

## Research Article

# Financial Sustainability in Emerging Markets: An Investigation of Determinants in the Pension Fund Companies

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## Abstract.

The major goal of this article is to pinpoint the variables affecting the financial sustainability of pension fund companies that comprise emerging markets. The pension fund company data comes from Indonesia and was registered with the Indonesia Financial Service Authority (OJK) in 2020–2022. The sample was obtained using a purposive sampling method, which resulted in 14 pension fund companies. This quantitative research was done using a descriptive statistical approach. The data analysis technique used is regression analysis with Ordinary Least Square. The findings of this study support hypothesis 2 (H2), which states that there is a partial positive influence between the liquidity variable and finance sustainability. Meanwhile, efficiency (H1) and profitability (H3) do not affect financial sustainability. This study also reveals that the combination of efficiency, liquidity, and profitability variables simultaneously (H4) has a greater impact on financial sustainability than their partial effect on pension fund companies in Indonesia.

**Keywords:** efficiency, financial sustainability, liquidity, pension fund companies, profitability

## 1. Introduction

Since 2013, there has been a consistent decline in funding and visibility shared between the banking industry and the Non-Bank Financial Intermediation (NBFI) sector. Similar to previous years, the financial divisions of these institutions with the most significant international connections belong to another financial intermediary sector. These sectors constitute the portion of the NBFI sector that excludes insurance firms, pension funds, and financial support organizations. Understanding these connections' stability improves but remains a comprehensive and consistent challenge as they are not accessible in all jurisdictions [1]. The non-banking financial institutions (NBFI) worldwide experienced robust expansion in 2021, largely driven by increased valuations and inflows into investment funds. The economic recovery following the impact of the

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COVID-19 pandemic fueled this growth. The significance of the NBFIs sector is greater in developing nations than in developed ones. [1].

Studying the effects of financial advancements on Microfinance Institutions (MFIs) is a key approach to fostering market development in Emerging Markets and Developing Economies (EMDEs). The research aims to assess how such developments influence the effectiveness and long-term viability of MFIs. The efficiency and sustainability of MFIs play a crucial role in driving economic progress, particularly in developing nations. Notably, the impact of financial advancements on the efficiency and sustainability of MFIs is substantial [2]. Even though their size is relatively small, MFI performance contributes to economic development even though their performance is also considered [3]. Pension fund companies are part of NBFIs. The development of Indonesian pension funds must be connected to the Indonesian economy in general. Despite experiencing shocks due to the COVID-19 pandemic, the condition of the Indonesian economy can generally survive and show improvement [4]. The development of the number of pension fund companies registered with the Indonesia Financial Service Authority (OJK) in the last three years is shown in Figure 1 [5].



**Figure 1:** Number of Indonesia Pension Funds Companies.

Figure 1 shows a decrease in the number of pension fund companies in Indonesia, but it is insignificant, only  $\pm 5\%$ .

Signaling theory by Spence in 1973 examines the problem of information inequality in the labor market, and companies with good performance use financial information to signal the market or external parties [6]. This study investigates the determinants or factors that affect the financial sustainability of pension fund companies in emerging markets. One-way companies signal their financial condition and prospects to investors and stakeholders through sustainability reports. Sustainability reports contain non-financial information such as environmental, social, and corporate governance (ESG)

performance that is relevant in assessing a company's long-term prospects. Therefore, determinants or factors such as operating efficiency, profitability, liquidity, and ESG performance disclosed through annual and sustainability reports can provide positive or negative signals about a company's long-term financial prospects.

This article aims to determine the variables influencing financial sustainability in pension fund companies registered with the Indonesia Financial Service Authority (OJK). The findings and analysis of this article can provide a new understanding of the financial factors that influence the sustainability of pension fund companies. It is still rare to find similar research with the object of pension fund companies, especially in emerging markets, which uses efficiency, liquidity, and profitability ratios to identify trends and potential problems, with the hypothesis built based on the theoretical framework with the following details:

Financial sustainability reflects an MFI's ability to manage its operational activities from the income it generates [7]. In some studies, efficiency measurements alone or to revenue or total assets use operating costs [8], [9]. Changes in operational efficiency play a role in the future performance of Indian manufacturing companies [9]. Operational efficiency is a statistically significant predictor of financial self-sufficiency [7]. It makes us ask: Is there a connection between efficiency and financial sustainability in pension fund companies registered with the Indonesia Financial Service Authority (OJK)?

### **1.1. H1: There is a significant influence between efficiency and financial sustainability.**

The greater the liquidity value, the greater the company can fulfill its short-term obligations. With good liquidity, the company's performance will be strong, and ultimately, it can convince investors of the company [10]. It aligns with the results of studies from [11] and [12], which state that liquidity positively affects company value. Liquidity and profitability have a significant effect on company value. Sustainability reports can moderate the relationship between the two on company value [13]. It makes us ask: Is there a connection between liquidity and financial sustainability in pension fund companies registered with the Indonesia Financial Service Authority (OJK)?

