
RESEARCH ARTICLE

Corporate Governance, Leverage, and Firm Performance in South Korea

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ABSTRACT

Corporate Governance affects corporate financial decisions and is a source of financial performance. This study investigates the complex interplay between corporate governance, leverage, and profitability for a sample of Korean firms. We used data from 510 Korean firms from 2010 to 2020 and employed the Ordinary Least Square estimation technique. Our results show that corporate governance components such as board size, females on board, and audit quality neither impact firms' leverage nor their profitability. However, the leverage of Korean firms improves their profitability. Our results have managerial implications for Korean firms in managing their performance effectively.

KEYWORDS

Corporate Governance; Leverage; Firm Performance; South Korea

ARTICLE INFORMATION

ACCEPTED: 02 September 2024

PUBLISHED: 26 September 2024

DOI: 10.32996/jefas.2024.6.5.8

1. Introduction

Firm financial performance varies over time, making it a critical focus for businesses and scholars. Profit-seeking firms aim to maximize shareholder wealth, which depends on their performance. Capital structure, the mix of debt and equity, plays a key role in maintaining financial stability and preventing significant losses (Huynh et al., 2022). Some theories suggest that a firm's performance is tied to its capital structure, requiring directors to make critical decisions about funding (Himmah & Dianty, 2021). Financial leverage, defined as the ratio of total debt to total capital, can be influenced by board actions (Kijkasiwat et al., 2022). Clear policies, procedures, and governance structures are essential for effective corporate operation. Firms that consistently underperform are likely to fail, missing growth and development targets for survival. This, along with increased business complexity and failures, has driven the need for stronger corporate governance regulations (Adamu et al., 2023).

It is crucial to address whether financial leverage mediates the impact of corporate governance on firm performance for several reasons. First, corporate governance may not directly impact a company's performance. Examining the mediating effect of financial leverage on company performance may help to explain the inconsistent findings on the relationship between corporate governance and firm performance if the influence of corporate governance is indirect. Second, we would better understand how modifications to corporate governance may impact business performance if we considered financial leverage as one of the possible mediators. Numerous studies have explained the relationship between financial leverage and performance over time; some show a positive relationship, while others highlight the negative effects of debt. Situational and contingency factors are the cause of these contradicting and conflicting results. (Pham & Nguyen, 2019) In summary, albeit insightful, most of the corporate governance literature to date has concentrated on the causal links between corporate governance elements and business, such as financial leverage, and thus, the impact on business performance in South Korea remains unsolved.

In this study, we primarily aim to achieve two goals. First, we look at how corporate governance affects financial leverage and business performance in an emerging market nation that undertook numerous reforms after a financial crisis. Second, we consider the possibility that financial leverage modifies the association between governance and company performance.

2. Literature review

Previous research indicates that corporate governance influences business capital structure decisions. The number of non-executive directors influences a board's judgement about capital allocation. Businesses have easier access to resources because they are more knowledgeable about the organisation's tasks (Kijkasiwat et al., 2022). We examine a sample of South Korea's publicly traded companies for two. First, in the 2000s, Korea started reforming its corporate governance by mandating and promoting several sound corporate governance principles (Lee, 2019). Second, Korea is one of Asia's major rising market nations. In this section, we formulate theoretical justifications for the connections between financial leverage and company performance, corporate governance and financial leverage, and corporate governance and firm performance. We then put forth testable hypotheses.

2.1 Corporate Governance

Corporate governance is a structure for establishing transparency, accountability, and trust. (E-Vahdati et al., 2019). Managers' interests are at odds with those of the shareholders. The conflicting interests of the company's stakeholders reflect the principal-agent problem in matters of direction and management (Lungu et al., 2020). Corporate governance offers a framework for resolving agent conflicts to guarantee investors or other interested parties that the agents can manage funds to maximise a firm's worth (Ahmed et al., 2023). The corporate governance characteristics and how they affect the firm's capital structure are covered in the ensuing subsections.

