

EMISSIONS AND WASTE MANAGEMENT INFORMATION DISCLOSURE AND FINANCIAL PERFORMANCE OF LISTED INDUSTRIAL GOODS FIRMS IN NIGERIA

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ABSTRACT

This study examined the nexus between emissions and waste management information disclosures and financial performance of industrial goods firms in Nigeria. Firms financial performance was measured by return on assets (ROA), return on equity (ROE) and earnings per share (EPS). Data were sourced from the annual reports and sustainability reports of the selected industrial goods firms for periods of 2011 to 2020. Data for emissions and waste management (EWM) were derived through a content analysis approach while data for ROA, ROE and EPS were computed with the accounting figures derived from the firms' annual reports. Panel Regression analysis was employed in analyzing the data collected. Results from the analysis revealed that a positive and insignificant relationship existing between emissions and waste management disclosures and each of the three performance indicators of the select industrial goods firms in Nigeria; namely return on assets, return on equity earnings per share. The implication of the findings is that the level of environmental practices and disclosures in terms of emissions and waste management has not significantly supported the firms' performance. The study recommends among other things that corporate firms in general and industrial good firms in particular should take the issue of environmental information disclosures serious, so as to enhance the confidence of the public on the operations of the firms, which will consequently translate to better performance of the firms; and that the legislative arm of the government should tighten the legislation on environmental information disclosures of corporate entities in Nigeria by making it compulsory with specific indices.

Key words: Waste Management Disclosures, Emissions, Earnings Per Share, Financial Performance, Environmental Practices.

1. INTRODUCTION

Industrialization and globalization have expanded business strategies around the globe with advancement in technology, business operations and processes. There is a hype in economic activities and competition and as a result, the environment which is an integral constituent of human existence is largely affected. Natural capital such as clear air, clean water, land, greenhouse gases, climate, energy, ecosystems, biodiversity and other natural elements are degraded and altered and environmental sustainability threatened. The mechanized agricultural system adopted for greater yield involving large scale cultivation has led to the loss of animal and plant habitat, deforestation and extinction of endangered species (Akinlo & Iredele, 2014).

The widespread global awareness of environmental value couple with the urgent need for sustainable social and economic development is refocusing the attention of companies towards environmental compassion. The environment where human being lives should not distorted with substances that are dangerous to his life. Therefore, the need for sustainability has resulted in the appearance of various international organizations expressing a range of attitudes that guide and direct human dealings with the environment (Nahiba. 2017).

The utilization of natural resources by industries and incessant discharge of gases across the world is increasing. This is observable in the industrial revolutions of the late 18th century in which economic activities in many areas moved from agriculture to manufacturing. The mode of production also changed from its traditional locations to modern factories. The industrial revolution result in the improvement of the economy and standard of living of many people in the industrialization normally requires the utilization of natural

resources which include petrol, gas, diesel, etc which brought about factory pollution and excessive land use, which normally cause harm to the natural environment (Jeroh, & Okoro, 2016).

The ecology crisis happens when there is profit maximization with extreme effort, included in ethical and unethical ways, such as environmental harms (Lako, 2018). Investors consider profit as not the only investment evaluation, but also environmental issues. Business paradigm shifts from a single bottom-line (profit) into a triple bottom- line (profit, people, and the planet) where firm contributions to the environment is also important (Wiranante, 2014). Investor evaluation is important to determine firm value. Since firm value reflects the stock price, investor evaluation of firm reputation can also affect the firm stock price.

However, while prior studies on environmental accounting have mainly focused on the drivers of environmental information disclosure or the disclosure practices of listed industrial goods firms, with much emphasis on companies within the manufacturing or industrial goods sectors (Jo & Harjo to 2012; Michelon & Parbonetti 2012; of oegbu, 2013, Ali and Attan, 2013; Ashafoke & Ilaboya, 2017, Rabi 2019), much efforts have not been tailored at unveiling the bi-directional relationship between Emissions and Waste Management Disclosure among firms and measures of corporate performance of firms. This situation ignited the interest of this current study which has been designed to ascertain the link between Emissions and Waste Management disclosure and performance measures of listed industrial goods firms in Nigeria.

The broad objective of this study is to investigate the relationship between Emissions and Waste Management Information Disclosure and financial performance of listed industrial goods firms in Nigeria. The specific objectives are to:

- i. Evaluate the relationship between Emissions and Waste Management Disclosure (EWM) and Return On Assets (ROA),
- ii. examine the nexus between Emissions and Waste Management Disclosure(EWM) and Return on Equity (ROE),
- iii. assess the relationship between Emissions and Waste Management Disclosure (EWM) and Earnings per share (EPS),

In achieving the objectives of the study and answering the research questions, the following research hypotheses (in their null) are formulated:

H₀₁: There is no significant relationship between Emissions and Waste Management Disclosure (EWM) and Return on Assets (ROA).

