



Financial Flexibility and Health Sector Firm Performance in ASEAN-5 Countries: Moderate Role of Directors with MD Degree

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Abstract. Under uncertain circumstances, Financial flexibility plays a crucial role in strategic adjustment for businesses and is also vital for firms in developing countries with high volatility stock markets. With increasing public attention to the health sector as the pandemic progresses, the question arises whether healthcare companies should be led by directors with medical backgrounds or not. This study investigates the impact of financial flexibility on the performance of enterprises in the health sector in ASEAN-5 countries with the moderating role of directors with medical doctor (MD) degrees. Data for 2015–2020 from health sector firms listed on the stock exchange of five ASEAN countries (Indonesia, Malaysia, Philippines, Thailand, and Singapore) were collected and analyzed using the time-series regression technique. Analysis was conducted using Stata software. The study finds that financial flexibility has no influence on health sector firms' performance in ASEAN-5 countries, and directors with MD degree has no moderating effect.

Keywords: Medical Doctor · Board of Directors · Financial Flexibility · Firm Performance · Health Sector

1 Introduction

The global coronavirus (COVID-19) pandemic has had far-reaching consequences in areas beyond the health care system. With the implementation of a quarantine policy to inhibit the spread of the coronavirus, population mobility will decrease and cause a decrease in economic activity. The COVID-19 pandemic triggered the worst global recession since 1930 at the macro level. Indonesia's Gross Domestic Product (GDP) in Q2 2020 fell to -5.32% , rose again to -3.49% in Q3 2020 and contracted again. Decreased to minus 2.19% [1]. Although the Indonesian economy experienced a growth contraction, several sectors experienced positive growth during the COVID-19 pandemic. The COVID-19 pandemic has increased public awareness of the importance of maintaining health and increasing the production of medicines, multivitamins, and supplements, which have led to positive growth in the health sector. The increase in the growth of the health sector certainly occurred because companies in the health sector experienced increased sales. People are paying attention not only to health products but also to the shares of companies related to health.

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R. Hurriyati et al. (Eds.): GCBME 2022, AEBMR 255, pp. 112–125, 2024.

https://doi.org/10.2991/978-94-6463-234-7_12

The COVID-19 pandemic has increased the prestige of companies in the health sector which has made investors start paying more attention to companies [2]. Corporate performance and corporate governance in the health sector are certainly two indicators that investors look at before they invest. Investors will also consider the performance of the board of directors, which will determine the company's future performance. The board of directors can carry out their management and supervisory duties properly if each board member has sufficient knowledge, skills, and professional experience. People's levels of education are often used as proxies for their level of expertise in their chosen fields [3]. Values and views gained from various occupations can shape the way people behave and make decisions [4]. The financial performance of hospitals managed by directors with economic or business experience was superior to those led by physicians [5]. The percentage of hospital board members with medical experience did not correlate with improved financial performance [6]. The medical background in companies in the Indonesian health sector then becomes the author's attention considering that currently, the growth of the health sector is increasing.

In uncertain economic conditions such as during this pandemic, strategic modifications rely on the company's financial flexibility. Financial flexibility is the capacity of an organization to deploy financial resources in the face of future uncertainty [6]. Companies with greater financial flexibility will be able to take advantage of more investment possibilities than those with less financial flexibility. Companies with low debt ratios can acquire cheap external financing or avoid issuing unwanted shares. This helps the organization avoid financial problems when facing challenges and crises [7, 8]. Teng et al. (2021) examine the influence of financial flexibility on Taiwan Stock Exchange-listed manufacturing enterprises during the COVID-19 epidemic in 2020's first and second quarters [8]. They argue that empirically financial flexibility has a positive impact on the overall performance of manufacturing companies [8].

Companies, especially in developing countries, face significant challenges in finding external funding for companies because the country's stock market is not yet fully developed and has high volatility. It is expected that financial flexibility will become more critical for companies in developing countries than in developed countries. Several previous studies on the impact of financial flexibility have been carried out in developed countries in Europe [9, 10] in developing countries in the world [11], in several countries in Asia [12], and in developing countries in Europe [13]. Research on the impact of financial flexibility on the performance of companies in Indonesia as a developing country and other ASEAN-5 countries (Indonesia, Malaysia, Philippines, Singapore, and Thailand) is still limited. Financial flexibility in Indonesian manufacturing enterprises can boost investment potential and reduce cash flow sensitivity [7].