2.2 Audit committee and financial leverage

According to Diri (2018), an audit committee is a subcommittee of the board of directors predominantly composed of non-executive directors. It oversees supporting the board and pushing for a sufficient internal control framework to raise the calibre and transparency of financial reports. It works to protect shareholders' interests by conducting an unbiased, independent review, monitoring, and inspection of the numerous actions and policies adopted by the company. Corporations' audit committees would have easier access to external financing if they performed well. (Detthamrong et al., 2017) Businesses with highly effective audit committees also demonstrate strong management, encouraging managers to adopt prudent policies governing the amount of debt (leverage) the business uses. By doing this, businesses may avoid financial difficulties. (Saputri & Asrori, 2019). Therefore, we anticipate financial leverage will be connected to the audit committee. However, the relationship can be positive or negative depending on factors like the starting degree of leverage.

Hypothesis 1.1. *The audit committee has a positive relationship with financial leverage.*

2.3 Female directorship and financial leverage

Most of the examined research in this analysis has employed the agency theory to elucidate the influence of women on corporate boards (WOCBs) on corporate performance. This theory holds that women are more adept at providing advice and monitoring, which lowers agency costs (Ararat & Yurtoglu, 2021; Đặng et al., 2020), potentially leading to improved performance. So, the question is whether female directors would attempt to reduce the firm's leverage to reduce financial risk, indicating that having female directors hurts leverage. (Nguyen et al., 2020) Since many businesses in developed nations have low leverage, as evidenced by earlier research (Chen & Sensini, 2021), female directors in these businesses may encourage them to have larger leverage. Given that businesses in developing nations typically face more significant financial constraints than those in wealthy nations, we anticipate that female directors will have a favourable impact on leverage for the former and a negative impact on the latter. Thus, we suggest in our study that:

Hypothesis 1.2. *Female directorship is positively related to financial leverage.*

2.4 Board Size and Financial Leverage

The board of directors is one of the most important parts of the corporate governance structure, and it regulates how the company is conducted internally. Whether a larger board performs better than a smaller board size is a topic of debate. (Ronoowah & Seetanah, 2023) Information inconsistencies have been proposed in the literature to be less problematic for larger firms than smaller ones (Wasiuzzaman, 2019). This suggests that there may be a positive relationship between debt and a company's size. Larger companies are better able to diversify their operations and distribute their risk. Additionally, the positive correlation between board size and financial leverage seems to confirm the theory that companies with more directors may be able to take advantage of their networks of directors, which enables them to have better access to outside financing, as mentioned by Cathcart et al. (2020). As a result, we put out the following hypothesis.

Hypothesis 1.3. *The size of the board is positively related to financial leverage.*

2.5 The effects of corporate governance on firm performance

Every nation has unique official processes based on social and economic foundations, political climate, religious practices, and customs. CG codes, which safeguard stakeholders' interests, are national (Iqbal & Javed, 2017). When conflict emerges between

owners and agents, leading to discrepancies in business performance, one approach to address agency difficulties is using CG. CG changes regulations or introduces incentive programs to encourage agents to protect shareholders' interests and resolve conflicts. According to (Bakar et al., 2023), CEO duality, gender diversity, board independence, agent count, and other factors impact the company's performance. Below is a discussion of the research on how these many factors affect business performance.

2.6 Audit committee and firm performance

One tool for sound company governance is the Audit Committee. As per FCGI, an audit committee can provide valuable understanding regarding financial matters, particularly accounting, financial reporting, auditor independence, and internal control concerns. Because they have varying levels of corporate governance expertise and financial understanding, the audit committee members can thus convene meetings and share ideas (Utami & Priantinah, 2019). We contend that companies with an effective audit committee are less likely to have a higher likelihood of significant scandals related to accounting, reducing the likelihood of unanticipated subpar business performance. (Indrawan et al., 2018) As a result, we anticipate a favourable correlation between the size of the audit committee and firm performance. In conclusion, we put out the subsequent theory.