H₀₂: There is no significant relationship between Emissions and Waste Management Disclosure (EWM) and Return on Equity (ROE).

H₀₃: Emissions and Waste Management Disclosure (EWM) does not significantly related with Earnings Per Share (EPS).

2. LITERATURE REVIEW

Stakeholder's Theory

This theory states that corporate entities activities impact on a wider spectrum of the society rather than just the shareholders. Deegan (2007) opined that stakeholders should be furnished with information concerning organizations social and environmental impacts (i.e. disclosures on the environment, health and safety, employment and community stakeholders who influence and are affected by its activities. Therefore, the specific information needs of various stakeholders must be disclosed in order to reduce information asymmetry.

Legitimacy theory

Legitimacy theory is a system oriented theory which proposes that organizations interact/influence and can be influenced by the environment (employees, suppliers, creditors, regulators, government and host communities) which it operates (Deegan 2007). Organizational survival and growth depends on the acceptance of these social systems. He further buttressed that organizations consistent commitment to societal expectations legitimizes its operations. The social contract that exists between organizations and the society should be sustained by organizations embarking on social programs. Any breach of this contract threatens the survival and performance of these organizations.

This study shall therefore be hinged on the stakeholder's theory because from the above, it is obvious that the stakeholder theory assesses various concerns, actions and practices within the organizations against the expectation of a variety of stakeholder groups. To this end, the emissions and waste management disclosure of costs practice of firms is not an exception.

Empirical Review

Shahzad, Baig, Rehman, Saeed and Asim, (2021) examined the effect of corporate social responsibility on firm performance by accounting for the role of Intellectual capital efficiency as a mechanism underlying Corporate Social Responsibility (CSR)-firm performance association. In this study, the authors considered 2132 US companies and developed a structural model for CSR, Intellectual Capital (IC) and firm performance while contemplating endogeneity issues in analyses over the period 2009-2018. The value-added intellectual capital co-efficient was employed as a proxy measure for IC performance, taking into consideration corporate performance and governance measures. The findings were that CSR had a significant effect on firm performance. In particular, the findings revealed that CSR had a link with IC, indirectly affecting firm performance, and the association between CSR and firm performance was partially mediated by Intellectual capital efficiency. Shahzad, Baig, Rehman, Saeed and Asim, concluded that CSR activities were as useful in ameliorating the managers' operational efficiency and effectiveness as they were in strengthening the relationship of trust between a firm and its stakeholders.

Benali, Yaagoubi and Moufidi. (2021) aimed to empirically study the relationship between corporate social responsibility (CSR) and financial performance (FP) in the Moroccan context. The authors opted for a longitudinal study of listed companies over the period 2012-2017. They used the accounting and financial indicators to assess FP. In the absence of an index that measured the score of the CSR, they opted for a dichotomous variable which took a value of 1 if the company was labelled CSR by the CGEM and value 0 if not. The control variables were measured by size, age, risk and industry. Panel data were used as well to analyses the data. The findings of the study indicated mixed results. Indeed, the authors found a positive impact of CSR on FP, when using ROA as a proxy for FP. However, when using ROE as a proxy for FP, they did not find any impact of CSR on Financial Performance (neutral impact). The authors concluded that the company should encourage its main stakeholders to define their needs. Based on that, it could engage in social and environmental projects.

Ekundayo, Echobu and Ujah (2021) aimed to investigate the effects of corporate social responsibility on the financial performance of industrial goods companies listed on the Nigeria Stock Exchange from 2009 to 2018, the used the descriptive research design, the purposive sampling technique was applied on the study's population of 14 industrial goods firms to determine the sample size of 5 industrial goods firms. Panel data were obtained from the annual reports and account of the sampled industrial goods firms and analyzed using multiple regression technique via STATA 12.0 software. They result showed that CSR variables of community corporate social responsibility and employee relation of firms had a statistically significant positive impact on the financial performance (ROA) of listed industrial goods firms in Nigeria. The author concluded that corporate social responsibility played a significant role in the financial performance of listed industrial goods firms in Nigeria. It was recommended that the management of industrial goods firms should adopt CSR because it had a positive effect on the overall financial performance of their business entities.

Ldama and Pembi (2021) examined the effect of social responsibility on business performance using qualitative approach to research. It was found from the literature that the fulfillment of corporate social responsibility has significant positive effect on business performance. Also, the fulfillment of corporate social responsibility was legal and ethical to the competitive success of business organizations. In conclusion, the fulfillment of social responsibility served as a resource contributing factor to the long-term competitive success of business organizations. Therefore, organizations wishing to survive in a volatile business environment like Nigeria ought to be socially responsible. The authors recommended that organizations should endeavour to invest more resources in the communication of their behaviour regarding social commitment like the involvement in community, corporation and development, programme supporting culture or measures for helping employees.