1.1 Literature Review

Financial Flexibility. Financial flexibility is the capability of an enterprise to have access to and restructure capital at a cheap cost [6, 8, 14]. Companies with financial flexibility can avoid financial difficulties when faced with negative shocks and can be ready to fund investments when profitable opportunities arise. Particularly when identifying and deciding the capital structure of the organization, corporate managers should prioritize financial flexibility [15]. However, financial flexibility has not become the primary focus when addressing the issues that can impact the company's financial structure

decisions. This is because most corporate finance textbooks refer to Dividend Theory which assumes the perfect capital market case as the basis of their analysis [16, 17]. If the capital market were ideal, financial flexibility would not be necessary [7]. Nevertheless, when market friction makes it hard for businesses to access financial markets, decisions are often made not just in response to specific events or situations but also to address worries about the future [7]. When expectations are not fulfilled or when unforeseen circumstances occur, companies may need ex post-financial flexibility [6]. Actions taken earlier, even if there is no particular need, can provide valuable options in the future. Therefore, financial flexibility is an attractive position not because it can provide a safe store of value but because it can maintain valuable options in the face of future uncertainties [6].

The necessity for financial flexibility is also related to extreme occurrences in which the availability of financial resources to continue operations will substantially improve the company's prospects of surviving a crisis [18]. Financially adaptable businesses will have more access to capital markets and can finance new development possibilities at a cheaper cost, even in times of crisis [19]. In theory, companies with financial flexibility can plan for possible growth in the future by using low leverage ratios and keeping much cash on hand for a long time [6].

Previous studies on financial flexibility used either a single indicator, multiple indicators, or a combination of multiple indicators [10, 20, 21]. The single indicator method uses, for example, cash holdings or debt capacity to analyze a company's financial flexibility. For the multi-indicator combination method, financial flexibility is measured by combining financial leverage and cash holdings. The multi-index synthesis method is another alternative. It looks at several financial indicators, such as the leverage index, cash index, and external financing cost index, which may affect a company's financial flexibility [8].

Board of Directors Educational Background. The board of directors is the best instrument for generating and managing the firm's intellectual capital, which influences the growth of the company [3, 22]. Diversity among board members, according to Upper Echelons Theory, will result in more innovation, the formulation of more effective strategies, the making of higher quality decisions, and the production of value creation and higher quality actions [3]. The intellectual capital of the board must be managed appropriately to create value for the organization, boost competitive edge, and sustain profitability, especially in a volatile economic environment [23].

Earning a college degree is often used as a stand-in for other forms of human capital, such as IQ or learning capacity [3, 24–26]. Rose (2007) concludes that an individual's level of education has little bearing on a company's success and that since a director does not need specialized training, he or she may only need a bachelor's degree to understand the reports that upper management presents [27]. Anderson et al. (2004) also found that monitoring was the same for academics and people in other jobs [28]. Murphy (2007) and Anderson et al. (2011), on the other hand, found that education levels have a positive effect on how well a company does [29, 30]. A board of directors made up of people with different levels of Education can profit from the unique information, expertise, talents, and intellectual functioning of each individual [30]. The CEO and other members of the Board of Directors who have advanced degrees have a big and positive effect on the

company's Tobin's Q value [31]. Gunney et al. (2020) find that Companies with various abilities and directors with advanced degrees do better than companies with directors without higher levels of education [32]. It is believed that highly educated directors are more adaptable and innovative [29, 30]. When a company has these qualities, it can bring in more money [30].

