
EFFECT OF DEBT TO ASSET RATIO ON ENVIRONMENTAL REMEDIATION DISCLOSURE OF NIGERIAN OIL AND GAS FIRMS

Ikilidih Joy N. & Ibieribo Stephen Michael

Department of Accountancy

Paul University, Awka

Mail: joyikilidih@gmail.com; nuelabi36@gmail.com

Abstract

This study examined the effect of debt to asset on environmental sustainability disclosure of listed oil and gas firms in Nigeria. Ex-Post Facto research design was employed for the study. Data were obtained from annual reports and account of the sampled oil and gas firms that operated during 2014-2024. Panel least square regression estimate was employed. This study revealed that debt to asset ratio has a significant but negative effect on environmental remediation disclosure ($\beta_1 = -0.028870$; $p\text{-value} = 0.0000$). In order to revert the negative relationship between debt to asset ratio and environmental sustainability disclosure, this study suggests that firms should judiciously maintain optimize debt to asset ratio in financing operations so as to improve and sustain their environmental performance.

Keywords: Debt to asset, Environmental sustainability disclosure, Oil and gas firms

Introduction

Sustainability is currently a burning issue and a major cause of concern across the globe. Okafor, (2012) defined sustainability as meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. The interest of investors in company's non-financial performance has grown significantly over the past few years. In the wake of increased regulations and growth in level of awareness of stakeholders, the concept of corporate sustainability has been assuming great importance. World Business Council for Sustainable Development (2002) defined corporate sustainability as the commitment of business to contribute to sustainable economic development, and to work with employees, their families, the local community and society at large to improve their quality of life. A sustainability report is an organizational report that gives information about economic, environmental, social and governance performance. A sustainability report also presents the organization's values and governance model, and demonstrates the link between its strategy and its commitment to a sustainable global economy (GRI, 2017). Sustainability reporting can assist organizations in measuring, understanding and communicating their economic, environmental, social and governance performance, and then fix goals, and bring about changes more efficiently (Oshiole, Elamah & Amahalu, 2020).

Debt financing refers to the act of borrowing funds from companies and investors through the use of bonds, banks, or financial institutions with refund obligation, in order to support a business's operations. The lender of such fund is repaid the total amount borrowed, plus the interest accumulated on it, at a later point in time (Abuamsha & Shumali, 2022). At the onset, many businesses do not have sufficient funds to operate, let alone sustain their operations. Hence, they decide to borrow, either from personal sources such as family and friends, as is common to small and medium scale enterprises (SMEs), or impersonal sources such as banks and other financial institutions, as is common with large firms.

Unlike traditional content analysis methods, this study adopted a newly developed Global Reporting Initiatives-based reporting index (G4) that identifies companies with good sustainability performance by aligning companies' disclosures to their sustainability performance thereby closing the measurement gap (to the best knowledge of the researcher). The study evaluates the effect of debt to asset ratio on environmental disclosure of listed oil and gas firms in Nigeria.

Conceptual Review

Over time researchers have sought to determine the capital structure or financing decisions and financial performance of enterprises. Enterprises finance part of their assets with equity capital and the other part with other resources like long-term debts and short-term debts. Enterprises can choose their capital structures from many alternatives of capital structures that include arranging lease financing, use of warrants, issue bonds or trade bond swaps. Enterprises also issue distinct capital structures in countless combinations that affect their overall market value (Mazanec, 2023). Ghardallou (2022) argued that capital structure can take any of the following forms: 100% debt and 0% equity, 100% equity and 0% debt. Debt capital is made up of long-term debts and short-term debts. Enterprises can use 100% long-term debt and 0% short-term debt, 100% short-term debt and 0% long-term debt or S% short-term debts and L% long-term debts in financing their assets. Capital structure decisions are therefore fundamental and critical in any business life cycle due to its impact on sustainability and ability to satisfy external objectives and maximizing shareholders wealth (Vuković, Milutinović, Mijić, Krsmanović, & Jaksic, 2022). Short-term debt to total assets ratio shows how much of the enterprise's total assets are financed using loans and financial debts

