capacity as owners and cash flows: R. Bergitta Sonia, Z.A. Zahroh, D.F. Azizah [8]. According to C.E. Grigoraș-Ichim, C.G. Cosmulese, D. Savchuk, A. Zhavoronok, A complete Financial Report usually includes a Statement of Financial Position, a Profit and Loss Report, a Statement of Changes in Equity, and a Statement of Cash Flows [9].

In general, financial reports are made with the aim of conveying information to interested parties, both about the company's financial condition and the company's performance during a certain period. According to Statement of Financial Accounting Standards (PSAK) No. 1 (2015: 3), the purpose of financial reports is to provide information about the financial position, financial performance, and cash flows of entities that are useful to most report users in making economic decisions.

Financial performance is work performance in the financial sector that has been achieved by the company and is contained in the financial statements of the company. The financial performance of a company can be assessed using analytical tools S. Cantele, A. Zardini [10].

Economic Value Added (EVA)

EVA is an estimate of economic profit for the year in question and is very much different from accounting profit. EVA offers a fairly objective parameter because it departs from the concept of the cost of capital, namely reducing profits with the cost of capital. The burden of capital costs reflects the level of compensation or return. Calculating Economic Value Added (EVA) uses the following formula:

EVA = NOPAT – (WACC x IC)

Information:

EVAs : Economic Value Added

NOPAT : Net Operating Profit After Tax (After operating profit tax)

WACC : Weighted Average Cost of Capital (Average cost of capital weighted average)

IC : Invested Capital

Market Value Added (MVA)

MVA is the difference between the total market value of the company's equity and the amount of equity capital invested by investors R. Bergitta Sonia, Z.A. Zahroh, D.F. Azizah [8]. Market Value Added is the difference between the company's market value and the invested capital. The following is the formula for MVA:

Market Value Added = Market Value – Invested Capital

In this case, the measurements according to Rudianto as cited in D.L. Moezaque, A. Daito [11] are as follows:

MVA value > 0 or positive MVA shows management has succeeded in providing added value through growth.

MVA value < 0 or negative MVA shows management is unable to provide added value through the growth of the market capitalization value of the shares issued.

Financial Value Added (FVA)

FVA is a method for measuring company performance and added value. This method considers the contribution of fixed assets in generating the company's net profit O.M. Olarewaju, T.S. Msomi [12]. Here's the FVA formula:

$$\mathbf{FVA = NOPAT - (ED - D)}$$

Information:

FVA : Financial Value Added

NOPAT : Net Operating Profit after Tax

ED : Equivalent Depreciation

D : Depreciation

In principle, the condition (FVA value > 0 or positive FVA) shows that the company's management has succeeded in providing financial added value to the company. In the meantime, the condition (FVA value < 0 or negative FVA) shows that there is no process of adding financial value to the company. Subsequently, the condition (FVA value = 0 or breakeven point) shows that the management is not successful in providing added value or financial reduction.

Refined Economic Value Added (REVA)

Considering stock market prices and abnormal returns formed by the difference between stock returns and market returns, while EVA is based on share value M. Pinochi, F. Fais, M [13]. The formula used to calculate Refined Economic Value Added (REVA) is as follows:

$$\mathbf{REVAt = NOPATt – (MVt\text{-}l \times KW)}$$

Information:

REVA t : Refined Economic Value Added in the t-period

NOPAT t : Net Operating Profit After Tax in the t-period

MV t-1 : Market Value of the business entity in period t-1 (Market Value of Equity).

Kw : The cost of capital is the cost of borrowing interest and fees equity and calculated on a weighted average basis (WACC). Using the Refined Economic Value Added (REVA) method can be interpreted as follows:

If REVA > 0, this indicates that there has been a process of economic added value for the company

If REVA < 0, this indicates that the company does not process economic added value or the company is unable to pay its obligations to funders.

If REVA = 0, this indicates that there is no process of economic added value or economic reduction.

A number of studies addressing similar variables of the present study have been done. Nonetheless, such studies delved into the variables the variable of financial statements, economic value added, market value added, financial value added, and refined economic value added in separate ways. In terms of the variable of financial statements, N. Ding, I. Ullah, K. Jebran sought to see the extent to which the teams of top management are interconnected to the comparability of financial statement [14]. Their study was conducted in the context of experienced foreign CEOs or the so-called FCEOs. Their study revealed that financial and accounting expertise, as well as international work experience, seem to strengthen the link between FCEOs and the comparability of financial statement. As economic policy uncertainty rises, the correlation between the two weakens. Their study comes into a conclusion that financial

reporting is a critical conduit for understanding the connection between FCEOs and the comparability of financial statement. Subsequently, G. Salijeni, A. Samsonova-Taddei, and S. Turley executed a study on the growth of Big Data and Analytics (BDA) tools as has been a significant advancement in audit technology, along with how auditors are putting those tools to use [15]. The investigation of BDA users' interactions with the technology's features during an audit draws on sociomateriality literature as well as observations, documentary materials, and 25 semi-structured interviews with people actively using BDA. Their research indicated that BDA features like scripts have enabled widespread automation of audit procedures, opening up new possibilities for broadening the breadth and depth of audit evidence. Their study concluded that BDA has changed the way audit companies' various departments and service offerings interact with one another and with clients.

In terms of the variable of economic value added, A. Kordalska and M. Olczyk conducted a study to determine the factors that influence the development of global value chains (GVCs) in a few chosen Central and Eastern European (CEE) countries, with a focus on functional specialization (FS) [16]. They found a novel FS pattern among subgroups of CEEs by combining data on jobs from the World Input-Output Database. The global value chain (GVC) position of Poland and Slovakia is unfavorable since they focus on low value-added fabrication. They determined the elements responsible for the improvement of various forms of FS in GVCs. The road to increased value-added in practically all business activities is bolstered by the convergence of salaries in CEEs with those in developed countries and by strong GVC backward connections. Subsequently, Yang L executed a study on testing the impacts of various trade standards on China's value-added and total exports in global value chains by using a gravity model [17]. The study pointed to the fact that China's exports of both categories benefit from harmonization with international norms. Therefore, the nation should not skimp on enforcing

regulations. Exports are more affected by mandatory criteria than by voluntary ones. In addition, the trade-promoting impact of mandated worldwide harmonized standards is stronger on overall exports than on exports of value. Value-added exports are more negatively impacted by voluntary country- specific requirements than overall exports. There is no statistically significant effect of voluntary globally harmonized standards on either category of exports.

In terms of the variable of market value added, K. Blind, A. Mangelsdorf, C. Niebel, F. Ramel analyzed the influence of formal standards on commerce in global value chains (GVCs) in Europe [18]. Using a gravity model technique for panel data, they evaluated the effect of national, European and worldwide standards on trade in value-added and gross trade flows within Europe. They found that national standards on their own restrict commerce in European value chains whereas European and international standards stimulate trade. European standards have stronger impact on commerce in inner-European value chains but international standards have favorable effects on imports entering Europe from third nations. European standards thereby eliminate knowledge asymmetries between market participants in the value chains of the European Single Market. International standards serve as a form of worldwide communication amongst international trading partners. In addition, they discovered a favorable impact of an interaction term between national and European standards in European value chains demonstrating the significance of national standardizing. Subsequently, C. Lutz and G. Tadesse conducted a study on exploring the difficulties encountered by smallholder producer cooperatives from developing nations in their pursuit of entry into agricultural global value chains [19]. They evaluated the competitiveness issue caused by incorrect selection and a lack of dedication. The policy discussion on farmers' market groups often assumes that open membership is more important than selection. They contended that although open membership might succeed in community-

focused groups, it poses a serious problem for innovative farmer's market organizations.

In terms of the variable of financial value added, A. Mirza, M. Malek, M.A. Abdul-Hamid conducted a study to investigate, from the vantage point of a developing nation that has adopted the full complement of IFRS, how the value relevance of financial reporting has changed [20]. Their study made use of the Ohlson pricing model to ascertain whether or not financial statements are meaningful. Their study demonstrated the importance of cash flow from operations in the Malaysian Capital Market, whereas profits, book value of equity, and cash flow from operations are all relevant for investment decision making in general. The perceived management bias in reported profits and book value of equity in the Malaysian Capital Market during the period 2012-2006 is at odds with the justification supplied by conceptual framework for financial reporting about the supremacy of earnings in investment decision making. The results of their study have significant implications for regulators and local standards-setting bodies, who may use this information to crack down on earnings management methods and improve the reliability of general-purpose financial reporting by enhancing the quality of profits and the book value of stock. Subsequently, H. Kaibuchi, Y. Kawasaki, and G. Stupfler worked in the realm of managing financial risks, the Value-at-Risk (VaR) as a common tool. VaR (value at risk) estimate for extreme loss return distributions is an essential problem in financial applications from both operational and regulatory viewpoints, with a lot of research focusing on dynamically estimating extreme VaR based on recent history. As such, their study proposed GARCH-UGH (Unbiased Gomes-de Haan), a new two-step bias-reduced estimation methodology for the estimation of one-step ahead dynamic extreme VaR, in which financial returns are first filtered using an AR-GARCH model, and then a bias-reduced estimator of extreme quantiles is applied to the standardized residuals. Based on in-sample and out-of-sample backtesting of historical daily

returns on several financial time series, they found that GARCH-UGH estimates of the dynamic extreme VaR are more accurate than those obtained by historical simulation, conventional AR-GARCH filtering with Gaussian or Student-t innovations, or AR-GARCH filtering with standard extreme value estimates [21].

In terms of the variable of refined economic value added, L.V. Dewri conducted research to (1) determine the relationship between corporate governance, financial performance, and refined economic value added (REVA), and (2) determine the degree to which these three factors converge in predicting firm value (FV) and return on stock (RoS). The dataset of companies trading on the Dhaka Stock Exchange between 2013 and 2018 was subjected to the GMM estimator's methodology. The study's results showed that FV and RoS are highly correlated with CG, FP, and REVA traits. Adopting effective CG within company management practice may greatly increase FP and continually provide positive economic value for both enterprises and shareholders throughout the term, hence enhancing FV and RoS. In addition, businesses that demonstrate sustained increases in FV are in a position to pay out a healthy return on investment (RoI) to their shareholders. Managers will be motivated to adopt strong CG inside their businesses, and investors will have confirmation that the company is maintaining healthy FP and continuing REVA growth [23].

Several studies presented above have contributed to providing rich knowledge for the researcher of the present study because such studies have addressed the present study's variables in single ways. However, the above studies are different form the current study. First, the above studies were undertaken in other countries instead of Indonesia. The present study brings with it a specific context of Indonesia. Second, the above studies only worked on the variables addressed in the current studies in single ways. Nonetheless, the present study incorporates the variables (financial statements, economic value

added, market value added, financial value added, and refined economic value added) all at once into this study as the main orientation.

METHODOLOGY

This type of research is descriptive analysis with a quantitative approach. The data sources used are secondary data, namely the percentage level of financial inclusion in each province of Indonesia obtained from the Financial Services Authority through the website www.ojk.go.id, the percentage of poverty, unemployment, and GDP to measure economic growth by presenting data covering each province in Indonesia published by the Central Statistics Agency through the website www.bps.go.id. Data analysis and hypothesis testing in this study used the Partial Least Square (PLS).

Object of research

The object of research in this research is a telecommunications sub- sector service company that is registered as a public company (issuer) on the Indonesia Stock Exchange (IDX). Telecommunications sub-sector companies are one of the most important industries in supporting the internet network in a country.

Population and Population Sampling Procedure

The populations of this study are telecommunications companies listed on the Indonesia Stock Exchange. The method of determining the sample in this study is purposive sampling (intentional sampling).

Table 1. Sample Criteria

No.	Sample Selection Criteria	According to Criteria	Does Not Meet Criteria
1.	Telecommunications Sector Companies Listed on the IDX	5	-

2.	Companies that publish audited financial statements Telecommunications Sector	4	-
3.	Companies Listed on the IDX Become Cellular Operators Incomplete	4	-
4.	Telecommunications Sector Companies for Research	-	1
Number of Companies Used		**4**	
Total Data for 5 Years		**20**	

Based on the criteria that has been determined using the purposive sampling method, the number of sample companies in this research object is 4 companies according to predetermined criteria. Hence, the samples used in this study were 20 samples with annual reports.