In carrying out company operations in sectors that require special skills, such as health, it takes the right individual to be appointed as director. Research on expert leadership in the health sector is still limited in the hospital context. Knowledge and experience in the core business are prerequisites for expert leadership, and in the context of a hospital, directors with diverse professional backgrounds might affect the financial success of the hospital [33]. Chen et al. (2021) discovered that the proportion of hospital board members having a medical education background was strongly inversely connected to financial performance [5]. Directors with a management background typically know about financial planning, organizational management, or cost control skills, providing them with the financial information needed to solve difficulties and business decisions while monitoring overall operational performance [34]. Directors with medical experience can provide advice on health care policies in order to minimize mortality rates and boost patient satisfaction, which has a significant positive correlation with enhancing the quality of health services [33, 35–37]. There was no correlation between the number of physicians on the board of directors and management performance since the clinical quality was essentially the responsibility of physicians, not the administration of hospitals [38].

Firm Performance. Financial output is considered necessary for assessing leadership effectiveness because this measurement is often considered a proximal measurement of the company's overall success [39]. Measurement of company profitability can be used by using the three most widely used and known financial ratios, namely, return on assets, return on equity, and profit margin. These ratios are used to measure the efficiency with which a corporation uses its assets and runs its activities [40].

Financial Flexibility and Company Performance. Financial flexibility in this study was measured by measurements referring to the research of Arslan-Ayaydin et al. (2013) and Teng et al. (2021), where both studies use two indicators, namely cash flexibility and debt flexibility [8, 12]. It can be said that the financial flexibility of the company in this study is determined by the cash status and leverage of the company. In order to avoid uncertainty and exploit expansion opportunities, businesses worldwide have amassed substantial cash reserves in recent years [41, 42]. Several theories have discussed the relationship between cash holdings and firm performance, namely the trade-off theory, the pecking order theory, and the agency theory of free cash flow.

According to the trade-off principle, in order to maximize shareholder wealth, corporations must consider the pros and cons of holding cash [43]. Research indicates that corporations should invest in liquid assets to prevent future external financing expenses. This argument is further supported by Keynes's theory of liquidity preference (1936) which suggests that businesses maintain optimal cash reserves by weighing the marginal costs and benefits of retaining cash [44, 45].

External funding is expensive because managers and investors do not have the same amount of information, according to Pecking Order Theory [46]. In order to reduce

expenses, businesses must prioritize financing investments with retained earnings, then with safe debt and risky debt, and ultimately with equity. This view holds that rather than maintaining a specific level of cash on hand, businesses use this resource as a safety valve between their operating profits and their capital expenditure requirements [46].

Jensen's free cash flow theory shows that managers always try to improve the resources they control, especially liquid assets like cash, to influence decisions about funding and investments [47]. Managers are expected to operate as agents of firm owners and grow their wealth, yet managers may instead put their own needs ahead of those of the shareholders [48]. Several prior studies have argued that retaining Extra money could be damaging to the success of a business because cash is easily hoarded by management in pursuit of their own objectives [49–51].

The capital structure decision is a solid financial framework that determines the best mix of equity and debt for a company to reach its goals [40]. In short, the capital structure theory is a method for financing business activities with a mix of equity and debt [40].

Capital structure is a big part of the company's strategic and operational decisions [52, 53]. In addition, leverage makes it easier to keep an eye on things and discourages managers from taking advantage of situations [54]. This keeps businesses in line by enforcing lenders' rights.

Common stock, preferred stock, retained earnings, and corporate debt is all parts of the capital structure [43, 44, 55, 56]. Debt financing is more affordable than equity financing, especially when the interest rate is low, although debt financing offers a tax shield advantage [55, 57]. Miller & Modigliani (1961) propose that business value grows with increasing leverage due to the corporation tax shield, which reduces net tax payments by deducting interest on debt capital [16, 58]. This increases the value of employing loan capital by reducing the total cost of capital. Therefore, in a perfect market, Modigliani and Miller (1963) find that leveraged enterprises are more valuable than non-leveraged firms [58].

