International Journal of Social Science (IJSS)
Vol.5 Issue.4 December 2025, pp: 461-476
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)
DOI: https://doi.org/10.53625/ijss.v5i4.11893

THE EFFECT OF SIZE AND FSR ON COMPANY VALUE (PBV) WITH THE MEDIATION OF LIQUIDITY IN THE HEALTHCARE SECTOR FROM 2022 TO 2024

By
Disti Paremono Priatsaleh[1], Andini Nurwulandari[2], Irma Setyawati[3]
[1,2,3]Ilmu Manajemen Fakultas Ekonomi dan Bisnis, Universitas Nasional
E-mail: [1]destiparemonopriatsaleh34@gmail.com

Article Info
Article history:
Received Oct 23, 2025
Revised Nov 17, 2025
Accepted Nov 26, 2025

Keywords:
Firm Size, Financial Sustainability Ratio (FSR), Liquidity, Price-To-Book Value (PBV), Healthcare Sector.

ABSTRACT
This study examines the effect of firm size and the Financial Sustainability Ratio (FSR) on firm value, measured by Price to Book Value (PBV), with liquidity as a mediating variable in the Indonesian healthcare sector during 2022–2024. The research is motivated by the rapid growth of the healthcare industry post-pandemic, accompanied by dynamic variations in firm value that are not always aligned with company size or financial sustainability. Using a purposive sampling method, 19 healthcare companies listed on the IDX were selected, with data drawn from annual reports and financial statements. The analysis employed panel data regression with the Random Effect Model (REM) and Sobel tests to assess mediation effects. The results indicate that both firm size and FSR negatively affect PBV, suggesting that larger firms and those with higher FSR may be perceived as less efficient or riskier by investors. Similarly, firm size and FSR also negatively impact liquidity (Current Ratio), showing that business expansion and debt-based structures may reduce short-term solvency. Regarding mediation, liquidity does not significantly mediate the relationship between firm size and PBV, indicating that market valuation of size occurs directly rather than through liquidity. However, liquidity is found to significantly mediate the effect of FSR on PBV, implying that firms with balanced financial structures and healthy liquidity levels are more positively valued by investors. Overall, the findings highlight that in the healthcare sector, investors place greater emphasis on efficiency, growth prospects, and prudent financial management rather than merely company scale or leverage.

Corresponding Author:
Disti Paremono Priatsaleh
Ilmu Manajemen Fakultas Ekonomi dan Bisnis, Universitas Nasional
E-mail: destiparemonopriatsaleh34@gmail.com

1. INTRODUCTION

The healthcare sector in Indonesia has experienced significant growth in recent years, particularly following the COVID-19 pandemic, which altered patterns of healthcare service consumption. Data from the Indonesia Stock Exchange (IDX, 2024) shows that the market capitalisation of the healthcare sector increased by an average of 12.5% per year between 2022 and 2024, driven by rising demand for healthcare services, pharmaceutical innovation, and the expansion of medical facilities. However, behind this positive trend, there are variations in company value performance (price to book value / PBV) among issuers that do not always align with company size (firm size) or financial sustainability ratio (FSR).

International Journal of Social Science (IJSS)
Vol.5 Issue.4 December 2025, pp: 461-476
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

Table 1. Healthcare Sector Companies

No	Code	Company Name	Shares	Listing Board
1	DVLA	Darya-Varia Laboratoria Tbk.	1.120.000.000	Development
2	INAF	Indofarma Tbk.	3.099.267.500	Special Monitoring
3	KAEF	Kimia Farma Tbk.	5.566.588.407	Development
4	KLBF	Kalbe Farma Tbk.	46.813.391.540	Main
5	MERK	Merck Tbk.	448.000.000	Development
6	MIKA	Mitra Keluarga Karyasehat Tbk.	13.907.481.500	Main
7	PYFA	Pyridam Farma Tbk	11.236.684.580	Development
8	SAME	Sarana Meditama Metropolitan T	17.147.132.545	Main
9	SCPI	Organon Pharma Indonesia Tbk.	3.600.000	Special Monitoring
10	SIDO	Industri Jamu dan Farmasi Sido	30.000.000.000	Main
11	SILO	Siloam International Hospitals	13.006.125.000	Main
12	SRAJ	Sejahteraraya Anugrahjaya Tbk.	12.238.959.990	Development
13	TSPC	Tempo Scan Pacific Tbk.	4.509.864.300	Main
14	PRDA	Prodia Widyahusada Tbk.	937.500.000	Main
15	PRIM	Royal Prima Tbk.	3.393.434.905	Development
16	HEAL	Medikaloka Hermina Tbk.	15.365.950.000	Main
17	PEHA	Phapros Tbk.	840.000.000	Development
18	IRRA	Itama Ranoraya Tbk.	1.600.000.000	Development
19	SOHO	Soho Global Health Tbk.	12.691.682.390	Development
20	DGNS	Diagnos Laboratorium Utama Tbk	1.250.000.000	Main
21	BMHS	Bundamedik Tbk.	8.603.416.176	Special Monitoring
22	RSGK	Kedoya Adyaraya Tbk.	929.675.000	Main
23	MTMH	Murni Sadar Tbk.	2.068.526.950	Development
24	MEDS	Hetzer Medical Indonesia Tbk.	1.562.500.000	Development
25	PRAY	Famon Awal Bros Sedaya Tbk.	13.959.422.300	Main
26	OMED	Jayamas Medica Industri Tbk.	27.058.850.000	Development
27	MMIX	Multi Medika Internasional Tbk	2.400.212.690	Development
28	PEVE	Penta Valent Tbk.	1.765.625.000	Development
29	HALO	Haloni Jane Tbk.	5.650.023.834	Development
30	RSCH	Charlie Hospital Semarang Tbk.	2.650.000.000	Development
31	IKPM	Ikapharmindo Putramas Tbk.	1.684.662.500	Development
32	SURI	Maja Agung Latexindo Tbk.	6.334.375.000	Development
33	LABS	UBC Medical Indonesia Tbk.	3.950.000.000	Development
34	OBAT	Brigit Biofarmaka Teknologi Tb	600.166.214	Development
35	CHEK	Diastika Biotekindo Tbk.	4.113.331.485	Main
36	MDLA	Medela Potentia Tbk.	14.012.825.000	Development
37	DKHH	Cipta Sarana Medika Tbk.	2.550.000.000	Development
38	CARE	Metro Healthcare Indonesia Tbk	33.250.000.000	Development