Indriastuti and Chariri (2021) explained the effect of carbon and environmental performances on a sustainability report with financial performance as an intervening variable. The population of the study comprised mining companies listed on the Indonesia Stock Exchange in 2015-2019. The total samples obtained were 80 companies for five years. All the data related to the research variables were processed using the structural equation modeling (SEM-WarpPLS) method. The results of the study indicated that carbon performance had a positive effect on financial performance. Meanwhile, the environmental performance had a negative effect on the financial performance. On the other hand, carbon and environmental performances did not affect the sustainability report. Financial performance variables could not mediate the variables of carbon and environmental performances on the sustainability report.

Simsek and Ozturk (2020) evaluated the impact of environmental accounting approaches of businesses on the overall performance of businesses. In addition, it intended to determine the activities of the businesses within the scope of the research on environmental issues. For that purpose, the study was carried out on businesses, at Beylikduzu Organized Industrial Zone. Multiple linear regression analysis was conducted for evaluating the relationship between the environmental accounting approaches of businesses, and the overall performance of businesses. In the analysis, the sub-dimensions of environmental accounting were addressed as the independent variables, and business performance was addressed as dependent variable. The data which were obtained by random sampling method was analysed in the SPSS 20 software package. As a result of the study, it was determined that there was a mutually significant relationship between environmental accounting and performance. However, the environmental accounting approaches of the companies covered by the study were found to be at a low level. The authors concluded that professional associations needed to organize seminars and conferences to help managers and accountants raise awareness and establish a learning mechanism for “environmental accounting”.

Fakoya and Lawal (2020) examined the effect of environmental accounting on the quality of accounting disclosure of shipping firms in Nigeria. They administered questionnaires to the staff of registered shipping firms in Nigeria and analysed the data using multiple regression. The findings showed that environmental accounting influenced the quality of accounting disclosure of shipping firms in Nigeria. They found a significant positive association between environmental accounting and the quality of accounting disclosure of shipping firms in Nigeria. The authors concluded that firms need to recognize a liability in the statement of assets and liabilities once it was feasible that the economic benefit of an outflow of resources would offset a present obligation. They recommended that firms should decide, by discretion, which expenditure or cost should be included as environmental expenses or costs.

Aliyu, Lawal and Dahood (2018) in their study examine emissions and waste management disclosure and economic growth in Nigeria, for a period of thirty (30) years. The study proves that the power sector is an important instrument used by government to improve the economy and that improvement of the power supply has strengthened all sectors of the Nigeria's economy and greatly reduced economic retardation. The findings of the study conclude that emissions and waste management disclosure has a significant correlation with economic growth in Nigeria. Interestingly, Mustapha & Fagge (2015) re-examine the causal relationship between emissions and waste management disclosure and economic growth using Nigeria's data from 1980 to 2011. The result of the causality analysis which included labour and capital in a multivariate framework informed the absence of causality. However, the variance decomposition test establishes that capital and labour affected output growth more than emissions and waste management disclosure. Onakoya et al. (2013) evaluate the causal connection between energy consumption and economic growth in Nigeria from 1975 to 2010, using co-integration and ordinary least square techniques. The result indicates that in the long run, total emissions and waste management disclosure had a similar movement with economic growth with the exception of coal consumption. The empirical results reveal that petroleum, electricity, and total emissions and waste management disclosure have a significant and positive relationship with economic growth in Nigeria.

Orhewere and Machame (2011) study the relationship between emissions and waste management disclosure and economic growth by investigating the causality between GDP and each of the subcomponents of emissions and waste management disclosure in Nigeria. The idea was to find out if different sources of energy have varying impacts on economic growth. The results of the study discover a unidirectional causality from electricity consumption to GDP both in the short-run and long-run, unidirectional causality from Gas consumption to GDP in the short-run and bidirectional causality between the variable in the long-run. There was no causality in any direction between oil consumption and GDP in the short-run. On the other hand, a unidirectional causality from oil consumption to GDP was discovered in the long-run.

3. METHODOLOGY

This study employed longitudinal research design. It is most suitable for studies where information is collected from different sections (firms) over different periods of time (that is, cross-sectional versus time-series data). The description of longitudinal research design agrees with the approach of the study, hence the adoption of this research design as the methodological approach of the study. Data generated for the variables of the study were analysed using Panel Data Regression Technique. The justification for the adoption of panel regression technique is based on the research design adopted for this study as earlier discussed. Hence, to undertake an evaluation of the nexus between the two lines of variables (dependent and independent) with data generated from cross-sectional fields and time-series based, panel regression is best suited, because the technique

integrates time-series and cross-sectional observations and achieves better revealing information, added variability, fewer co-linearity among variables, more degrees of freedom and consequently, more valid results