Various studies have suggested that the combination of business finance has a significant effect on the company's financial performance. Jensen (1986) and Ofek (1983) say that increased leverage results in greater company performance because it is linked to binding agreements and monitoring, which make sure that management keeps operational discipline [59, 60]. Appiadjei (2014), Nassar (2016), and Salim & Yadav (2012) all say that leveraged capital structure is good for company performance, especially for banks and insurance companies [61, 62]. In contrast, According to Le & Phan (2017), Saputra et al. (2015), and Deesomsak et al. (2004), there is a negative association between gearing capital structure and firm performance [57, 63, 64]. Similarly, Mouna et al. (2017) find that as the level of financial leverage rises, so does the profitability of Moroccan businesses [65]. Another study conducted in Vietnam confirmed that debt ratios and business performance have a negative correlation and that the tax protection advantages of debt financing are less than the expenses of financial distress [57]. According to Hosain (2021), organizations with greater debt have considerably poorer market valuation and financial performance [66]. It is said in the same study that the addition of debt can lead to the destruction of the company's value due to the risk of bankruptcy [66]. Similar findings were also stated by Danso et al. (2020), who say that the influence of leverage on business performance is less pronounced for smaller firms than for bigger ones [63].

Hypothesis Development. Financial flexibility gives companies various options to deal

with unpredictable future investment and funding demands. Companies with financial flexibility have great access to capital markets and can raise capital at a low cost to finance growth opportunities even during a crisis to avoid poor performance during a crisis [12]. Setianto and Kusumaputra (2017) find that companies in Indonesia as a developing country will get more benefits, such as having the ability to invest with reduced borrowing costs by increasing financial flexibility [7]. During the COVID-19 crisis, financial flexibility has had a good effect on the performance of Taiwan's manufacturing industries [8].

Based on the explanation above, the authors assume that companies with financial flexibility have better performance than companies that are not financially flexible both before and during the COVID-19 pandemic. The author hypothesizes:

H1: Financial flexibility has an influence on company performance.

The educational background of a President Director can influence how the President Director makes decisions. Mun et al. (2020) stated that CEOs with master's degrees showed better managerial abilities [64]. In the context of a hospital, directors with a management background can have an advantage over doctors in terms of ability and experience in managing finances [4]. The proportion of directors on the board of directors with a management background is said to be able to improve the financial performance of the hospital [34, 65]. The proportion of doctors on the hospital's board of directors is negatively related to the financial performance of the hospital because the primary ability of doctors lies in medicine, not management [67, 68]. Based on this explanation, the authors hypothesize:

H2: The proportion of directors holding doctors on the board of directors has an influence on company performance in the health sector.

H3: The proportion of directors holding doctors on the board of directors has a moderating effect on the effect of financial flexibility on company performance in the health sector (Fig. 1).

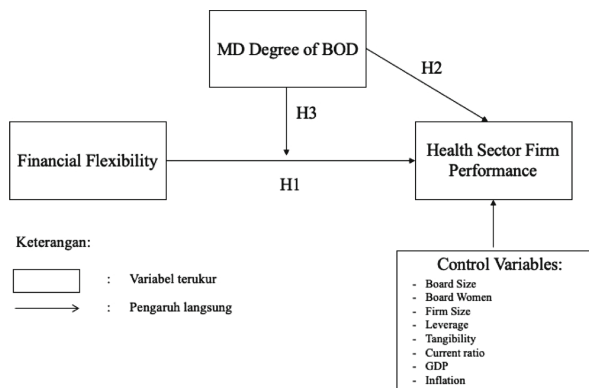


Fig. 1. Research Framework

2 Methods

Sample and Data Collection. This study uses quantitative data from health sector companies listed on the Indonesia Stock Exchange (IDX), Bursa Malaysia, Singapore Exchange (SGX), Stock Exchange of Thailand (SET), and The Philippine Stock Exchange (PSE) in the 2015–2020 period. The data collection process uses a purposive sampling method in which the sample data obtained will be selected with several criteria to assist research, namely: (1) companies listed on the IDX, Bursa Malaysia, SGX, SET, and PSE in 2015–2020, (2) companies that do not carry out administrative activities on the stock exchange such as relisting or delisting in the period 2015–2020, (3) companies in the health sector, (4) companies having financial data for the period 2015–2020 that is needed for research, and (5) companies having balance sheets with healthy finances by comparing total debt and total assets of less than 1. This study uses secondary data with sources in the form of annual financial statements of all companies that meet the criteria of the research sample. The data is accessed from the official websites of IDX, Bursa Malaysia, SGX, SET, PSE, company websites, and Thomson-Reuters and Bloomberg websites. This study also uses data and information from previous studies with library research techniques.