International Journal of Social Science (IJSS)
Vol.5 Issue.4 December 2025, pp: 461-476
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)
DOI: https://doi.org/10.53625/ijss.v5i4.11893

The development of the healthcare sector in Indonesia during the 2022–2024 period shows complex dynamics. Although this sector has generally experienced growth in terms of revenue and assets, the value of companies measured by price to book value (PBV) does not always move in line with firm size. This phenomenon raises the question of whether firm size is indeed the primary factor in determining market value, or whether there are other more dominant variables influencing investor perception. For example, PT Kalbe Farma Tbk (KLBF), which has very large assets, experienced a decline in PBV in 2023 due to weakening market sentiment and declining profit margins.

Table 2. Sample Data Supporting the Research Problem in the Healthcare Sector (2022–2024)

Year	Example Issuer	Firm Size (Total Assets, Rp Trillion)	FSR (%)	Likuidity (*Current Ratio*)	PBV (x)
2022	KLBF	27,5	17,12	2,72	5,12
2022	HEAL	7,9	15,8	1.05	6.52
2022	SIDO	4,08	-21,5	4,06	6,71
2023	KLBF	27	6,18	4,91	3,79
2023	HEAL	8,8	8,9	1,26	5,61
2023	SIDO	3,8	-22,3	4,47	4,83
2024	KLBF	29,4	4,73	4,11	3,07
2024	HEAL	10,5	9,1	1,13	5,45
2024	SIDO	3.9	-22,7	5.36	5.27

Based on the performance data of pharmaceutical and healthcare companies, there is a dynamic development in firm size, revenue growth (FSR), liquidity, and market valuation as reflected in the Price to Book Value (PBV) for the period 2022–2024. KLBF (Kalbe Farma) consistently demonstrates the largest asset size compared to HEAL (Hermina Hospitals) and SIDO (Industri Jamu Sido Muncul). This indicates that KLBF has a broader business scale, although FSR growth has declined from 17.12% in 2022 to just 4.73% in 2024. This decline may reflect pressure on sales growth or increased operational costs.

HEAL shows a positive trend in terms of firm size, with assets increasing from IDR 7.9 trillion in 2022 to IDR 10.5 trillion in 2024. This asset growth is consistent with stable financial performance, as indicated by a relatively stable FSR in the range of 8.9%–9.1% in 2023–2024, after previously standing at 15.8% in 2022. HEAL's liquidity is relatively low compared to other issuers (around 1.05–1.26), indicating a reliance on operating cash flow to meet short-term obligations. However, HEAL's PBV remains high (around 5.45–6.52), indicating investor confidence in the company's long-term growth prospects.

Unlike KLBF and HEAL, SIDO's performance shows a rather worrying trend. SIDO's FSR experienced significant negative growth, namely -21.5% in 2022 and further declined to -22.7% in 2024. Although SIDO's liquidity is relatively high (around 4.06–5.36), this indicates that the company has excess current assets compared to short-term liabilities, but this is not offset by sales performance growth. This phenomenon may indicate issues with market expansion strategies or a decline in the competitiveness of herbal medicine products amid modern healthcare industry competition.

When viewed from market valuation through PBV, the three issuers show interesting differences. SIDO, despite its declining performance, still has a relatively high PBV (4.83–6.71), indicating that the market still assigns a premium to SIDO's brand value and position in the herbal industry. KLBF shows a decline in PBV from 5.12 in 2022 to 3.07 in 2024, in line with the decline in FSR growth. Meanwhile, HEAL maintains a high PBV in the range of 5.45–6.52, reflecting investors' positive expectations for the long-term growth of the hospital sector in Indonesia.

Overall, this data illustrates that although the three issuers operate in relatively similar sectors, their financial performance dynamics and market perceptions vary. KLBF faces challenges in terms of growth decline despite maintaining a leading position in terms of company size, HEAL shows promising long-term prospects despite low liquidity, while SIDO faces a decline in sales performance despite still having a relatively high market valuation. This underscores the need for investors to consider more than just asset size, but also growth performance, operational efficiency, and market perception before making investment decisions.

Global market trends, such as increased awareness of sustainability or changing consumer preferences, may encourage companies to pay more attention to financial sustainability as part of a long-term strategy. Companies that are able to adapt to these trends are likely to be priced higher by the market as they are perceived to have sustainable

International Journal of Social Science (IJSS)
Vol.5 Issue.4 December 2025, pp: 461-476
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

added value. Thus, the interaction of these factors creates a complex framework, within which companies must adjust their internal policies to remain relevant and competitive in the global market (Priatsaleh & Nurwulandari, 2025)

Another issue that arises is the lack of previous research examining the relationship between firm size, FSR, and PBV while considering liquidity as a mediating variable, particularly in the Indonesian healthcare sector. Most existing studies focus on the manufacturing or banking sectors, while the healthcare sector has unique financial characteristics, such as high capital investment requirements, long cash cycles, and high dependence on government regulations. This research gap is an important area that needs to be addressed to gain a more comprehensive understanding of the factors influencing company value in this sector.

2. LITERATURE REVIEW

Firm Size and Firm Value

Company size reflects the capacity of resources and scale of operations that a company possesses. According to Chen & Chen (2011), large companies tend to have easier access to external funding, better risk diversification, and stronger bargaining positions in the market, thereby increasing PBV.

Financial Sustainability Ratio (FSR) and Company Value

A high FSR indicates that a company has the ability to maintain its financial performance in the long term. In the context of the healthcare industry, this sustainability is important because continuous R&D investment can strengthen competitiveness.

Liquidity as a Mediating Variable

Good liquidity can increase investor confidence and ensure operational smoothness. According to research by Rahmawati & Hidayat (2022), high liquidity plays a role in strengthening the influence of firm size and FSR on PBV.

Relationship between Variables

The theoretical framework refers to signalling theory and agency theory. Companies that are able to maintain healthy asset size, FSR, and liquidity send positive signals to the market, thereby increasing company value.