Table 2 Research Sample

No	Code	Company name	Sector
1	EXCL	PT XL Axiata Tbk	Telecommunication
2	FREN	PT Smartfren Telecom Tbk	Telecommunication
3	ISAT	PT Indosat Tbk	Telecommunication
4	TLKM	PT Telekomunikasi Indonesia Tbk	Telecommunication

The data used in this research is secondary data obtained through the websitehttps://www.idx.co.id/, in the form of a Statement of Financial Position (Balance Sheet) and a Profit and Loss Report, especially for telecommunications companies listed on the Indonesian Stock Exchange.

Analysis Techniques

The technique for analyzing financial performance in this study is to use the Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA) methods, namely:

1. Economic Value Added(EVA)

According to M. Dewi [23], the steps used in calculating EVA are as follows:

a. Net Operating Profit After Tax (NOPAT)

Net Operating Profit After Tax + Interest Expense

b. Invested Capital (IC)

Invested Capital = Total Debt and Equity – Short term Debt

c. Debt Capital Level (D)

$$\text{Debt Capital Level (D)} = \frac{\text{Total Debt}}{\text{Total Debt and Equity}} \times 100\%$$

d. Cost of Debt (rd)

$$\text{Cost of Debt (rd)} = \frac{\text{Interest Expense}}{\text{Total Debt}} \times 100\%$$

e. Tax Rate / Tax (t)

$$\text{Tax Rate (t)} = \frac{\text{Tax Expense}}{\text{Profit Before Tax}} \times 100\%$$

f. Capital Level of Equity (E)

$$\text{Capital Level of Equity} = \frac{\text{Total Equity}}{\text{Total Debt and Equity}} \times 100\%$$

g. Cost of Equity (re)

$$\text{Cost of Equity (re)} = \frac{\text{Earnings Per Share (EPS)}}{\text{Stock Price}} \times 100\%$$

h. Weighted Average Cost of Capital (WACC)

$$WACC = \{(D \times rd\ (1\text{-}tax) + (E \times re\}\}$$

i. Capital Charges (CC)

$$\text{Capital Chargew} = \text{Invested Capital} \times WACC$$

j. Economic Value Added (EVA)

$$EVA = NOPAT - \text{Capital Charge}$$

According to F. Gómez-Bezares, W. Przychodzen, J. Przychodzen [24], to assess the financial performance of a company with the EVA method can be grouped into 3 (three) categories as follows:

1. If EVA > 0 or EVA is positive

The company's financial performance can be said to be good because the company can add business value. In this case, employees are entitled to bonuses, creditors still receive interest and shareholders can get returns equal or more than what was invested.

2. If EVA = 0

Economically "break even" because all profits are used to pay obligations to funders, both creditors and shareholders, so that employees do not get bonuses, only salaries.

3. If EVA < 0 or EVA is negative

The company's financial performance is said to be unhealthy because the company cannot provide added value. In this case employees cannot get

bonuses, it's just that creditors still get interest and shareholders don't get returns commensurate with what they invested.

Market Value Added (MVA)

The steps used to calculate MVA, according to E.K. Zavadskas, R. Bausys, A. Kaklauskas, I. Ubarte, A. Kuzminske, and N. Gudiene [25] are as follows:

a. Market Value

Market Value =Stock Market Price x Number of Shares

b. Invested Capital

Invested Capital= Nominal Value x Number of Shares

c. Market Value Added (MVA)

Market Value Added = Market Value – Invested Capital

In this case, the measurements are as follows:

1. MVA value > 0 or positive MVA

   It shows management has succeeded in providing added value through the growth in market capitalization value of shares issued or the company is able to sell shares in the market at a premium price.

2. MVA value < 0 or negative MVA

   It shows management is unable to provide added value through the growth of the market capitalization value of the shares issued or the stock price in the market below the book value (equity per share).

3. MVA value = 0

   It shows that management has failed to provide added or reduced value through the growth of the market capitalization value of shares

because the stock price in the market is the same as the book value (equity per share).

Financial Value Added (FVA)

According to Rodryguez, in A. Octaviani, A. Husaini [26], the steps used in the FVA calculation are as follows:

a. Net Operating Profit After Tax (NOPAT)

NOPAT = Net Profit After Tax + Interest Cost

b. Total Resources (TR)

TR = Long Term Debt (D) + Total Equity (E)

c. Equivalent Depreciation (ED)

ED = Weighted Average Cost of Capital (k) x TR

d. Financial Value Added (FVA)

FVA = NOPAT – (ED – D)

The measurement results using the Financial Value Added (FVA) method, as suggested by A. Octaviani and A. Husaini [26] can be interpreted as follows:

4. FVA value > 0 or positive FVA

   Shows that the company's management has succeeded in providing financial added value to the company or there is more finance when the company's net profit is able to cover the Equivalent Depreciation (ED).

5. FVA value < 0 or negative FVA

Shows that there is no process of financial added value for the company or the company's net profit and depreciation are unable to cover Equivalent Depreciation (ED).

6. FVA value = 0 or breakeven point

Shows that management has failed to provide added value or financial reductions because the company's net profit and depreciation have been used up to pay Equivalent Depreciation (ED).

Refined Economic Value Added (REVA)

The formula used to calculate Refined Economic Value Added (REVA), as suggested by A. Octaviani and A. Husaini [26] is as follows:

$$REVA\ t = NOPAT\ t - (MV\ t\text{-}1 \times Kw)$$

The measurement results using the Refined Economic Value Added (REVA) method can be interpreted as follows:

1. If REVA > 0, this indicates that there has been a process of economic added value for the company or that there is more economic value after the company has paid all obligations to the funders, both creditors and shareholders in the capital market.
2. If REVA < 0, this indicates that there is no economic added value process for the company or the company is unable to pay its obligations to the funders, both creditors and shareholders in the capital market.
3. If REVA = 0, this indicates that there is no process of economic added value or economic reduction because profits have been used up to pay obligations to funders, both creditors and shareholders in the capital market.

RESULT AND DISCUSSION

The telecommunications companies selected as samples in this study include:

1. **PT. XL Axiata Tbk (EXCL)**

   PT. XL Axiata Tbk (formerly PT Excelcomindo Pratama Tbk) is a mobile telecommunication operator company in Indonesia.

2. **PT. Smartfren Telecom Tbk (FREN)**

   PT Smartfren Telecom Tbk was established on December 2, 2002 under the name PT Mobile-8 Telecom based on Deed No. 11 dated December 2, 2002. PT Smartfren Telecom Tbk is one of the leading telecommunication service providers in Indonesia. In 2015 Smartfren innovated by launching the first commercial 4G LTE Advanced service in Indonesia.

3. **PT Indosat Tbk (ISAT)**

Established as a foreign capital company by the Indonesian government. Commenced commercial operations in September 1969 to build transfer and operate the International Telecommunications Satellite Organization, or Intelsat, a ground station in Indonesia to access Intelsat of Indian Ocean Region satellites.

4. **PT Telekomunikasi Indonesia Tbk (TLKM)**

Telkom's majority shareholder is the Government of the Republic of Indonesia with 52.09%, while the remaining 47.91% is controlled by the public. Telkom shares are traded on the Indonesia Stock Exchange (IDX) with the code "TLKM" and the New York Stock Exchange (NYSE) with the code "TLK".

Economic Value Added (EVA) Calculation Results

The first step in determining EVA is finding net operating profit after tax. Net Operating Profit After tax (NOPAT) is a measure of profit that does not include the tax costs and benefits of debt financing. It can be concluded that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of NOPAT.

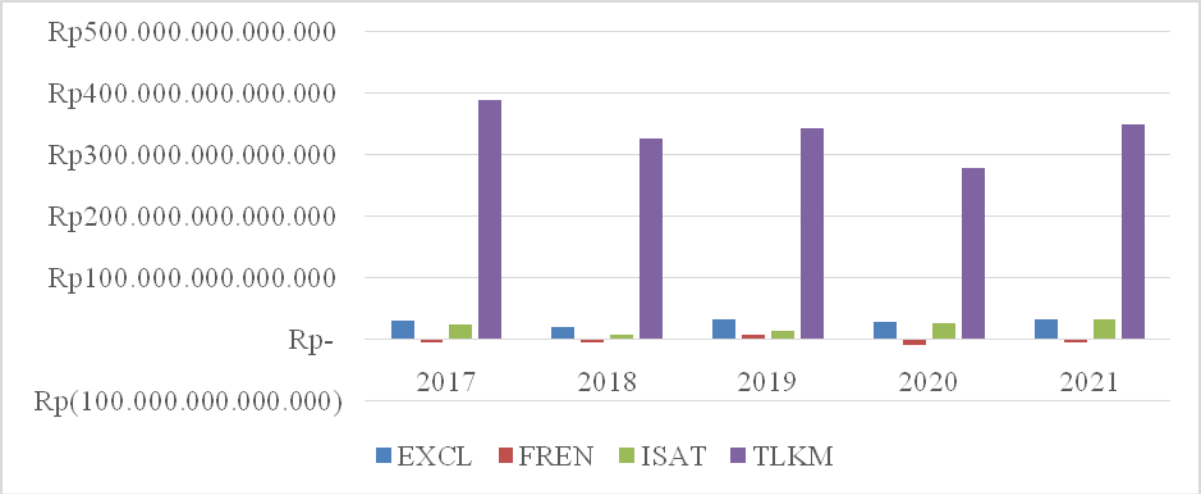

Figure 2. ***Market Value Added*** **(MVA) (In IDN)**

Source: Data processed in 2022 Ed. Data is not source

The results of Market Value Added (MVA) research are in line with R.A. Masyiyan and D. Isynuwardhana's study which determines that the MVA value in each company still has negative and positive values [6]. The findings of their research show that the average Market Value Added (MVA) of telecommunications companies in Indonesia listed on the Indonesia Stock Exchange (ISE) from 2014-2018 was positive. This indicates that the companies were able to provide market value to their shareholders, as a positive MVA value (MVA > 0) is an indication of good performance. The results demonstrate that the stock prices of telecommunications companies continued to increase during the period of 2014-2018.

Financial Value Added (FVA) Calculation Results

The first step to determining FVA is finding net operating profit after tax. Net Operating Profit After tax (NOPAT) is a measure of profit that does not include the tax costs and benefits of debt financing. It can be concluded that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of the calculation of FVA.

Table 6. ***Financial Value Added*** **(FVA) (In IDN)**

CODE	2017	2018	2019	2020	2021
EXCL	18.592.453.381.891	25.424.742.660.075	22.945.239.362.615	34.988.912.187.688	32.318.537.174.115
FREN	13.955.201.633.196	12.228.564.573.029	11.388.950.913.335	21.792.850.251.042	20.783.335.628.765
ISAT	20.708.077.341.973	20.357.786.244.802	35.503.950.196.509	27.980.072.436.540	31.369.050.027.658
TLKM	69.674.460.007	64.546.831.017	67.841.739.994	80.640.533.029	90.746.596.714

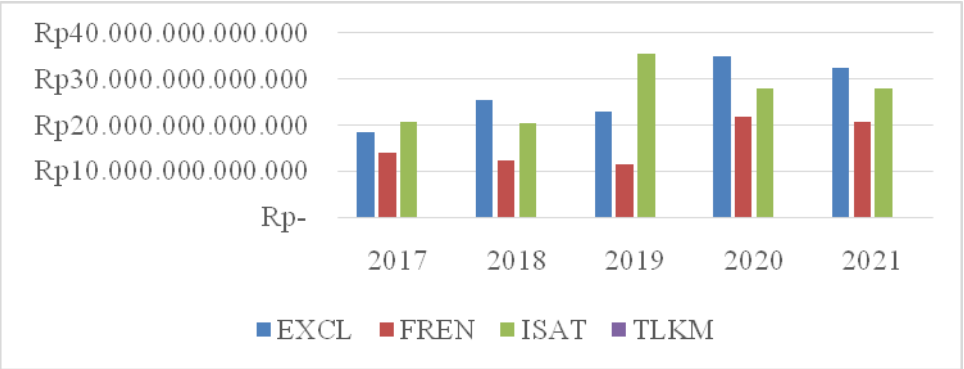

Figure 3. Financial Value Added (FVA) (In IDN)

The results of Financial Value Added (FVA) research are in line with a study conducted by A.E. Bayraktaroglu, F. Calisir, and M. Baskak which found that the FVA value in each company still has negative and positive values [27]. In companies that produce a positive FVA value, it means that the company's management has been able to create added financial value for the company or the company's net profit and depreciation are able to cover Equivalent Depreciation.

