



# The influence of female CEOs on bank performance in Indonesia

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## Abstract

*This study aims to determine the influence of female chief executive officers (CEOs) on bank performance in a developing Southeast Asian capital market (Indonesia). This study uses unbalanced firm-level panel data from 40 banks listed on the Indonesia Stock Exchange from 2010 to 2018. Return on assets and capital adequacy ratio were used to measure bank performance. The data were analyzed using panel data regression analysis, including a fixed effects model. The results show that female CEOs improve bank performance proxied by return on assets and reduce bank performance proxied by capital adequacy ratio. Females should be considered when appointing CEOs, as female CEOs carry new standpoints. This study extends corporate governance studies by identifying CEO characteristics and examining their association with bank performance. Additionally, it highlights that emerging nations such as Indonesia have different economic, legal, social, and cultural environments than advanced nations, especially Western nations.*

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## 1. Introduction

Maintaining and improving company performance requires the supervision of a company, which is realized by implementing good corporate governance practices. Corporate governance is defined as a set of rules that formulate the relationship between shareholders (principals), managers (agents), creditors, the government, employees, and other interested parties (Mardiyati and Siregar, 2022). As such, the role of a chief executive officer (CEO) becomes important because CEOs influence whether goals are achieved.

Owing to the important role of CEOs, every company needs a CEO who is competent and capable of managing and influencing the company. The large or small influence of a CEO on company performance can be based on the CEO's characteristics (Bertrand and Schoar, 2003; Soomro and Hanafiah, 2022). The CEO characteristic dimension tested in this study is the gender dimension.

Many previous studies have stated that there is a relationship between CEO characteristics and company performance. Khan and Vieito (2013) and Suherman et al. (2023) showed that CEO gender has a significant effect on company performance. Specifically, female CEOs can improve company performance to a greater extent than male CEOs. However, according to Baloyi and Ngwakwe (2017), Kaur and Singh (2018), and Rahman et al. (2017), CEO gender does not affect company performance. According to Palvia et al. (2014), female CEOs tend to avoid risk, which can negatively impact company performance.

This study refers to the relationship between the characteristics of CEOs, namely female CEOs, and company performance. This research was conducted to complement previous related research, thus contributing to the literature. This study discusses the relationship between female CEOs and bank performance in Indonesia.

In addition, the researchers were motivated to conduct this study because they know that the CEO has an important role in any company because they are responsible for making strategic decisions and, thus, for the overall success of the company. As such, the characteristics of a CEO must be considered and evaluated when determining whether a CEO is suitable for a company. Research on this topic is still rare, especially in Indonesia, where many previous research samples were obtained from non-financial companies. In this study, the research sample was a banking sector company listed on the Indonesia Stock Exchange.

## 2. Literature review and hypothesis development

### 2.1. Agency theory

Agency theory explains the relationship between shareholders as principals and management as agents. An agency relationship is a contract formed when the principal hires another person as an agent to perform a service and delegate the right of authority in decision-making in a company (Mardiyati and Siregar, 2022). This theory is widely used by early researchers in the financial and economic literature to understand the relationship between the characteristics possessed by the board of directors and company performance.

In a company, a conflict of interest may occur between the agent and the principal, which can subsequently make shareholders pessimistic about the cash flow that they will obtain in the future (Krafft et al., 2013). Shareholders' concerns are strengthened by cases of asymmetric information, which arise when the managers of a company have more information about the company than shareholders. If shareholders do not observe the agent's actions thoroughly, then the company's management may take actions that do not align with the agreed contract.

One step that can be taken to overcome agency problems is to implement a corporate governance system. Corporate governance is needed to overcome agency conflicts between principals and agents by equating the interests of company owners and managers (Mardiyati and Siregar, 2022).

## 2.2. Upper echelon theory

The upper echelon theory developed by Hambrick and Mason (1984) relates to the basic assumptions regarding the influence of the top management team in a company. This theory argues that CEOs' assumptions about the world are based on their inherent values or characteristics, such as gender, education level, and age.

Several previous studies on the effects of CEO characteristics on company performance have used this theory. This theory considers that CEOs are only interested in perceptions based on their characteristics and, thus, tend to be less interested in what happens around them. Therefore, the inherent characteristics of a CEO are believed to affect company performance.

