



Board Characteristics and Bank Performance: Which Factor is More Important?

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ABSTRACT: This study seeks to find the rank of corporate governance characteristics that affect bank performance. The artificial neural network is employed in the analysis instead of regression analysis. There are two dependent variables which are ROA and PER that represents the accounting performance and the market performance. Size of the board of directors, gender diversity of the board, and board independence are the corporate governance characteristics considered in this study. Board independence is the most important factor in determining both accounting performance and market performance. However, the size of the board of directors becomes the second-factor affecting a bank's accounting performance and the last factor affecting the bank's market performance, while gender diversity is the last factor for accounting performance and the second factor for market performance.

Keywords: Board Independence, Gender, Size of Board of Directors, Bank Performance

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INTRODUCTION

In a sensitive and competitive market, a bank's performance might be harmed, with ramifications affecting a wide range of economic actors. Bank failures create problems for businesses, such as frozen customer deposits and contracting credit limits. As a result, the government and Central Bank should conduct rigorous inspections and supervision of bank activities. Commercial banks, unusually, are required to adhere to the management, control, and supervision rules provided by the board of directors and managers (Quoc Trung, 2022).

The board of directors has responsibility in executing tasks to maximize shareholder wealth and accommodate stakeholders' interest, ensuring that being under the board of directors' supervision may enhance bank performance (Setiyono & Tarazi, 2018). According to Adams and Ferreira (2007), the board of directors (BOD) performs two complementary functions: consultation and oversight. Additionally, Fama and Jensen (1983) state that the BOD's advisory duty offers strategic direction for banks and ensures proper and effective resource utilization.

Further, Setiyono and Tarazi (2018), Tariah (2019), Brahma et al. (2021), and Kanakriyah (2021) have investigated the aspects of BOD that influence organizational success, including bank performance. These studies focus on performance as measured by returns on assets and returns on equity in accounting (Kanakriyah, 2021; Setiyono & Tarazi, 2018; Tariah, 2019). Most of the study's findings demonstrate the importance of board diversity, particularly in terms of gender, citizenship, age, experience, tenure, ethnic origin, national origin, education level, and type, all of which impact a bank's performance. The question that arises is which board characteristics do we focus on the most?

This study attempts to rank factors related to the characteristics of the board of directors that can contribute to improving banking performance. We choose two performance indicators that represent accounting performance and market performance, namely return on assets (ROA) and price to earnings ratio (PER). Most studies focus on the utilization of regression analysis, while this study uses the artificial neural network (ANN) as the method to rank factors that are important to enhance bank performance.

THEORETICAL REVIEW

Size of Board of Directors

According to agency theory, the board of directors serves as a representative of the company's numerous owners and stakeholders by monitoring and overseeing the management's performance and actions (Kalsie and Srivastav, 2016). A larger board of directors comprises a higher number of directors who strive to protect and enhance the interests of stakeholders by monitoring and to oversee the firm's performance. Thus, agency theory asserts that a larger board of directors improves business performance through increased oversight by a broader group of individuals. Similarly, the resource dependency hypothesis postulates that a larger board size results in a greater

diversity of skill and knowledge across several sectors. Additionally, larger boards facilitate the availability of rare resources for the business through relationships with individuals in the same or a different industry. Thus, different directors have access to a variety of resources, and as the number of these directors increases, the availability of resources increases as well, so improving business performance.

Dalton et al. (1999) argue that larger boards provide superior recommendations to management, based on the resource dependency hypothesis of the company. According to Goodstein et al. (1994), the size of the board of directors indicates a firm's capacity to extract resources from its surroundings. Indeed, some of them are CEOs of other firms (Lorsch & MacIver, 1989). Coles et al. (2008) presume that when a business grows in size, its operations get more complicated, necessitating additional guidance and oversight, as well as a larger board of directors.

Board Gender Diversity

Many countries across the globe are responding to exacerbating pressure from governments, investors, and corporations to achieve gender equality within the boardroom. Terjesen, Aguilera, and Lorenz, 2014 argue that quotas and guidelines have been established in line with the sanction and enforcement thereof or through the 'comply or explain' principle. Legislation has resulted in significant impact and changes to board composition.

'Glass ceilings, broken windows, golden skirts and critical mass' are metaphors that have become highly popularized, researched, and argued amongst, government officials, academics, and industry professionals. Corporate governance through quotas and guidelines, coupled with feminist movements, have actively sought to address challenges associated with gender equality, seeking a solution to ultimately address the gender disparities reflected in corporate board composition.