Refined Calculation Results Economic Value Added (REVA)

The first step to determining REVA is finding net operating profit after tax. Net Operating Profit After tax (NOPAT) is a measure of profit that does not include the tax costs and benefits of debt financing. It can be concluded

that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of REVA.

Table 7. *Refined Economic Value Added* (REVA) (In rupiah)

CODE	2017	2018	2019	2020	2021
EXCL	(898.193.420.745)	(1.403.485.350.769)	1.045.042.053.623	3.554.539.617.440	2.614.575.765.514
FREN	3.272.547.199.794	4.626.824.507.733	2.904.069.087.972	1.277.801.484.901	(540.220.425.394)
ISAT	1.627.683.127.606	121.188.267.780	17.164.876.477.116	1.282.952.284.288	7.020.433.499.586
TLKM	(3.519.427.059.425)	(3.656.834.714.811)	(2.631.501.427.737)	(2.488.592.893.509)	(2.837.361.088.982)

Source: Data processed in 2022

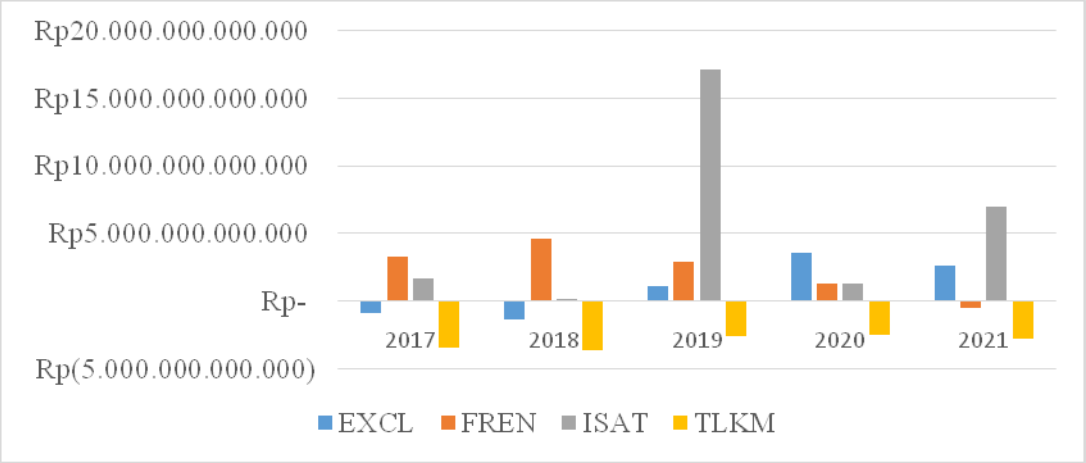

Figure 4. Refined Economic Value Added (REVA) (In IDN)

The results of Refined Economic Value Added (REVA) research are in line with S. Geng, S. Liu, and X. Liao which determines that the REVA value in each company still has negative and positive values [28]. In companies that generate a positive REVA value, it means that there has been a process of economic added value for the company and more economic value after the company has paid all obligations to creditor bank funders and shareholders in the capital market.

CONCLUSION

Based on the established procedural method, the financial performance of companies using the Economic Value Added (EVA) method was generated from the EVA value of the period 2017-2021 for PT XL Axiata Tbk, PT Smartfren Telecom Tbk, PT Indosat Tbk, and PT Telekomunikasi Indonesia Tbk, which showed positive and fluctuating values amid the fluctuating economic conditions. With the positive EVA calculation results, it encourages the company's allocation of funds for investment with low cost of capital.

The company's financial performance as measured by the Market Value Added (MVA) approach is profitable for PT XL Axiata Tbk, PT Indosat Tbk, and PT Telekomunikasi Indonesia Tbk. PT Smartfren Telecom Tbk has a negative market value added (MVA). A positive MVA indicates that business management has succeeded in generating added value. The company's financial performance uses the Financial Value Added (FVA) method for the 2017-2021 period which has a positive value at PT XL Axiata Tbk, PT Smartfren Telecom Tbk, PT Indosat Tbk and PT Telekomunikasi Indonesia Tbk. A positive FVA means that the company's management has been able to create added financial value for the company or the company's net profit and depreciation has been able to cover equivalent depreciation. The company's financial performance uses the Refined Economic Value Added (REVA) method for which has a positive value at PT Indosat Tbk. Refined Economic Value Added (REVA) which has a negative value at PT XL Axiata Tbk, PT Smartfren Telecom Tbk and PT Telekomunikasi Indonesia Tbk. REVA which has a positive value has resulted in a process of economic added value for the company and more economic value after the company has paid all obligations to the funders, both creditors and shareholders.

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Bukti konfirmasi review lanjutan dari reviewer

(28 Maret 2023)

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

colored Revision with less than 7000 words.doc

I.S.Dovgal <vestnikfinu@mail.ru> 28 Maret 2023 pukul 18.24
Balas Ke: "I.S.Dovgal" <vestnikfinu@mail.ru>
Kepada: muhammadistan@iaincurup.ac.id

Dear Dr. Muhammad Istan,

your article «Financial Performance Analysis Using EVA, MVA, FVA, and REVA Methods for Telecommunication Sub-Sector Companies Listed on the IDX» has been re-reviewed and recommended for publication in our journal. I am sending the reviewer's remarks and the article with remarks:

For the author

Conclusion:

The article can be accepted. Please make correction on p.6. And see p.23

Regards, Irina Dovgal,
Managing editor, Finance: Theory and Practice
vestnikfinu@mail.ru

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The average EVA value for the telecommunication industry in Indonesia listed on the IDX for 2014-2018 grew significantly. In detail, the result of Economic Value Added (EVA) calculation for the telecommunication industry in Indonesia listed on the Indonesia Stock Exchange (BEI) in 2014 was negative, amounting to -514,684,002,483 WHAT IS THE UNIT OF ACCOUNT? ROUND UP SUCH FIGURES, EXPRESS THEM IN BLN. IN RUSSIA THE DECIMALS ARE SEPARATED WITH COMMA However, in 2015, the value turned positive and experienced an increase to 1,978,484,129,235. Subsequently, in 2016, there was a decline, but still with a positive value, which was 922,333,214,645. In 2017, there was an increase again, reaching 1,142,095,810,347 with a positive value. Moreover, it increased again in 2018, with a positive value of 3,003,894,766,520. The average EVA value for the telecommunication industry in Indonesia listed on the BEI from 2014 to 2018 was positive, amounting to 1,306,424,783,653.

R.A. Masyiyan's and D. Isynuwardhana's research found that the results of the MVA calculation, the significance value of the MVA variable is 0,091 > 0,05 [6]. Judging from the five telecommunications companies listed on the Indonesia Stock Exchange from 2015-2020, all companies have positive MVA values so that telecommunications companies for the 2015-2020 period have succeeded in increasing company wealth. The purpose of this study is to analyze financial performance using the Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA) methods in telecommunications sector companies listed on the Indonesia Stock Exchange.

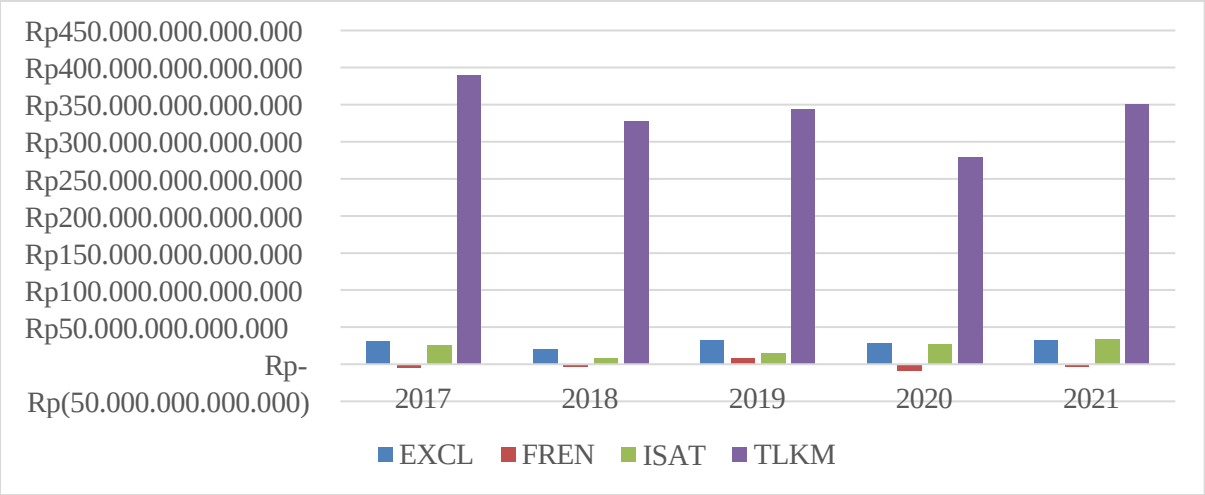

Figure 2. ***Market Value Added*** **(MVA) (In IDN)**

Source: IDX

The results of Market Value Added (MVA) research are in line with R.A. Masyiyan and D. Isynuwardhana's study which determines that the MVA value in each company still has negative and positive values [6]. The findings of their research show that the average Market Value Added (MVA) of telecommunications companies in Indonesia listed on the Indonesia Stock Exchange (ISE) from 2014-2018 was positive. This indicates that the companies were able to provide market value to their shareholders, as a positive MVA value (MVA > 0) is an indication of good performance. The results demonstrate that the stock prices of telecommunications companies continued to increase during the period of 2014-2018.

Financial Value Added (FVA) Calculation Results

The first step to determining FVA is finding net operating profit after tax. Net Operating Profit After tax (NOPAT) is a measure of profit that does not include the tax costs and benefits of debt financing. It can be concluded that

NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of the calculation of FVA.

Bukti mengumpulkan hasil revisi beserta lampiran yang mana setiap bagian yang direvisi diberi warna oleh peneliti

(28 Maret 2023)

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

colored Revision with less than 7000 words.doc

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id> 28 Maret 2023 pukul 21.07
Kepada: "I.S.Dovgal" <vestnikfinu@mail.ru>

Dear Prof. Irina Dovgal

Thank you very much for the given feedback regarding my article. In the following attachment, I upload the revised file based on the reviewers' comments. all parts revised are highlighted in yellow. I hope that this revision can meet the journal's yardstick. Thank you.

Best regards
Muhammad Istan

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Revisi Halaman 6

The average Economic Value Added (EVA) for the telecommunication industry in Indonesia listed on the Indonesia Stock Exchange (IDX) for 2014-2018 grew significantly. In detail, the result of EVA calculation for the telecommunication industry in Indonesia listed on the IDX in 2014 was negative, amounting to IDR -515 billion. However, in 2015, the value turned positive and experienced an increase to almost IDR 2 trillion. Subsequently, in 2016, there was a decline, but still with a positive value, which was IDR 922 billion. In 2017, there was an increase again, reaching more than IDR 1 trillion with a positive value. Moreover, it increased again in 2018, with a positive value of IDR 3 trillion. The average EVA value for the telecommunication industry in Indonesia listed on the IDX from 2014 to 2018 was positive, amounting to IDR 1,3 trillion.

R.A. Masyiyan's and D. Isynuwardhana's research found that the results of the MVA calculation, the significance value of the MVA variable is 0,091 > 0,05 [6]. Judging from the five telecommunications companies listed on the Indonesia Stock Exchange from 2015-2020, all companies have positive MVA values so that telecommunications companies for the 2015-2020 period have succeeded in increasing company wealth. The purpose of this study is to analyze financial performance using the Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA) methods in telecommunications sector companies listed on the Indonesia Stock Exchange.

LITERATURE REVIEW

This section sheds some lights on the theoretical concepts of several variables incorporated into the present study. Such variables are composed of financial statements, economic value added, market value added, financial value added, and revined economic value added.

