

THE ROLE OF CAPITAL STRUCTURE AND INNOVATION IN INFLUENCING FIRM VALUE

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ABSTRACT

This research aims to investigate the effect of capital structure and innovation on firm value in infrastructure companies, non-consumer cycles, consumer cycles, raw materials, and health in Indonesia. The sample used purposive sampling to achieve this goal and got 105 firm-years from 2017-2021. Using regression analysis, the results obtained were that capital structure and innovation positively influence firm value. The matter indicates that the companies have found the optimal balance between equity and debt. Innovation helps companies adapt to rapid changes in consumer preferences, allowing them to grow and increase their values.

Keywords: Capital structure; Innovation; Firm value; Debt; Equity; Optimal

ABSTRAK

Studi ini bertujuan menginvestigasi pengaruh struktur modal dan inovasi terhadap nilai perusahaan di entitas sektor infrastruktur, siklus nonkonsumen, siklus konsumen, bahan baku, kesehatan di Indonesia. Untuk mencapai tujuan tersebut, teknik purposive sampling telah digunakan, dan didapat 105 firm-years selama periode 2017-2021. Dengan menggunakan analisis regresi, dihasilkan bahwa struktur modal dan inovasi berpengaruh positif terhadap nilai perusahaan. Hal tersebut mengindikasikan bahwa entitas telah berhasil menemukan keseimbangan yang optimal antara ekuitas dan hutang. Inovasi membantu perusahaan beradaptasi dengan perubahan preferensi konsumen yang cepat, sehingga memungkinkan perusahaan untuk terus berkembang dan meningkatkan nilainya.

Kata Kunci : Struktur modal; Inovasi; Nilai perusahaan; Hutang; Ekuitas; Optimal

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INTRODUCTION

An investor must have an effective investment plan to make a profit in the market (Sorongan & Yatna, 2018). The lack of ability of beginner investors to analyze companies results in beginner investors making the wrong choice in investing (Sofiatin, 2020). Investor confidence can be affected by the information provided regarding the firm's value. The high firm value influences the firm's degree of investor faith in the firm's prospects (Ardiansyah, 2020). A firm's value can indicate how a firm's decisions affect shareholders (Kadim & Sunardi, 2019). Various factors influence Firm Value. Among the various factors that influence it, Capital structure is a crucial factor that companies must consider.

The firm's management must fully understand the main components of the capital structure (Al-Slehat, 2019). The optimal level of capital structure will affect the companies's value (Safitri et al., 2019). The firm's growth is hampered by excessive borrowing, so shareholders think twice before investing (Kurniasih et al., 2022). The capital structure influences the firm value by optimizing its financial position (P. Amro & Asyik, 2021). The firm value is influenced by capital structure. Likewise, the risk the company will bear is more or less influenced by its capital structure. Investors should consider the composition of the capital structure and its potential impact because an enhancement in the company value may be due to increased investment costs.

Mudjijah et al. (2019) revealed that capital structure affects the firm's value. In the era of the Industrial Revolution 4.0, companies must continue to adapt and be more innovative and creative to be considered to exist in business competition (Pertwi & Suhartini, 2022). Perusahaan harus melakukan penelitian sebelum memulai bisnis atau operasi (Sari, 2020). Companies must conduct research and development to be adaptive to changing customer preferences and always strive to satisfy customers. Companies that cannot develop or innovate in products and technology will lose in the market (Qadir, 2022).

Innovation can be measured using Research and Development intensity, which compares Research and Development costs and total sales (Akyunina & Kurnia, 2021). Research and Development investment is also one aspect that affects the firm's value (Mudjijah et al., 2019). Investors will consider companies that have innovations with high R&D investment as an effort to develop the firm for its employees, both in the form of education and product development, so that it can encourage higher profits. Borghesi and Chang (2020) reveal that innovation affects the firm's value. Improving investors' perspective on the firm's value will enhance the value of capital structure and innovation (Wouters et al., 2020).

It referred to signaling theory, a management funding activity that can reflect investors' perspectives on the value of a firm's shares (Mubaraq et al., 2019). The firm's signals to investors are perceived as information regarding limited cash dividends. Good news from an entity is expected to enhance the firm value. Signal theory is the basis for companies to make voluntary disclosures, as stated in the annual report (Hapsoro & Falih, 2020).

