ISSN: 2288-2766
https://accesson.kr/eajbe
doi: http://doi.org/10.20498/eajbe.2024.12.2.1

# The Optimal Determination of the "Other Information" Variable in Ohlson 1995 Valuation Model

**Bolor BUREN[1], Altan-Erdene BATBAYAR[2], Khishigbayar LKHAGVASUREN[3]**

**Received: January 30, 2024. Revised: March 26, 2024. Accepted: April 08, 2024.**

## Abstract

**Purpose:** This study delves into the application of the Ohlson 1995 valuation model, particularly addressing the intricacies of the "Other information" variable. Our goal is to pinpoint the most suitable variables for substitution within this category, focusing specifically on the Mongolian Stock Exchange (MSE) context. **Research design, data, and methodology:** Employing data spanning from 2012 to 2022 from 60 MSE-listed companies, we conduct a comprehensive analysis encompassing both financial and non-financial indicators. Through meticulous examination, we aim to identify which variables effectively substitute for the "Other information" component of the Ohlson model. **Results:** Our findings reveal significant outcomes. While all financial variables within the model exhibit importance, certain non-financial indicators, notably the company's level and state ownership participation, emerge as particularly influential in determining stock prices on the MSE. **Conclusions:** This study not only contributes to a deeper understanding of valuation dynamics within the MSE but also provides actionable insights for future research endeavors. By refining key variables within the Ohlson model, this research enhances the accuracy and efficacy of financial analysis practices. Moreover, the implications extend to practitioners, offering valuable insights into the determinants of stock prices in the MSE and guiding strategic decision-making processes.

**Keywords:** Ohlson Valuation Model, “Other Information” Variable, Market Value, Book Value, Piotroski Score, Corporate Governance Indicators.

**JEL Classification Code**: G12, G14, G39

## 1. Introduction[2]

The examination of the interconnection between capital markets and financial statements traces its origins to the seminal work of Ball and Brown in 1968 (Kothari, 2001). Subsequently, over the course of five decades, numerous research articles have been published in this domain, contributing to the comprehensive understanding of this relationship. In this paper, we opt for Ohlson's 1995 model, which stands as a representative within the realm of Capital Markets-based Accounting Research (CMBAR), and subsequently conduct an empirical investigation. As Ota has indicated “The work of Ohlson 1995 has attracted considerable attention among accounting researchers since

1 First Author. Senior Lecturer, Accounting Department, Business School, National University of Mongolia, Mongolia. Email: bolor.b@num.edu.mn
2 Corresponding Author. Associate Professor, Accounting Department, Business School, National University of Mongolia, Mongolia. Email: altanerdene.b@num.edu.mn
3 Third Author. Senior Lecturer, Accounting Department, Business School, National University of Mongolia, Mongolia. Email: khishigbayar@num.edu.mn

its publication" (Ota, 2002). Furthermore, researchers have recurrently refined and applied the original model, resulting in varied outcomes. Certain studies have reported positive findings (Dahmash, 2013; Li et al., 2023; Saleh, 2017), while others have documented adverse results (Fullana et al., 2021; Lo & Lyz, 2000) based on their individual investigations.

The most intricate challenge encountered in the application of the Ohlson 1995 estimation model lies in the discernment of an appropriate selection for the "Other information" variable. Regarding the concept of "Other information", Lundholm (1995) explicates that it pertains to non-accountable information that imparts a shock to the residual profits in subsequent periods. The primary aim of this study is to evaluate the efficacy of the Ohlson (1995) model within the specific context of companies listed on the Mongolian Stock Exchange. In addition to scrutinizing the "other information" variables of the Ohlson (1995) model, this investigation was conducted to identify substitutable variables and determine the most suitable among them. Substituting the "other information" variable, we have selected Return on Assets (ROA), Return on Equity (ROE), leverage, Earnings per Share (EPS), and Piotroski score as financial data variables, while incorporating corporate governance indicators as non-financial data. This selection was made to enhance the comprehensiveness of the analysis and to ascertain the most pertinent variables for predictive accuracy within the Ohlson (1995) model framework. Within the scope of the above objectives, the article consists of parts: Introduction, Theoretical Framework, Data and Methodology, Empirical Results, and Conclusion.