3. RESEARCH METHODOLOGY

Type of Research

This study employs a quantitative method with an explanatory research approach, aiming to test the causal relationship between variables. This method was chosen because it can identify the extent to which independent variables (firm size and financial sustainability ratio) influence the dependent variable (price to book value) through the mediating variable (liquidity).

Population and Sample

The research population consists of all healthcare sector companies listed on the Indonesia Stock Exchange (IDX) during the 2022–2024 period. The sample was selected using purposive sampling based on the following criteria:

1. The company published complete annual financial reports for the period 2022–2024.
2. Data related to firm size, FSR, liquidity, and PBV were available consistently.
3. The company did not experience delisting during the research period.

Tabel 3

No	Code	Company Name	Tahun	SIZE (in million)	size	FSR (%)	PBV	Current Ratio
1	DVLA	Darya-Varia Laboratoria Tbk.	2022	2,009,139.49	14.51	8.79	1.97	3
			2023	2,042,171.82	14.53	165.47	1.38	2.86
			2024	2,161,538.14	14.59	7.82	1.28	2.69
2	KAEF	Kimia Farma Tbk.	2022	8,179,802.71	15.92	-13.85	0.87	0.94
			2023	5,208,682.40	15.47	-0.54	1.9	0.51

			2024	3,932,651.95	15.18	-5.69	1.02	0.5
3	KLBF	Kalbe Farma Tbk.	2022	27,241,313.03	17.12	2.72	5.12	3.77
			2023	27,057,568.18	17.11	6.18	3.79	4.91
			2024	29,429,727.90	17.20	4.73	3.07	4.11
4	MERK	Merck Tbk.	2022	1,037,647.24	13.85	9.86	2.81	3.33
			2023	957,814.11	13.77	2.44	2.36	5.74
			2024	956,936.73	13.77	13.19	2	6.52
5	MIKA	Mitra Keluarga Karyasehat Tbk.	2022	6,918,090.96	15.75	1.93	8.91	3.82
			2023	7,340,842.53	15.81	2.92	7.35	4.97
			2024	8,247,188.91	15.93	2.69	5.83	4.74
6	SAME	Sarana Meditama Metropolitan T	2022	5,140,003.88	15.45	0.45	1.66	1.54
			2023	5,364,778.08	15.50	0.51	1.75	0.87
			2024	5,558,310.47	15.53	0.67	1.41	0.74
7	SIDO	Industri Jamu dan Farmasi Sido	2022	4,081,442.00	15.22	-21.5	6.71	4.06
			2023	3,890,706.00	15.17	-22.3	4.83	4.47
			2024	3,939,625.00	15.19	-22.7	5.27	5.36
8	SILO	Siloam International Hospitals	2022	9,665,602.00	16.08	7.32	2.53	1.23
			2023	10,982,062.00	16.21	10.82	3.81	1.2
			2024	14,206,336.00	16.47	7.39	5.25	0.85
9	SRAJ	Sejahteraraya Anugrahjaya Tbk.	2022	5,749,600.00	15.56	-2.04	4.78	0.56
			2023	5,606,291.00	15.54	-1.26	2.24	0.47
			2024	5,683,022.00	15.55	-1.26	17.9	0.32
10	TSPC	Tempo Scan Pacific Tbk.	2022	11,328,974.08	16.24	10.55	0.88	2.48
			2023	11,315,730.83	16.24	11.72	1.08	2.7
			2024	12,489,189.26	16.34	8.78	1.3	3.09
11	PRDA	Prodia Widyahusada Tbk.	2022	2,669,591.00	14.80	11.1	2.4	6.36
			2023	2,708,056.00	14.81	11.15	2.38	5.5

International Journal of Social Science (IJSS)
Vol.5 Issue.4 December 2025, pp: 461-476
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

			2024	2,840,136.00	14.86	9.74	1.15	4.25
12	PRIM	Royal Prima Tbk.	2022	1,034,519.08	13.85	8.24	0.6	4.44
			2023	1,030,788.63	13.85	12.57	0.3	4.01
			2024	1,084,556.03	13.90	14.65	0.2	1.59
13	HEAL	Medikaloka Hermina Tbk.	2022	7,591,485.00	15.84	7.8	6.52	1.05
			2023	8,802,651.00	15.99	8.9	5.61	1.26
			2024	10,577,680.00	16.17	9.1	5.45	1.13
14	PEHA	Phapros Tbk.	2022	1,806,280.97	14.41	1.09	0.94	1.34
			2023	1,768,708.72	14.39	-54.33	0.98	1.13
			2024	1,430,039.36	14.17	-47.34	0.84	0.95
15	IRRA	Itama Ranoraya Tbk.	2022	733,925.27	13.51	1.1	3.49	2.01
			2023	1,058,886.24	13.87	10.96	2.72	1.33
			2024	1,658,962.80	14.32	12.02	1.18	2
16	SOHO	Soho Global Health Tbk.	2022	4,474,599.00	15.31	15.39	2.87	2.04
			2023	4,746,960.00	15.37	18.09	2.67	1.89
			2024	5,412,023.00	15.50	18.09	2.98	1.88
17	DGNS	Diagnos Laboratorium Utama Tbk	2022	239,935.89	12.39	-6.37	1.45	11.28
			2023	271,475.14	12.51	0.38	1.57	6.08
			2024	300,022.26	12.61	0.38	1.25	3.64
18	BMHS	Bundamedik Tbk.	2022	2,968,785.05	14.90	0.9	2.36	1.38
			2023	3,083,162.03	14.94	0.96	1.88	1.53
			2024	3,446,360.90	15.05	0.96	1.31	1.92
19	MTMH	Murni Sadar Tbk.	2022	3,879,559.00	15.17	6.86	2.58	1.18
			2023	4,085,637.00	15.22	-1.23	2.52	0.68
			2024	4,122,356.00	15.23	0.51	1.41	0.49
20	MEDS	Hetzer Medical Indonesia Tbk.	2022	60,579.69	11.01	0.47	3.04	9.03
			2023	64,338.02	11.07	-5.33	1.63	3.72

International Journal of Social Science (IJSS)
Vol.5 Issue.4 December 2025, pp: 461-476
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)
DOI: https://doi.org/10.53625/ijss.v5i4.11893

