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Correlation Study between Debt-Equity Ratio and Asset Returns with Relative Market Value to Book Value in the Indonesian Mining Industry

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ABSTRACT

This study uses a quantitative methodology and an associative approach to examine the impact of the debt-equity ratio and Return on Asset on Price to Book Value in the Indonesian mining sector from 2020 to 2022. A purposive sampling technique was used to choose a sample of 25 mining companies from a population of 80 entities listed on the Indonesia Stock Exchange. The analysis results indicate no substantial effect of the Debt-to-Equity Ratio on the Price Book Value. Nevertheless, the Return on Asset (ROA) exerts a significant impact. Furthermore, the combined influence of these variables is observed in the price-to-book value.

Introduction

The capital market plays a pivotal part in bolstering the economic framework of a nation. The capital market serves as a platform for individuals or entities with surplus funds and those seeking financial resources to convene and engage in the buying and selling of assets. Typically, securities subject to trading have a duration exceeding one year, such as equities and fixed-income instruments. The incursion of Russia into Ukraine in 2022 had a distinct influence on various sectors in Indonesia, notably the mining industry. The invasion resulted in an interruption of natural gas and oil supplies from Russia, leading to an increased demand for Indonesian mining commodities, namely coal, given Russia's significant role as a prominent worldwide provider of these resources. The scenario above has a favorable effect on mining enterprises in Indonesia. An illustration of this phenomenon can be observed in the case of Low Tuck Kwong, the esteemed founder of Bayan Resources. It is noteworthy that during a period in which the stock price of Bayan Resources (BYAN code) had a significant surge on the Indonesia Stock Exchange, Mr. Low Tuck Kwong concurrently ascended to become the wealthiest individual in Indonesia.

Prudent deliberation is required while making investments in the stock market. To obtain reliable insights, one must possess precise and comprehensive knowledge of the magnitude of the association between various factors that catalyze fluctuations in a company's stock prices. Investors should employ their understanding of stock valuation principles to inform their investment decisions.

The price-to-book value (PBV) metric is calculated by dividing the market price per share by the book value per share. The ratio above pertains to comparing the market value of an investment in a firm and its corresponding cost. The concept of PBV, or Price-to-Book Value, also measures a company's ability to generate value concerning its invested capital. A high price-to-book value (PBV) ratio signifies that the market value of a company's stock exceeds its book value, indicating that investors are willing to pay a premium for each unit of the company's book value (overvaluation). On the contrary, a low price-to-book value (PBV) ratio indicates that the prevailing market price of a company's stock is lower than its book value. This implies that investors are willing to pay less per unit of the company's book value, suggesting an undervaluation. The mining industry's price-to-book value (PBV) metric also demonstrated its efficacy in attaining corporate valuation within the time frame spanning from 2020 to 2022.

Table 1: Price to Book Value of Mining Sector Companies Listed on the Indonesia Stock Exchange (IDX) for the Years 2020-2022

No.	CODE	PBV			Average
		2020	2021	2022	
1	ADRO	0,87	1,22	1,3	1,13
2	PGAS	1,27	0,93	1,03	1,08
3	PTBA	1,93	1,30	1,48	1,57
4	ITMG	1,3	1,33	1,43	1,35
5	HRUM	1,5	4,2	1,9	2,53
6	MEDC	1,03	0,77	1,04	0,95
7	INDY	0,93	0,74	0,76	0,81
8	ELSA	0,69	0,53	0,55	0,59
9	BYAN	4,4	3,5	23,49	10,46
10	MYOH	1,58	1,92	1,51	1,67
11	DOID	0,82	0,6	0,65	0,69
12	ENRG	0,17	0,3	0,34	0,27
13	PTRO	0,65	0,5	0,59	0,58
14	BSSR	1,65	2,97	3,27	2,63
15	RAJA	0,75	0,53	2,59	1,29
16	SOCI	0,37	0,26	0,22	0,28
17	MBAP	1,69	1,55	2,4	1,88
18	BIPI	0,52	0,5	1,37	0,80
19	SMMT	0,66	0,63	0,78	0,69
20	SGER	5,29	5,47	2,46	4,41
21	TOBA	1,27	2,18	0,92	1,46
22	KKGI	1,13	0,94	1,04	1,04
23	GEMS	3,07	10,4	4,78	6,08
24	MBSS	0,4	0,85	0,86	0,70
25	ITMA	0,2	0,27	0,15	0,21
Average		1,37	1,78	2,28	

The mining sector plays a crucial role in the Indonesian economy, substantially influencing the nation's overall economic expansion. Companies encounter many intricate issues within the mining sector, particularly about effectively managing their capital structure and assets. The debt-to-debt ratio and return on investments are significant indicators when assessing the financial well-being of mining enterprises. The payable-debt ratio is the proportion of a company's outstanding debt to its accounts receivable. The ratio above indicates the extent to which the company relies on external sources of financing and its proficiency in effectively managing its receivables. Conversely, the return on assets metric suggests the company's effectiveness in utilizing its assets to create income. A favorable return on assets can enhance the market valuation concerning a company's book value.

