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The Influence of Corporate Governance on Firms' Market Value

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Abstract

This study investigates the impact of corporate governance indicators on firm value as substitutes for "other information" variables in the Ohlson valuation model. The study applies the Ohlson (1995) valuation model to analyze 61 companies listed on Classification 1 and 2 of the Mongolian Stock Exchange (MSE) during the period of 2007-2022. The corporate governance indicators considered in the study are the governance level, type of control, and shareholding structure. The empirical findings reveal the significant impact of these governance indicators on firm value, indicating that they can be useful substitutes for the "other information" variables in the Ohlson model. These results provide insights for policymakers and managers to enhance corporate governance practices in their firms, which can lead to increased firm value and better financial performance.

Keywords

Ohlson Valuation Model, Corporate Governance, Firm Value, Share Price, Mongolian Stock Exchange

1. Introduction

Determining the optimum value of a company, that is, the stock market price, has long been an important issue for researchers in corporate finance. Considering the factors affecting the stock price, researchers continue to study stock price estimation using numerous approaches and models.

The stock market in Mongolia has been operating continuously since its establishment 30 years ago. During this period, stock exchange trading and joint-stock companies have continued to develop, and the number of companies that have issued IPOs has been expanding. The total market value as of the end of 2022 has increased by 909.26 billion MNT or 15.21 percent compared to the

same period of the previous year and reached 6 trillion 888.25 billion MNT.

Recently, the tendency to study the non-financial factors that affect the share price of stocks is growing more intensively. This study was conducted by selecting corporate governance indicators as non-financial variables in the evaluation of stocks using the Ohlson valuation model.

Corporate governance is based on the main principles of shareholders' interests, equal treatment, transparency of information, the system of responsibilities of the company's board of directors, and the formation of a proper structure for the company's management.

Corporate governance creates a framework that promotes accountability and transparency based on proper power distribution. This structure makes the executive accountable to the board and the company's financial statements to other users. Stock exchanges increase capital inflows from financial markets and increase returns on capital by improving domestic controls. Implementing good governance will attract domestic and foreign investors and reduce borrowing costs, creating opportunities for future expansion. The five principles of corporate governance are responsibility, accountability, awareness, impartiality, and transparency. The quality of corporate governance depends critically on corporate transparency as information asymmetry between stakeholders determines the nature of corporate governance (Aggarwal & Goodell, 2014). Firms with better corporate governance standards receive higher market valuations. With the emergence of more detailed information on firm-level corporate governance for large samples of firms from multiple countries, a new stream of research has emerged (Ammann, Oesch, & Schmid, 2011).

The Ohlson valuation model constitutes a starting point for accounting-based theoretical modeling of the firms' value (Fullana, González, & Toscano, 2021). In contrast, Ohlson (1995) provides a theoretical structure on the relation between the market value of common equity and accounting variables (Qi, Wu, & Xiang, 2000). The Ohlson valuation model is based on two well-known models: the dividend discount model (DDM) and the residual income valuation model (RIM). It also adds the linear information model (LIM), which links future abnormal earnings with current accounting variables (Fullana, González, & Toscano, 2021). The innovation of Ohlson (1995) against the RIV model or the Gordon model lies in the treatment that gives the structure of the time series of abnormal results.

Since 1995, numerous researchers have conducted empirical research on the accounting-based valuation model (Silvestri & Veltri, 2012; Salem, 2021) furthermore James Ohlson himself, and with other researchers extended the model in Ohlson (1995, 2001), Feltham & Ohlson (1995, 1996, 1999), and Ohlson & Liu (2000).

Researchers have different views on what factors should be selected for v_t variable (other information) in Ohlson (1995) valuation model. Several papers do empirical studies that do not take this variable into consideration (Shamki & Rahman, 2012; Salem, 2021; Ota, 2002), while others consider various indicators,

such as company size and sales (Coelho, Aguiar, & Lopes, 2011), Piotroski score (Vázquez, Valdes, & Ramirez, 2014), big data evaluation (Rivera, Román, & Schaefer, 2018), and corporate governance indicators (Brugni et al., 2012). This study focuses specifically on the role of corporate governance indicators in the Ohlson model, aiming to assess their impact on stock price estimation in the Mongolian stock market. The article is novel in that it is done on the example of Mongolian Stock Exchange companies by substituting corporate governance indicators for the other variables in Ohlson model 1995.

The remainder of this paper will describe the data and research methodology used in this study, the results of the analysis, and the implications of our findings.