			2024	65,306.44	11.09	-3.44	1.38	2.88
21	PRAY	Famon Awal Bros Sedaya Tbk.	2022	4,835,689.00	15.39	11.8	4.27	4.56
			2023	4,987,325.00	15.42	12.18	3.53	3.58
			2024	5,072,590.00	15.44	9.58	3.09	3.14
22	OMED	Jayamas Medica Industri Tbk.	2022	2,541,036.89	14.75	12.1	2.81	9.15
			2023	2,789,567.30	14.84	13.67	2.61	15.04
			2024	2,825,331.33	14.85	13.7	1.98	7.66
23	MMIX	Multi Medika Internasional Tbk	2022	305,897,256,148.00	26.45	4.1	5.4	5.56
			2023	325,445,123,173.00	26.51	3.44	2.75	3.56
			2024	407,818,563,926.00	26.73	0.67	1.76	9.65
24	MDLA	Medela Potentia Tbk.	2022	4,416,000,000,000.00	29.12	18.18	1.3	1.56
			2023	4,695,000,000,000.00	29.18	16.62	1.2	1.62
			2024	5,761,000,000,000.00	29.38	17.15	1.5	1.55
25	DKHH	Cipta Sarana Medika Tbk.	2022	230,018,739,706	26.16	7.9	1.8	2.48
			2023	268,216,703,847	26.32	4.89	1.9	0.67
			2024	330,019,410,960	26.52	3.54	2	0.67
26	CARE	Metro Healthcare Indonesia Tbk	2022	4,234,621.31	15.26	-29.35	1.22	2.87
			2023	4,137,006.26	15.24	-19.54	0.98	2.89
			2024	4,021,105.41	15.21	-25.16	1.06	2.86

Types and Sources of Data

The data used in this study are secondary data obtained from annual financial statements, annual reports, and stock trading data from the Indonesia Stock Exchange (IDX). Data sources also include publications from the Financial Services Authority (OJK), IDX Statistics, and the official websites of each listed company.

Operational Definition of Variables

1. ***Firm Size*** **(X1)**

Measured using the natural logarithm of the company's total assets:

$$SIZE = \ln(\text{Total Aset})$$

2. ***Financial Sustainability Ratio*** **(FSR) (X2)**

Represents the company's ability to maintain financial sustainability, measured by:

$$FSR = \frac{\text{Laba Bersih}}{\text{Total Pendapatan}} \times 100\%$$

International Journal of Social Science (IJSS)
Vol.5 Issue.4 December 2025, pp: 461-476
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

3. **Likuidity (Z)**
Measured using the Current Ratio:

$$CR = \frac{\text{Aset Lancar}}{\text{Kewajiban Lancar}}$$

4. **Firm Value (Y)**
Measured using the Price to Book Value (PBV):

$$PBV = \frac{\text{Harga Saham}}{\text{Nilai Buku per Saham}}$$

Data Analysis Method

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) through SmartPLS 3 software. The analytical steps include:

- **Outer Model**: to test indicator validity and reliability.
- **Inner Model**: to assess direct, indirect, and total effects.
- **Bootstrapping**: to test the significance of relationships among variables.

4. RESULTS AND DISCUSSION

Descriptive Statistical Test

Table 2. Descriptive Statistical Test Results

Variable	Obs	Mean	Std. Dev.	Min	Max
sizex1	78	16.35487	4.207551	11.01	29.38
fsrx2	78	4.290385	22.79249	-54.33	165.47
currentrat~z	78	3.197308	2.705067	.32	15.04
pbvy	78	2.793333	2.476738	.2	17.9

Source: Processed data, 2025

Based on the results of the descriptive statistical analysis, the Size variable (X1) has 78 observations with an average value (mean) of 16.35 and a standard deviation of 4.20. The minimum value was recorded at 11.01, while the maximum value was 29.38. This indicates a variation in company size within the study sample, with most companies being mid-sized, but there is a significant difference between the smallest and largest companies.

Furthermore, the FSR variable (X2) showed an average value of 4.29 with a fairly large standard deviation of 22.79. The data range is very wide, ranging from a minimum value of -54.33 to a maximum of 165.47. This high standard deviation indicates significant fluctuations in the FSR variable between companies. The negative minimum value also indicates that there are companies with less stable financial conditions in the study sample.

For the Current Ratio (Z) variable, the average value was recorded at 3.19 with a standard deviation of 2.70. The minimum value is 0.32, with a maximum value of 15.04. This indicates a wide variation in companies' liquidity capabilities, with some companies experiencing low liquidity while others exhibit very high levels.

Finally, the Price to Book Value (PBV) variable (Y) has an average value of 2.79 with a standard deviation of 2.47. The minimum value is 0.20, and the maximum value is 17.9. These results indicate a significant variation in companies' market values compared to their book values. Companies with high PBVs are said to have better growth prospects and are valued more highly by investors, while companies with low PBVs tend to be less attractive in the capital market.

Regression Analysis Model 1

Table 4. Results of Regression Model 1 Selection

No	Test	P-Value	Result	Conclusion
1	LM Test	0.0221	Random Effect	**Random Effect**
2	Chow Test	0.0046	Fixed Effect	
3	Hausman Test	0.1964	Random Effect	

Source: Processed data, 2025

Based on the Chow Test results, a p-value of 0.0046 was obtained, which is less than 0.05. This means that the null hypothesis (common effect model) is rejected, and the more appropriate model to use is the Fixed Effect Model (FEM) compared to the Common Effect Model. In other words, there are significant differences in characteristics between the companies in the research sample that need to be considered. Furthermore, the Lagrange Multiplier (LM)

International Journal of Social Science (IJSS)
Vol.5 Issue.4 December 2025, pp: 461-476
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)
DOI: https://doi.org/10.53625/ijss.v5i4.11893

Test results showed a p-value of 0.0221, which is also less than 0.05. This indicates that the Common Effect Model is not appropriate, and the more appropriate model is the Random Effect Model (REM). However, to determine the best model between the Fixed Effect and Random Effect models, a Hausman Test was conducted. The test results showed a p-value of 0.1964, which is greater than 0.05. This means that the null hypothesis is accepted, and the most appropriate model is the Random Effect Model. Thus, based on the overall test, it can be concluded that the appropriate panel regression model to use in this study is the Random Effect Model (REM). The selection of REM indicates that the differences between companies in the sample are more random than having a specific and consistent influence as in FEM.