The critical mass theory is the foundational work of Rosabeth Kanter, (1977; 1987), who proposes that until a threshold of women in a group is reached, female skill and ability will not be the central focus. A resultant significance is that there will be a decreased performance by skewed groups relative to uniform, tilted and balanced groups. Tilted groups – (20–40 % women) – will outperform uniform and skewed groups (Kanter, 1977).

Building on this theory, a "magic number" of 3 was proposed, which suggests that achieving gender equality of at least 3 female board members will result in increased performance (Joecks et al, 2012). Moreover, Kanter's critical mass theory was applied to corporate boardrooms, where Konrad, Kramer, Erkut, (2008) proposed that the "critical mass of 3 or more women can cause a fundamental change to corporate boardrooms and enhance corporate governance"

In contrast to their male colleagues, female directors intrinsically possess alternative values (Selby, 2000) specific viewpoints, knowledge and skills (Daily and Dalton, 2003; Hillman et al., 2002). Consequently, this range of attributes and

perspectives supports the recognition of innovative opportunities (Miller and Triana, 2009; Torchia et al., 2011). Additionally, this expertise further stimulates contribution to expanding the firms' competitive products, through alternative cognitive competencies such as innovative ideas and thinking processes (Millikens and Martins, 1996).

Board Independence

Board independence is considered a powerful method for monitoring manager performance and deterring opportunistic behavior, owing to such directors' increased desire and interest in reviewing management activities and thereby preserving the company's reputation (Fama & Jensen, 1983). Additionally, as a result of their stature and image, their reputations are contingent on the quality of work they perform, with a particular emphasis on solid managerial oversight (Fama, 1980; Fama & Jensen, 1983).

Board independence is frequently associated with the presence of non-management directors on the board; an executive or internal directors are those who are part of the management team. Independence is seen to be directly associated with board strength (Beasley, 1996; Kang et al., 2007), as independent directors demonstrate better impartiality and independence in their examination of the company's management and behavior (Ibrahim & Angelidis, 1995).

There is evidence that a larger number of independent directors leads in improved supervision. However, in countries with a two-tier board structure (e.g., Germany, China, Taiwan, and certain continental European countries), supervisory boards resemble an all-nonexecutive board. They are accountable for promoting the interests of their shareholders through oversight of executive directors and managers.

METHODOLOGY

The data consist of bank accounting performance (ROA), bank market performance (PER), and board characteristics data. Data is collected from Datastream database, which includes bank data from 34 countries of G20. The countries are Australia, Austria, Belgium, Brazil, Canada, China, Croatia, Cyprus, Denmark, Finland, France, Germany, Greece, India, Indonesia, Ireland, Italy, Japan, Malta, Norway, Poland, Portugal, Romania, Russia, Saudi Arabia, Slovak Republic, South Africa, South Korea, Spain, Sweden, Taiwan, Turkey, United Kingdom, and the United States of America. The data represents data of 331 banks from 2001 to 2019. Table 1 presents the sample coverage.

Dependent variables in this study are ROA and PER, while the independent variables are the size of the board of directors (SIZE), gender diversity of the board (GENDER), and board independence (INDEP). SIZE is the number of board of directors members. GENDER represents the percentage of female board members out of total board members, and INDEP is the independent board member percentage out of total board members.

Table 1. Sample coverage

<i>Country</i>	<i>No of bank</i>	<i>Country</i>	<i>No of bank</i>
1 Australia	4	18 Japan	7
2 Austria	3	19 Malta	3
3 Belgium	1	20 Norway	15
4 Brazil	15	21 Poland	2
5 Canada	4	22 Portugal	1
6 China	8	23 Romania	1
7 Croatia	4	24 Russia	4
8 Cyprus	1	25 Saudi Arabia	4
9 Denmark	3	26 Slovak Republic	1
10 Finland	1	27 South Africa	1
11 France	7	28 South Korea	3
12 Germany	2	29 Spain	4
13 Greece	2	30 Sweden	1
14 India	20	31 Taiwan	4
15 Indonesia	11	32 Turkey	5
16 Ireland	3	33 United Kingdom	8
17 Italy	2	34 United States of America	176

This study employs artificial neural network (ANN). ANNs are nonlinear models made up of linked units ("neurons") that are capable of performing a variety of pattern recognition tasks, including classification and prediction (Haykin, 1998). ANNs acquire information through pattern recognition in data and store it in weights – sets of connection strengths equivalent to regression coefficients (Barbour et al., 2007). ANNs are available in a variety of configurations, including radial basis function networks and multilayer perceptrons (MLP). Each ANN learns patterns in data by estimating weights using activation functions, but various types of ANNs learn in distinct ways. This study employs an MLP, an artificial neural network that learns by backpropagation and updates its weights after processing either the data set or each datum.