lasting for one year or less. Adibeli and Amahalu (2023) argue that enterprises that employ short-term debts are likely to have more growth options in their investment opportunities. Ndubuisi, Okudo and Eyide (2023) view the issuance of debts as a positive signal of the enterprise's low credit risk. Ngatno, Apriatni & Youlianto, (2021) assert that the enterprises with the highest credit ranking prefer to issue short-term debts because of small refinancing risks. Wieczorek-Kosmala, Blach, & Gorzen-Mitka (2021) also showed that low-rated enterprises are restricted to short-term debts as lenders shy away from long-term commitments. The usage debt increases availability of external finance and stimulate better financial performance of enterprises. Valaskova, Kliestik and Gajdosikova (2021) argues that short-term debt is not conducive to greater productivity and asserts that long-term debts may lead to improvements in productivity. Debt is positively related to ROE since it is less expensive hence leading to increased level of profits (Sudiyatno, Puspitasari, Suwarti & Asyif, 2020). Khémiri and Noubbigh (2018) stated that if a debt to asset ratio (DAR) is high, it is increasingly difficult for the companies to get additional loan, because the company is worried to cover the debts of the assets.

Debt to Asset Ratio

Debt-to-assets is a leverage ratio that defines how much debt a company owns compared to its assets. Debt-to-assets information can reflect how financially stable a company is. The higher the ratio, the higher the degree of leverage (DoL) and, consequently, the higher the risk of investing in that company (Blakely, 2023). The debt-to-total-assets ratio shows how much of a business is owned by creditors (people it has borrowed money from) compared with how much of the company's assets are owned by shareholders (Hayes, 2023). The debt to asset ratio is a financial metric used to help understand the degree to which a company's operations are funded by debt. It is one of many leverage ratios that may be used to understand a company's capital structure (Lip, 2023). The debt to asset ratio is calculated by using a company's funded debt, sometimes called interest bearing liabilities. This refers to actual credit provided by direct lenders for which there are interest obligations (like bonds, term loans from a commercial bank, or subordinated debt) (Peterdy, 2023).

A debt-to-assets ratio is a type of leverage ratio that compares a company's debt obligations (both short-term debt and long-term debt) to the company's total assets (Eichler, 2023).

The total-debt-to-total-assets formula is the quotient of total debt divided by total assets. As shown below, total debt includes both short-term and long-term liabilities. All company assets, including short-term, long-term, capital, tangible, or other.

$$\text{Debt to Assets Ratio} = \frac{\text{Short-Term Debt} + \text{Long-Term Debt}}{\text{Total Assets}}$$

If the debt-to-assets ratio is greater than one, a business has more debt than assets. If the ratio is less than one, the business has more assets than debt. A company with a high ratio of total debt to total assets has a relatively high degree of leverage (DoL) and may lack the financial flexibility of a business where assets outweigh debts (Scott, 2020).

Empirical Studies

Dyduch and Krasodomska (2017) explored the determinants of Corporate Social Responsibility Disclosure: An Empirical Study of Polish Listed Companies for the year 2014. A number of elements such as company size, profitability, financial leverage, industry environmental sensitivity, board size, women on the board, internationalization, and reputation influenced the level of environmental disclosure in the annual reports of Polish

companies. Content analysis was used to determine the quality of environmental disclosures. Hypotheses were tested using Tobit regression analysis on a sample of 60 reports from Polish companies listed on the Warsaw Stock Exchange. The study found industry environmental sensitivity to have significant influence on environmental disclosures. The study also revealed a relationship between company turnover, duration of the stock exchange listing, inclusion in the Respect Index portfolio and foreign capital share, and the level of environmental disclosures. This study extended the scope of previous studies by including non-commonly used independent variables: the company's internationalization and reputation.

Ezeagba, John- Akamelu and Umeoduagu (2017) examined environmental accounting disclosures and financial performance from 2006 to 2015. A sample of 14 food and beverage companies from the Nigeria context was utilized. A disclosure index comprising 20 items of information was used. Multiple regression and Pearson correlation statistical technique was used and the study revealed that, there was a negative relationship between environmental accounting disclosures (EAD) and net profit margin of Nigerian food and beverage companies.

Hua, Li, Ma and Zhang (2019) examined the relationship between environmental information disclosure and firms' profitability in China from 2008-2017 and tested the relationship using the data from 676 firms employed from the heavy-polluting industry. Considering the endogenous and heteroscedasticity problems, 2-stage least squares method and weighted least square method were adopted. The results showed that (1) positive relationships exist between environmental information disclosure and profitability for both types; and (2) the contribution of symbolic-style disclosure to profitability is larger than that of substantive-style disclosure.