### **1.2. H2: There is a significant influence between liquidity and financial sustainability.**

Numerous investigations into microfinance indicate that the influence of profitability on capital leverage is significant, and a strong correlation exists between financial sustainability and profitability [14]. Profitability manifests a constraining influence on the connection between financial sustainability and capital leverage [14]. Profitability and liquidity positively impact sustainable reporting [15]. It makes us ask: Is there a connection between profitability and financial sustainability in pension fund companies registered with the Indonesia Financial Service Authority (OJK)?

### **1.3. H3: There is a significant influence between profitability and financial sustainability.**

Maintaining good financial conditions, including liquidity and profitability, is critical to social and corporate conditions and environmental investment [16]. Simultaneous liquidity, asset quality, and efficiency negatively influence the Sustainable Growth Rate (SGR). The implications of the SGR study are important because they relate to bank strategies to continue to grow and develop their business optimally while maintaining internal and external funding sources [17]. It makes us ask: Is there a relationship between efficiency, liquidity, profitability simultaneously, and financial sustainability in pension fund companies registered with the Financial Services Authority (OJK)?

### **1.4. H4: There is a significant influence between efficiency, liquidity, profitability simultaneously, and financial sustainability.**

This article is expected to contribute to understanding the factors that affect the financial sustainability of pension fund companies in Indonesia and assist the government in making sustainable national economic policies. This understanding is expected to help practitioners and decision-makers in planning the right strategy to maintain the financial health of pension fund companies.

## **2. Method**

This research method uses a descriptive statistical approach to analyze the influence of financial efficiency, liquidity, and profitability ratios on financial sustainability in pension fund companies registered with the Financial Services Authority (OJK). The data used in

this research is secondary and comes from financial reports of pension fund companies for the 2020-2022 period. The theory used in this research is signaling theory. The method used is Ordinary Least Square (OLS) multiple regression with the Smart Partial Least Square 4 (Smart-PLS 4) program, with variable details as in Table 1.

TABLE 1: Operational Definitions of Variables.

Variables	Operational Definition	Measurement
Financial Sustainability (Y)	Assessment of maximum financial sustainability	Sustainable Dividend Pay-out Ratio = Cash dividend paid / Net profit
Efficiency Ratio (X1)	Assessment of the proportion of operational costs needed to generate company operational income	BOPO = Operational Cost / Operational Income
Liquidity Ratio (X2)	Assessment of the ability to pay off its short-term obligations using immediately available assets	CR = Current Asset / Current Liabilities
Profitability Ratio (Z3)	Assessment of company net profit with operating income to measure the relative profitability of the company	NPM = Net profit / Operating Income

The analysis of data employed both descriptive and inferential statistical methods. Descriptive statistics utilized maximum, minimum, mean, and standard deviation values for each research variable, encompassing BOPO and SGR. Meanwhile, inferential statistics were applied to assess the research hypothesis. Partial hypotheses were tested using the t-test, and simultaneous hypotheses were examined using the F-test. The study's equation was also considered in this analysis:

$$SDPR = \alpha + \beta_1 BOPO + \beta_2 CR + \beta_3 NPM + \epsilon.$$

Classic assumption test analysis is not used in SMART PLS. This is because SMART-PLS uses the Partial Least square-structural Equation Modeling (PLS-SEM) approach method.

### 3. Result and Discussion

#### 3.1. Outer Model

Discriminant validity is employed to verify that each idea within a construct is distinct from other latent variables. The optimal assessment involves examining the Herriott-Monotrait Ratio (HTMT) value. A construct exhibits satisfactory discriminant validity if the HTMT value is less than 0.90 [18]. Test result discriminant variability can be seen in Table 2.

TABLE 2: Discriminant Validity.

Variables	Efficiency	Liquidity	Profitability	Fin.Sustainability
Efficiency				
Liquidity	0.496			
Profitability	0.543	0.251		
Fin. Sustainability	0.435	0.891	0.496	

The results of the HTMT values of all variables on  $Y < 0.9$ , so the discriminant validity evaluation with HTMT is fulfilled, or all constructs have good discriminant validity.

### 3.2. Inner Model

#### 3.2.1. R Square (R2)

R Square (R2) is a measure of the proportion of variation in variable values influenced (endogenous), which can be explained by variables that influence it (exogenous). It is useful to see whether the model is good or not bad. The R Square value has several criteria, including the 0.75 model, which is said to be substantial (strong), the 0.50 model is said to be moderate (medium), and the 0.25 model is said to be weak [18]. This regression analysis uses R-squared and R-adjusted squared to evaluate how well the regression model can explain the variation in the dependent variable (sustainable dividend payout ratio).

TABLE 3: R-Square Overview.

Variable	R-square	R-square adjusted
Financial Sustainability	0.717	0.632

In Table 3, R-squared and R-adjusted squared have high values, indicating that the independent variables (BOPO, current ratio, and NPM) simultaneously explain most of the sustainable dividend payout ratio variation.