Hypothesis 2.1. *The audit committee has a positive correlation with firm performance*

2.7 Female directorship and firm performance

Innovation and creativity are facilitated by corporate board diversity in general and corporate board gender diversity. Numerous studies have empirically examined and emphasised the impact of women in directorship. Board diversity is positively correlated with business performance, according to Green and Homroy (2018), who provide an analysis of the economic consequences of board gender diversity by measuring the proportion of women on board directors about firm performance. According to Sila et al. (2016), it is uncertain if companies with more female board members take fewer risks. The study concludes that the negative gender risk association is mainly driven by between-firm variances, highlighting the influence of endogeneity on the estimated relationship between gender diversity and company risk. Therefore, we come up with the following hypothesis:

Hypothesis 2.2: *Female directorship is positively related to firm performance.*

2.8 Board size and firm performance

A company's board prevents its failure as the supervision of its activities falls on it. A corporation's diversity determines the board's size; the more significant the board, the more varied the organisation. Because they have access to more resources, companies with more directors can make more intelligent and sensible judgements. According to the literature, a company's performance is improved by having an interactive board. Businesses with more regular meetings and joint board-management meetings typically do better as a company (Agustia et al., 2022). Additionally, various academic studies have linked board size to firm performance. The two were found to have a substantial negative association by Merendino and Melville (2019) and Potharla and Amirishetty (2021)

Hypothesis 2.3. *The size of the board is positively associated with firm performance.*

2.9 Influence of financial leverage on firm performance

The empirical literature on corporate finance offers mixed findings on the impact of financial leverage on business performance. Kamal and Anis (2022) argue that debt financing can enhance performance by prompting creditors to monitor borrowers closely. Alim et al. (2022) suggest that leverage has little effect on financial performance, while Chen (2020) and Abu-Abbas et al. (2019) find a negative correlation between leverage and performance. The Pecking Order Theory also indicates a negative association, implying that businesses borrow less because they maintain sufficient cash reserves. However, companies using debt financing may invest in better projects due to stricter creditor oversight, potentially leading to improved performance. Therefore, we propose the following hypothesis:

Hypothesis 3. *Financial leverage is positively related to firm performance.*

3. Methodology

The financial statements of Korean-listed firms gathered from the datastream served as the basis for the data used in the empirical analysis—the study's original sample, which consisted of non-financial institutions of 510 companies. The data set has 4910 observations. The period under study, which spans from 2010 to 2020. This paper evaluates our hypotheses and research question by regressions using OLS. We construct a series of panel OLS regressions of capital structure on corporate governance, firm performance on corporate governance, firm performance on financial leverage, and firm performance on financial leverage and corporate governance, respectively. We also have a set of control variables.

$$LEV_{i,t} = \alpha + \beta CG_{i,t-1} + \gamma Z_{i,t-1} + \varepsilon_{i,t} \tag{1}$$

$$ROA_{i,t} = \alpha + \beta CG_{i,t-1} + \gamma Z_{i,t-1} + \varepsilon_{i,t} \tag{2}$$

$$ROA_{i,t} = \alpha + \beta LEV_{i,t-1} + \gamma Z_{i,t-1} + \varepsilon_{i,t} \tag{3}$$

Here, $LEV_{i,t}$ represents the firm's leverage measured by total debt to total assets at time t . Corporate governance factors (such as board size, audit committee size, and female directorship) are represented by a vector called corporate governance (CG). $ROA_{i,t}$ represents the ratio of the firm's earnings to assets at time t .

3.1 Dependent variables

A company's financial leverage is determined by dividing its total debt by its assets. Numerous researchers have employed this variable (Zhou et al., 2021; Chen & Sensini, 2021) as a gauge for financial leverage. In line with earlier research by Chen et al. (2021) and Alshirah et al. (2022), we measure a company's profits using return on assets (ROA), which is calculated as the ratio of earnings before interest and taxes to assets.