## 2.3. Hypothesis development

Gender diversity in companies is an interesting issue to be discussed and researched in Indonesia. Gender diversity is believed to improve the monitoring process and company performance in achieving growth (Melero, 2011; Suherman et al., 2023). Various studies were also conducted to determine whether the gender of a CEO can also affect company performance. For example, Jalbert et al. (2012) found that female CEOs can generate higher sales growth and offer a higher return on investment and return on assets (ROA) for a company compared to male CEOs. Female CEOs are also considered capable of producing positive changes in companies through their management and decision-making abilities. In addition, female CEOs tend to be more risk-averse than male CEOs, which lowers a company's risk level. This can affect the stability and financial health of the company.

In line with the abovementioned studies, Khan and Vieito (2013) and Suherman et al. (2023) showed that female CEOs have a positive and significant relationship with company performance. As such, it can be assumed that the CEO gender influences company performance.

H1: Female CEOs positively affect bank performance

## 3. Research methods

This study examines the characteristics of CEOs, namely CEO gender, using data from banking sector companies listed on the Indonesia Stock Exchange (IDX) from 2010–2018. The analysis was based on secondary data obtained from the financial statements and annual reports of each selected banking company through the official website of the Indonesia Stock Exchange (IDX) and the official websites of each intended company.

### 3.1. Research variables

Three types of variables were considered in this study, namely dependent variables, independent variables, and control variables. The descriptions of the variables are as follows.

#### a. Dependent variable

The dependent variable is financial performance. Some methods that can be used to measure bank performance are ROA and capital adequacy ratio (CAR) (Mardiyati and Siregar, 2022; Oktafiani and Kurnianti, 2023), which can be calculated as follows:

$$\text{ROA} = \frac{\text{Earnings after tax}}{\text{Total assets}}$$
$$\text{CAR} = \frac{\text{Bank capital}}{\text{Total risk-weighted assets}}$$

#### b. Independent variable

The independent variable is CEO gender (i.e., the presence of men or women who serve as CEOs of organizations). CEO gender can be measured as follows (Suherman et al., 2023):

GENDER = Dummy 1 if the CEO is a female and 0 if the CEO is a male

c. Control variables

The control variables used in this study are as follows:

- Board of commissioner size

Board of commissioner size (BCOM) can be calculated according to Siregar et al. (2023) as follows:

$$\text{BCOM} = \text{Number of members on the board of commissioners}$$

- Board of director size

Board of director size (BDIR) can be calculated according to Siregar et al. (2023) as follows:

$$\text{BDIR} = \text{Number of members of the board of directors}$$

- Foreign commissioner

The proportion of foreign commissioners can be calculated according to Suherman et al. (2019) as follows:

$$\text{FOREIGN} = \frac{\sum \text{Foreign commissioners}}{\sum \text{Members on the board of commissioners}} \times 100\%$$

- Independent commissioner

The proportion of independent commissioners can be calculated according to Suherman et al. (2019) as follows:

$$\text{INDEN} = \frac{\sum \text{Independent members on the board of commissioners}}{\sum \text{Board of commissioners}} \times 100\%$$

- Firm size

Firm size can be calculated according to Siregar et al. (2023) as follows:

$$\text{FSIZE} = \text{Ln}(\text{Total assets})$$

- Firm growth

Company growth (or firm growth) can be calculated according to Suherman (2017) as follows:

$$\text{FGROWTH} = \frac{\text{Total assets}_t - \text{Total assets}_{t-1}}{\text{Total assets}_{t-1}}$$

- Dividend policy

Dividend policy can be calculated according to Siregar et al. (2023) as follows:

$$\text{DIV} = \text{Dummy 1 if dividends are distributed to shareholders and 0 otherwise}$$

- Firm age

The age of a company (firm age) can be calculated according to Kaur and Singh (2018) as follows:

$$\text{FAGE} = \text{Number of years since the company's establishment}$$

### 3.2. Samples

This study employs a purposive sampling method. This method involves sampling based on certain characteristics that are considered to have a close relationship with population characteristics. The purpose of this method is to obtain samples that conform to predetermined criteria. Some such criteria that have been determined are as follows:

- Banking companies listed on the Indonesia Stock Exchange (IDX) that issued financial reports for at least one year from 2010–2018.
- The total sample after a trimming process using Eviews 10 with a q% level of 1–99% to minimize outliers in research data.
- Banking companies listed on the Indonesia Stock Exchange (IDX) that displayed in full the relevant data and information needed in this study regarding the variables.