Revisi halaman 22

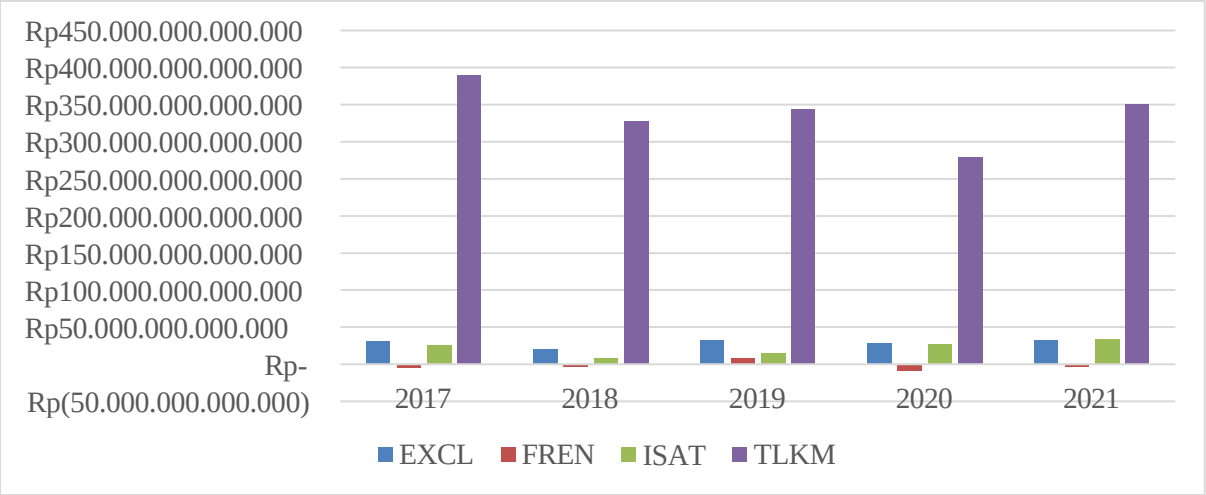

Figure 2. ***Market Value Added*** **(MVA) (In Indonesian Rupiah (IDR))**

Source: IDX

The results of Market Value Added (MVA) research are in line with R.A. Masyiyan and D. Isynuwardhana's study which determines that the MVA value in each company still has negative and positive values [6]. The findings of their research show that the average Market Value Added (MVA) of telecommunications companies in Indonesia listed on the Indonesia Stock Exchange (ISE) from 2014-2018 was positive. This indicates that the companies were able to provide market value to their shareholders, as a positive MVA value (MVA > 0) is an indication of good performance. The results demonstrate that the stock prices of telecommunications companies continued to increase during the period of 2014-2018.

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NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of the calculation of FVA.

Bukti konfirmasi dari editor bahwa artikel sudah diterima dan dijadwalkan untuk publikasi (28 Maret – 7 April 2023)

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

1103 article

4 pesan

I.S.Dovgal <vestnikfinu@mail.ru> 28 Maret 2023 pukul 21.39
Balas Ke: "I.S.Dovgal" <vestnikfinu@mail.ru>
Kepada: Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

Dear Muhammad Istan,

Your article 1103 "Financial Performance Analysis Using EVA, MVA, FVA, and REVA Methods for Telecommunication Sub-Sector Companies" will be published in No. 6 in this year, 2023, in our journal.

Regards, Irina Dovgal,
Managing editor, Finance: Theory and Practice
vestnikfinu@mail.ru

> Вторник, 28 марта 2023, 17:08 +03:00 от Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>:
>
> Dear Prof. Irina Dovgal
>
> Thank you very much for the given feedback regarding my article. In the following attachment, I upload the revised file based on the reviewers' comments. all parts revised are highlighted in yellow. I hope that this revision can meet the journal's yardstick. Thank you.
>
> Best regards
> Muhammad Istan

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id> 7 April 2023 pukul 21.26
Kepada: "I.S.Dovgal" <vestnikfinu@mail.ru>

Dear Prof Irina Dovgal

Thank you so much for your information.

Best regards
Muhammad Istan

Bukti konfirmasi review lanjutan beserta lampiran dari reviewer (31 Oktober 2023)

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

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I.S.Dovgal <vestnikfinu@mail.ru> 31 Oktober 2023 pukul 21.38
Balas Ke: "I.S.Dovgal" <vestnikfinu@mail.ru>
Kepada: muhammadistan <muhammadistan@iaincurup.ac.id>

Dear Dr. Istan,
I'm sending your article to you for abridgment and revision. Please refer to the text of the article for comments. Please revise it urgently and send it back as soon as possible.

Regards, Irina Dovgal,
Managing editor, Finance: Theory and Practice
vestnikfinu@mail.ru

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КОРПОРАТИВНЫЕ ФИНАНСЫ / CORPORATE FINANCE

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ORIGINAL PAPER

DOI: 10.26794/2587-5671-2023-27-6-X-X

JEL G00

Commented [И1]: The length of the article (including title, abstract, keywords, information about authors and list of references) should not exceed 40,000 characters with spaces.

Financial Performance Analysis Using EVA, MVA, FVA, and REVA Methods for Telecommunication Sub-Sector Companies Listed on the IDX

M. Istan
Institut Agama Islam Negeri Curup, Curup, Bengkulu, Indonesia

ABSTRACT

Commented [И2]: We have changed the abstract slightly - for your approval. Please highlight edits in color

The **purpose** of this study is to suggest an approach to analyzing efficiency of telecommunications companies listed on the Indonesia Stock Exchange (IDX) using methods for determining Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA). A summary of the relevant literature is formed on the bibliographic database. Statistical data based on information from the Indonesia Stock Exchange for four companies in the telecommunications sector over 5 years. Data from reports' balance sheets, including reports of profits and losses, is investigated. The **results** of the survey demonstrated that a telecommunications company had a positive EVA value, which meant that it succeeded in creating economic value. The three telecommunications companies had a positive MVA value, which meant that they provided value-added through market capitalization. In four telecommunications companies, a positive FVA indicated that management was successful in providing financial value-added for the company. One of the four telecommunications companies produced a positive REVA, which meant an increase in economic value after the company paid off all liabilities to creditors and shareholders.

Halaman 15 dan 16

METHODOLOGY

This type of research is descriptive analysis with a quantitative approach. The data sources used are secondary data, namely the percentage level of financial inclusion in each province of Indonesia obtained from the Financial Services Authority through the website www.ojk.go.id, the percentage of poverty, unemployment, and GDP to measure economic growth by presenting data covering each province in Indonesia published by the Central Statistics Agency through the website www.bps.go.id. Data analysis and hypothesis testing in this study used the Partial Least Square (PLS).

Object of Research

The object of research in this research is a telecommunications sub-sector service company that is registered as a public company (issuer) on the Indonesia Stock Exchange (IDX). Telecommunications sub-sector companies are one of the most important industries in supporting the internet network in a country.

Population and Population Sampling Procedure

The populations of this study are telecommunications companies listed on the Indonesia Stock Exchange. The method of determining the sample in this study is purposive sampling (intentional sampling).

Table 1

Sample Criteria

No.	Sample Selection Criteria	According to Criteria	Does Not Meet Criteria
1.	Telecommunications Sector Companies Listed on the IDX	5	-
2.	Companies that publish audited financial statements	4	-

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each table in the text of the article should be referenced (Table 1)

	Telecommunications Sector		
3.	Companies Listed on the IDX Become Cellular Operators Incomplete	4	-
4.	Telecommunications Sector Companies for Research	-	1
Number of Companies Used		**4**	
Total Data for 5 Years		**20**	

Source:???

Based on the criteria that has been determined using the purposive sampling method, the number of sample companies in this research object is 4 companies according to predetermined criteria. Hence, the samples used in this study were 20 samples with annual reports.

Table 2

Research Sample

No	Code	Company name	Sector
1	EXCL	PT XL Axiata Tbk	Telecommunication
2	FREN	PT Smartfren Telecom Tbk	Telecommunication
3	ISAT	PT Indosat Tbk	Telecommunication
4	TLKM	PT Telekomunikasi Indonesia Tbk	Telecommunication

Source:???

not include the tax costs and benefits of debt financing. It can be concluded that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of NOPAT.

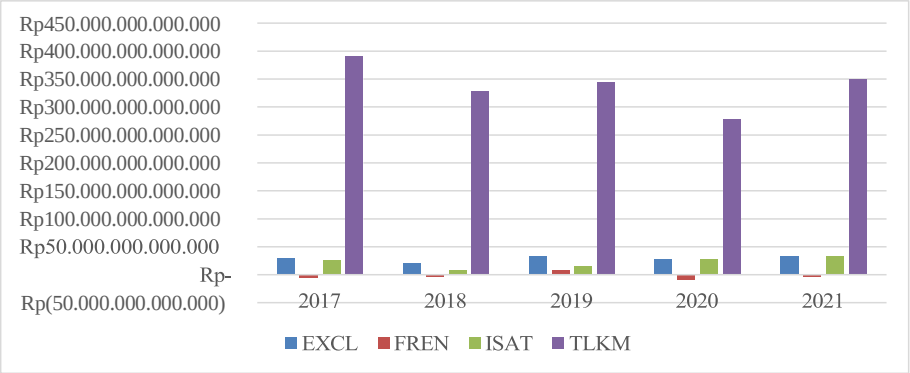

***Fig.* 2. Market Value Added (MVA) (in IDN)**

Source: IDX.

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The results of Market Value Added (MVA) research are in line with R.A. Masyiyan and D. Isynuwardhana's study which determines that the MVA value in each company still has negative and positive values [6]. The findings of their research show that the average Market Value Added (MVA) of telecommunications companies in Indonesia listed on the Indonesia Stock Exchange (ISE) from 2014–2018 was positive. This indicates that the companies were able to provide market value to their shareholders, as a positive MVA value (MVA > 0) is an indication of good performance. The results demonstrate that the stock prices of telecommunications companies continued to increase during the period of 2014–2018.

Table 6

Financial Value Added (FVA) (in IDN)

CODE	2017	2018	2019	2020	2021
EXCL	18.592.453.381.891	25.424.742.660.075	22.945.239.362.615	34.988.912.187.688	32.318.537.174.115
FREN	13.955.201.633.196	12.228.564.573.029	11.388.950.913.335	21.792.850.251.042	20.783.335.628.765
ISAT	20.708.077.341.973	20.357.786.244.802	35.503.950.196.509	27.980.072.436.540	31.369.050.027.658
TLKM	69.674.460.007	64.546.831.017	67.841.739.994	80.640.533.029	90.746.596.714

Source:???

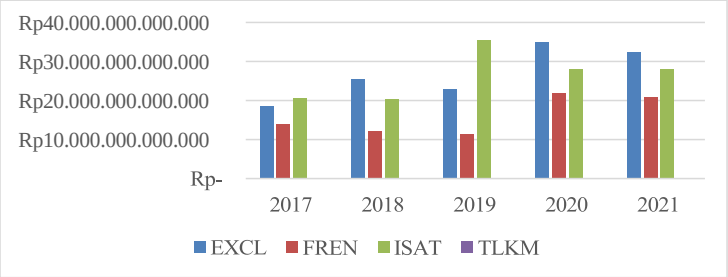

Fig. 3. **Financial Value Added (FVA) (In IDN)**

Source:???

The results of Financial Value Added (FVA) research are in line with a study conducted by A.E. Bayraktaroglu, F. Calisir, and M. Baskak which found that the FVA value in each company still has negative and positive values [27]. In companies that produce a positive FVA value, it means that the company's management has been able to create added financial value for the company or the company's net profit and depreciation are able to cover Equivalent Depreciation.

Commented [И5]: This is Table 3! please format the tables as tables with rulers by columns and rows each table in the text of the article should be referenced (Table 3)

Commented [И6]: This is Figure 2. Each figure should be referenced in the text of the article (Fig. 2)

Refined Calculation Results Economic Value Added (REVA)

The first step to determining REVA is finding net operating profit after tax. Net Operating Profit After tax (NOPAT) is a measure of profit that does not include the tax costs and benefits of debt financing. It can be concluded that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of REVA.

Table 7

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Refined Economic Value Added (REVA) (in Rupiah)

CODE	2017	2018	2019	2020	2021
EXCL	(898.193.420.745)	(1.403.485.350.769)	1.045.042.053.623	3.554.539.617.440	2.614.575.765.514
FREN	3.272.547.199.794	4.626.824.507.733	2.904.069.087.972	1.277.801.484.901	(540.220.425.394)
ISAT	1.627.683.127.606	121.188.267.780	17.164.876.477.116	1.282.952.284.288	7.020.433.499.586
TLKM	(3.519.427.059.425)	(3.656.834.714.811)	(2.631.501.427.737)	(2.488.592.893.509)	(2.837.361.088.982)

Source: Data processed in 2022.