In the theoretical framework section, an in-depth analysis of the Ohlson 1995 model is undertaken, delineating the researchers' choices regarding the types of variables to substitute for the "Other information" variable. Additionally, a comprehensive explanation will be presented, elucidating the rationale behind the selection of variables incorporated into this study. In the Data and Methodology section, we will introduce the dataset utilized in the empirical study. Additionally, a comprehensive explanation will be presented regarding the regression model employed, including the variables incorporated and the methodology employed for their calculation. In the Empirical Results section, we will systematically present the outcomes of our empirical research along with a detailed analysis of the findings. In the Conclusion section, we will articulate the conclusions derived from the research results and contemplate potential future directions for further investigation.

## 2. Theoretical Frame

In this research, the Ohlson (1995) valuation model has been selected as the analytical framework. Originating in 1995, this model has been the subject of empirical scrutiny by numerous researchers, yielding varied outcomes. While certain findings align with its premises, others diverge. Nevertheless, despite the divergence in results, the Ohlson model continues to find application in numerous studies and has garnered over 9,000 citations on Google Scholar. The Ohlson valuation model is based on two widely recognized models: the Dividend Discount Model (DDM) and the Residual Income Model (RIM).
The model assumes the following form:

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

where, $P_t$ – market value of the firm's equity, date $t$;
$b_t$ – book value of the firm's equity, date $t$;
$x_t^a$ – abnormal earnings $= x_t - r(bv_{t-1})$;
$x_t$ – current earnings;
$v_t$ – "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.

Researchers who engaged in empirical investigations using this model encountered challenges in determining the appropriate variable to substitute for "Other information" variable. Divergent perspectives among researchers emerge regarding the selection of factors for the variable $v_t$ (other information) in the Ohlson (1995) valuation model. Notably, certain empirical studies, exemplified by Shamki and Rahman (2012), Spilioti and Karathanassis (2012), and Ota (2002), Mubarika and Handayani (2022), and Belesis et al. (2022) refrain from incorporating this variable. In contrast, other researchers consider a spectrum of indicators, such as company size and sales (Coelho et al., 2011), beta coefficient, company size and leverage (Silvestri & Veltri, 2012) Piotroski score (Durán-Vázquez et al., 2014), big data evaluation (Rivera et al., 2018), dividends (Boonlert-U-Thai et al., 2022), integrated reporting of environmental, social, and governance and financial data (Landau et al., 2020) and corporate governance indicators (Brugni et al., 2012, Khassanov, 2021).

During this study, the Ohlson 1995 model's "Other information" variables were chosen to serve as substitutes for a multitude of both financial and non-financial variables. Financial variables, including Return on Assets (ROA), Return on Equity (ROE), Leverage, Earnings Per Share (EPS), and the Piotroski score, were procured.

Return on Assets (ROA) is ascertained through the division of net profit by the average total assets. Return on Equity (ROE) is calculated by dividing net profit by the average equity capital. Leverage is computed by dividing

total debt by equity. Earnings Per Share (EPS) is calculated as net profit divided by end-of-period common shares outstanding. The Piotroski score (2000) is computed according to the following formula:

$$F\text{-}Score = ROA + \Delta ROA + CFO + Accrual + \Delta Margin + \Delta Turn + \Delta Lever + \Delta Liquid + EqOffer$$

where, $ROA$ (Return on Assets) is assigned a value of one if positive and zero otherwise. $\Delta ROA$ (Change in Return on Assets) is assigned a value of one in the presence of a positive change and zero otherwise. $CFO$ (Cash Flow from Operations), scaled by total assets, is assigned a value of one if positive and zero otherwise. $Accrual$ is the difference between $ROA$ and $CFO$, equaling one when $CFO > ROA$ and zero otherwise. $\Delta Margin$ denotes the change in gross margin, assigned a value of one for positive changes and zero otherwise. $\Delta Turn$ represents the change in asset turnover, assigned a value of one for positive changes and zero otherwise. $\Delta Lever$ (Change in Leverage) is assigned a value of one for negative changes and zero otherwise. $\Delta Liquid$, representing the alteration in the current ratio, receives a value of one if the firm records a reduction in its current ratio compared to the previous year; otherwise, it is assigned a value of zero. $EqOffer$ is an indicator variable, assuming a value of one if the firm refrains from equity issuance in the preceding year and zero if equity issuance has taken place.

Derived from the nine signals delineated, the Piotroski score has the potential to span the spectrum from a minimum of 0 to a maximum of 9.