**Table 1. Sample selection**

Sample criteria	Total
1. Banking companies listed on the Indonesia Stock Exchange that issued financial statements for at least one year from 2010–2018.	43
2. Total sample after trimming process using Eviews 10 with a q% rate of 1–99%	40
3. Total samples used	40
4. Total observations (40 banking companies listed on the Indonesia Stock Exchange for at least one year from 2010–2018)	269

Source: Data processed by the researchers

Based on the criteria that the author has determined, 40 banking companies comprising a total of 269 observations met the sampling criteria after trimming to minimize data outliers with a q% rate of 1–99%.

### 3.3. Analysis methods

The regression equation model in this study is as follows:

$$FP_{it} = \beta_0 + \beta_1 GENDER_{it} + \beta_2 BCOM_{it} + \beta_3 BDIR_{it} + \beta_4 FOREIGN_{it} + \beta_5 INDEN_{it} + \beta_6 FSIZE_{it} + \beta_7 FGROW_{it} + \beta_8 FDIV_{it} + \beta_9 FAGE_{it} + e_{it}$$

where:

$\beta_0$	= intercept
$\beta_1 \dots \beta_9$	= slope
FP	= Firm performance (ROA, CAR)
GENDER	= Dummy female CEO
BCOM	= Number of members of the board of commissioners
BDIR	= Number of members of the board of directors
FOREIGN	= Proportion of foreign commissioners
INDEN	= Proportion of independent commissioners
FSIZE	= Firm size
FGROW	= Firm growth
DIV	= Dividend policy
FAGE	= Firm age
e	= Regression error
it	= Object to I and time to t

## 4. Results

### 4.1. Descriptive statistics

Descriptive statistical analysis is useful for analyzing data by describing or describing processed data to make them easier to understand. The descriptive analysis in this study consists of the mean, median, maximum, minimum, and standard deviation values obtained from each of the 40 banking companies listed on the Indonesia Stock Exchange (IDX) from 2010–2018, comprising 269 observations after trimming with a q% level of 1–99% to minimize data outliers.

**Table 2. Descriptive statistics**

	Mean	Median	Maximum	Minimum	Std. Dev	Observations
ROA	0.0147	0.0163	0.1240	-0.1115	0.0224	269
CAR	0.1941	0.1790	0.8749	0.0682	0.0819	269
GENDER	0.0743	0.0000	1.0000	0.0000	0.2628	269
BCOM	5.0149	5.0000	8.0000	3.0000	1.6683	269
BDIR	6.8848	6.0000	11.0000	4.0000	2.3062	269
FOREIGN	0.1145	0.0000	0.7143	0.0000	0.1965	269
INDEN	0.5780	0.5714	1.0000	0.0000	0.1089	269
FSIZE	31.2119	31.0000	34.0000	28.0000	1.6560	269
FGROW	0.1916	0.1498	2.8377	-0.3402	0.2913	269
DIV	0.4721	0.0000	1.0000	0.0000	0.5002	269
FAGE	43.0632	43.0000	102.0000	4.0000	18.3350	269

Source: Author

#### 4.2. Multicollinearity test

The purpose of a multicollinearity test is to test whether there is a correlation between independent variables in the regression model. A regression model can be considered good if there is no perfect correlation among independent variables. In general, a high correlation relationship of 0.8 between independent variables indicates multicollinearity.

**Table 3. Pearson correlation**

	GENDER	BCOM	BDIR	FOREIGN	INDEN	FSIZE	FGROW	DIV	FAGE
GENDER	1								
BCOM	0.133*	1							
BDIR	-0.018**	0.699	1						
FOREIGN	0.249	0.522	0.278	1					
INDEN	0.0001***	-0.321	-0.263	-0.218	1				
FSIZE	-0.145	0.673	0.840	0.152	-0.165	1			
FGROW	0.040**	-0.108*	-0.132*	-0.059*	0.054*	-0.191	1		
DIV	-0.220	0.193	0.205	-0.169	-0.046**	0.372	-0.079*	1	
FAGE	0.120*	0.488	0.334	0.337	-0.110*	0.401	-0.066*	0.179	1

Source: Data processed by the researchers using EViews 10. \*, \*\*, and \*\*\* signify significance at 10%, 5%, and 1%.