Emeka-Nwokeji and Osisioma (2019) investigated how overall sustainability disclosures and its disaggregate dimensions of environment, social and governance affect market value of firms in Nigeria as an emerging economy using company's specific disclosures. Tobins Q was used to proxy firm market value. The study selected 93 out of 120 non-financial firms listed on the Nigerian Stock Exchange from 2006 to 2015 through content analysis. The data were analyzed with descriptive statistics, correlation analysis, principal component analysis while pooled ordinary least squares regression was employed to test formulated hypotheses. The analysis showed that overall sustainability disclosures have significant positive effects on firm value. When treated individually, environmental sustainability disclosures and corporate governance disclosures have a significant positive effect on market value of firm. The study also revealed that social sustainability disclosures have negative and insignificant effect on market value of firm. Oyedokun, Egberioyinemi and Tonademukaila (2019) examined the effect of environmental accounting disclosure on firm value of listed industrial goods companies in Nigeria from 2007-2016. The study used multiple regression to analyze the effect of environmental accounting disclosure on firm value. The study found that non-financial indicators had a positive significant effect on firm value while performance indicators had a negative significant effect on firm value and the financial indicator had no significant effect on firm value of industrial goods companies in Nigeria.

Kalash (2020) investigated the determinants of public disclosure of environmental information. Using a sample of 66 firms listed on Istanbul Stock Exchange Turkey, during the period of 2014-2018. Using correlation and binary Logistic Regression analysis, the study found that highly leveraged and larger firms, and firms with higher equity agency costs are more likely to disclose environmental information. However, the results indicated that

profitability, industry type, information asymmetry, investment opportunities and business risk do not affect the probability that the firm will disclose environmental information.

Van-Ha, Sibghatullah, Soo-Chae, and Aldeehani (2020) investigated the relationship between environmental and social disclosure with earnings persistence as a proxy of earnings quality. This research is based on the secondary data obtained from the final reports of the listed firms of Malaysia. The empirical analysis applied on 136 listed firms of Bursa Malaysia throughout 2011 to 2018 with the observation of 1088. The measure of earnings persistence is derived from the panel data based on the regression of the time series model. The study indicated that environmental and social disclosures are positively correlated with earnings persistence. The study also revealed that the more the level of commitment a firm shows with environmental and social responsibility, the more persistent earnings it carries.

Pereira, Monteiro, Silva and Lima (2023) analyzed whether the level of environmental disclosure and a firm's debt increase earnings quality. The study developed an environmental sustainability reporting index (ESReporting), based on GRI standards, using the content analysis for Portuguese firms from 2016 to 2020. The study used earnings persistence as a proxy for earnings quality because it is a fundamental characteristic to determine firm value. To test the hypotheses, the study estimated a multiple linear regression, applying panel data. The results suggested that ES Reporting and debt tend to positively affect earnings persistence. In addition, the evidence suggested that ES Reporting produces a higher positive impact than debt.

Ammar-Zahid, Saleem and Maqsood (2023) studied the nexus between environmental, social, and governance (ESG) performance and corporate capital financing decisions. By applying panel regression (fixed effects) on 6295 firm-year observations of Chinese A-listed enterprises data for 2010–2019, it was concluded that firms' ESG information is crucial to their financing decisions. In particular, firms with superior ESG performance have lower debt financing. The findings suggest that enterprises with strong ESG performance have easy access to equity funding via stock markets. Further, this relationship is more pronounced in SOE compared to non-SOEs and in central SOEs compared to local SOEs.

Methodology

Ex-post facto research design was employed in this study. This study was treated as *ex-post facto* research since it relied on historical data.

The population of the study comprised of all the nine (9) Oil and Gas firms listed on the Nigerian Exchange (NGX) Group as at 31st December, 2024. They are: Ardova Plc, Conoil Plc, Eterna Plc, Japaul Gold and Venture Plc, MRS Oil Nigeria Plc, Oando Plc, Seplat Energy Plc, Total Nigeria Plc, and Capital Oil Plc.

The data to be used in this study were collected mainly from secondary source. These data were obtained for eleven years annual reports and account from 2014-2024 of the sample Oil and Gas firms.

Method of Data Analysis

This study used of panel data from secondary sources through the sampled firms annual reports and accounts. Descriptive statistics was utilized to describe the mean, median, standard deviation, kurtosis, skewness, maximum and minimum values of the study variables via E-Views 10 statistical software. Inferential statistics of this study was carried out using

Panel Least Square (PLS) regression analysis: was used to predict the value of the dependent variable based on the value of the independent variable.