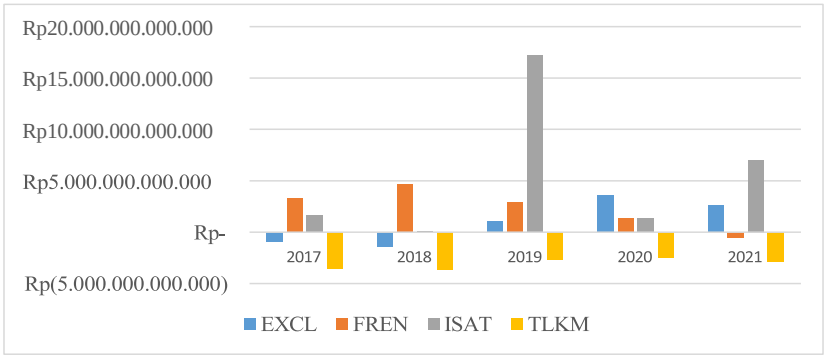

Fig. 4. **Refined Economic Value Added (REVA) (In IDN)**

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Source:???

The results of Refined Economic Value Added (REVA) research are in line with S. Geng, S. Liu, and X. Liao which determines that the REVA value in each company still has negative and positive values [28]. In companies that generate a positive REVA value, it means that there has been a process of

economic added value for the company and more economic value after the company has paid all obligations to creditor bank funders and shareholders in the capital market.

Bukti mengumpulkan hasil revisi beserta lampiran yang mana setiap bagian yang direvisi diberi warna oleh peneliti

(1 November 2023)

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

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Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id> 1 November 2023 pukul 15.29
Kepada: "I.S.Dovgal" <vestnikfinu@mail.ru>

Dear the Managing editor of Finance: Theory and Practice; Irina Dovgal

Thank you very much for your latest information and feedback regarding my article. Via this email, I would like to submit my revision result which I have made according to the reviewers' comments, suggestions, and notes. I have also compressed the paper's wording with the character number of < 40.000 characters. All parts revised are highlighted in yellow. I hope that this revision meets the yardstick of Finance: Theory and Practice. Thank you for all help and facilities. I am looking forward to hearing from you soon.

Best regards
Muhammad Istan

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КОРПОРАТИВНЫЕ ФИНАНСЫ / CORPORATE FINANCE

ORIGINAL PAPER

DOI: 10.26794/2587-5671-2023-27-6-X-X

JEL G00

Financial Performance Analysis Using EVA, MVA, FVA, and REVA Methods for Telecommunication Sub-Sector Companies Listed on the IDX

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to assess the performance of Indonesian businesses is a scientific novelty that contributes to the development of corporate finance theory.

***Keywords*:** Financial Performance; Economic Value Added (EVA); Market Value Added (MVA); Financial Value Added (FVA); Refined Economic Value Added (REVA)

For citation: **Istan M. Financial performance analysis using EVA, MVA, FVA, and REVA methods for telecommunication sub-sector companies listed on the IDX. *Finance: Theory and Practice.* 2023;27(6):X–X. DOI: 10.26794/2587-5671-2023-27-6-X-X**

Halaman 15 dan 16

METHODOLOGY

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4	TLKM	PT Telekomunikasi Indonesia Tbk	Telecommunication

Source: Indonesian Stock Exchange, 2022

The data used in this research is secondary data obtained through the websitehttps://www.idx.co.id/, in the form of a Statement of Financial Position (Balance Sheet) and a Profit and Loss Report, especially for telecommunications companies listed on the Indonesian Stock Exchange.

Halaman 18-21 karena permintaan editor untuk mengompres jumlah kata dan karakter (yang sebelumnya halaman 22-26)

Economic Value Added (EVA) Calculation Results

The first step in determining EVA is finding net operating profit after tax. Net Operating Profit After tax (NOPAT) is a measure of profit that does not include the tax costs and benefits of debt financing. It can be concluded that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of NOPAT.

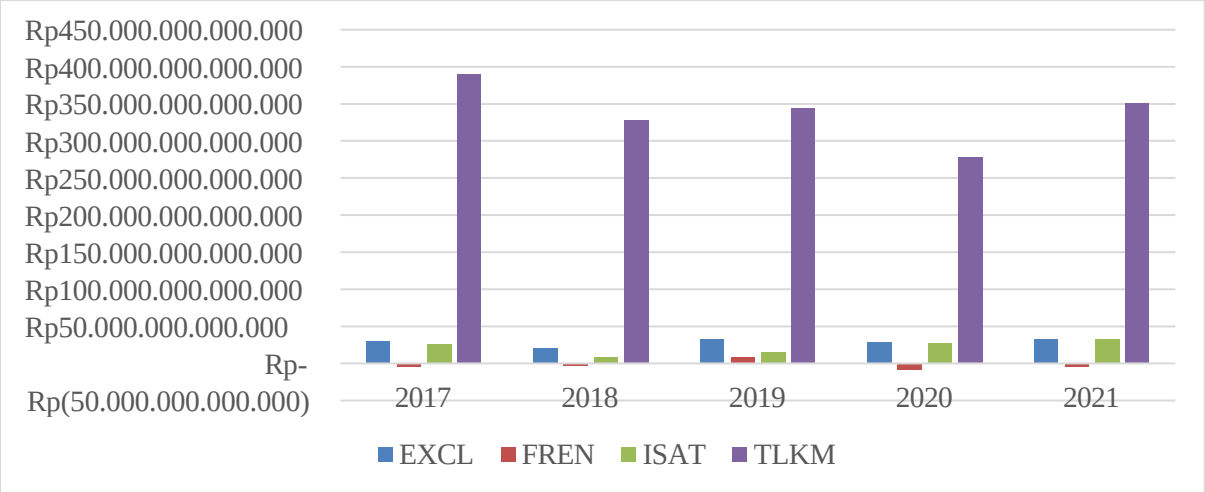

Fig.1. **Market Value Added (MVA) (in IDN)**

Source: Indonesian Stock Exchange, 2022

The results of Market Value Added (MVA) research are in line with R.A. Masyiyan and D. Isynuwardhana's study which determines that the MVA value in each company still has negative and positive values [6]. Their research findings reveal that Indonesian telecommunications companies listed on the Indonesia Stock Exchange (ISE) from 2014 to 2018 consistently generated positive Market Value Added (MVA). This positive MVA (MVA > 0) indicates their ability to create value for shareholders, supported by a sustained increase in stock prices during this period.

Financial Value Added (FVA) Calculation Results

The first step to determining FVA is finding net operating profit after tax. Net Operating Profit After tax (NOPAT) is a measure of profit that does not include the tax costs and benefits of debt financing. It can be concluded that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of the calculation of FVA.

Source: Indonesian Stock Exchange, 2022

Table 3

Financial Value Added (FVA) (in IDN)

CODE	2017	2018	2019	2020	2021
EXCL	18.592.453.381.891	25.424.742.660.075	22.945.239.362.615	34.988.912.187.688	32.318.537.174.115
FREN	13.955.201.633.196	12.228.564.573.029	11.388.950.913.335	21.792.850.251.042	20.783.335.628.765
ISAT	20.708.077.341.973	20.357.786.244.802	35.503.950.196.509	27.980.072.436.540	31.369.050.027.658
TLKM	69.674.460.007	64.546.831.017	67.841.739.994	80.640.533.029	90.746.596.714

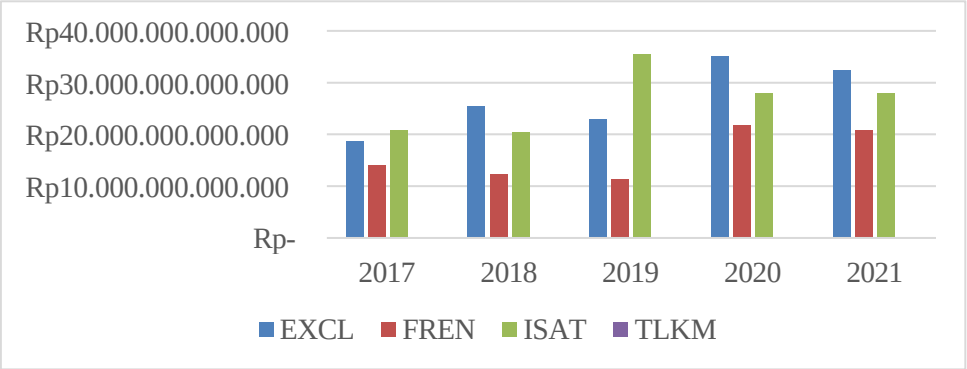

Fig. 2. **Financial Value Added (FVA) (In IDN)**

Source: Indonesian Stock Exchange, 2022

The results of Financial Value Added (FVA) research are in line with a study conducted by A.E. Bayraktaroglu, F. Calisir, and M. Baskak which found that the FVA value in each company still has negative and positive values [27]. In companies that produce a positive FVA value, it means that the company's management has been able to create added financial value for the company or

the company's net profit and depreciation are able to cover Equivalent Depreciation.

Refined Calculation Results Economic Value Added (REVA)

The first step to determining REVA is finding net operating profit after tax. Net Operating Profit After tax (NOPAT) is a measure of profit that does not include the tax costs and benefits of debt financing. It can be concluded that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. Following are the results of REVA.

Tablel 4

Refined Economic Value Added (REVA) (in IDN)

CODE	2017	2018	2019	2020	2021
EXCL	(898.193.420.745)	(1.403.485.350.769)	1.045.042.053.623	3.554.539.617.440	2.614.575.765.514
FREN	3.272.547.199.794	4.626.824.507.733	2.904.069.087.972	1.277.801.484.901	(540.220.425.394)
ISAT	1.627.683.127.606	121.188.267.780	17.164.876.477.116	1.282.952.284.288	7.020.433.499.586
TLKM	(3.519.427.059.425)	(3.656.834.714.811)	(2.631.501.427.737)	(2.488.592.893.509)	(2.837.361.088.982)

Source: Indonesian Stock Exchange, 2022

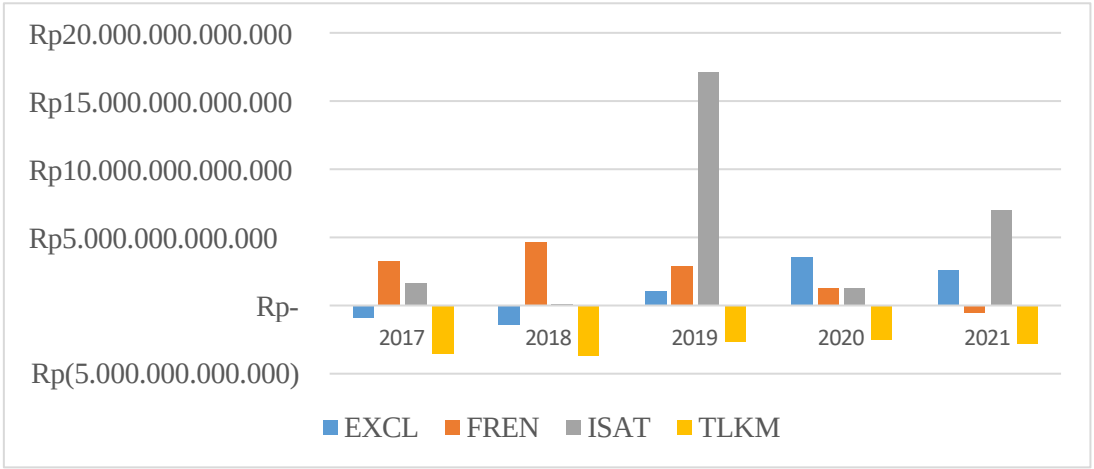

Fig. 3. **Refined Economic Value Added (REVA) (In IDN)**

Source: Indonesian Stock Exchange, 2022

The results of Refined Economic Value Added (REVA) research are in line with S. Geng, S. Liu, and X. Liao which determines that the REVA value in each company still has negative and positive values [28]. In companies that generate a positive REVA value, it means that there has been a process of economic added value for the company and more economic value after the company has paid all obligations to creditor bank funders and shareholders in the capital market.