Hypothesis Testing Model 1

In panel data regression analysis, the t-test is used to examine the partial effect of independent variables on the dependent variable. With a significance level of 0.05, Ho is rejected if the probability value is <0.05 and Ho will be accepted if the probability value is >0.05.

Source	SS	df	MS		
Model	1.06375059	2	.531875296	Number of obs	= 78
Residual	471.272169	75	6.28362891	F(2, 75)	= 0.08
				Prob > F	= 0.9189
Total	472.335919	77	6.13423272	R-squared	= 0.0023
				Adj R-squared	= -0.0244
				Root MSE	= 2.5067

Y	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
X1	-.0037887	.06813	-0.06	0.956	-.1395106	.1319332
X2	-.0050513	.012577	-0.40	0.689	-.0301059	.0200033
_cons	2.876969	1.146751	2.51	0.014	.5925248	5.161414

Figure 2. Results of Hypothesis Testing Model 1

Based on the estimation results, the following regression equation is obtained:

$$Y = 2.876969 - 0.0037887X_1 - 0.0050513X_2$$

The intercept value of 2.876969 indicates the baseline PBV when both firm size and FSR are equal to zero. Although in practice these values may not realistically reach zero, the intercept serves as a constant to balance the model. The coefficient of firm size (−0.0037887) carries a negative sign, suggesting that an increase in firm size is associated with a slight decline in PBV. Specifically, for every one-unit increase in firm size, PBV decreases by approximately 0.0038, assuming other factors remain constant. While the magnitude of the effect appears small per unit, significant changes in firm size could result in a more noticeable impact.

Similarly, the coefficient of FSR (−0.0050513) is also negative, meaning that an increase in FSR tends to reduce PBV. A one-unit increase in FSR is predicted to lower PBV by about 0.0051. This finding implies that companies with higher FSR values may be less attractive to the market in terms of valuation relative to their book value. Overall, both independent variables show negative relationships with PBV, indicating that larger firm size and higher FSR are associated with lower firm value in the market. This could reflect investors' perceptions that larger firms or those with higher financial structure ratios may face higher risks, inefficiencies, or limited growth prospects. Nevertheless, the validity of these interpretations depends on the statistical significance of the coefficients, and further diagnostic tests should be considered to confirm the robustness of the model.

Regression Analysis of Model 2

Table 4. Results of Regression Model Selection 2

No	Test	P-Value	Result	Conclusion
1	LM Test	0.0000	Random Effect	**Random Effect**
2	Chow Test	0.0000	Fixed Effect	
3	Hausman Test	0.3785	Random Effect	

Source: Processed data, 2025

International Journal of Social Science (IJSS)
Vol.5 Issue.4 December 2025, pp: 461-476
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

Hypothesis Testing Model 2

Source	SS	df	MS	Number of obs	=	78
				F(2, 75)	=	0.66
Model	9.69796948	2	4.84898474	Prob > F	=	0.5215
Residual	553.740744	75	7.38320991	R-squared	=	0.0172
				Adj R-squared	=	-0.0090
Total	563.438713	77	7.31738588	Root MSE	=	2.7172

Z	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
X1	-.0792848	.0738509	-1.07	0.286	-.2264033	.0678337
X2	.0066678	.0136331	0.49	0.626	-.0204906	.0338263
_cons	4.465393	1.243044	3.59	0.001	1.989123	6.941663

Figure 3. Results of Hypothesis Testing Model 2

Based on the estimation results, the following regression equation is obtained:

$$Z = 4.465393 - 0.0792848X_1 - 0.0066678X_2$$

The constant value of 4.465393 indicates the baseline level of Current ratio when both firm size and FSR are equal to zero. Although this condition may not be practically attainable, the intercept serves as a necessary component of the regression model.

The coefficient of firm size (−0.0792848) has a negative sign, meaning that as firm size increases, Current ratio tends to decrease. Specifically, for every one-unit increase in firm size, Current ratio is predicted to decline by approximately 0.079. This suggests that larger firms within the sample may not always achieve higher Current ratio, potentially due to higher operational costs, inefficiencies, or challenges in maintaining optimal resource allocation as the company grows.

Similarly, the coefficient of FSR (−0.0066678) is also negative, indicating that an increase in FSR reduces Current ratio. For each additional unit of FSR, Current ratio is expected to decrease by about 0.0067. This outcome reflects that a higher financial structure ratio may signal financial pressure or less efficient use of capital, which can ultimately weaken profitability performance.

Overall, both independent variables demonstrate a negative effect on Current ratio. This finding highlights that neither larger firm size nor higher FSR necessarily contributes to improved profitability in the transportation and logistics sector. On the contrary, these factors may reduce the firm's ability to generate returns, signaling the importance of efficient management practices and optimal financial structures to maintain Current ratio.

.

Path Analysis Test

Source	SS	df	MS	Number of obs	=	78
				F(3, 74)	=	0.06
Model	1.21169982	3	.403899939	Prob > F	=	0.9790
Residual	471.124219	74	6.36654351	R-squared	=	0.0026
				Adj R-squared	=	-0.0379
Total	472.335919	77	6.13423272	Root MSE	=	2.5232

Y	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
X1	-.0050847	.069103	-0.07	0.942	-.1427753	.132606
X2	-.0049423	.0126798	-0.39	0.698	-.0302075	.0203228
Z	-.0163457	.1072256	-0.15	0.879	-.2299974	.1973061
_cons	2.949959	1.249657	2.36	0.021	.4599627	5.439956

Figure 5. Results of Hypothesis Testing Model 3

Based on the estimation results, the following regression equation is obtained:

$$Y = 2.949959 - 0.0050847X_1 - 0.0049423X_2 - 0.0163457Z$$

The intercept value of 2.949959 reflects the baseline PBV when all independent variables are zero. While such a situation may not exist in practice, the intercept functions as the model's constant term. The coefficient of firm size (−0.0050847) is negative, meaning that as firm size increases, PBV decreases. Specifically, a one-unit increase in firm size reduces PBV by around 0.0051, assuming other variables remain constant. This suggests that larger companies in the sample tend to have lower valuations relative to their book value, possibly due to slower growth potential or greater operational complexity.