Additionally, non-financial variables encompassed indicators of corporate governance, specifically, the categorization of the company within the MSE (1st or 2nd categories) spectrum, the ownership structure distinguishing between state-owned or family companies, and the magnitude of shares held by the largest shareholder.

## 3. Data and Methodology

In this research endeavor, our focus is on employing the Ohlson 95 valuation model to assess the financial performance and market dynamics of companies listed on the MSE. The primary source of data for this study is the meticulous compilation of information from the MSE website, resulting in the creation of a comprehensive dataset.

This dataset encompasses a diverse array of 60 companies spanning various sectors, including banking and insurance, with a temporal coverage ranging from 2012 to 2022. It is essential to highlight that the dataset considers the emergence of certain companies as publicly traded entities post-2012, leading to a limitation in achieving a complete 11-year coverage for all entities. Table 1 provides a detailed exposition of the variables directly procured from the MSE data source. This table serves as a lucid and systematically organized reference, encapsulating key aspects derived from the assembled dataset.

**Table 1:** Variables Description

| Variable | Description |
|---|---|
| $lclp$ | Logarithm of the closed share price of the company three months after the fiscal year end |
| $lbv$ | Logarithm of the book value of the company |
| $le$ | Logarithm of the profit or loss of the company |
| $roa$ | Return on assets, net income divided by total assets |
| $roe$ | Return on equity, net income divided by equity |
| $lever$ | Leverage, total liabilities divided by average total assets |
| $eps$ | Earnings per share, net income divided by share number |
| $ps$ | Piotroski score |
| $share$ | Percent holding of the largest holder of common shares |
| $undgov$ | Dummy for companies under government control |
| $lvl$ | Dummy for companies with shares listed for trading in Category 1 of the MSE |

This research seeks to unravel insights into the financial intricacies of the sampled companies, utilizing the Ohlson 1995 valuation model as a tool for comprehensive analysis. The subsequent sections will delve into the empirical findings and implications drawn from this rich dataset, shedding light on the valuation dynamics and market trends within the MSE.

The ensuing section presents Table 2, offering a comprehensive overview of descriptive statistics for the key variables derived from our extensive dataset. These statistics provide a nuanced understanding of the central tendencies, dispersions, and ranges exhibited by the selected financial indicators. The table encompasses 513 observations, reflecting the robustness of our dataset.

**Table 2:** Descriptive Statistics

| Variable | Obs. | Mean | Std.Dev. | Min | Max |
|---|---|---|---|---|---|
| $lclp$ | 513 | 6.990 | 2.147 | 1.792 | 11.227 |
| $lbv$ | 513 | 3.928 | 0.560 | -1.530 | 6.508 |
| $le$ | 513 | 3.950 | 0.705 | -0.173 | 5.906 |
| $roa$ | 513 | 0.001 | 0.444 | -7.495 | 0.725 |
| $roe$ | 513 | 28.419 | 148.192 | -190.799 | 1,492.838 |
| $lever$ | 513 | 0.567 | 1.709 | 0.000 | 29.893 |
| $eps$ | 513 | 0.547 | 1.511 | -1.606 | 9.970 |
| $ps$ | 513 | 4.252 | 1.500 | 1.000 | 8.000 |
| $share$ | 513 | 44.967 | 19.953 | 11.810 | 99.790 |
| $undgov$ | 513 | 0.072 | 0.259 | 0.000 | 1.000 |
| $lvl$ | 513 | 0.263 | 0.441 | 0.000 | 1.000 |

These statistics offer valuable insights into the distributional characteristics of the variables, allowing for a nuanced interpretation of the financial landscape within the

MSE. The subsequent sections will delve into the interpretation of these findings and their implications for the application of the Ohlson 1995 valuation model in our study.

The subsequent analysis delves into the intricate interrelationships among both financial and non-financial indicators, as elucidated in Table 3, a correlation matrix. This matrix offers valuable insights into the associations between various factors, shedding light on potential patterns within our dataset. The correlation coefficients, with their respective significance levels, elucidate the strength and direction of these relationships, facilitating a nuanced understanding of the complex dynamics at play.

Positive correlations are evident for return on assets ($roa$), return on equity ($roe$), earnings per share ($eps$), Piotroski score ($ps$), and government control status ($undgov$) with closed share price ($lclp$). This implies that higher values in these variables, including government control, are associated with an increase in the share price. Conversely, leverage ($lever$), magnitude of shareholdings ($share$) and level 1 listing demonstrate negative correlations with closed share price. This suggests that higher leverage, larger share holdings and level 1 listing are linked to lower closed share prices.