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

4 Istan.doc

I.S.Dovgal <vestnikfinu@mail.ru> 1 November 2023 pukul 17.47
Balas Ke: "I.S.Dovgal" <vestnikfinu@mail.ru>
Kepada: Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

Dear Dr. Istan,

You should not have removed the Russian annotation from the text. In the paper version of the journal we publish abstracts in two languages. And you did not make references to figures and tables. They should be in the text in brackets in italics: (*Fig. 1*), (*Table 1*)

С наилучшими пожеланиями,
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Regards, Irina Dovgal,
Managing editor, Finance: Theory and Practice
vestnikfinu@mail.ru

> Среда, 1 ноября 2023, 11:30 +03:00 от Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>:
> [Kutipan teks disembunyikan]

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Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id> 1 November 2023 pukul 22.58
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Dear the Managing editor of Finance: Theory and Practice; Irina Dovgal

Thank you for the latest information of what to be revised. In the following attachment, I submit the newest revised file as you suggested. All parts revised are highlighted in yellow. Thank you.

Best regards
Muhammad Istan

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I.S.Dovgal <vestnikfinu@mail.ru> 1 November 2023 pukul 23.08
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Kepada: Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

Thank you, I got it.

Regards, Irina Dovgal,
Managing editor, Finance: Theory and Practice
vestnikfinu@mail.ru

> Среда, 1 ноября 2023, 18:58 +03:00 от Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>:
> [Kutipan teks disembunyikan]

Bukti komunikasi dengan editor terkait dengan layout artikel

(20-29 Desember 2023)

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

article

7 pesan

I.S.Dovgal <vestnikfinu@mail.ru> 20 Desember 2023 pukul 20.38
Balas Ke: "I.S.Dovgal" <vestnikfinu@mail.ru>
Kepada: muhammadistan@iaincurup.ac.id

Dear Muhammad Istan,

During the layout of your article, we have encountered problems because you typed the formulas incorrectly. All formulas should be typed as formulas in Word or MathType formula editor. All formulas should be placed separately (not in tables or boxes).

Please make the necessary edits as soon as possible and send the corrected article.

Regards, Irina Dovgal,
Managing editor, Finance: Theory and Practice
vestnikfinu@mail.ru

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id> 21 Desember 2023 pukul 15.47
Kepada: Ирина Довгаль <vestnikfinu@mail.ru>

Dear the editor

Thank you for your information. I will revise it soon.

Best regards
Muhammad Istan

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id> 21 Desember 2023 pukul 18.08
Kepada: Ирина Довгаль <vestnikfinu@mail.ru>

Dear I.S.Dovgal

I hope you are doing great. Via this email, I would like to submit the revision of my paper. Within the attached paper below, I have retyped all formulas into the editable typing styles. There are no more tabulated formulas or those displayed in figures. Thank you.

Best regards
Muhammad Istan

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I.S.Dovgal <vestnikfinu@mail.ru> 21 Desember 2023 pukul 21.26
Balas Ke: "I.S.Dovgal" <vestnikfinu@mail.ru>
Kepada: Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

Dear Muhammad Istan,

see the remarks in the attached text of the article, where corrections should be made urgently!

Regards, Irina Dovgal,
Managing editor, Finance: Theory and Practice
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> Четверг, 21 декабря 2023, 14:08 +03:00 от Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>:
> [Kutipan teks disembunyikan]

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Kepada: "I.S.Dovgal" <vestnikfinu@mail.ru>

Dear I.S.Dovgal

I hope you are doing well. Thank you for your latest email about my further revision associated with the formulas' layout. In the following attachment, I upload my revision as suggested. I have used the McWord feature to type the formulas, and I have also added the citation number 22. Thank you so much

Best regards
Muhammad Istan

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I.S.Dovgal <vestnikfinu@mail.ru> 23 Desember 2023 pukul 00.13
Balas Ke: "I.S.Dovgal" <vestnikfinu@mail.ru>
Kepada: Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

Thank you, I got it.

Regards, Irina Dovgal,
Managing editor, Finance: Theory and Practice
vestnikfinu@mail.ru

> Пятница, 22 декабря 2023, 15:17 +03:00 от Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>:
> [Kutipan teks disembunyikan]

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id> 29 Desember 2023 pukul 14.23
Kepada: "I.S.Dovgal" <vestnikfinu@mail.ru>

Dear Irina Dovgal

I hope you are doing great.
Thank you so much for all the facilities and help you and others have given me to publish my work.

Best regards
Muhammad Istan

Bukri konfirmasi dari editor bahwa artikel sudah siap dipublikasikan sesuai dengan jadwal publikasi beserta lampiran artikel untuk dipublikasikan

(29 desember 2023)

Muhammad Istan IAIN Curup <muhammadistan@iaincurup.ac.id>

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От: Сергей Ветров <s.m.vetrov@mail.ru>
Кому: Ирина Довгаль <vestnikfinu@mail.ru>
Дата: пятница, 29 декабря 2023 г. в 14:03 +03:00
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ORIGINAL PAPER

DOI: 10.26794/2587-5671-2023-27-6-211-222
JEL G00

Financial Performance Analysis Using EVA, MVA, FVA, and REVA Methods for Telecommunication Sub-Sector Companies Listed on the IDX

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Institut Agama Islam Negeri Curup, Curup, Bengkulu, Indonesia

ABSTRACT

The **purpose** of this study is to suggest an approach to analyzing the efficiency of telecommunications companies listed on the Indonesia Stock Exchange (IDX) using methods for determining Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA). A summary of the relevant literature is formed on the bibliographic database. Statistical data based on information from the Indonesia Stock Exchange for four companies in the telecommunications sector over 5 years. Data from reports' balance sheets, including reports of profits and losses, is investigated. The **results** of the survey demonstrated that a telecommunications company had a positive EVA value, which meant that it succeeded in creating economic value. The three telecommunications companies had a positive MVA value, which meant that they provided value-added through market capitalization. In four telecommunications companies, a positive FVA indicated that management was successful in providing financial value-added for the company. One of the four telecommunications companies produced a positive REVA, which meant an increase in economic value after the company paid off all liabilities to creditors and shareholders. The use of various value-added measures to assess the performance of Indonesian businesses is a **scientific novelty** that contributes to the development of corporate finance theory.

Keywords: Financial Performance; Economic Value Added (EVA); Market Value Added (MVA); Financial Value Added (FVA); Refined Economic Value Added (REVA)

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INTRODUCTION

Indonesia's tech industry, particularly smartphones and the internet, is rapidly expanding with the advent of 5G. In early 2022, the country had an astonishing 210 million internet users, mainly accessing social media on mobile devices. According to the "Indonesian Internet Profile 2022" by the APJII, 99.16% of users were aged 13–18. With an estimated population of 272.68 million, the internet penetration rate in 2022 reached 77.02%, up from 73.7% in 2020, connecting 196.71 million Indonesians. Key internet usage drivers include information access (92.21%), remote work/study (90.21%), public services (84.9%), email (80.7%), online transactions (79%), entertainment content (77.25%), online transportation (76.47%), and financial services (72.32%) (www.kompas.com).

Tech advancements impact Indonesia's economy. Companies must strategize to enhance shareholder and investor values. As noted by A. Horton [1], investors seek revenue by providing capital from owners and creditors. Companies must improve quantity and quality for expected benefits. Regular financial statement evaluations are vital for assessing financial health and ensuring survival, according to D. E. Kieso et al. [2]. Financial performance measurement is vital for assessing a company's goal achievement. Utilizing financial ratios derived from historical data is common. Yet, it has limitations due to subjectivity in accounting data, potentially leading to inaccurate and imprecise measurements, according to E. R. Rahadjeng [3].

Financial ratio analysis, while useful for assessing financial performance and guiding decisions, does not guarantee an entirely accurate representation of a company's true financial condition, according to N. Yoshino, F. Taghizadeh-Hesary [4]. Financial ratio analysis neglects a company's risk exposure by disregarding the cost of capital. To address this limitation in financial performance measurement,

a value-based approach has emerged, according to a paper by J. Choi et al. [5]. EVA and MVA assess corporate performance, cost of capital, and capital investment. Law No. 36/1999 and a 2002 government regulation enabled foreign mobile operators in Indonesia, heralding telecom industry liberalization. PT Telekomunikasi Indonesia Tbk accelerated digitalization in response to COVID-19, offering ICT services and solutions to aid the nation and government. Despite challenges, Telkom Group improves digital infrastructure and services for an excellent customer experience. If traced back, the average EVA value for the telecommunication industry in Indonesia listed on the IDX for 2014–2018 grew significantly. In detail, the result of Economic Value Added (EVA) calculation for the telecommunications industry in Indonesia listed on the Indonesia Stock Exchange (BEI) in 2014 was negative, amounting to –514,684,002,483. However, in 2015, the value turned positive and experienced an increase to 1,978,484,129,235. Subsequently, in 2016, there was a decline, but still with a positive value, which was 922,333,214,645. In 2017, there was an increase again, reaching 1,142,095,810,347 with a positive value. Moreover, it increased again in 2018, with a positive value of 3,003,894,766,520. The average EVA value for the telecommunications industry in Indonesia listed on the BEI from 2014 to 2018 was positive, amounting to 1,306,424,783,653.

R.A. Masyiyan's and D. Isynuwardhana's research found that the results of the MVA calculation, the significance value of the MVA variable is 0,091 > 0,05 [6]. Judging from the five telecommunications companies listed on the Indonesia Stock Exchange from 2015–2020, all companies have positive MVA values, so telecommunications companies for the 2015–2020 period have succeeded in increasing company wealth. The purpose of this study is to analyze financial performance using the Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA) methods in telecommunications sector companies listed on the Indonesia Stock Exchange.

LITERATURE REVIEW

This section provides some context on the concepts of theory behind multiple variables used in the present study. Such variables are composed of financial statements, economic value added, market value added, financial value added, and refined economic value added.

Financial Statements

Financial reports are reports that show the company's financial condition at this time or in a certain period, according to E. A. Osadchy et al. [7]. Financial statements present information about entities, which include: assets, liabilities, equity, income and expenses, including profits and losses, contributions from and distributions to owners in their capacity as owners and cash flows, as stated by R. Bergitta Sonia et al. [8]. According to C. E. Grigoraș-Ichim et al. a complete financial report usually includes a Statement of Financial Position, a Profit and Loss Report, a Statement of Changes in Equity, and a Statement of Cash Flows [9].

Financial reports aim to inform stakeholders about a company's financial status and performance during a specific period. According to Statement of Financial Accounting Standards (PSAK) No. 1 (2015: 3), these reports serve the purpose of offering information on the financial position, performance, and cash flows that are valuable to most users for making economic decisions. The financial performance, found in a company's financial statements, can be evaluated through analytical tools: S. Cantele, A. Zardini [10].

Economic Value Added (EVA)

EVA, distinct from accounting profit, estimates economic profit by subtracting the cost of capital from profits. This objective measure reflects compensation levels. EVA is calculated using the following formula:

$$EVA = NOPAT - \left(WACC \times IC\right),$$

where EVA — Economic Value Added; NOPAT — Net Operating Profit After Tax (After operating profit tax); WACC — Weighted Average Cost of Capital (Average cost of capital weighted average); IC — Invested Capital.

Market Value Added (MVA)

MVA is the difference between the total market value of the company's equity and the amount

of equity capital invested by investors, as stated by R. Bergitta Sonia, Z. A. Zahroh, D. F. Azizah [8]. Market Value Added is the difference between the company's market value and the invested capital. The following is the formula for MVA:

$$Market\,Value\ Added\ = Market\,Value - Invested\,Capital.$$

In this case, the measurements according to Rudianto as cited in D. L. Moezaque, A. Daito [11] are as follows:

MVA value > 0 or positive MVA shows management has succeeded in providing added value through growth.

MVA value < 0 or negative MVA shows management is unable to provide added value through the growth of the market capitalization value of the shares issued.

Financial Value Added (FVA)

F VA is a method for measuring company performance and added value. This method considers the contribution of fixed assets in generating the company's net profit, according to O. M. Olarewaju, T. S. Msomi [12]. Here's the FVA formula:

$$FVA = NOPAT - \left(ED - D\right),$$

where FVA — Financial Value Added; NOPAT — Net Operating Profit after Tax; ED — Equivalent Depreciation; D — Depreciation.

In principle, the condition (FVA value > 0 or positive FVA) shows that the company's management has succeeded in providing financial value added to the company. In the meantime, the condition (FVA value < 0 or negative FVA) shows that there is no process of adding financial value to the company. Subsequently, the condition (FVA value = 0 or breakeven point) shows that the management is not successful in providing added value or financial reduction.