Variables. This study evaluates financial flexibility regarding the research of ArslanAyaydin et al. (2013), Meier and Laurin (2013), and Teng et al. (2021), where financial flexibility consists of cash flexibility and debt flexibility [8, 12, 68]. The proportion of directors with an MD degree is an independent and moderating variable that shows the number of directors with doctoral degrees on the board of directors of a health sector company divided by the total number of directors. The company's financial performance is measured by the return on assets (ROA) value. The control variable of this study refers to the research conducted by Teng et al. (2021) to reduce the influence of external factors and the company's factors [8]. In addition, to control variables for the influence of external and internal factors of the company, this study also adds control variables related to the characteristics of the board of directors represented by the board size (BSize_{*i*}, *t*) and the proportion of the number of women directors.

Analysis. Descriptive statistics were used in this study to analyze the main characteristics of the data. Then, the classical assumption test was performed in the form of a normality test, heteroscedasticity test, multicollinearity test, and autocorrelation test to ensure that the research results were valid with the data used unbiased, consistent, and efficient in estimating the regression coefficients. This study uses multiple linear regression to obtain statistically significant regression coefficients. Eviews were utilized for analyses and regressions.

Empirical Model. This study uses a panel data regression test by combining time series and cross-section data to examine the effect of financial flexibility on the company's financial performance moderated by the background of the proportion of medical directors. The following is a research model for conducting a regression test (Fig. 2).

$$\begin{aligned}
 PERFORM_{i,t} = & \beta_0 + \beta_1 FF_{i,t} + \beta_2 MED_{i,t} + \beta_3 FF_{i,t} * MED_{i,t} \\
 & + \beta_4 BSIZE_{i,t} + \beta_5 BWOMAN_{i,t} + \beta_6 FIRMSIZE_{i,t} + \beta_7 LEVERAGE_{i,t} \\
 & + \beta_8 TANGIBILITY_{i,t} + \beta_9 GROWTH_{i,t} + \beta_{10} CURRENTRATIO_{i,t} \\
 & + \beta_{11} GDP_{i,t} + \beta_{12} INFLASI_{i,t} + \varepsilon_{i,t}
 \end{aligned}$$

Fig. 2. Regression test

3 Results and Discussion

Based on a descriptive analysis of the data that has been collected, it can be seen that the average financial flexibility of health sector companies in ASEAN-5 countries in 2015–2020 is 0.828, with a standard deviation of 0.383. The maximum value of financial flexibility is 1.346, and the minimum value of financial flexibility is 0.122. The proportion of directors holding a doctor's degree in health sector companies in ASEAN-5 countries has an average of 0.119 (about 1 director holds a doctor's degree out of 9 directors on the company's board of directors) with a standard deviation of 0.137. The lowest proportion of directors with a doctor's title is 0 or there is no director with a doctor's title on the board of directors in 117 companies from a sample of 252 companies (46%) in ASEAN-5 countries with the highest proportion being 0.400 or 2 directors with a doctor's title on the board of directors totaling 5 people. The company's performance is seen from the ratio of return on assets (ROA). The average ROA of health sector companies in ASEAN-5 countries in the 2015–2020 period is 0.063, with a standard deviation of 0.095 (Fig. 3).

The FF variable (financial flexibility) has a probability above 0.1 with a positive coefficient. This shows that financial flexibility does not have a significant Effect on the Return on Assets of health sector companies in ASEAN-5 countries. The MED variable which represents the proportion of directors with a doctor's title has a probability above 0.1 and a coefficient of -0.087 which indicates that the proportion of directors with a doctor's title has no significant effect on the Return on Assets of health sector companies in ASEAN-5 countries. The moderating variable has a probability value of more than 0.1 and a coefficient of 0.126, which indicates that the MED variable has no moderating effect on Return on Assets.

The control firm size variable has no significant effect on ROA seen from the probability value of 0.133 with a coefficient of 0.004. Leverage also has no significant effect on ROA seen from the probability value of 0.623 and coefficient of 0.042. For the control variable, tangibility has a probability of 0.987 with a coefficient of 0.000, which indicates that tangibility has no significant effect on ROA. Variable growth (0.000, prob = 0.959) and current ratio (0.000, prob = 0.880) also have no significant effect on ROA (Fig. 4).