Management's efforts to realize investors' desires are carried out by providing positive signals through valuable information. The positive signals the firm receives are reflected in the information disclosure provided by the firm. It increases investment value, positive reputation, and firm value. The firm's age is the time from the establishment of the firm until the firm operates (Muslih & Marbun, 2020). Theoretically, the longer a firm stands, the stronger the investor's trust. The longer the firm's lifespan, the higher the profits (Lambey et al., 2021). The firm's age is also an

important variable that drives firm performance. The older the firm, the more productive its capacity will be. The firm's age here can be measured from the year of the establishment of the firm to the year of observation (Halim & Kristen, 2017). The size of the entity shows the measure of the firm's capacity. The more considerable the measure of a firm, the bigger its ability to run various operations.

Based on the above arguments, our research aims to prove the influence of capital structure and innovation on firm value. The results provide theoretical contributions, namely expanding the theoretical signal framework, where capital structure and innovation are among the factors that need to be considered in enhancing firm value. The research results also contribute to regulators' determination of company management policies that must consider efficient capital structures and prioritize innovation so that companies always exist and grow well.

METHOD

To achieve the research objectives, this study uses samples of infrastructure companies, non-consumer cycles, consumer cycles, raw materials, and health in Indonesia. Using purposive sampling, 105 firm-years were obtained from 2017-2021. The analysis unit used is the companies' annual reports mentioned above. The sample selection criteria are as follows:

Table 1. Sample Selection

Sample Selection Characteristics	Year					Total
	2017	2018	2019	2020	2021	
1 Companies Listed on the IDX	566	619	668	713	766	3332
2 Unobtainable annual report	0	0	0	0	0	0
3 No data available for the research model	(539)	(592)	(641)	(686)	(739)	(3197)
Total	21	21	21	21	2	105

Source: Secondary data processed by researchers (2023)

Table 2. Variable Measurements and Scale

No	Variable	Measurement	Scale
1	Firm values (Pranayat et al., 2019)	$Tobin's Q = \frac{\text{Market Value of Equity} + \text{Liability}}{\text{Total Assets}}$	Ratio
2	Capital Structure (Rahmawati et al., 2021)	$Debt Assets Ratio = \frac{\text{Number of Liabilities}}{\text{Number of Assets}}$	Ratio
3	Innovation (Trianti et al., 2021)	$IRND = \frac{\text{Number of R\&D Expenses}}{\text{Number of Sales}}$	Ratio
4	Firm Age (Halim & Christiawan, 2017)	$Firm Age = \text{Observation Year} - \text{Firm Founding Year}$	Ratio
5	Firm size (Hirdinis, 2019)	$Firm Size = \text{Ln Total Assets}$	Ratio

Source: Pranyoto et al., (2019) ; Rahmawati et al., (2021) ; Trianti et al., (2021) ; Halim & Kristen, (2017) ; Hirdinis, (2019).

Capital structure and innovation are exogenous variables, and firm value is endogenous. The firm age and firm size of the firm are control variables to increase the level of accuracy between variables. The age of a firm is the age from the establishment of the firm until the firm operates. In theory, the longer a firm stands, the more substantial investor confidence will be. The longer the firm, the higher the profits

(Lambey et al., 2021). The firm's age is also an important variable that drives firm performance. The older a firm is the more significant its productive capacity. The firm's age here can be measured from the year of establishment to the year of observation (Halim & Kristen, 2017). The Firm Size regarding the size of the firm's capacity. The larger the firm's size, the more capable it is of carrying out various firm operations. Large companies can improve their ability to produce and complete various corporate obligations. The size of the firm is the level or measure of the firm. The firm size indicator can be translated into multiple measures, such as asset value and total capital. The size of a firm can be assessed from total assets (Halim & Kristen, 2017).

This study has 105 firm-year samples. Table 2 shows the measurement variables and scales each variable. The following two research models were developed:

$$Firm\ Value = \beta_0 + \beta_1 Modal\ structure + \beta_2 Firm\ age + \beta_3 Firm\ size + \epsilon \dots\dots\dots (Equation\ 1)$$

$$Firm\ Value = \beta_0 + \beta_1 Innovation + \beta_2 Firm\ age + \beta_3 Firm\ size + \epsilon \dots\dots\dots (Equation\ 2)$$

RESULT AND DISCUSSION

Table 3 is a descriptive statistic presentation that overviews the object studied – the amount of company value relative to total assets. The minimum value is -3,47. This value implies that the company has a lower market capitalization than cash. The smallest company value is BUKK in 2019. The most significant company value is 2,56, owned by HMSP. The mean of the company value is -0,1343, and the standard deviation is 0,99572. The standard deviation exceeds the mean, so the company value data is well distributed.