Therefore,

$$ESDI = TDP/MP$$

Where;

ESDI = Environmental Sustainability Disclosure Index

TDP = Total Disclosure Points of a Firm

MP = Maximum Points for a Firm

Model Specification

This study adapted and modified the model of Uyagu, Okpanachi, Nyor and Muhammad (2017):

$$ED = \beta_0 + \beta_1 DER_{it} + \beta_2 PROF_{it} + \mu_{it} \quad \text{eq (i)}$$

Where:

ED = Emission Disclosure

DER = Debt to Equity Ratio

PROF = Profitability

Consequent upon the adapted model, the following regression equation was constructed:

$$ERD_{it} = \beta_0 + \beta_1 DAR_{it} + \mu_{it} \quad \text{eq (iii)}$$

Where:

β_0 = Constant term (intercept)

β_{it} = Coefficients of Debt Financing estimated for firm i in period t

μ_{it} = Error term/unexplained variable(s) of firm i in period t

ERD_{it} = Environmental Remediation Disclosure of firm i in period t

DAR_{it} = Debt to Asset Ratio of firm i in period t

Decision Rule

Accept the null hypothesis (H_0) if the p-value of the test is greater than 0.05, otherwise reject and accept the alternate hypothesis (H_1).

Data Analysis

	ERD	DAR
Mean	0.674545	0.785455
Median	0.730000	0.800000
Maximum	0.910000	0.910000
Minimum	0.370000	0.540000
Std. Dev.	0.185761	0.102894
Skewness	-0.492973	-1.128769
Kurtosis	2.077613	4.039077
Jarque-Bera	0.835490	2.830741
Probability	0.658530	0.242836
Sum	7.420000	8.640000
Sum Sq. Dev.	0.345073	0.105873
Observations	99	99

Source: E-Views 10.0 Output, 2025

Table 1 shows the descriptive statistics of study variables. The observation of 99 in table 4.1 is as a result of the panel data set with the combination of time series data and cross sectional

data (11years x 9 firms) . The involvement of sampled firms in the disclosure of environmental remediation activities is averagely 67.45% , a maximum of 91% percent and a minimum of 37% environmental remediation disclosure level with a standard deviation of 18.5. The observed degree of debt to asset ratio is 78.55percent with a minimum of 54 percent, a maximum of 91 percent and a standard deviation of 0.1029.

Test of Hypothesis

H₀₁: Debt to asset ratio has no significant effect on environmental remediation disclosure of listed oil and gas firms in Nigeria.

H₁: Debt to asset ratio has significant effect on environmental remediation disclosure of listed oil and gas firms in Nigeria.

Table 2: Panel Least Square (PLS) Regression Analysis testing the effect of Debt to Asset Ratio on Environmental Remediation Disclosure

Dependent Variable: ERD
Method: Panel Least Squares
Date: 12/19/25 Time: 15:44
Sample: 2014 2024
Periods included: 11
Cross-sections included: 9
Total panel (balanced) observations: 99

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.177432	0.137313	8.574793	0.0000
DAR	-0.639728	0.173359	-3.690189	0.0004
R-squared	0.123104	Mean dependent var		0.674545
Adjusted R-squared	0.114064	S.D. dependent var		0.178018
S.E. of regression	0.167558	Akaike info criterion		-0.714982
Sum squared resid	2.723335	Schwarz criterion		-0.662555
Log likelihood	37.39158	Hannan-Quinn criter.		-0.693770
F-statistic	13.61749	Durbin-Watson stat		0.512131
Prob(F-statistic)	0.000370			

Source: E-Views 10.0 Panel Regression Output, 2025

Interpretation of Regression Analysis

Table 2 shows that there is a significant but negative relationship between debt to asset ratio and environmental remediation disclosure of listed oil and gas firms in Nigeria. This can be observed from the beta coefficient (β_1) of -0.639728 with p value of 0.0004 which is significant at 5%. This indicates that debt to asset ratio has a negative relationship with environmental remediation disclosure.

$$ERD = 1.177432 - 0.639728DAR$$

The deduced inference from the model shows that holding other factors constant, one naira increase in debt to asset ratio will cause environmental remediation disclosure to reduce by 63.97%.

Overall, the F-statistic of 13.61749 with an associated Prob(F-statistic) of 0.000370 is statistically significant at 5%, which reveals that the model is well fitted, while the coefficient of determination; R^2 of 0.123104, explains the individual variation of the dependent variable (ERD) as a result of the changes in the independent variables (DAR). It can be said that DAR

has a predictive power of 63.97% in affecting ERD, while the remaining 36.03% is accounted for by other factors which are not captured in the model.