Refined Economic Value Added (REVA)

Considering stock market prices and abnormal returns formed by the difference between stock returns and market returns, while EVA is based on share value M. Pinochi et al. [13]. The formula used to calculate Refined Economic Value Added (REVA) is as follows:

$$REVAt = NOPATt - \left(MVt - 1 \times KW\right),$$

where REVA *t* — Refined Economic Value Added in the *t*-period; NOPAT *t* — Net Operating Profit After Tax in the t-period; MV *t* — 1 — Market Value of the business entity in period *t* — 1 (Market Value of Equity); KW — the cost of capital is the cost of borrowing interest and fees equity and calculated on a weighted average basis (WACC).

Using the Refined Economic Value Added (REVA) method can be interpreted as follows:

If $REVA > 0$, this indicates that there has been a process of economic added value for the company;

If $REVA < 0$, this indicates that the company does not process economic added value or is unable to pay its obligations to funders;

If $REVA = 0$, this indicates that there is no process of economic added value or economic reduction.

Several prior studies have investigated variables such as financial statements, economic value added, market value added, financial value added, and refined economic value added individually. In terms of the variable of financial statements, N. Ding et al. sought to see the extent to which the teams of top management are interconnected to the comparability of financial statements [14]. The study on experienced foreign CEOs (FCEOs) found that their financial and accounting expertise, coupled with international work experience, enhances financial statement comparability. This correlation weakens with rising economic policy uncertainty, emphasizing the critical role of financial reporting in understanding the FCEOs' impact on financial statement comparability. Subsequently, G. Salijeni et al. executed a study on the growth of Big Data and Analytics (BDA) tools. They revealed that BDA reshapes interactions among audit firm departments and with clients [15].

In terms of the variable of economic value added, A. Kordalska and M. Olczyk conducted a study to determine the factors that influence the development of global value chains (GVCs) in a few chosen Central and Eastern European (CEE) countries, with a focus on functional specialization (FS) [16]. This study, based on World Input-Output Database data, revealed a

distinct value-added pattern in Central and Eastern European countries (CEE). Poland and Slovakia's GVC positions are unfavorable due to their emphasis on low value-added manufacturing. The study highlighted wage convergence and strong GVC backward linkages as drivers of increased value-added in various business activities. Subsequently, L. Yang executed a study on testing the impacts of various trade standards on China's value-added and total exports in global value chains by using a gravity model [17]. The study highlights China's export advantages through international norm alignment and emphasizes strict regulation enforcement. Mandatory criteria have a greater impact than voluntary ones, particularly on overall exports. Value-added exports are negatively affected by voluntary country-specific requirements, while there is no statistically significant impact of voluntary global harmonized standards on either export category.

In terms of the variable of market value added, K. Blind et al. analyzed the influence of formal standards on commerce in global value chains (GVCs) in Europe [18]. Using a panel data gravity model, they examined the impact of national, European, and global standards on European trade. National standards impede European value chains, while European and international standards facilitate trade. European standards mainly affect intra-European value chains, and international standards enhance imports into Europe from third countries, ensuring information parity in the European Single Market. The interaction of national and European standards in European value chains positively influences trade, emphasizing the importance of national standardization. Subsequently, C. Lutz and G. Tadesse conducted a study exploring the difficulties encountered by smallholder producer cooperatives from developing nations in their pursuit of entry into agricultural global value chains [19]. They examined how incorrect selection and insufficient dedication affect competitiveness in farmers' market groups. The study challenged the prevailing assumption that open membership is universally beneficial, asserting that it can be problematic for innovative farmer's market organizations.

In terms of the variable of financial value added, A. Mirza et al. conducted a study to investigate, from the vantage point of a developing nation that has adopted the full complement of IFRS, how the value relevance of financial reporting has changed [20]. Their study, using the Ohlson pricing model, assessed financial statement relevance in the Malaysian capital market. It underlined the importance of operating cash flow alongside profits and the book value of equity for investment decisions. The study revealed a disparity between management bias in reported profits and book value of equity from 2012 to 2006 and the financial reporting framework, emphasizing earnings in investment decisions. These findings have regulatory implications for improving financial reporting reliability. Subsequently, H. Kaibuchi et al. worked on improving Value-at-Risk (VaR) estimation for extreme loss return distributions in financial risk management. They introduced GARCH-UGH, a two-step bias-reduced method for dynamic extreme VaR estimation. GARCH-UGH outperformed traditional methods in in-sample and out-of-sample backtesting across various financial time series [21].

In terms of the variable of refined economic value added, L.V. Dewri's research explored the interplay between corporate governance (CG), financial performance (FP), and refined economic value added (REVA) in predicting firm value (FV) and return on stock (RoS) using GMM estimation. The study identified strong correlations between FV and RoS and CG, FP, and REVA [22]. Effective CG practices can significantly enhance FP, sustain positive economic value, and ultimately improve FV and Ro S. Firms demonstrating consistent FV growth can provide a healthy return on investment (RoI) to shareholders, motivating managers to prioritize robust CG and providing investor confidence in stable FP and ongoing REVA growth [23].

Previous studies above examined individual variables and were conducted in different countries. In contrast, the current study, specific to Indonesia, integrates multiple variables (financial statements, economic value added, market value added, financial value added, and refined economic value added) simultaneously.

METHODOLOGY

This type of research is descriptive analysis with a quantitative approach. The data sources used are

Table 1

Sample Criteria

No.	Sample Selection Criteria	According to Criteria	Does Not Meet Criteria
1	Telecommunications Sector Companies Listed on the IDX	5	–
2	Companies that publish audited financial statements	4	–
3	Telecommunications Sector Companies Listed on the IDX Become Cellular Operators	4	–
4	Incomplete Telecommunications Sector Companies for Research	–	1
Number of Companies Used		4	
Total Data for 5 Years		20	

Source: Indonesian Stock Exchange, 2022.

secondary data, namely the percentage level of financial inclusion in each province of Indonesia obtained from the Financial Services Authority through the website www.ojk.go.id, and the percentage of poverty, unemployment, and GDP to measure economic growth by presenting data covering each province in Indonesia published by the Central Statistics Agency through the website www.bps.go.id. Data analysis and hypothesis testing in this study used the Partial Least Squares (PLS).

Object of Research

The object of this research is a telecommunications sub-sector service company that is registered as a public company (issuer) on the Indonesia Stock Exchange (IDX). Telecommunications sub-sector companies are one of the most important industries for supporting the internet network in a country.

Population and Population Sampling Procedure

The populations of this study are telecommunications companies listed on the Indonesia Stock Exchange. The method of determining the sample in this study is purposive sampling (intentional sampling). The sample is presented in *Table 1*.

Based on the criteria that have been determined using the purposive sampling method, the number of sample companies in this research object is 4, according to predetermined criteria. Hence, the samples used in this study were 20 samples with annual reports, as displayed in *Table 2*.

The data used in this research is secondary data obtained through the websitehttps://www.idx.co.id/, in the form of a Statement of Financial Position (Balance Sheet) and a Profit and Loss Report, especially for telecommunications companies listed on the Indonesian Stock Exchange.

Analysis Techniques

The technique for analyzing financial performance in this study is to use the Economic Value Added (EVA), Market Value Added (MVA), Financial Value Added (FVA), and Refined Economic Value Added (REVA) methods, namely:

1. Economic Value Added (EVA)

According to M. Dewi [23], the steps used in calculating EVA are as follows:

a. Net Operating Profit After Tax (NOPAT)

$$Net\,Operating\,Profit\,After\,Tax + Interest\,Expense\ .$$

Table 2

Research Sample

No	Code	Company name	Sector
1	EXCL	PT XL Axiata Tbk	Telecommunication
2	FREN	PT Smartfren Telecom Tbk	Telecommunication
3	ISAT	PT Indosat Tbk	Telecommunication
4	TLKM	PT Telekomunikasi Indonesia Tbk	Telecommunication

Source: Indonesian Stock Exchange, 2022.

b. Invested Capital (IC)

$$Invested\,Capital = Total\ Debt\ and\ Equity - short\ term\ Debt$$

c. Debt Capital Level (D)

$$Debt\,Capital\,Level\,(D) = \frac{Total\ Debt}{Total\ Debt\ and\ Equity} \times 100\%$$

d. Cost of Debt (rd)

$$Cost\ of\ Debt = \frac{Interest\ Expense}{Total\ Debt} \times 100\%$$

e. Tax Rate / Tax (t)

$$Tax\ Rate\,(t) = \frac{Tax\ Expense}{Profit\ Before Tax} \times 100\%$$

f. Capital Level of Equity (E)

$$Capital\ Level\ of\ Equity = \frac{Total\ Equity}{Total\ Debt\ and\ Equity} \times 100\%$$

g. Cost of Equity (re)

$$Cost\ of\ Equity(re) = \frac{Earnings\ Per\ Share\,(EPS)}{Stock\ Price} \times 100\%$$

h. Weighted Average Cost of Capital (WACC)

$$WACC = \{(D \times rd\,(1 - tax) + (E \times re)\}$$

i. Capital Charges (CC)

$$Capital\,Charges = Invested\,Capital \times WACC$$

j. Economic Value Added (EVA)

$$EVA = NOPAT - Capital\,Charge$$

According to F. Gómez-Bezares et al. [24], to assess the financial performance of a company, the EVA method can be grouped into 3 categories as follows:

1. If EVA > 0 or EVA is positive.

The company's financial performance can be said to be good because it can add business value. In this case, employees are entitled to bonuses, creditors still receive interest and shareholders

can get returns equal to or more than what was invested.

2. If EVA = 0.

Economically "break even" because all profits are used to pay obligations to funders, both creditors and shareholders, so that employees do not get bonuses, only salaries.

3. If EVA < 0 or EVA is negative.

The company's financial performance is said to be unhealthy because it cannot provide added value. In this case, employees cannot get bonuses, it's just that creditors still get interest and shareholders don't get returns commensurate with what they invested.

Market Value Added (MVA)

The steps used to calculate MVA, according to E. K. Zavadskas et al. [25] are as follows:

a. Market Value

$$Market\,Value = Stock\,Market\,Price \times Number\,of\,Shares$$

b. Invested Capital

$$Invested\,Capital = Nominal\,Value \times Number\,of\,Shares$$

c. Market Value Added (MVA)

$$Market\,Value\,Added = Market\,Value - Invested\,Capital$$

In this case, the measurements are as follows:

1. MVA value > 0 or positive MVA

It shows management has succeeded in providing added value through the growth in market capitalization value of shares issued or that the company is able to sell shares in the market at a premium price.

2. MVA value < 0 or negative MVA

It shows management is unable to provide added value through the growth of the market capitalization value of the shares issued or the stock price in the market below the book value (equity per share).

3. MVA value = 0

It shows that management has failed to provide added or reduced value through the growth of the market capitalization value of shares because the stock price in the market is the same as the book value (equity per share).

Financial Value Added (FVA)

According to Rodryguez, in A. Octaviani, A. Husaini [26], the steps used in the FVA calculation are as follows:

a. Net Operating Profit After Tax (NOPAT)

$$NOPAT = Net\,Profit\,After\,Tax + Interest\,Cost$$

b. Total Resources (TR)

$$TR = LongTermDebt\,(D) + TotalEquity\,(E)$$

c. Equivalent Depreciation (ED)

$$ED = Weighted\,AverageCost\,of\,Capital\,(k) \times TR$$

d. Financial Value Added (FVA)

$$FVA = NOPAT - (ED - D)$$

The measurement results using the Financial Value Added (FVA) method, as suggested by A. Octaviani and A. Husaini [26] can be interpreted as follows:

4. FVA value > 0 or positive FVA

It shows that the company's management has succeeded in providing financial added value to the company or that there is more finance when the company's net profit is able to cover the Equivalent Depreciation (ED).

5. FVA value < 0 or negative FVA

It shows that there is no process of financial added value for the company or that the company's net profit and depreciation are unable to cover Equivalent Depreciation (ED).

6. FVA value = 0 or breakeven point

It shows that management has failed to provide added value or financial reductions because the company's net profit and depreciation have been used up to pay Equivalent Depreciation (ED).