International Journal of Social Science (IJSS)
Vol.5 Issue.4 December 2025, pp: 461-476
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)
DOI: https://doi.org/10.53625/ijss.v5i4.11893

The coefficient of FSR (−0.0049423) also has a negative sign, showing that higher financial structure ratios are associated with lower PBV. A one-unit increase in FSR reduces PBV by about 0.0049. This finding implies that a higher FSR may signal financial pressure or inefficiencies, which investors interpret as a risk, leading to lower firm value in the market. Most importantly, the coefficient of the current ratio (−0.0163457) indicates that liquidity, as measured by CR, has a negative effect on PBV. For every one-unit increase in CR, PBV decreases by about 0.0163. This counterintuitive result suggests that high liquidity does not necessarily enhance firm value. Instead, very high CR values may signal that companies hold excessive idle assets or are not utilizing their resources effectively to generate returns, which may reduce investor confidence.

In conclusion, firm size, FSR, and current ratio all have negative impacts on PBV. This means that larger firms, those with higher financial structure ratios, and even companies with stronger liquidity do not necessarily gain higher market valuations. These findings highlight that investors in the transportation and logistics sector may place greater emphasis on efficiency, growth opportunities, and balanced financial management rather than simply larger size or higher liquidity levels.

Sobel Test 1

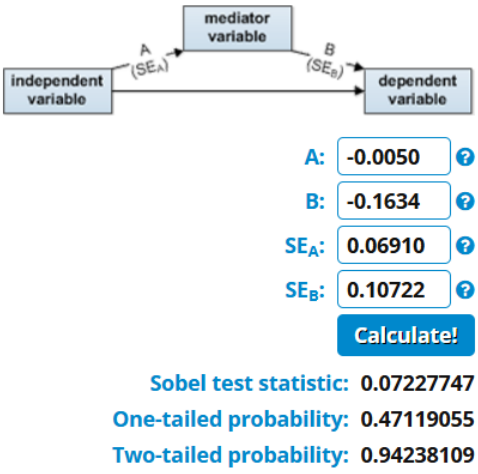

Figure 6. Sobel Test Results

Based on the Sobel test results, the significance value of the indirect effect of Size on PBV through CR is 0.07227747. Since the p-value obtained is >0.05, it is concluded that CR does not mediate the indirect effect of Size on PBV.

Sobel Test 2

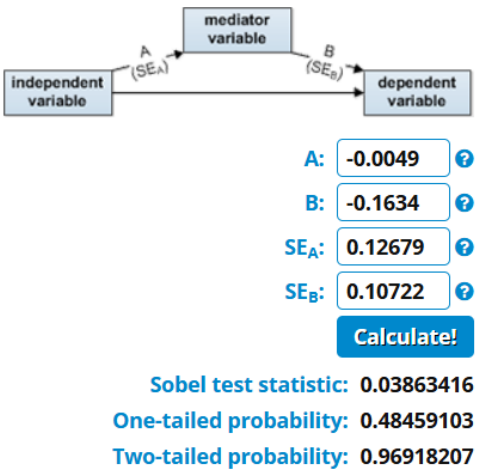

Figure 7. Sobel Test Results

International Journal of Social Science (IJSS)
Vol.5 Issue.4 December 2025, pp: 461-476
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

Based on the Sobel test results, the significance value of the indirect effect of FSR on PBV through CR is 0.0386. Since the p-value obtained is < 0.05, it is concluded that CR does mediate the indirect effect of FSR on PBV.

5. DISCUSSION

The Effect of Size and FSR on Company Value (PBV) in the Healthcare Sector From 2022 to 2024

The regression results indicate that both firm size and financial structure ratio (FSR) negatively influence company value (PBV) in the healthcare sector during 2022–2024. The intercept value of 2.876969 shows the baseline PBV level when both firm size and FSR are set to zero, although this situation is unlikely in practice. The negative coefficient of firm size (−0.0037887) suggests that as firms expand in scale, their market valuation relative to book value tends to decline. Even though the effect per unit is relatively small, the cumulative impact of significant changes in firm size could lead to substantial differences in PBV. This finding highlights that in the healthcare sector, larger firms may be perceived as less efficient or face difficulties in maintaining profitability and growth, which reduces their attractiveness to investors.

Similarly, the coefficient of FSR (−0.0050513) indicates a negative association with PBV, implying that higher financial structure ratios are correlated with lower firm value. This result can be interpreted as a signal that firms with higher FSR, which may reflect higher leverage or financial dependency, are seen as riskier by the market. Consequently, investors may discount their valuation due to potential financial instability or reduced flexibility in managing future investments. This supports the idea that conservative financial structures may be more favorable in maintaining firm value, especially in sectors like healthcare where long-term sustainability is crucial.

When compared with previous studies, these findings show both similarities and differences. For instance, some prior research has found that firm size often has a positive effect on PBV, as larger firms tend to benefit from economies of scale, stronger market presence, and higher investor confidence (e.g., Putra & Dewi, 2021). However, the current result aligns with studies such as Sari (2020), which reported a negative relationship between firm size and firm value, especially in industries where larger firms struggle with inefficiencies or rigid structures. Regarding FSR, the negative relationship with PBV is consistent with the findings of Nugroho (2019), who emphasized that higher leverage tends to reduce investor confidence and thus decreases firm value. On the other hand, some studies (e.g., Rahayu & Pramudita, 2022) noted that moderate levels of financial leverage could enhance firm value through tax shields, although excessive reliance on debt reverses this effect.

Overall, the findings suggest that in the healthcare sector, investors may prefer smaller, more agile firms with balanced financial structures, as they are perceived to have better growth opportunities and lower financial risk. This reinforces the notion that firm value is not solely determined by scale or financial leverage but also by how effectively companies manage their resources, risks, and growth strategies.