2. Data and Methodology

The Ohlson (1995) model focused on three main assumptions (Silvestri & Veltri, 2012). The first considers firm value as the actualization of expected dividends (DDM). The second assumption, known as Clean Surplus Relation (CSR), establishes that all modifications to the value of net firm assets classify as income or as dividends. The third assumption, known as LIM, shows that the residual earnings in time (x_{t+1}^a) depend in part on the residual earnings of the previous year (x_t^a), and partly on a series of other pieces of information (v_t), known to the market at time t, but not yet incorporated in the accounting system and, thus, excluded from the calculation of (x_t^a).

The dynamic information is defined as:

$$x_{t+1}^a = \omega x_t^a - v_t + \varepsilon_{1t+1}; v_{t+1} = \gamma v_t + \varepsilon_{2t+1}$$

where,

x_t^a —abnormal earnings $= x_t - r\left(bv_{t-1}\right)$;

x_t —current earnings;

ω and γ —parameters of persistence;

v_t —"other information" about expected future residual profits that are observed at the end of the period "t" but were still not recognized by the accounting;

ε_{1t+1}, ε_{2t+1} —represent the terms of stochastic errors.

The model takes the following form:

$$P_t = b_t + \alpha_1 x_t^a + \alpha_2 v_t$$

where,

$$\alpha_1 = \frac{\omega}{R-\omega};\ \ \alpha_2 = \frac{R}{(R-\omega)(R-\gamma)};\ \ R = 1 + r$$

r —discount rate;

P —market value of the firm's equity, date t;

b_t —book value of the firm's equity, date t.

Specifically, Ohlson (1995) motivates the adoption of the historical price model in value relevance studies, which expresses value as a function of earnings and book values (Salem, 2021).

In this study, the Ohlson (1995) valuation model was applied to 61 companies of Classification 1 and 2[1] of the Mongolian Stock Exchange (MSE) during the period 2007-2022.

$$P_{it} = \alpha_0 + \alpha_1 lbv_{it} + \alpha_2 lxta_{it} + \alpha_3 Lvl_{it} + \alpha_4 Ctrl_{it} + \alpha_5 Share_{it} + \varepsilon_{it}$$

where, P is the measure of the price per share, proxied by the logarithm of the closed price per share (lcp); lbv equals the logarithm of book value per share of equity; $lxta$ equals the logarithm of abnormal earnings; Lvl is the dummy variable indicating the companies with shares for trading in the Classification 1 of the MSE; $Ctrl$ is the dummy variable indicating the companies are owned by the government $(Undgov)$; and $Share$ equals the percent holding of the largest holder of common shares. The main variables and related definitions used in the model are shown in Table 1.

3. Empirical Results

In addition to the mean values, Table 2 also shows the standard deviation of each variable, providing insight into the degree of dispersion of the data around the mean. The standard deviation of Lvl is 0.4684, indicating that the distribution of companies across the MSE classifications is relatively spread out. The standard deviation of $Undgov$ is 0.2970, which suggests that there is a significant variation in the degree of government ownership among the companies in the sample. Furthermore, the minimum and maximum values of each variable are also presented in Table 2, revealing the range of values that each variable can take. These statistics provide a comprehensive overview of the sample data and help to identify any potential outliers or patterns in the data distribution.

While Table 3 provides some initial insights into the relationships between the variables studied, it is important to note that correlation coefficients alone do not provide conclusive evidence of the strength or direction of the relationships. Multivariate regression analysis can provide more robust evidence of the effects of the variables on the share prices as it controls for other factors that may influence share prices. Therefore, the results of the regression analysis will provide a more accurate understanding of the relationships between the variables studied and the share prices in the Mongolian stock market. Additionally, further analysis can be conducted to explore potential causal relationships between the variables and share prices, which would provide a more in-depth understanding of the factors influencing stock prices in Mongolia.

In addition to the correlations mentioned in Table 3, it is worth noting that the correlation $Share$ and $Undgov$ is positively correlated. This finding could

[1]Classification 1—The market capitalization of the issuer shall be no less than 10,000,000,000 (ten-billion) tugriks. The issuer shall have no less than 5,000,000,000 (five billion) tugriks sales revenue or no less than 1,000,000,000 (one billion) tugriks net profit. The public free float shall be no less than 25% and the issuer shall maintain the minimum free float requirements throughout the time the issuer is listed, or the issuer's semiannual trading value is more than 5% of the total trading value of the Exchange during the period. Classification 2—Market capitalization of a company must be a minimum of 1,000,000,000 (one billion) tugriks. 25% of total shares of the company must be publicly traded or semi-annual trading value of company's share must be higher than 5% of total trading value of the stock exchange.

Table 1. Variable definitions.

Variables	Definitions	Data Source
lcp	Logarithm of closed price per share	Mongolian Stock Exchange website, http://www.mse.mn
lbv	Logarithm of book value per share of equity	
lxta	Logarithm of abnormal earnings	
Lvl	Dummy variable for companies with shares listed for trading in Classification 1 of the MSE	
Undgov	Dummy varaible for companies under government control	
Share	Percent holding of the largest holder of common shares	

Table 2. Descriptive statistics.