Decision

Since the P-value of the test = 0.000370 is less than 0.05 (5%), this study upholds that debt to asset ratio has significant but negative effect on environmental remediation disclosure of listed oil and gas firms in Nigeria at 5% level of significance.

Discussion of Findings

The regression output for hypothesis shows that there is a significant but negative relationship between debt to asset ratio and environmental remediation disclosure of listed oil and gas firms in Nigeria. This can be observed from the beta coefficient (β_1) of -0.639728 with p value of 0.0004 which is significant at 5%. This indicates that debt to asset ratio has a negative relationship with environmental remediation disclosure. Since the P-value of the test = 0.000370 is less than 0.05 (5%), this study upholds that debt to asset ratio has significant but negative effect on environmental remediation disclosure. The results of this study is consistent with the works of Almustafa, Jabbouri and Kijkasiwat (2023); Handoyo and Angela (2021) but contradict the results of Kumar (2023); Salawu, Mamman, Dahiru, Garba and Yunusa (2021).

Conclusion and Recommendation

This study examined the effect of debt financing on environmental sustainability disclosure of listed oil and gas firms in Nigeria. This study obtained panel data from annual reports and account and publications of the listed oil and gas firms that operated during 2014-2024. In addition, the study specifically examined the effect of debt to equity ratio, debt to asset ratio, debt to capital ratio, short term debt ratio and long term debt ratio on environmental sustainability disclosure. To determine the relationship that exists amongst the study variables and the effect thereof, Pearson correlation coefficient and Panel least square regression estimate were employed. This study revealed that debt to asset ratio has a significant but negative effect on environmental remediation disclosure ($\beta_1 = -0.028870$; p-value = 0.0000). In order to revert the negative relationship between debt to asset ratio and environmental sustainability disclosure, this study suggests that firms should judiciously maintain optimize debt to asset ratio in financing operations so as to improve and sustain their environmental performance.

References

- Abuamsha, M., & Shumali, S. (2022). Debt structure and its impact on financial performance: An empirical study on the Palestinian stock exchange. *Journal of International Studies*, 15(1), 211-229.
- Adibeli, P.C. & Amahalu, N.N. (2023). Debt financing and shareholders wealth creation of quoted manufacturing firms in Nigeria, *Journal of Global Accounting*, 9(2), 70 – 112.
- Almustafa, H., Jabbouri, I., & Kijkasiwat, P. (2023). Economic policy uncertainty, financial leverage, and corporate investment: Evidence from U.S. Firms. *Economies*, 11(3), 37.
- Ammar-Zahid, R.M., Saleem, A., & Maqsood, U.S. (2023). Environmental, social, and governance performance, capital financing decisions, and audit quality: Empirical evidence from Chinese state-owned enterprises. *Environmental Science and Pollution Research*, 30(11), 44086–44099
- Blakely, S. (2023). Debt-to-equity ratio. <https://www.masterclass.com/articles/debt-to-asset-ratio-explained>, retrieved 16/06/2023.