ANN weights, like regression coefficients, quantify correlations between independent and dependent variables. ANN weights, on the other hand, evaluate the local impacts of independent factors on dependent variables across all data, whereas regression weights estimate global effects. For instance, the weight coefficient of an independent variable may be negative at some nodes and positive at others. Significant weight fluctuations suggest that the independent variables fluctuate nonlinearly across observations (Intrator & Intrator, 2001). If the ANN weights are nonlinear, repeated regression on the data set will produce sub-optimal results (Intrator & Intrator, 2001).

RESULTS

Table 2 shows the result of ANN for independent variables important. The result implies that for ROA, the most important corporate governance factor, especially the board characteristics factor is board independence (INDEP) with an importance coefficient of 0.340 and normalized importance 100.0%, followed by the size of the board of directors (SIZE) and gender diversity (GENDER). The importance coefficient and normalized importance for SIZE and GENDER are 0.338, 99.3%, and 0.323,94.9%, respectively. In addition, the most important factor impacting PER the most is INDEP (0.375, 100.0%), followed by GENDER (0.347, 92.6%) and SIZE (0.278, 74.1%).

Moreover, both ANN analyses use 71% data for training and 28% data for testing. There are 18 and 25 data excluded while ANN is running the analysis. The total valid number of observations is 1549 and 1542, respectively.

Table 2. ANN result for variables importance

	ROA		PER	
	Importance	Normalized Importance	Importance	Normalized Importance
SIZE	0.338	99.3%	0.278	74.1%
GENDER	0.323	94.9%	0.347	92.6%
INDEP	0.340	100.0%	0.375	100.0%
	<i>N</i>	<i>Percent</i>	<i>N</i>	<i>Percent</i>
Training	1104	71.30%	1097	71.10%
Testing	445	28.70%	445	28.90%
Valid	1549	1	1542	1
Excluded	18		25	
Total	1567		1567	

DISCUSSION

As presented in Table 2, Figure 1, and Figure 2 the three independent variables that impact ROA can be ranked as follows: INDEP, SIZE, and GENDER, while the variables impacting PER are INDEP, GENDER, and SIZE. The result implies that board independence is the most important factor in enhancing bank accounting performance. Board independence becomes the most important factor since independent directors serve as internal monitors for the firm's executive directors because they may be extremely successful at resolving Agency Theory's information asymmetry and conflict of interest difficulties

(Alqatan, Chbib, and Hussainey, 2019). Better internal control makes bank management more focused on and efficiently utilizing the bank resources in achieving the bank goals, as a result, boosts the bank performance (ROA and PER).

In addition, board size and gender might lead to two different impacts, which are enhancing performance or negatively impacting performance. According to De Andres and Vallelado (2008), a larger board enables supervisory oversight of managers and adds more human resources to assist managers. However, boards with an excessive number of members create issues of coordination, control, and decision-making flexibility. Additionally, large boards offer the CEO an inordinate amount of influence, which reduces efficiency (Yermack, 1996; Eisenberg et al., 1998; Fernández et al., 1997).

Smith et al. (2006) explain that a more diversified board of directors in terms of gender may improve the firm's public image and, as a result, its performance. Another argument in favor of diversity is that when women are considered as possible board members, the talent pool expands, enhancing the likelihood of discovering the best individuals. Carter et al. (2003) suggest that while a more diverse board may be more active, there is no assurance that monitoring will be more effective as a result of the marginalization of minority board members. Given these cost-benefit analyses, the business case for gender diversity appears less certain and situation-dependent.