In this study, financial flexibility does not have a significant effect on the performance of health sector companies in ASEAN-5 countries. Financial flexibility has a probability value of more than 0.1 in its effect on ROA. This shows that the financial flexibility of health sector companies in ASEAN-5 countries has no effect on the company's financial performance. This can be caused by the life cycle of health sector companies in ASEAN-5 countries that have reached stagnation or are still in the growth stage. Siddiqui (2020) stated in his study that financial flexibility has a significant role in company performance, provided that the company is in a mature lifecycle position. On the other hand, companies

Variable	Obs	Mean	Std. Dev	Min	Max
FF	252	0,828	0,264	0,383	1,346
MED	252	0,119	0,137	0,000	0,400
ROA	252	0,063	0,095	-0,166	0,249
FF*MED	252	0,108	0,140	0,000	0,453
BOD	252	7,329	2,655	3,000	12,000
BWomen	252	0,205	0,181	0,000	0,630
Firmsize	252	18,758	5,980	11,194	29,475
Leverage	252	0,322	0,172	0,077	0,661
Tangibility	252	0,340	0,205	0,014	0,741
Growth	252	0,054	0,328	-0,917	0,731
Currentratio	252	3,083	2,290	0,706	8,574
GDP	252	556,955	307,907	301,360	1,120,050
Inflation rate	252	1,628	1,894	-1,100	6,400

Fig. 3. Descriptive Results

Variable	Coefficient	Standard Error
FF	-0,019	0,036
MED	-0,087	0,150
FF*MED	0,126	0,169
BSize	0,001	0,005
BWomen	-0,064	0,046
FIRMSIZE	0,004	0,003
LEVERAGE	-0,147	0,058**
TANGIBILITY	-0,040	0,041
GROWTH	-0,006	0,012
CURRENTRATIO	-0,003	0,004
GDP	0,000	0,000
Inflasi	-0,004	0,003
Adjusted R-squared		0,693
Prob(F-statistic)		0,000

Fig. 4. Hypothesis Testing

in growth and stagnant life cycle position do not experience a significant impact from financial flexibility.

The proportion of directors with doctoral degrees is known to have no significant effect on the company's financial performance. The greater the proportion of directors holding doctors on the board of directors of health sector companies in ASEAN-5 countries, it does not necessarily increase the company's ROA. The findings of this

investigation are corroborated by prior research, which shows that there is no difference in the financial performance of hospitals led by physician leaders and non-doctors because modern hospital finance teams have developed capabilities that allow institutions to continue to maintain financial capabilities regardless of operational decisions taken [36]. Kaissi and Begun (2008) also found that the involvement of doctors on the hospital board of directors had no effect on the company's financial performance because doctors had the primary responsibility for the quality of clinical services compared to hospital management.

This study finds that in the health sector, the educational characteristics of the board of directors with a medical background have no effect on the company's financial performance. This can be interpreted that although the company's board of directors has directors with background knowledge related to the health sector, this knowledge has no effect on the company's financial performance. The expertise of a director with a doctor's title helps improve the quality of health services provided by the company [5]. The company's financial performance is positively influenced by directors who have management education or finance related because the knowledge possessed by these directors can help the board of directors make company decisions, solve management-related problems, and can pay close attention to the overall operational performance of the hospital [5].

The proportion of directors with doctoral degrees has no moderating effect on the effect of financial flexibility on the financial performance of the firm. The proportion of directors with doctoral degrees does not strengthen or weaken the influence between financial flexibility and the company's financial performance.

4 Conclusion

This study provides an overview of the effect of financial flexibility on the company's financial performance, which shows that there is no effect between financial flexibility and company performance in the health sector. Although there is no significant effect, the company still has to consider the company's funding structure. In addition, considering that there is no significant effect between the proportion of directors holding doctors and company performance, the company can consider the background and characteristics of the board of directors from the background that can support the company's management activities. It is necessary to pay attention to the balance of the director with a doctor's degree and the director with a management education background to improve the company's financial performance and the quality of services provided. The negative influence of leverage on the company's financial performance is a finding that needs to be considered in preparing the company's funding structure.

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