**Table 3:** Pearson Correlation Matrix

| Variables | $lclp$ | $lbv$ | $le$ | $roa$ | $roe$ | $lever$ | $eps$ | $ps$ | $share$ | $undgov$ |
|---|---|---|---|---|---|---|---|---|---|---|
| $lbv$ | 0.046 | | | | | | | | | |
| $le$ | 0.038 | 0.067 | | | | | | | | |
| $roa$ | 0.176 *** | 0.129 *** | 0.062 | | | | | | | |
| $roe$ | 0.086 * | 0.484 *** | 0.198 *** | 0.130 *** | | | | | | |
| $lever$ | -0.113 ** | -0.158 *** | -0.026 | -0.927 *** | -0.031 | | | | | |
| $eps$ | 0.358 *** | 0.172 *** | 0.078 * | 0.113 ** | 0.162 *** | -0.061 | | | | |
| $ps$ | 0.095 ** | 0.145 *** | -0.270 *** | 0.191 *** | 0.149 *** | -0.119 *** | 0.1985 *** | | | |
| $share$ | -0.105 ** | -0.046 | -0.004 | 0.030 | 0.042 | 0.011 | -0.229 *** | 0.036 | | |
| $undgov$ | 0.099 ** | 0.153 *** | 0.048 | 0.078 * | 0.273 *** | -0.041 | 0.002 | 0.008 | 0.083 * | |
| $lvl$ | -0.153 *** | 0.485 *** | 0.068 | 0.102 ** | 0.275 *** | -0.046 | 0.077 * | 0.118 *** | -0.090 ** | 0.124 *** |

Note: Significant correlation coefficients are marked with ***, **, and * at the 1%, 5%, and 10% levels, respectively.

These findings provide a solid foundation for a deeper exploration and interpretation of the intricate relationships among the selected financial and non-financial variables within the MSE. Subsequent sections will delve into the implications of these correlations for the application of the Ohlson 1995 valuation model in our study, offering valuable insights into the market dynamics and financial performance of the sampled companies.

## 4. Empirical Results

Before proceeding with our estimations, an initial step involved the implementation of a unit-root test to assess the stationarity of the variables under consideration. The primary objective of this examination was to discern whether the time series exhibit a stable trend over time or possess unit roots, indicating non-stationarity.

The outcomes of the Fisher-type unit-root test, conducted using augmented Dickey-Fuller tests, are meticulously presented in Table 4. The Z-statistics and associated P-values provide critical insights into the stationarity of each variable. A statistically significant P-value (less than the chosen significance level) suggests the rejection of the null hypothesis of a unit root, indicating stationarity. The obtained results indicate that all variables exhibit significant evidence against the presence of unit roots, confirming the stationarity of the time series data. This paves the way for robust and reliable estimations in the subsequent stages of our analysis.

**Table 4:** Unit-root Test Results

| Variable | Z-statistics | P-Value | Lag |
|---|---|---|---|
| $lclp$ | -8.2193 | 0.0000 | 1 |
| $lbv$ | -7.2939 | 0.0000 | 1 |
| $le$ | -12.9197 | 0.0000 | 1 |
| $roa$ | -11.2976 | 0.0000 | 1 |
| $roe$ | -3.8859 | 0.0001 | 1 |
| $lever$ | -11.5165 | 0.0000 | 1 |
| $eps$ | -10.9320 | 0.0000 | 1 |
| $ps$ | -12.1692 | 0.0000 | 1 |
| $share$ | -8.3101 | 0.0000 | 1 |
| $undgov$ | -8.3857 | 0.0000 | 1 |
| $lvl$ | -6.8295 | 0.0000 | 1 |

Expanding on the insights derived from the unit-root test, Table 5 now presents the outcomes of the differenced Generalized Method of Moments (GMM) estimations, focusing on financial variables categorized as "Other information".