Refined Economic Value Added (REVA)

The formula used to calculate Refined Economic Value Added (REVA), as suggested by A. Octaviani and A. Husaini [26] is as follows:

$$REVAt = NOPATt - (MVt - 1 \times Kw).$$

The measurement results using the Refined Economic Value Added (REVA) method can be interpreted as follows:

1. If REVA > 0, this indicates that there has been a process of economic added value for the

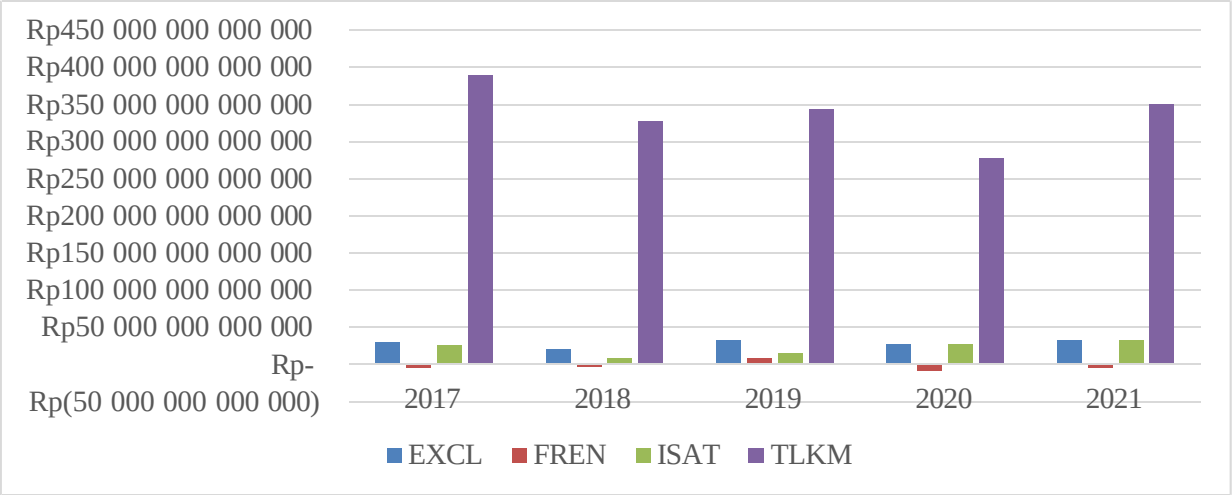

Fig. 1. **Market Value Added (MVA) (in IDN)**

Source: Indonesian Stock Exchange, 2022.

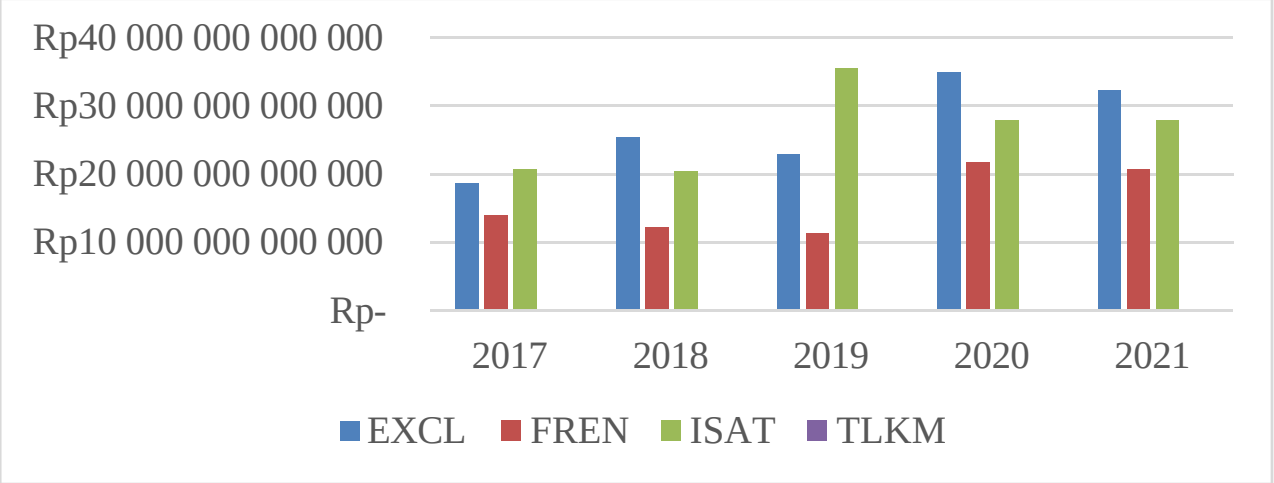

Fig. 2. **Financial Value Added (FVA) (In IDN)**

Source: Indonesian Stock Exchange, 2022.

company or that there is more economic value after the company has paid all obligations to the funders, both creditors and shareholders in the capital market.

2. If REVA < 0, this indicates that there is no economic added value process for the company or the company is unable to pay its obligations to the funders, both creditors and shareholders in the capital market.

3. If REVA = 0, this indicates that there is no process of economic added value or economic reduction because profits have been used up to pay obligations to funders, both creditors and shareholders in the capital market.

RESULT AND DISCUSSION

The telecommunications companies selected as samples in this study include:

1. **PT. XL Axiata Tbk (EXCL)**

PT. XL Axiata Tbk (formerly PT Excelcomindo Pratama Tbk) is a mobile telecommunications operator company in Indonesia.

2. **PT. Smartfren Telecom Tbk (FREN)**

PT Smartfren Telecom Tbk was established on 2 December 2002 under the name PT Mobile-8 Telecom based on Deed No. 11 dated 2 December 2002. PT Smartfren Telecom Tbk is one of the leading telecommunication service providers in Indonesia. Smartfren innovated by launching

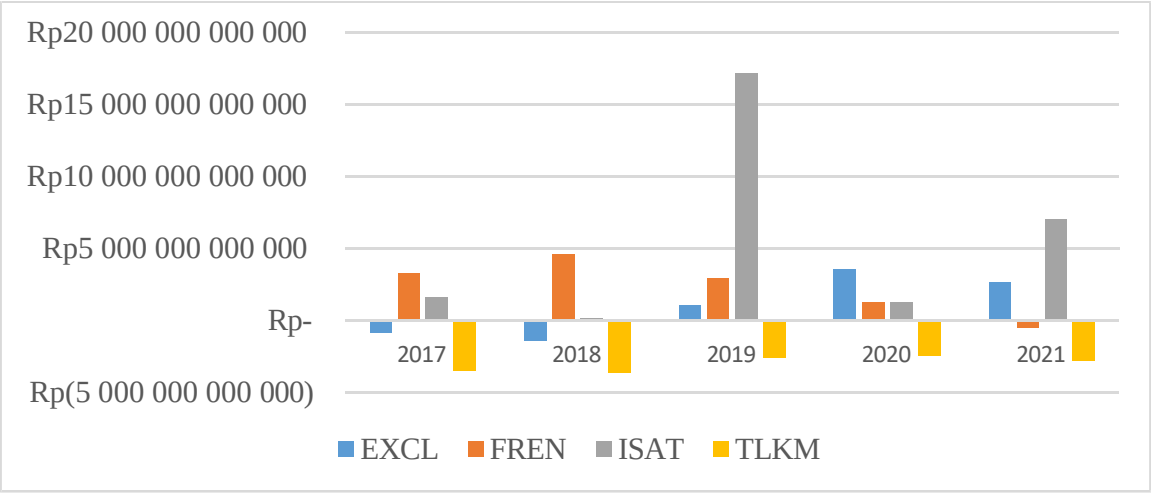

Fig. 3. **Refined Economic Value Added (REVA) (In IDN)**

Source: Indonesian Stock Exchange, 2022.

Table 3

Financial Value Added (FVA) (in IDN)

CODE	2017	2018	2019	2020	2021
EXCL	18,592,453,381,891	25,424,742,660,075	22,945,239,362,615	34,988,912,187,688	32,318,537,174,115
FREN	13,955,201,633,196	12,228,564,573,029	11,388,950,913,335	21,792,850,251,042	20,783,335,628,765
ISAT	20,708,077,341,973	20,357,786,244,802	35,503,950,196,509	27,980,072,436,540	31,369,050,027,658
TLKM	69,674,460,007	64,546,831,017	67,841,739,994	80,640,533,029	90,746,596,714

Source: Indonesian Stock Exchange, 2022.

Table 4

Refined Economic Value Added (REVA) (in Rupiah)

CODE	2017	2018	2019	2020	2021
EXCL	(898,193,420,745)	(1,403,485,350,769)	1,045,042,053,623	3,554,539,617,440	2,614,575,765,514
FREN	3,272,547,199,794	4,626,824,507,733	2,904,069,087,972	1,277,801,484,901	(540,220,425,394)
ISAT	1,627,683,127,606	121,188,267,780	17,164,876,477,116	1,282,952,284,288	7,020,433,499,586
TLKM	(3,519,427,059,425)	(3,656,834,714,811)	(2,631,501,427,737)	(2,488,592,893,509)	(2,837,361,088,982)

Source: Indonesian Stock Exchange, 2022.

the first commercial 4G LTE Advanced service in Indonesia in 2015.

3. **PT Indosat Tbk (ISAT)**

Established as a foreign capital company by the Indonesian government. Commenced commercial operations in September 1969 to build and operate the International Telecommunications Satellite Organization, or Intelsat, a ground station in Indonesia to access Intelsat's Indian Ocean Region satellites.

4. **PT Telekomunikasi Indonesia Tbk (TLKM)**

Telkom's majority shareholder is the Government of the Republic of Indonesia with 52.09%, while the remaining 47.91% is controlled by the public. Telkom shares are traded on the Indonesia Stock Exchange (IDX) with the code "TLKM" and the New York Stock Exchange (NYSE) with the code "TLK".

Economic Value Added (EVA) Calculation Results

The first step in determining EVA is finding net operating profit after tax (NOPAT). NOPAT is a measure of profit that does not include the tax costs and benefits of debt financing. It can be concluded that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. The results of NOPAT can be seen in *Fig. 1* demonstrating the market value added (MVA).

The results of Market Value Added (MVA) research are in line with R.A. Masyiyan and D. Isynuwardhana's study, which determines that the MVA value in each company still has negative and positive values [6].

Financial Value Added (FVA) Calculation Results

The first step to determining FVA is finding net operating profit after tax. Net Operating Profit After Tax (NOPAT) is a measure of profit that does not include the tax costs and benefits of debt financing. It can be concluded that NOPAT is income before interest and tax (EBIT) adjusted for tax impact. The results of the FVA calculation are presented in *Table 3* and *Fig. 2*.

The results of Financial Value Added (FVA) research are in line with a study conducted by A. E. Bayraktaroglu et al. which found that the FVA value in each company still has negative and positive values [27]. In companies that produce a positive FVA value, it means that the company's management has been able to create added financial value for the company or the company's net profit and depreciation are able to cover Equivalent Depreciation.

Refined Calculation Results Economic Value Added (REVA)

The first step to determining REVA is finding net operating profit after tax (NOPAT). The results of REVA can be viewed in *Table 4* and *Fig. 3*.

The results of Refined Economic Value Added (REVA) research are in line with those of S. Geng et al., who determined that the REVA value in each company still has negative and positive values [28]. In companies that generate a positive REVA value, it means that there has been a process of economic added value for the company and more economic value after the company has paid all obligations to creditors, bank funders, and shareholders in the capital market.

CONCLUSION

The company's financial performance as measured by the Market Value Added (MVA) approach is profitable for PT XL Axiata Tbk, PT Indosat Tbk, and PT Telekomunikasi Indonesia Tbk. PT Smartfren Telecom Tbk has a negative market value added (MVA). A positive MVA indicates that business management has succeeded in generating added value. The company's financial performance uses the Financial Value Added (FVA) method for the 2017–2021 period, which has a positive value at PT XL Axiata Tbk, PT Smartfren Telecom Tbk, PT Indosat Tbk and PT Telekomunikasi Indonesia Tbk. A positive FVA means that the company's management has been able to create added financial value for the company or that the company's net profit and depreciation have been able to cover equivalent depreciation. The company's financial performance uses the Refined Economic Value Added (REVA) method, which has a positive value at PT Indosat Tbk. Refined Economic Value Added (REVA) has a negative value at PT XL Axiata Tbk, PT Smartfren Telecom Tbk and PT Telekomunikasi Indonesia Tbk. REVA, which has a positive value, has resulted in a process of economic added value for the company and more economic value after the company has paid all obligations to the funders, both creditors and shareholders.

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