Table 3. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Firm values	105	-3.47	2.56	-0.1343	1.04459
Capital Structure	105	-2.83	1.87	-0.2957	0.89485
Innovation	97	-5.09	2.17	-0.6011	1.70047
Firm Age	105	3.16	10.7	5.8980	1.77440
Firm size	105	3.79	5.61	4.8369	0.57738
Valid N (list)	97				

Source: Data was processed by the researchers (2023)

The minimum value of capital structure is -2.83. A ratio below one explicates that the entity's capital structure is in good condition. A ratio above 1 denotes that the firm's capital structure is not good. BUKK owns the most minor capital structure. BCIC owns the largest, which is 1.87. It shows that the company uses more of its debt to finance assets. The mean is -0.2957, and the standard deviation is 1.23880. These yields indicate if the capital structure data is well distributed.

The minimum innovation is -5.09. It shows high research and development costs compared to the total sales innovation of the Firm IMAS – a maximum of 2,17 with the Firm MARI. The mean innovation is -0,6011; the Standard deviation is 1,742297. The standard deviation is higher than the mean, which shows that this study's innovation data distribution is promising.

The minimum value of the Firm's Age is 3,16. The youngest firm's age is MIDI. The maximum value of the firm's age is 10,77 with HMSP companies. The mean is 5.9749, and the standard deviation is 1.64038. With a standard deviation more minor than the mean, it is stated that the distribution of the firm's age data is not too good.



The firm's minimum size is 3.79. Firm Size indicates the size of the firm's assets under management. AISA obtained the minimum of the Firm's Ukraine. The maximum firm size is 5.61. If we look at the firm size data in this research sample, IMAS obtained the maximum firm size. The mean firm size is 4.8493, and the Standard deviation is 0.57506. The mean is higher than the standard deviation. The distribution of firm-size data in this study could be better.

Regression Results

Regression analysis tests hypotheses about the direct influence of capital structure and innovation on firm value. The estimation of regression results was tested with a significance level of 5%. The outcomes of the regression test are listed in Table 4.

Table 4. Regression Test Results

Model		Non-standard Coefficients		Standard Coefficient		
		B	Std. Error	Beta	T	sig.
1	(Konstan)	1.165	0.839		1.388	0.168
	Capital Structure	0.265	0.070	0.328	3.783	0.000
	Innovation	0,105	0,048	0.179	2.187	0.031
	Firm Age	0.114	0.050	0.182	2.259	0.026
	Firm size	-0.364	0.157	-0.201	-2.322	0.022

Dependent Variable: Firm Value

Source: Data processed by the researcher

The Influence of Capital Structure on Firm Value

Equation (1) intends to see the direct influence of capital structure on firm value. Table 4 shows that the capital structure has a significance level of 0.000, a calculated t-value of 3.784. It indicates that the capital structure positively affects firm value. The more optimal the capital structure, the more the entity's value will be enhanced. A 1% go-up in capital structure will enhance firm value by 0.265. The best capital structure is the structure that maximizes the firm value or stock price. The capital structure uses a ratio scale. The proxy structure capital is calculated by comparing the amount of liabilities with the amount of assets. Referring to the Modigliani-Miller theory (Modigliani & Miller, 1964), financial leverage enhances the firm value and lessens the weighted average cost of capital if tax information is ready. This context is relevant to conditions in Indonesia, where most companies face high taxes, credit risks, transaction costs, and inefficient market conditions. These conditions will encourage companies to create a confound of debt and equity financing. Thus, the important thing in managing capital structure is a good arrangement among the composite of liability and equity financing to maximize compatibility with the entity's market value and minimize the cost of capital to reach optimal capital structure. In line with these findings, Bui et al. (2023) also stated that efficient businesses will utilize capital effectively and utilize the tax burden for profit.

An optimal capital structure is also possible because debt financing is cheaper than equity. After all, the risk is lower. The return for investing investors is lower than the return for equity investors. Debts are also more affordable than equities because companies will get tax breaks on interest, while dividend payments are paid from after-tax earnings. However, the firm needs to consider the limit on the amount of debt

because an excessive amount will increase interest payments. If the firm bears an interest burden that is too high, it will disrupt its financial stability.