The primary objective of this study is to address the existing gap in knowledge by conducting a correlation analysis between the debt-to-debt ratio and return on assets in connection to the market value relative to the book value of enterprises operating within the Indonesian mining sector. The anticipated outcomes of this study are poised to enhance comprehension of the determinants that impact the market assessment of mining enterprises in Indonesia, hence furnishing significant perspectives for both corporate leadership and investors.

Research Design and Methodology

The present study employs a quantitative methodology and an associative data analysis strategy. Associational research offers a complete perspective on the correlation between a given variable and other phenomena. Specifically, it examines the interactive relationship between variables X1, X2, and Y. Sugiyono (2016) states that the quantitative methodology is a research approach grounded in positivist philosophy. It is utilized to examine a particular population or sample, involving data collection through research instruments and the subsequent analysis of quantitative or statistical data. The primary objectives of this method are to describe phenomena and test hypotheses. The designated research site is the official website of the Indonesia Stock Exchange (IDX), located explicitly at www.idx.co.id. The study's population comprises mining industry businesses listed on the Indonesia Stock Exchange between 2020 and 2022. The study will involve 25 businesses operating in the mining sector, specifically those listed on the Indonesia Stock Exchange between 2020 and 2022. The term "sampling technique" pertains to the methodology employed in selecting a sample. The sampling methodology used in this study is purposive sampling.

Findings and Discussion

Findings

Based on the findings derived from the empirical analysis of Hypothesis 1 (H1), it can be inferred that the debt-to-equity ratio (DER) exhibits a positive correlation with the price-to-book value (PBV), albeit without statistical significance. The findings of this study contradict hypothesis H1, which posits that the Debt-to-Equity Ratio (DER) has a detrimental and statistically significant effect on the Price-to-Book Value (PBV). Based on the results of the t-test analysis, it was determined that the relationship between DER and PBV is positive but not statistically significant. This is supported by the computed t-value of 1.096, smaller than the critical t-value of 1.99394 obtained from the t-table. The Equity Ratio variable exhibits a significance level of 0.277, more significant than the conventional threshold of 0.05. Additionally, it possesses a beta coefficient β of 0.326, indicating a positive relationship.

Based on the results of testing Hypothesis 2 (H2), it can be explained that the Return On Asset (ROA), henceforth abbreviated as ROA, has a positive and significant impact on the price-to-book value (PBV). Therefore, H2 in this research is accepted. According to the calculations from the t-test, it is known that ROA has a positive and significant impact on PBV. This is evidenced by the calculated t-value of 5.279, greater than the table t-value of 1.99394. The Return On Asset variable has a significance level of 0.01, less than 0.05, and a beta coefficient β3β3 of 9.874 with a positive direction.

Discussion

The Debt-to-Equity Ratio (DER) is a financial metric quantifying the relationship between a company's total equity and debt. A low debt-to-equity ratio (DER) suggests the company can sustain its operations without significant dependence on borrowed funds. Nevertheless, it should be noted that a high Debt-to-Equity Ratio (DER) does not necessarily imply that the company is devoid of investment potential. The present study, which examines mining companies, discovered that certain entities have a debt-to-equity ratio (DER) significantly lower than 1. This suggests that the company has the potential to augment its funding to earn more profits, thereby leading to an increase in its Price-to-Book Value (PBV). The findings of this study validate the positive association between the Debt-to-Equity Ratio (DER) and the Price-to-Book Value (PBV), indicating that as the DER increases, the PBV generally follows suit. However, it is essential to note that the observed link lacks statistical significance. An upward trend in the debt-to-equity ratio (DER) may suggest that the company relies more heavily on debt to finance its operations or investments. Consequently, this could increase the price-to-book value (PBV) ratio if the investments yield a more excellent value than the associated debt costs. The lack of statistical significance seen in this study on the impact of DER on PBV may be attributed to other influential factors that significantly affect PBV, such as net income, revenue growth, and firm management.

In theory, a high return on assets (ROA) signifies the company's capacity to create profits derived from its assets. This study also reveals that a higher return on assets (ROA) is positively associated with an increase in the price-to-book value (PBV). The rationale behind this phenomenon is in the perception of investors, who view a company's ability to generate profits from its assets as a critical determinant of its investment-worthiness. Consequently, this positive perception increases the company's Price-to-Book Value (PBV) ratio. The findings of this analysis align with the empirical research conducted by Jufri Sani Akbar (2021), which asserts that the return on assets (ROA) exhibits a positive and statistically significant influence on the price-to-book value (PBV).

Conclusion

A mining company's capacity to conduct its operations with little dependence on borrowings is indicated by a low Debt to Equity Ratio (DER). A high debt-to-equity ratio (DER) does not automatically imply a deficiency in the company's investment prospects. Notably, specific organizations operating within this industry exhibit a DER (Debt-to-Equity Ratio) below 1, suggesting the possibility of augmenting their financial resources and yielding higher returns. The findings additionally validate a favorable correlation between DER and Book Value to Share Price (PBV), albeit lacking statistical significance. A positive correlation exists between a high Return on Asset (ROA) and an increase in Price-to-Book Value (PBV), indicating that the company's capacity to earn profits from its assets significantly shapes investors' opinion of its worth.