The VIF values for variables X1 (BOPO), X2 (current ratio), and X3 (NPM) are less than 5, as in Table 4, which means there is no indication of multicollinearity between these variables [19].

From Table 4, the variables are not significantly correlated, so it can be assumed that there is no multicollinearity problem in the regression model involving these variables.

TABLE 4: Inner VIF-Inner Model.

Variables	Efficiency	Liquidity	Profitability	Fin.Sustainability
Efficiency				1.066
Liquidity				1.065
Profitability				1.001
Fin. Sustainability				

### 3.2.2. Hypotheses Testing Results

The hypothesis testing employed the direct analysis method to assess the direct impact of a variable (exogenous) on another variable (endogenous). This analysis is particularly valuable for evaluating hypotheses related to direct influence. The criteria for this immediate effect analysis include, firstly, a positive path coefficient value indicating a positive direction of influence between variables; secondly, a negative path coefficient value indicating an opposite direction of influence; thirdly, significance indicated by p values < 0.05; and fourthly, nonsignificance indicated by p values > 0.05. The outcomes of the direct effect analysis are presented in Table 5.

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values
BOPO (X1) -> DPR (Y)	0.017	0.002	0.285	0.060	0.952
CR (X2) -> DPR (Y)	-0.739	-0.731	0.285	2.596	0.009
NPM (X3) -> DPR (Y)	-0.023	0.050	0.310	0.075	0.940
	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values

Figure 2: Results of Direct Effect Analysis.

From Table 5, we can conclude that the path coefficient value of X1 → Y can be seen from the original sample value of 0.017, and the p values are 0.952. Judging from the path coefficient value of X2 → Y, the sample value is -0.739 and has a p-value of 0.009. Moreover, from X3 → Y, the original sample value is -0.023, with a p-value of 0.940.

The equation is obtained from the regression coefficient in Table 5:  $Y = 0.017X_1 - 0.739X_2 - 0.023X_3$ . Based on partial effects (bootstrapping analysis) with p values < 0.05 criteria, the independent variable significantly affects the dependent variable and vice versa. So, it is concluded that BOPO (X1) and NPM (X3) have no significant effect on SDPR (Y). Meanwhile, CR (X2) has a significant positive impact on SDPR (Y).

### 3.3. Discussion

This article analyzes how efficiency, liquidity, and profitability affect the financial sustainability of pension fund companies in Indonesia. The research results show that

only the liquidity factor significantly influences the Sustainable Dividend Payout Ratio. Hence, this research supports hypothesis 2 (H2), which states that there is a significant influence between the liquidity variable and financial sustainability. This finding aligns with research, which states that country liquidity, as proxies by the funding loan ratio, was significant in changing the Sustainable Growth Rate [17]. Jiang et al. (2023) stated that liquidity of the financing positively and significantly influences sustainable bank loan growth [20]. Other research also supports that funding liquidity positively and substantially affects sustainable bank loan growth, indicating that funding liquidity improves sustainable banking [20]. However, compared with other research, the value of food and beverage companies is not significantly influenced by liquidity but is negatively affected by profitability and capital structure [21].

While hypothesis 1 (H1) states that it has no significant effect on financial sustainability, it is not supported by the results of this study. The results of this study are supported by this study [22], with operational cost efficiency not affecting the financial performance of the Tambi pension fund. Other studies have shown that aspects of financial development are negatively correlated with the efficiency and sustainability of MFIs [2].

Hypothesis 3 (H3) states that it has no significant effect on financial sustainability and is not supported by the results of this study. It aligns with the findings that bank profitability is irrelevant in explaining sustainable bank profits' superiority [23].

The results show that the variables of efficiency, liquidity, and profitability simultaneously have a greater influence on financial sustainability than the influence of each variable individually, thus supporting hypothesis 4 (H4). However, based on Andatu & Hilabi (2023), implementing sustainable finance policies at Islamic and Conventional Banks still tends to focus on profitability. The study shows that PT BNI Tbk has improved in several indicators related to economic and environmental factors relevant to sustainable finance. In the economic aspect, an increase in the number of consumer funding and lending accounts and dividends indicates sustainable financial growth (Simamora, 2019). Investing in high Environment Social Governance (ESG) performance promises financial return for the firm in terms of both value and profitability [24].

Additionally, future research may seek to understand aspects of financial development that are negatively correlated with the efficiency and sustainability of MFIs, such as strict tax policies, protection of creditors' rights, and implementation of regulations and legislation [2].



## 4. Conclusion

Based on the research results, efficiency and profitability do not significantly affect sustainable finance, while liquidity significantly affects sustainable finance. So, these findings only support hypothesis 2, which assumes a significant influence between liquidity and financial sustainability.

In addition, the research results also show that the combination of efficiency, liquidity, and profitability variables together has a greater influence on financial sustainability than the influence of each variable individually, thus supporting hypothesis 4. Therefore, this research confirms that liquidity, efficiency, and profitability play an important role in achieving financial sustainability in pension fund companies.

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