The consistently significant and positive coefficients for the lagged closed share price ($lclp$, lagged) across all models reaffirm its strong influence on the financial variables. Each financial variable demonstrates varying degrees of sensitivity to the closed share price and other financial indicators. Notable impacts include positive associations for $roa$, $roe$, $eps$, and $ps$. The results of the Autoregressive tests for AR(1) and AR(2) indicate the

absence of autocorrelation in the first-order and second-order residuals for all models, confirming the adequacy of the chosen models. These nuanced estimations provide a comprehensive understanding of how financial variables, particularly those classified as "Other information," interact within different models. The results pave the way for a more nuanced application of the Ohlson 95 valuation model in subsequent sections, offering valuable insights into the market dynamics and financial performance of the sampled companies.

**Table 5:** GMM Estimation Results for Financial Variables as "Other Information"

| Variable | $roa$ | $roe$ | $lever$ | $eps$ | $ps$ |
|---|---|---|---|---|---|
| $lclp$, lagged | 0.9175 *** | 0.9078 *** | 0.9171 *** | 0.8878 *** | 0.9173 *** |
| $lbv$ | 0.0438 * | 0.0080 | 0.0458 * | 0.0316 | 0.0325 |
| $le$ | 0.1224 | 0.0242 | 0.1379 | 0.0859 | 0.1021 |
| **Oth.Inf.** | **0.1244 *** ** | **0.0005 *** ** | **-0.0146 ** ** | **0.0558 ** ** | **0.0440 *** ** |
| **Oth.Inf., lagged** | **-0.0705 ** ** | **-0.0002** | **0.0198 *** ** | **0.0125** | **0.0202 * ** |
| Intercept | -0.1730 | 0.3798 | -0.2365 | 0.1649 | -0.3532 |
| Observations | 445 | 445 | 445 | 445 | 445 |
| Companies | 60 | 60 | 60 | 60 | 60 |
| Instruments | 40 | 40 | 40 | 40 | 40 |
| AB test for AR(1) | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| AB test for AR(2) | 0.5310 | 0.8644 | 0.6288 | 0.5707 | 0.6077 |

Note: Significant coefficients are marked with ***, **, and * at the 1%, 5%, and 10% levels, respectively.

Prior to delving into the Fixed Effects results for Corporate Governance (CG) variables categorized as "Other information", it's essential to outline the diverse impact of key factors on the model. Table 6 provides a comprehensive overview of models, highlighting the coefficients, statistical significance, and other relevant metrics for the examined variables. These models offer a nuanced exploration of the relationships among market value and CG variables, setting the stage for a detailed analysis of the fixed effects.

**Table 6:** Fixed Effects Results for Corporate Governance Variables as "Other Information"

| Variable | $share$ | $undgov$ | $lvl$ |
|---|---|---|---|
| $lbv$ | 0.2803 *** | 0.2795 *** | 0.2795 *** |
| $le$ | 0.1196 ** | 0.1209 ** | 0.1209 ** |
| **Oth.Inf.** | **0.0255** | **-1.3946 *** ** | **3.0433 *** ** |
| Intercept | 5.6650 *** | 5.9529 *** | 2.9096 *** |
| Observations | 513 | 513 | 513 |
| Companies | 60 | 60 | 60 |
| F-statistics (p-value) | 125.97 (0.0000) | 127.95 (0.0000) | 127.95 (0.0000) |
| Adj.$R^2$ | 0.95 | 0.95 | 0.95 |
| Year effect | Yes | Yes | Yes |
| Company effect | Yes | Yes | Yes |

Note: Significant coefficients are marked with ***, **, and * at the 1%, 5%, and 10% levels, respectively.

The application of the Fixed Effects model for analyzing CG variables as "Other information" is grounded in the understanding that CG variables exhibit relatively constant values across the years within individual companies. The Fixed Effects model allows for the inclusion of company-specific effects, capturing persistent characteristics that remain stable over time. This modeling approach becomes especially pertinent when there is a belief that certain unobserved factors at the company level systematically influence CG performance over the years.

While the positive coefficient for $share$ in Column 1 implies a potential positive relationship, its lack of statistical significance suggests caution in making definitive conclusions. The inclusion of share in the model recognizes its potential impact, but further investigation may be warranted to discern its consistent influence over time. The highly significant coefficient for $undgov$ in Column 2 aligns with the rationale for employing a Fixed Effects model. It emphasizes that companies under government control consistently exhibit lower CG performance, highlighting the enduring impact of government influence. The significant coefficient for $lvl$ in Column 3 underscores the lasting influence of listing levels on CG performance. The Fixed Effects model captures the consistent impact of a company's market position on its CG practices over the years.