3.2 Independent variables

We utilise three corporate governance measures, consistent with previous research (see, for example, Velte, 2017), to examine the impact of corporate governance on financial leverage and business performance. Other variables include the number of board directors, which is used to calculate board size (B_S), and the number of members of the audit committee on the board, which is used to calculate audit committee size (B_A). The ratio of female directors to total directors calculates female directorship (B_F).

3.3 Control variables

We have included firm size (TA), firm age (AGE), current ratio (CR), the market-to-book ratio (MBR), and the cash flow to total assets ratio (CASH) as the firm-level control variables.

4. Results and Discussion

Table 1: Summary Statistics

	Mean	Median	S.D.	Minimum	Maximum
B_S	10.46	10	2.33	7	15
B_A	3.07	3	0.4	0	5
B_F	0.16	0.13	0.14	0	0.45
TA	8.12	7.84	1.40	5.90	11.09
AGE	2.40	2.56	0.74	0.00	3.26
CR	2.14	1.51	1.79	0.00	7.28
MBV	1.59	1.21	1.23	0.28	4.9
CASH	0.09	0.08	0.10	-0.13	0.29
LEV	0.27	0.23	0.21	0	0.65
ROA	0.09	0.09	0.07	-0.08	0.21

Table 1 provides the summary statistics for the variables used in this paper for the final sample of 22,516 firm-year observations from 2000 to 2022. While B_A mean (median) value is 3.06 (3.00), B_S has a mean (median) value of 10.46 (10.00). While ROA has a mean (median) value of 0.09 (0.09), the mean (median) value of ROA is 0.17 (0.16). Given that the mean (median) leverage value is 0.27 (0.23), it can be concluded that typical Korean firms are not overly leveraged.

Table 2: Correlation

	B_S	B_A	B_F	TA	AGE	CR	MBV	Cash	LEV	ROA
B_S	1									
B_A	0.19***	1								
B_F	-.17 ***	.04	1							
TA	.35 ***	.08- ***	-.22 ***	1						
AGE	.23 ***	.05 ***	.13 ***	.19 ***	1					
CR	.56	.03 ***	.00	.25	.22***	1				
MBV	.09***	-.02***	-.05-	.09 ***	-.12	.04	1			
Cash	-.09	.01	-.07 ***	.55***	.08 ***	.34	-.18	1		
LEV	0.02	.33	.03	-.22	-0.07	.15 ***	.23 ***	.13***	1	
ROA	.41	0.12***	.18	.02 ***	0.04 **	.06 ***	.22 ***	.06***	.19 **	1

Table 2 shows the correlation coefficients for the significant variables in the final sample of 4,910 observations. Since most explanatory variable correlation coefficients are less than 0.50, multicollinearity is not a significant concern.

4.1 The effects of corporate governance on financial leverage

This section presents our empirical results on the impact of corporate governance characteristics on financial leverage. The dependent variable in the panel OLS model in Table 3 is financial leverage (LEV). Model (1), the baseline regression, includes only control variables at the business and industry levels. The results show that financial leverage positively correlates with the market-to-book ratio (MBV), firm age (AGE), and firm size (TA). Conversely, financial leverage negatively correlates with the current ratio (CR) and cash flow to total assets ratio (CASH). In Model (2), we add critical corporate governance variables to examine their direct relationship with financial leverage. The coefficient for control variables and their sign mostly remains the same. However, we report no impact of all CG variables on leverage, refuting Hypotheses 1.1 to 1.3. There is no statistically significant impact of CG on financial leverage.

Table 3: OLS Regressions: Dependent Variable Financial Leverage (LEV)

Variable	(1)	(2)
Constant	-0.443*** (0.082)	-0.430* (0.092)
B _S _{t-1}		0.041 (0.002)
B _A _{t-1}		-0.021* (0.008)
B _F _{t-1}		0.067 (0.050)
TA _{t-1}	0.084*** (0.08)	0.072*** (0.02)
AGE _{t-1}	0.030 (0.014)	0.028 (0.014)
CR _{t-1}	-0.017*** (0.003)	-0.011** (0.003)
MBV _{t-1}	0.008** (0.004)	0.012** (0.004)
CASH _{t-1}	0.113*** (0.026)	-0.10* (0.027)
Adjusted R2	0.406	0.421
F-statistic	31.875***	28.524**
Firms included	510	510
Observations	4,910	4,910