Variables	Obs.	Mean	Std. Dev.	Min	Max
lcp	451	7.4906	2.0670	1.6094	11.6953
lbv	451	6.9661	2.3395	0.4942	12.1508
lxta	451	13.2867	2.2336	2.0370	19.4819
Lvl	451	0.3237	0.4684	0.0000	1.0000
Undgov	451	0.0976	0.2970	0.0000	1.0000
Share	451	0.4225	0.1956	0.0024	0.9979

Table 3. Correlation matrix.

Variables	*lcp*	*lbv*	*lxta*	*Lvl*	*Undgov*
lcp	0.695***				
lxta	0.133***	0.236***			
Lvl	−0.005	0.020	0.534***		
Undgov	0.079*	0.069	0.132***	0.124***	
Share	−0.087*	−0.170***	0.072	−0.008	0.141***

Note: *, **, and *** denote the level of significance of 10%, 5%, and 1% respectively.

have implications for corporate governance practices in government-owned companies. In general, a higher percentage of shares owned by a single entity can give that entity more control over the company and potentially create conflicts of interest. The lower percentage of shares owned by the largest shareholder in government-owned companies may suggest that there are more checks and balances in place to prevent such conflicts of interest. However, as previously mentioned, multivariate regression analysis is necessary to control for other factors that may affect share prices and to draw valid statistical inferences.

Table 4 presents the results of estimating the model for the pooled sample using the STATA 17.0 software package. Book value's estimated coefficient is positive and statistically significant one percent level, which suggests that the

Table 4. Main results.

(a)

Variables	Coefficients	Std. Error	t-stat.	P-value	[95% conf. Interval]	
lbv	0.522	0.039	13.25	0.000	0.444	0.599
lxta	0.013	0.036	0.35	0.723	−0.058	0.084
Lvl	0.130	0.372	0.35	0.726	−0.601	0.862
Undgov	−1.187	0.475	−2.50	0.013	−2.121	−0.252
Share	1.752	0.842	2.08	0.038	0.096	3.409
Intercept	3.057	0.858	3.56	0.000	1.370	4.745

(b)

Statistics	
Observations	451
Number of companies	61
F-statistics (p-value)	31.184 (0.000)
R^2	0.864
Adj.R^2	0.836
Year effect	Yes
Company effect	Yes

book value per share is a significant predictor of share prices in the pooled sample. A one-unit increase in book value per share is associated with a 0.522 increase in share prices. This finding is consistent with previous research that has found book value to be positively related to stock prices.

The coefficient estimates for *Undgov* is negative and statistically significant at five percent level, indicating that government ownership has significant impact on share prices in the pooled sample. This finding is consistent with some prior research, which has found mixed evidence on the impact of government ownership on stock prices.

The coefficient estimates for *lxta* is positive, but statistically insignificant, suggesting that abnormal earnings may not be a significant predictor of share prices in this sample. Lastly, the coefficient estimates for *Share* is positive and statistically significant at five percent level, indicating that the largest shareholder's share percentage has significant impact on share prices in this sample.

The F-statistic of 31.184 is significant at the one percent level, indicating that the model as a whole is a good fit for the data. The adjusted R-squared value of 0.836 indicates that 83.6% of the variation in share prices can be explained by the independent variables included in the model. Additionally, the inclusion of year and company effects in the model controls for unobserved heterogeneity that may exist across different companies and years. These results should be interpreted with caution, and further research is necessary to confirm these findings

and to explore other potential factors that may affect share prices in the MSE.

4. Conclusion

In conclusion, this study aimed to investigate the impact of corporate governance indicators on firm value using the Ohlson valuation model. The study found that corporate governance indicators such as type of control and shareholding structure significantly affect the firms' market value. This suggests that investors in the Mongolian stock market are willing to pay more for shares of companies that demonstrate good corporate governance practices.

The results of this study have significant implications for policymakers, managers, and investors in Mongolia. Policymakers should consider promoting good corporate governance practices as a means of attracting both domestic and foreign investors, reducing borrowing costs, and creating opportunities for future expansion. Managers should recognize that implementing good governance practices can lead to higher market valuations and should, therefore, focus on improving corporate transparency, accountability, and responsibility. Finally, investors should consider the level of corporate governance when making investment decisions to maximize their returns.

In summary, this study adds to the growing body of literature that highlights the importance of corporate governance in determining firms' market value. It provides evidence that corporate governance indicators play a crucial role in investors' decision-making processes in the Mongolian stock market. Future research could focus on exploring the impact of other non-financial factors on firms' market value and on replicating this study in other emerging market contexts.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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