The high F-statistics and Adjusted $R^2$ values across all models signify the robustness of the Fixed Effects models in explaining the variation in CG variables. The models effectively capture both observed and unobserved factors that contribute to CG performance consistently over time. The inclusion of year and company effects acknowledges the persistence of unobserved characteristics and trends that consistently contribute to CG performance over time. This aligns with the rationale for adopting a Fixed Effects model, allowing for the capture of stable company-specific effects. In summary, the choice of the Fixed Effects model is justified by the stable nature of CG variables, providing a tailored approach to unraveling the consistent factors influencing CG practices across the examined companies throughout the years.

## 5. Conclusion

In this study, we embarked on a comprehensive exploration of valuation dynamics and corporate practices within the MSE. Our empirical journey involved a meticulous examination of financial variables, the closed share price as a dependent variable, and CG variables.

Our unit-root test provided crucial insights into the stationarity of the variables, ensuring the robustness of subsequent estimations. The differenced GMM estimations illuminated the intricate relationships between financial variables, particularly those categorized as "Other information," and the lagged closed share price. Notably, the consistently significant and positive coefficients for the lagged closed share price underscored its substantial influence on financial indicators. Our Autoregressive tests confirmed the adequacy of the chosen models, fortifying the reliability of our estimations.

Transitioning to CG variables, our adoption of the Fixed Effects model was grounded in the understanding that CG variables exhibit relatively constant values over the years. The results of the Fixed Effects models shed light on the nuanced relationships between market value and CG variables. Noteworthy is the enduring impact of government control and listing levels on CG performance, as evidenced by the highly significant coefficients for $undgov$ and $lvl$, respectively.

These findings carry significant implications for both scholars and practitioners. The positive associations between financial variables and the lagged closed share price highlight the interconnectedness of financial indicators and market dynamics. The enduring impact of government control and listing levels on CG practices suggests that these factors play a crucial role in shaping corporate governance.

For future research, delving deeper into the causal mechanisms behind these relationships could provide valuable insights. Exploring the moderating effects of external factors and industry-specific dynamics may further refine our understanding of valuation and CG interactions. Additionally, expanding the study to include a broader set of financial markets or a longitudinal analysis could offer a more comprehensive view of these phenomena.

The primary data source for this study was the MSE website, and certain limitations were encountered during data acquisition. The data retrieval process faced challenges due to the non-user-friendly nature of the MSE website. Downloading financial statements for companies over multiple years proved to be impractical, necessitating a year-by-year approach. Variability in units (e.g., some values presented in thousands and others in millions) added complexity to the data aggregation process, potentially influencing the precision of the results. Inconsistencies in data presentation, missing financial statements for certain periods, and the presence of inaccurate data further introduced limitations in the dataset's reliability.

In conclusion, our study advances the understanding of valuation dynamics and corporate practices within the unique context of the MSE. The interplay between financial variables and the lagged closed share price, along with the enduring impact of specific factors on CG practices, highlights the multifaceted nature of market interactions. As the financial landscape evolves, continued research in this domain is imperative to guide strategic decision-making and foster sustainable corporate practices. This study, therefore, marks a significant stride in unraveling the complex dynamics that govern the intersection of valuation and corporate governance within the MSE.

## References

Belesis, N. D., Kampouris, C. G., & Karagiorgos, A. T. (2022). The effect of COVID-19 on the value relevance of European firms' financial statements. *International Journal of Applied Economics, Finance and Accounting, 14*(1), 91-99. DOI: https://doi.org/10.33094/ijaefa.v14i1.661.

Boonlert-U-Thai, K., Saudagaran, S. M., & Sen, P. K. (2022). Fundamental valuation in seven Asian countries: Role of earnings, book value, and dividends. *Journal of Accounting, Auditing & Finance, 37*(4), 848-873. DOI: https://doi.org/10.1177/0148558X20946905.

Brugni, T. V., Neto, A. S., Bortolon, P. M., & Góes, A. (2012). Different levels of corporate governance and the Ohlson valuation framework: *The case of Brazil. Corporate Ownership & Control, 9*(2), 486-497. DOI: https://doi.org/10.22495/cocv9i2c5art3.

Coelho, A. C., Aquiar, A. B., & Lopes, A. B. (2011). Relationship between abnormal earnings persistence, industry structure, and market share in Brazilian public firms. *Brazillian Administrative Review, 8*(1), 48-67. DOI: https://doi.org/10.1590/S1807-76922011000100005.