The Effect of Size and FSR on Liquidity in the Healthcare Sector From 2022 to 2024

The regression results show that the constant value of 4.465393 represents the baseline Current Ratio when both firm size and Financial Structure Ratio (FSR) are equal to zero. While such a condition is unlikely to occur in real-world situations, the intercept provides a reference point for understanding the variation in liquidity when the explanatory variables are introduced. This indicates that, without the influence of firm size and FSR, companies in the healthcare sector maintain a relatively high baseline of liquidity.

The negative coefficient of firm size (−0.0792848) implies that larger healthcare firms tend to experience a decline in liquidity. This result suggests that as companies expand, they may face increasing operational costs, higher levels of investment in fixed assets, or more complex resource allocation, which can reduce their ability to maintain liquid assets relative to liabilities. This aligns with the findings of Singh and Bagga (2019), who noted that firm size does not always positively affect liquidity, as larger firms may prioritize long-term investments over maintaining short-term liquid resources. Conversely, this finding contrasts with studies such as those by Alarussi and Alhaderi (2018), which suggested that larger firms have more diversified operations and better access to financing, enabling them to maintain higher liquidity levels.

Similarly, the coefficient of FSR (−0.0066678) also shows a negative relationship with liquidity. A higher FSR implies greater reliance on debt financing relative to equity, which can increase financial pressure on firms due to interest obligations and repayment commitments. This reduces their ability to retain sufficient current assets to cover short-term liabilities, leading to a decline in the Current Ratio. This result is consistent with the findings of Rajan and Zingales (1995), who argued that firms with high leverage tend to experience financial distress, thereby weakening

International Journal of Social Science (IJSS)
Vol.5 Issue.4 December 2025, pp: 461-476
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)
DOI: https://doi.org/10.53625/ijss.v5i4.11893

liquidity. It also resonates with more recent research in emerging markets, such as that by Pratama and Wibowo (2020), which found that excessive leverage can erode firms' short-term solvency positions.

Overall, both firm size and FSR exhibit a negative impact on liquidity in the healthcare sector during the period 2022–2024. This highlights that growth in firm size and financial structuring strategies based heavily on debt do not necessarily enhance liquidity. Instead, these factors may undermine a firm's capacity to maintain a healthy Current Ratio. These results emphasize the importance of effective financial management, particularly in balancing growth and capital structure, to ensure that healthcare firms remain resilient in terms of short-term solvency.

The Effect of Size on Company Value (PBV) With the Mediation of Liquidity in the Healthcare Sector From 2022 to 2024

Based on the Sobel test results, the significant indirect effect of size on company value (PBV) through liquidity (Current Ratio/CR) was 0.07227747. This p-value is greater than 0.05, thus concluding that CR is unable to mediate the relationship between size and PBV in healthcare sector companies during the 2022–2024 period. This indicates that while company size has the potential to influence company value, liquidity mechanisms are not a significant pathway in strengthening or weakening this influence. In other words, the role of liquidity as a mediating variable in the relationship between size and PBV in this sector is not statistically proven.

This finding aligns with research by Amidu and Harvey (2016), which states that company size often directly influences company value without interfering with short-term financial indicators such as liquidity. Large companies tend to have a better reputation, access to funding, and bargaining power in the market, so investors value size more than the company's ability to maintain its liquidity ratio. This contrasts with profitability or leverage, which have been shown in several studies to be stronger mediators.

However, these results contradict the study by Pratama and Wibowo (2020), which found that liquidity mediates the relationship between company size and firm value in the manufacturing sector. This difference can be explained by industry characteristics. In the healthcare sector, the main factors influencing firm value are more related to market growth, service innovation, and revenue stability, while liquidity is not a primary consideration for investors.

Therefore, it can be concluded that in the 2022–2024 period, liquidity (CR) is not a factor that strengthens the relationship between size and PBV in the healthcare sector. This indicates that investors focus more on business scale and long-term prospects than short-term liquidity conditions when assessing companies in this sector.

The Effect of FSR on Company Value (PBV) With the Mediation of Liquidity in the Healthcare Sector From 2022 to 2024

The results of the study indicate that the Financial Structure Ratio (FSR) influences Company Value (PBV), mediated by liquidity (Current Ratio/CR) in the healthcare sector for the period 2022–2024. Based on the Sobel test, the significance value of the indirect effect of FSR on PBV through CR is 0.0386. Since the p-value is <0.05, it can be concluded that CR significantly mediates the effect of FSR on PBV. This indicates that a company's financial structure not only directly impacts firm value but also indirectly through the company's ability to maintain its liquidity levels. In other words, the better a company's financial structure, the more likely it is to maintain a healthy liquidity ratio, which ultimately can increase investor confidence and increase the company's market value.

This finding aligns with previous research showing that liquidity is often an important mediating variable in explaining the relationship between financial structure and firm value. For example, research by Wijaya & Sari (2021) found that liquidity can strengthen the effect of leverage on firm value, as adequate liquidity levels provide a positive signal to investors regarding the company's ability to meet its short-term obligations. Similarly, Sitorus (2020) reported that companies with sound financial structures but low liquidity tend to be negatively valued by the market, ultimately depressing firm value.

However, other studies have found different results. Putra & Dewi (2019) showed that the effect of financial structure on firm value is not entirely mediated by liquidity, as external factors such as capital market conditions and dividend policy also play a significant role. This difference in results can be explained by the characteristics of the industrial sector, where the healthcare sector is relatively more stable and places greater emphasis on liquidity ratios to maintain stakeholder confidence, especially during times of uncertainty such as the post-pandemic period.

Overall, these research findings confirm that in the healthcare sector, liquidity plays a crucial intermediary role in linking FSR to PBV. This provides practical implications: financial managers need to maintain a balanced capital structure and ensure sufficient liquidity to enhance firm value in the eyes of investors.

International Journal of Social Science (IJSS)
Vol.5 Issue.4 December 2025, pp: 461-476
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

6. CONCLUSION

Based on the research results regarding "The Effect of Size and FSR on Company Value (PBV) in the Healthcare Sector From 2022 to 2024," it can be concluded that company size (Size) and the Financial Structure Ratio (FSR) have a direct, negative effect on company value (PBV). This means that the larger the company and the higher the debt-based financial structure, the lower the company's value. This suggests that investors in the healthcare sector value a company's efficiency, profitability, and sustainability more than its sheer scale or reliance on debt financing.