The results in Table 3 show that no correlation coefficient between variables has a value exceeding 0.8. Thus, it can be concluded that there is no correlation between the independent variables used in this study.

#### 4.3. Results and discussion

This study aims to determine the influence of CEO gender on the performance of banking companies listed on the IDX from 2010–2018. Table 4 shows the regression results of the effect of CEO gender (GENDER) as an independent variable on company performance (ROA and CAR) as a dependent variable while considering various control variables.

**Table 4. Regression results**

	ROA	CAR
	Fixed effect	Fixed effect
Intercept	-(0.1136)* <i>0.0808</i>	(0.8131)*** <i>0.0013</i>
GENDER	(0.0310)*** <i>0.0000</i>	(-0.0707)** <i>0.015</i>
BCOM	(-0.0014) <i>0.2916</i>	(-0.0054) <i>0.2989</i>
BDIR	(-0.0002) <i>0.7932</i>	(-0.0017) <i>0.6367</i>
FOREIGN	(-0.0131) <i>0.3015</i>	(-0.0048) <i>0.9217</i>
INDEN	(-0.0120) <i>0.2304</i>	(-0.0744)* <i>0.0551</i>
FSIZE	(0.0061)** <i>0.0145</i>	(-0.0319)*** <i>0.001</i>
FGROW	(0.0056)* <i>0.0872</i>	(0.0605)*** <i>0.0000</i>
DIV	(0.0048) <i>0.1307</i>	(-0.0098) <i>0.4263</i>
FAGE	(-0.0019)*** <i>0.0002</i>	(0.0099)*** <i>0.0000</i>
R-squared	0.7100	0.6773
Adjusted R-squared	0.6467	0.6069
F-statistic	11.2233	9.6233
Prob(F-statistic)	0.0000	0.0000
Observations	269	269

Source: Data processed by the researchers using EViews 10. \*, \*\*, and \*\*\* signify significance at 10%, 5%, and 1%. The numbers in parentheses are the values of the coefficients. The numbers in italics are the p-values.

The following is an explanation of the influence of the independent variable on the dependent variable considering control variables in a sample of banking companies listed on the Indonesia Stock Exchange (IDX) from 2010–201. This study uses regression equations to measure the influence of CEO gender on company performance. The regression equation shows that the value of the GENDER coefficient is 0.0310 with a probability value of 0.0000 < 0.01.

This result shows that the presence of female CEOs in banking companies listed on the IDX during the study period had a significant positive effect on company performance in terms of ROA. Therefore, when ROA is used as a proxy for company performance, H<sub>1</sub>, which states that female CEOs positively affect bank performance, is accepted. These results are in line with research conducted by Suherman et al. (2023) and Khan and Vieito (2013), who found that female CEOs have a positive and significant relationship with company performance as indicated by ROA. This is because female CEOs can generate higher sales growth and higher sales growth than male CEOs; they can also offer higher ROA positions.

As shown in Table 4, the regression using control variables yielded a value of the GENDER coefficient of -0.0707 with a probability value of 0.0150 < 0.05. This outcome shows

that female CEOs negatively affect company performance as measured by CAR. Thus, when CAR is used as a proxy for company performance,  $H_1$  is rejected. This result is in line with research conducted by Buchdadi et al (2023) who found that female CEOs negatively influence company performance. This is because women tend to avoid risk, which can lead companies to experience a lack of economic capital resources needed to carry out business activities.

## 5. Conclusion

This study aimed to determine the influence of female CEOs on the performance of banks listed on the Indonesia Stock Exchange (IDX) from 2010–2018. CEO gender was found to affect banking companies' performance in terms of ROA and CAR. This means that CEO gender can be used as a reference for companies when selecting female candidates for CEO positions and as information materials for shareholders regarding investment decisions. An implication of this study for shareholders is that female CEOs can be considered when choosing a CEO. Meanwhile, investors should consider the existence of female CEOs due to their influence on company performance. Future research could use other proxies, such as CEO tenure, to determine the characteristics of CEOs and to use samples that distinguish state banks from non-government banks so that the results can indicate specifications based on ownership.

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