4.2 The effects of corporate governance and financial leverage on firm performance

This section examines how financial leverage and corporate governance traits impact company performance. Table 4 presents the panel OLS regression results, using return on equity (ROA) as the dependent variable. Model (1), the baseline regression, includes only control variables. The results show that firm size (TA) and the current ratio (CR) negatively correlate with performance, while market-to-book ratio (MBV) and cash flow to total assets ratio (CASH) positively correlate. The negative impact of firm size on performance contrasts with prior research (e.g., Corvino, 2019). Model (2) adds board size (B_S), audit committee size (B_A), and female directorship (B_F) to assess the direct impact of corporate governance on performance. Firm size (TA) and CR remain negative and significant, while CASH and MBV remain positive and significant. The B_A coefficient of -0.017 is weakly significant at the 10% level, indicating that a larger audit committee negatively impacts performance, partially supporting Hypothesis 2.1.

Model (3) includes financial leverage (LEV) as an independent variable to examine its direct relationship with performance. The LEV coefficient 0.135 is significant at the 1% level, indicating that higher leverage improves performance, supporting Hypothesis 3. This contrasts with earlier studies, like Arhinful & Radmehr (2023), which found a negative correlation. While TA and firm age are negatively related, MBV and CASH remain positive and significant. Corporate governance factors are unrelated to performance, while the LEV coefficient of 0.135, significant at the 1% level, indicates that increased leverage enhances performance.

Table 4: OLS Regressions: Dependent Variable Financial Leverage (LEV)

Variable	(1)	(2)	(3)
Constant	0.346*** (0.080)	0.397*** (0.093)	0.460*** (0.092)
BD_S _{t-1}		0.001 (0.003)	0.002 (0.003)
BD_A _{t-1}		-0.017* (0.009)	-0.016* (0.008)
BD_F _{t-1}		0.058 (0.048)	0.044 (0.048)
TA _{t-1}	-0.022** (0.009)	-0.027*** (0.01)	-0.039*** (0.01)
AGE _{t-1}	-0.016 (0.012)	-0.013 (0.002)	-0.019* (0.042)
CR _{t-1}	-0.008*** (0.003)	-0.008*** (0.003)	-0.003 (0.003)
MBV _{t-1}	0.033*** (0.018)	0.011*** (0.001)	0.029*** (0.003)
CASH _{t-1}	0.125*** (0.02)	0.118*** (0.07)	0.156*** (0.019)
LEV _{t-1}			0.135*** -0.028
Adjusted R2	0.421	0.425	0.37
F-statistic	7.73***	7.73***	7.26***
Firms included	510	510	510
Observations	4,910	4,910	4,910

5. Conclusion

Corporate governance is one of the most popular subjects, particularly during business failures and/or a banking or financial crisis. This study examined South Korea's non-financial firms from 2010 to 2020, providing insight into the relationships between financial leverage, corporate governance, and firm performance. The following are the main findings of this inquiry. Two key questions are frequently posed: Can excellent corporate governance reduce the firm's risk (such as finance and investment risk)? Second, are companies with excellent corporate governance outperforming those with inadequate governance? Many policymakers worldwide strongly argue that good corporate governance will lower the likelihood of the firm taking on excessive risk and boost firm

performance, even if actual outcomes seem to be mixed. For an average firm in South Korea, corporate governance (i.e., board size, audit committee size, female directorship) does not affect leverage and performance. However, firm leverage has positive implications for firm performance.

Future studies can look at foreign firms, as only local corporations have been included in our research. Globalisation has made data more accessible, necessitating comparisons across stock exchanges in wealthy and developing nations. Also, other factors can be considered, such as market conditions, government debt, financial deficit, policy uncertainty, and political unpredictability, to determine the relationship between corporate governance and business performance.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

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