Based on the findings above, it is recommended that mining businesses characterized by low debt-to-equity ratios (DER) contemplate augmenting their financial resources while exercising cautionary measures. Investors and analysts should consider Return on Assets (ROA) when assessing possible investments. This is because a company's capacity to create profits from its assets plays a significant role in shaping a favorable perception of the firm's value. To enhance comprehension of corporate value evaluation, it is necessary to undertake additional research by investigating several elements that exert influence on PBV, including net income, revenue growth, and corporate management.

The findings of this study hold significant ramifications within the domain of mining company finance. The results offer valuable insights into the significance of debt management and return on assets (ROA) in assessing business value within this industry. The data presented in this study might serve as a valuable resource for mining businesses in formulating their financial strategy, encompassing capital structure and asset management. In contrast, investors may see the metrics of DER (debt-to-equity ratio) and ROA (return on assets) as significant determinants when making investment choices about mining corporations. While several associations examined in this study did not attain statistical significance, it is crucial to acknowledge that additional variables may exist unaccounted for in this study, which could impact the outcomes. Consequently, more investigation and thorough examination are imperative to comprehensively understand corporate performance and value.

References

Ahmad, L., & Munawir. (2018). *Sistem Informasi Manajemen Buku Referensi*. Lembaga KITA, Banda Aceh.

Andari, A. T., & Bakhtiar, Y. (2019). Pengaruh Price Cash Flow Ratio (PCFR) Dan Price Sales Ratio (PSR) Pada Return Saham. *Owner, 3*(2), 184. https://doi.org/10.33395/owner.v3i2.158

Bayu Nur Batin, & Ismanto, D. (2019). Pengaruh Current Ratio, Return on Equity dan Debt to Asset Ratio Terhadap Price Book Value Perusahaan Advertising, Printing Dan Media Yang Terdaftar Di Bursa Efek Indonesia Periode 2014-2017. *Jurnal Fokus, 9*(2).

Bodie, Z., Kane, A., & M. A. J. (2015). *Investasi Terjemahan Zuliani D.dan Budi Wibowo (Edisi keempat)*. Jakarta: Salemba.

Brigham, E. F., & Houston, J. F. (2019). *Dasar-dasar Manajemen Keuangan. Edisi Empat Belas. Buku Dua*. Salemba Empat, Jakarta.

Fahmi, I. (2017). *Analisis Laporan Keuangan*. Bandung: Alfabeta, CV.

Fahmi, I. (2018). *Pengantar Managemen Keuangan. Cetakan ke 6*. Bandung: Cv Alfabeta.

Ghozali, I. (2018). *Aplikasi Analisis Multivariate dengan Program IBM SPSS 25*. Badan Penerbit Universitas Diponegoro, Semarang.

Harmono. (2014). *Manajemen keuangan berbasis balance scorecard.pendekatan teori, kasus dan riset bisnis*. Jakarta: Bumi Aksara.

Hery. (2016). *Analisis Laporan Keuangan*. Jakarta: PT Grasindo.

Husnan, S., & Pudjiastuti, E. (201x). *Dasar-dasar Managemen Keuangan, Edisi Keenam*. Yogyakarta: UPP, STIM, YKPM.

I Made Sudana. (2019). *Teori Dan Praktik: Manajemen Keuangan Perusahaan*. Jakarta: Erlangga University Press.

Jufri Sani Akbar. (2021). The Effect Of Return On Asset And Return On Equity On Price Book Value On Banking Companies Listed On The Indonesia Stock Exchange. *Internasional Journal of Economic, Business and Accounting Research (IJEBAR), 5*(2).

Jumingan. (2014). *Analisis Laporan Keuangan*. Jakarta: Media Grafika.

Kasmir. (2015). *Bank dan Lembaga Keuangan Lainnya*. Jakarta: PT. Raja Grafindo Persada.

Kasmir. (2018). *Analisis Laporan Keuangan*. Jakarta: PT. Raja Grafindo Persada.

Kumba Digdowiseiso, & Falya Azkia Putri. (2022). Pengaruh Debt to Equity, Price to Earning Ratio, dan Dividend Payout Ratio Terhadap Price Book Value Perusahaan Subsektor Hotel, Restoran, dan Pariwisata Yang Terdaftar Pada Bursa Efek Indonesia Pada Periode 2016-2020. *Jurnal Ilmiah Indonesia, 7*(3).

Murhadi, W. R. (2015). *Analisis Laporan Keuangan Proyeksi dan Valuasi Saham*. In Salemba Empat.

Sugiyono. (2016). *Metode Penelitian Kuantitsatif, Kualitatif dan R&D*. Bandung: PT Alfabet.

Tsamara Athifah. (2021). Pengaruh Debt To Equity Ratio dan Return On Asset Terhadap Price Book Value Dengan Kepemilikan Manajerial Sebagai Variabel Moderasi. *MANEGGIO Jurnal Imniah Magister Manajemen, 4*(1).

Weygandt, K. K. (2016). *Financial Accounting 3e (IFRS Edition)*. Hoboken: Jhon Wiley & Sons, Inc.