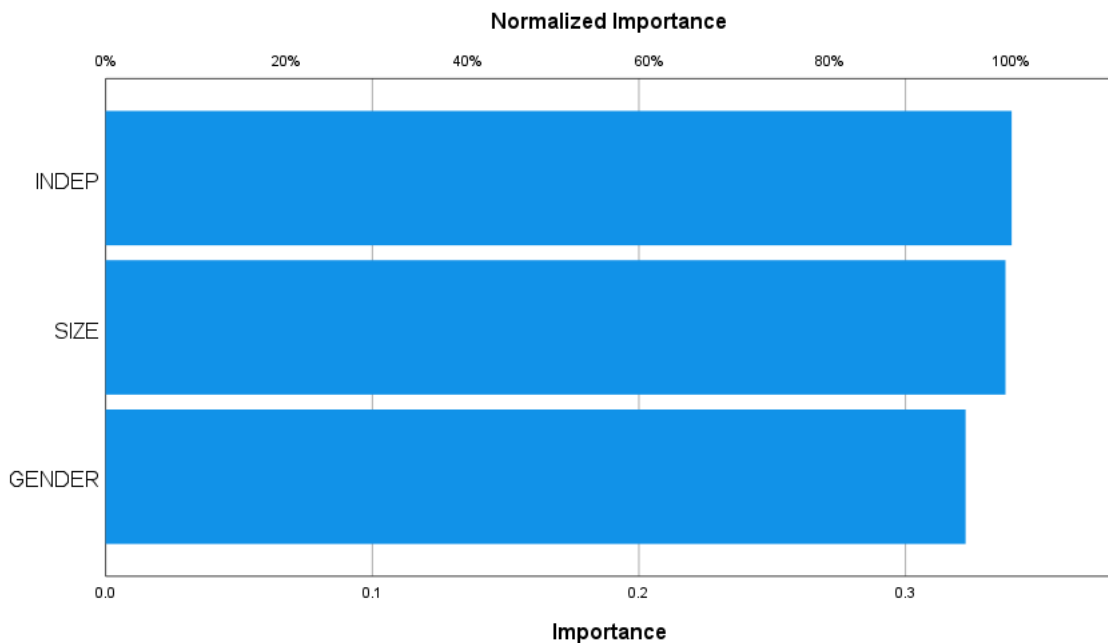


Figure 1. Importance and normalized importance for ROA

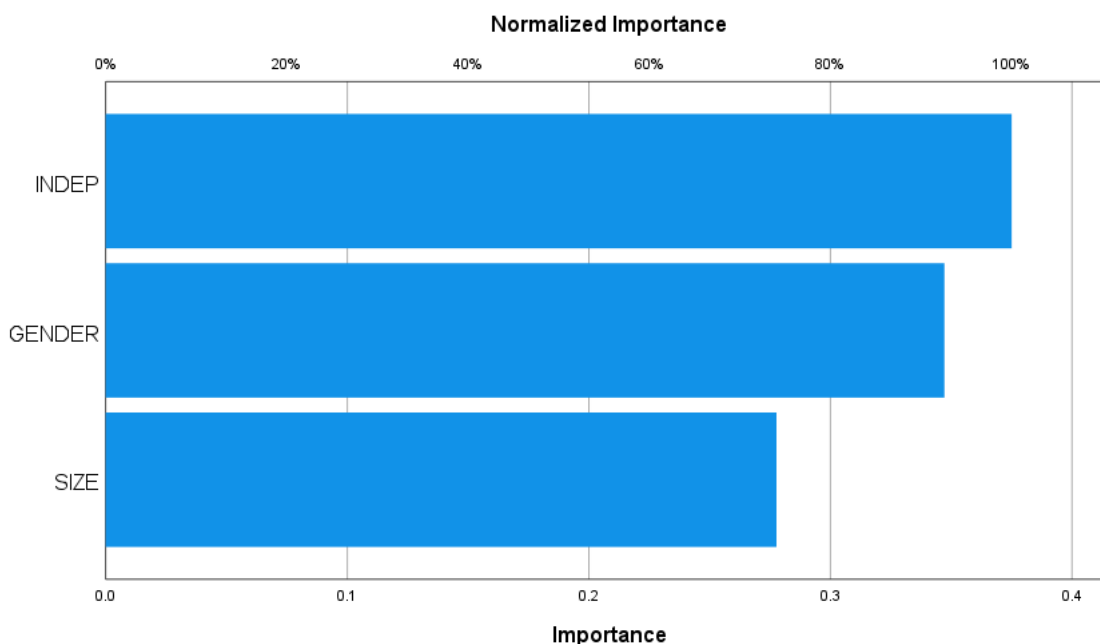


Figure 2. Importance and normalized importance for PER

CONCLUSIONS AND RECOMMENDATIONS

This study seeks to rank the board characteristic factor that impacting bank performance. The most critical component in boosting bank performance is board independence. Board independence has become the most critical aspect because it improves internal control, which helps bank management focus on and efficiently utilize bank resources to accomplish bank goals, hence boosting bank performance (ROA and PER). A larger board allows for supervisory monitoring of managers and augments human resources available to support managers. However, too large boards cause coordination, control, and decision-making flexibility concerns. Additionally, huge boards confer an excessive amount of influence on the CEO, reducing efficiency. A more gender diverse board of directors may benefit the firm's public image and, as a result, its performance. However, there is no guarantee that monitoring will be more effective as a result of minority board members' marginalization. The commercial rationale for gender diversity looks less solid and situation-dependent in light of these cost-benefit evaluations. Therefore, banks should consider the portion of independent director(s) in their board of directors' composition in order to boost their performance.

FURTHER STUDY

The limitation of this study is the data used for the analysis was collected from Datastream database which has some missing values. Therefore, for future studies it is suggested to use corporate governance data that collected directly from the sources such as annual report to avoid missing values.

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