- Dyduch, J., & Krasodomska, J. (2017). Determinants of corporate social responsibility disclosure: an empirical study of polish listed companies. www.mdpi.com/journal/sustainability,1-24.
- Eichler, R. (2023). Total-debt-to-total-assets. <https://www.investopedia.com/terms/t/totaldebttotalassets.asp>. Accessed 16/09/2022.
- Emeka-Nwokeji, N.A., & Osioma, B.C. (2019). Sustainability disclosures and market value of firms in emerging economy: Evidence from Nigeria. *European Journal of Accounting, Auditing and Finance Research*, 7(3), 1-19
- Ezeagba, C.E., Akamelu, J., & Umeoduagu, C. (2017). Environmental accounting disclosures and financial performance: A study of selected food and beverage companies in Nigeria. *International Journal of Academic Research in Business and Social Sciences*, 7(9), 162-174.
- Ghardallou, W. (2022). Capital structure decisions and corporate performance: Does firm's profitability matter? *J. Sci. Ind. Res.*, 81(25), 859–865.
- GRI. (2017). *Sustainability reporting*. <https://www.globalreporting.org/information/news-and-press-center/newsarchive/Pages/2017.aspx>. Retrieved 07/09/2019.
- GRI. (2017b). *About sustainability reporting*. Retrieved 13 January, 2017, from <https://www.globalreporting.org/information/sustainability-reporting/Pages/default.aspx>
- Handoyo, S., & Angela, P. (2021). The Determinants of Environmental Disclosure Quality: Empirical Evidence from Indonesia. *Journal of Accounting Auditing and Business* , 4(1), 1-13.
- Hayes, A. (2022). What is debt financing. <https://www.investopedia.com/terms/d/debratio.asp>. Accessed 18/03/2023.
- Hayes, A. (2023). Total-debt-to-total-assets. <https://www.investopedia.com/terms/t/totaldebttotalassets.asp>. Accessed 16/09/2022
- Kalash, I. (2020). Environmental Disclosure: Determinants and Effects on Financial Performance? An Empirical Evidence from Turkey. *Sosyoekonomi*, 28(46), 95-115.
- Khémiri, W., & Noubbigh, H. (2018). Determinants of capital structure: Evidence from Sub-Saharan African firms. *Q. Rev. Econ. Financ.*, 70(26), 150–159.
- Lip, G. (2023). Debt to asset ratio. <https://corporatefinanceinstitute.com/resources/commercial-lending/debt-to-asset-ratio/>. Accessed 16/06/2023.
- Mazanec, J. (2023). Capital structure and corporate performance: An empirical analysis from Central Europe. *Mathematics*, 11(4), 2095.
- Ndubuisi, N.A., Okudo, C.C., & Eyide, M.U. (2023). Effect of financial risk on performance of listed deposit money banks in Nigeria. *International Journal of Research Publication and Reviews*, 4(6), 476-485.
- Ngatno, A.H., Apriatni, E.P., & Youlianto, A.(2021). Moderating effects of corporate governance mechanism on the relation between capital structure and firm performance. *Cogent Bus. Manag.*, 8(3), 1866822.
- Okafor, T.G. (2012). Natural resources accounting and sustainable development: The challenge to economics and accounting profession. *African Research Review*, 6(3), 59-70.
- Oshiole, S., Elamah, A.F., & Amahalu, N.N. (2020). Effect of environmental cost disclosure on profitability of listed oil and gas firms in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences* 10(2), 157-170.

- Oyedokun, G.E., Egberioyinemi E., & Tonademukaila A. (2019). Environmental Accounting Disclosure and Firm Value of Industrial Goods Companies in Nigeria. *IOSR Journal of Economics and Finance (IOSR-JEF)*, 10(1), 07-27.
- Pereira, C., Monteiro, A., Silva, D., & Lima, A. (2023). Do the levels of environmental sustainability disclosure and indebtedness affect the quality of earnings? *Sustainability*, 15, 2871.
- Peterdy, K. (2023). Debt to asset ratio. <https://corporatefinanceinstitute.com/resources/commercial-lending/debt-to-asset-ratio/>. Accessed 16/06/2023.
- Salawu, M.A., Mamman, S., Dahiru, M.T., Garba, A., & Yunusa, N. (2021). Firm-specific Attributes and Environmental Disclosure of Listed Oil and Gas Firms in Nigeria. *Global Journal Accounting*, 7(1), 1-14.
- Scott, G. (2020). Degree of financial leverage. <https://www.investopedia.com/terms/d/dfi.asp>. Accessed 16/06/2023.
- Sudiyatno, B., Puspitasari, E., Suwarti, T., & Asyif, M.M. (2020). Determinants of firm value and profitability: Evidence from Indonesia. *J. Asian Financ. Econ. Bus.*, 7(3), 769–778.
- Valaskova, K., Klietnik, T., & Gajdosikova, D. (2021). Distinctive determinants of financial indebtedness: Evidence from Slovak and Czech enterprises. *Equilibrium Q. J. Econ. Econ. Policy*, 16(5), 639–659.
- Van-Ha, T., Sibghatullah, A., Soo-Chae, S., & Aldeehani, T.M. (2020). The Impact of Environmental and Social Disclosure on Earnings Persistence. *International Journal of Energy Economics and Policy*, 10(6), 690-696.
- Vuković, B., Milutinović, S., Mijić, K., Krsmanović, B., & Jaksic, D. (2022). Analysis of financial performance determinants: Evidence from the European agricultural companies. *Custos E Agronegocio*, 18(10), 285–306.
- Wieczorek-Kosmala, M., Blach, J., & Gorzen-Mitka, I. (2021). Does capital structure drive profitability in the energy sector? *Energies*, 14(6), 4803.