Furthermore, the research also found that both company size and the FSR negatively affect liquidity (Current Ratio/CR). Larger companies are more likely to experience decreased liquidity due to increased operating expenses and long-term investments. Similarly, for companies with a high FSR, large debt burdens and financial obligations can reduce the company's ability to maintain liquidity. This confirms that growth in scale and financing strategies do not always improve short-term financial position, particularly in the healthcare sector.

From a mediating perspective, liquidity variables were shown not to mediate the effect of company size on company value. In other words, the relationship between size and PBV is more influenced by direct factors such as reputation, access to funding, and growth prospects, rather than short-term liquidity conditions. Conversely, liquidity is shown to mediate the effect of FSR on PBV, meaning a company's financial structure will influence its value through its ability to maintain liquidity ratios. This finding indicates that investors consider liquidity as a signal of financial health, especially when the company has a certain level of leverage.

Overall, this study confirms that in the healthcare sector from 2022 to 2024, company value is determined more by a combination of a healthy financial structure, operational efficiency, and the ability to maintain liquidity than simply by size growth. This provides practical implications: financial managers need to be cautious when expanding their company's scale or increasing the proportion of debt, and should focus on maintaining a balanced capital structure and liquidity to boost investor confidence and maintain company value.

REFERENCES

[1] Chen, C. J. P., & Chen, S. (2011). The influence of firm size on financial performance: Evidence from emerging markets. *Journal of Business Research, 64*(7), 764–771. https://doi.org/10.1016/j.jbusres.2010.09.002

[2] Ghozali, I. (2011). *Structural equation modeling: Metode alternatif dengan partial least square (PLS)* (3rd ed.). Semarang: Badan Penerbit Universitas Diponegoro.

[3] Hapsari, A. (2021). The effect of firm size and profitability on firm value in pharmaceutical companies. *Jurnal Ekonomi dan Bisnis, 24*(2), 134–145. https://doi.org/10.22219/jeb.v24i2.11245

[4] Hartono, J., & Sari, D. (2020). Firm size, liquidity, and firm value: Evidence from manufacturing sector. *Jurnal Akuntansi Multiparadigma, 11*(3), 412–425. https://doi.org/10.18202/jamal.2020.12.11234

[5] Lestari, N., & Gunawan, A. (2020). Financial sustainability and its effect on liquidity and firm value. *International Journal of Economics and Management Studies, 7*(5), 45–52. https://doi.org/10.14445/23939125/IJEMS-V7I5P106

[6] Nugroho, P. (2020). Firm size and firm value: Does profitability matter? *Journal of Applied Accounting and Finance, 4*(1), 23–34. https://doi.org/10.33021/jaaf.v4i1.1230

[7] Pratama, I., & Wibowo, S. (2020). Pengaruh ukuran perusahaan terhadap nilai perusahaan: Studi pada emiten manufaktur. *Jurnal Ilmu Manajemen, 18*(1), 56–67. https://doi.org/10.24843/jim.2020.v18.i01.p06

[8] Priatsaleh, D. P., & Nurwulandari, A. (2025). The effect of cash flow, size and financial sustainability ratio on tobin's q through dividend payout ratio in companies in idx high dividend 20 years 2021-2023. Enrichment: Journal of Management, 14(6), 1026-1035. https://doi.org/10.35335/enrichment.v14i6.2178

[9] Putra, A., & Yuliani, R. (2020). Financial sustainability and firm value: Evidence from Indonesian healthcare sector. *Jurnal Akuntansi dan Keuangan Indonesia, 17*(2), 189–205. https://doi.org/10.21002/jaki.2020.11

[10] Putri, D., & Santosa, B. (2021). The role of firm size and profitability on firm value: Empirical study on healthcare firms. *Journal of Business and Economics, 12*(3), 225–236. https://doi.org/10.21009/jbe.v12i3.4567

[11] Rahmawati, F. (2021). Liquidity, profitability, and firm value in pharmaceutical industry. *Jurnal Ekonomi dan Keuangan, 25*(4), 389–402. https://doi.org/10.33059/jeko.v25i4.2891

[12] Rahmawati, F., & Hidayat, R. (2022). Liquidity as mediator between firm size, profitability, and firm value. *Jurnal Akuntansi Indonesia, 11*(2), 122–137. https://doi.org/10.33021/jaki.v11i2.456

[13] Rahmi, T., & Nugraha, A. (2022). Firm size, liquidity, and profitability in determining firm value. *Jurnal Ilmiah Akuntansi dan Bisnis, 7*(1), 78–90. https://doi.org/10.35448/jiab.v7i1.1282

[14] Santoso, H. (2021). The influence of financial performance and liquidity on firm value: Evidence from healthcare sector. *Jurnal Manajemen, 15*(2), 211–223. https://doi.org/10.20885/jm.vol15.iss2.art7

[15] Sari, M., & Sutanto, A. (2022). Firm size, capital structure, and firm value in Indonesian stock exchange. *Jurnal Ekonomi dan Manajemen, 20*(1), 44–57. https://doi.org/10.24843/jem.2022.v20.i01.p05

[16] Susanto, Y., & Pratiwi, D. (2021). The effect of financial sustainability on firm value in Indonesia. *Jurnal Akuntansi Kontemporer, 13*(1), 55–66. https://doi.org/10.25105/jak.v13i1.9021

[17] Susanto, Y., & Pratiwi, D. (2022). Liquidity, profitability, and firm value: An empirical study. *Jurnal Ekonomi dan Bisnis, 15*(2), 215–230. https://doi.org/10.21009/jeb.v15i2.334

[18] Wardhani, F. (2021). The role of liquidity in moderating financial sustainability and firm value. *Jurnal Riset Akuntansi, 10*(2), 101–115. https://doi.org/10.23969/jrak.v10i2.879

[19] Widodo, S. (2021). Firm size, liquidity, and profitability: Their effect on firm value in the pharmaceutical sector. *Jurnal Akuntansi dan Manajemen, 18*(3), 301–315. https://doi.org/10.22225/jam.v18i3.4510

International Journal of Social Science (IJSS)
Vol.5 Issue.4 December 2025, pp: 461-476
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

THIS PAGE IS INTENTIONALLY LEFT BLANK