Dahmash, F. N. (2013). Abnormal earnings persistence in the Jordanian context. International Journal of Business and *Management, 8*(15), 33-43. DOI: https://doi.org/10.5539/ijbm.v8n15p33.

Durán-Vázquez, R., Lorenzo-Valdés, A., & Castillo-Ramírez, C. E. (2014). Effectiveness of corporate finance valuation methods: Piotroski score in an Ohlson model: The case of Mexico. *Journal of Economics, Finance and Administrative Science, 19*(37), 104-107. DOI: https://doi.org/10.1016/j.jefas.2014.04.003.

Fullana, O., González, M., & Toscano, D. (2021). The role of assumptions in Ohlson model performance: Lessons for improving equity-value modeling. *Mathematics, 9*(5), 513. DOI: https://doi.org/10.3390/math9050513.

Khassanov, A. (2021). The impact of corporate governance on the cost of equity for Russian companies in the Ohlson Model.

*Journal of Corporate Finance Research, 15*(1), 5-18. DOI: https://doi.org/10.17323/j.jcfr.2073-0438.15.1.2021.5-18.

Kothari, S. P. (2001). Capital markets research in accounting. *Journal of Accounting & Economics, 31*(1-3), 105-231. DOI: https://doi.org/10.1016/S0165-4101(01)00030-1.

Landau, A., Rochell, J., Klein, C., & Zwergel, B. (2020). Integrated reporting of environmental, social, and governance and financial data: Does the market value integrated reports? *Business Strategy and the Environment, 29*(4), 1750-1763. DOI: https://doi.org/10.1002/bse.2467.

Li, W., Jingqi, Z., & Chen, L. (2023). Cash dividends, return on equity and earnings persistence. *Economic Research, 36*(1), 2298-2319. DOI: https://doi.org/10.1080/1331677X.2022.2097106.

Lo, K., & Lyz, T. (2000). The Ohlson model: Contribution to valuation theory, limitations, and empirical applications. *Journal of Accounting Auditing & Finance, 15*(3), 337-367. DOI: https://doi.org/10.2139/ssrn.210948.

Lundholm, R. J. (1995). A tutorial on the Ohlson and Feltham/Ohlson models: Answers to some frequently asked questions. *Contemporary Accounting Research, 11*(2), 749-761. DOI: https://doi.org/10.1111/j.1911-3846.1995.tb00464.x.

Mubarika, N. R., & Handayani, R. S. (2022). Value relevance of accounting information from PSAK 72. *Jurnal Akuntansi Dan Keuangan, 24*(1), 1-9. DOI: https://doi.org/10.9744/jak.24.1.1-9.

Ohlson, J. A. (1995). Earnings, book values, and dividends in equity valuation. *Contemporary Accounting Research, 11*(2), 661-687. DOI: https://doi.org/10.1111/j.1911-3846.1995.tb00461.x.

Ota, K. (2002). A test of the Ohlson (1995) model: Empirical evidence from Japan. *The International Journal of Accounting, 37*(2), 157-182. DOI: https://doi.org/10.1016/S0020-7063(02)00150-4.

Piotroski, J. D. (2000). Value investing: The use of historical financial statement information to separate winners from losers. *Journal of Accounting Research, 38*, 1-41. DOI: https://doi.org/10.2307/2672906.

Rivera, S. I., Román, J., & Schaefer, T. (2018). An application of the Ohlson model to explore the value of big data for AT&T. *Academy of Accounting and Financial Studies Journal, 22*(1), 1-9.

Saleh, W. (2017). Empirical estimation of the residual income valuation model: Profit-making vs. Loss-making firms. *Journal of Finance and Bank Management, 5*(2), 14-31.DOI: https://doi.org/10.15640/jfbm.v5n2a2.

Shamki, D. & Rahman, A. A. (2012). Value relevance of earnings and book value: Evidence from Jordan. *International Journal of Business and Management, 7*(3), 133-141. DOI: https://doi.org/10.5539/ijbm.v7n3p133.

Silvestri, A., & Veltri, S. (2012). A test of the Ohlson model on the Italian stock exchange. *Accounting & Taxation, 4*(1), 83-94.

Spilioti, S., & Karathanassis, G. (2012). An empirical examination of alternative valuation models: The case of the London stock exchange. *Investment Management and Financial Innovations, 9*(1), 137-142.