This study provides results similar to those of P. Z. N. Amro & Asyik (2021), Rahmawati et al. (2021), and Kurniasih et al. (2022), who stated that the capital structure has a positive effect on the firm's value. The optimal capital structure will increase firm value. However, this differs from Mubaraq et al. (2019), who stated that capital structure can be detrimental to the firm's value.

The Influence of Innovation on Firm Value

Equation testing (2) aims to see the direct effect of innovation on firm value. The regression results in Table 4 display that innovation has a significance level of 0.031 and a calculated t-value of 2.187. Thus, innovation has a positive effect on firm value. The bigger the allocation of R&D costs to innovate, the more firm value will increase. These results indicate that innovation in a business is a necessity. In business, innovation can be done by creating new products, expanding product lines, and targeting unmet market segments. By innovating, the firm can adapt to changes in the market, technology, and policies and explore new opportunities. Thus, the innovation carried out by the firm will encourage sustainable business growth, ultimately increasing firm value because investors will be more interested in a firm that innovates consistently. It is also in line with the opinion of Akyunina and Kurnia (2021), who stated that investors will react positively to a firm that constantly innovates, so in the end, it will impact the increase in the share price.

The signaling theory can explain this research yield. Spence (1981) developed the signaling model again and used various alternatives. In principle, the theory says that by providing a signal, the holder of the information tries to furnish information to the recipient. In principle, signaling theory explains how companies generate signals to information users. Referring to the theory and results of the analysis, the existence of innovation will furnish a positive signal to information recipients, especially investors. The information obtained by investors will help make investment decisions. Before making a decision, investors will evaluate a firm's innovation based on cash flow expectations, future growth opportunities, and risks (Srinivasan & Hanssens, 2009). More often, information about innovations is conveyed to investors; it signals investors to make investment decisions.

Studies on innovation have yielded similar results to this study. Dotzel and Shankar (2019) found that the innovation system carried out by business-to-business positively affects firm value. Shahira and Mayangsari (2022) found that the higher the cost incurred for innovation, the higher the firm value. Kurniasih and Wahidahwati (2023), Dwiyanti (2022), Kim et al. (2021), and Murinda et al. (2021) produced the same finding that innovation has a positive effect on firm value. Similarly, Rubera and Kirca's (2017) findings show that innovation can invent shareholder value by satisfying customers. However, this research differs from Putri and Trisnawati (2022), who stated that innovation does not increase firm value. It is also distinct from Wildan & Yulianti (2021), which produced findings that innovation will trigger high operational expenses to reduce profits, which also impacts decreasing firm value.

To improve the accuracy of interactions between variables, this study uses the control variables firm age and firm size. The yield in Table 4 denotes that firm age positively affects firm value. It shows that the increasingly mature the firm is, the more mature it is in business, which will indirectly increase firm value (Yulianto & Widayasi, 2021). Firm size hurts firm value. The bigger the firm size, the lower the

firm value. It could be because the firm's size is too large, making the supervision process difficult, reducing its efficiency, and ultimately reducing its value (Safaruddin et al., 2023).

CONCLUSION

This study has provided findings on the importance of capital structure control and innovation in increasing firm value. The outcome shows that capital structure has a positive effect on firm value. The results indicate that a more optimal capital structure will further enhance the firm's value. The best capital structure combines debt and equity to maximize the firm's value or stock price. These findings are relevant to the circumstances in Indonesia, where companies face problems of taxation, credit risk, transaction costs, and inefficient markets, so these conditions will encourage companies always to strive to create a combination of liability and equity financing to achieve optimal capital structure. The study's results further show that innovation positively affects firm value. The results indicate that allocating R&D costs for innovation will impact increasing firm value. Innovation will encourage sustainable business growth, ultimately increasing firm value because investors will pay more attention to companies that consistently innovate.

These research results give implications for companies regarding the importance of implementing optimal capital structure strategies by considering various business situations. Firms must also allocate adequate R&D expenditures to innovate consistently, adapt to market, technology, and policy changes, and explore new opportunities. The limitation of this research is the research model, which is still simple. Therefore, the authors suggest developing a research model on capital structure and innovation by considering an adequate theoretical and research gap.

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