Model Specification

The following regression models were developed in this study (in their generic form) to capture the variables of the study:

$$\text{ROA} = \text{F(EWM)} \quad - \quad - \quad - \quad (1)$$

$$\text{ROE} = \text{F(EWM)} \quad - \quad - \quad - \quad (2)$$

$$\text{EPS} = \text{F(EWM)} \quad - \quad - \quad - \quad (3)$$

Where: ROA stands for Return on Assets

ROE stands for Return on Equity

EPS Earnings Per Share

EWM stands for Emissions and Waste Management Disclosures

The three generic models were expressed in their regression explicit form as follows:

$$\text{ROA} = \beta_0 + \beta_1 \text{EWM} + E \quad - \quad - \quad (1a)$$

$$\text{ROE} = \beta_0 + \beta_1 \text{EWM} + E \quad - \quad - \quad (2a)$$

$$\text{EPS} = \beta_0 + \beta_1 \text{EWM} + E \quad - \quad - \quad (3a)$$

4. RESULT AND DISCUSSION

The results of the Panel Lest Square (Random Effect) estimations in appendices 4 were utilized in deciding on the three hypotheses earlier formulated in this study. The key parameters from the results as it pertains to the three hypotheses are presented on table 1

Table 1: Results of Key Parameters for Hypotheses tests (Random Effect)

Independent/Control Variables	Model 1		Model 2		Model 3		
	Coefficients	P-value	Coefficients	P-value	Coefficients	P-value	P-value
LogEWM	0.05	0.53	0.04	0.51	0.05	0.48	0.48
LogTA	-0.25	0.01	-0.33	0.00	0.74	0.00	0.00

Source: Deductions from appendices 4

The result of three hypotheses formulated in section one are as follows:

The result of the test for this hypothesis one is captured in model 1. The result reveals that the coefficient of the main independent variable of the study (LogEWM) for model 1 is approximately 0.05; this indicates a positive relationship between EWM and ROA while the p-value of the t-statistics is 0.53 which is far greater than the significance level of 0.05. This result indicates that no significant relationship between emission and waste management disclosures and return on assets of the selected industrial goods firms in Nigeria. With this result therefore, the null hypothesis which states that there is no significant relationship between emission and waste management (EWM) disclosures and return on assets (ROA) is accepted to be true while the associated alternative hypothesis that a significant relationship exists is rejected.

The result of the test for this hypothesis two is captured in model 2 also reveals that the coefficient of the main independent variable (LogEWM) for model 2 is 0.04 which indicates a positive relationship between EWM and ROE; however, the p-value of the test statistics is 0.51 which is greater than the significance level of 0.05. These results suggest that EWM has a positive but an insignificant relationship with ROE. Therefore, the null hypothesis which states there is no significant relationship between emissions and waste management disclosures and return on equity (ROE) is accepted while the associated alternative hypothesis is rejected.

The result of the test for this hypothesis three is captured in model 3 is utilized. The result reveals that the coefficient of the main independent variable (LogEWM) for model 3 is 0.05; which also indicates a positive interplay between EWM and EPS. However, the result suggested that the positive relationship is not significant with the p-value of t-statistics being 0.48 which is far greater than the significance level of 0.05. Therefore, the null hypothesis, which states emissions and waste management (EWM) disclosures does not significantly relate with earnings per share (EPS) is accepted while on the other hand rejecting the alternative hypothesis which assumed otherwise.

5. CONCLUSION AND RECOMMENDATION

The findings of this study reveal that emissions and waste management information disclosure has positive but insignificant association with each of the three dimensions of firm's performance (namely; return on assets, return on equity and earnings per share). This finding is consistent with Abu-Bakr, Moses and Inuwa (2017) who found insignificant effect of environmental information disclosures on firm performance indices. It also agrees with Elshabasy (2018) to the extent of his findings that there is an insignificant relationship between two factors of firms' characteristics (Firm Size and Firm Financial Leverage). The findings of this study partly agree with Egbunike and Tarilaye (2017) who found that there is a positive relationship between environmental disclosure and earnings per share but disagree with the authors to the extent that a significant relation exists. Generally, the findings of this study align with the a-priori expectation which stipulates that firms' disclosures of environmental management information should accord a positive influence on their performance, although the influence so recorded in this study is not significant.

Based on the findings, the study concludes that the environmental management information disclosures in terms of emissions and waste management as practiced by industrial goods firms in Nigeria today has not significantly affected their financial performance during the period under review. It is therefore concluded in this study that environmental sustainability practices and the disclosures of environmental management information by firms in the industrial goods sector are reasonably poor; as such, emissions and waste management practices by the firms are not in consonance with global best practices and are not adequately reported or disclosed; this has decreasing effect on the financial performance of the firms. Most firms in Nigeria generally and industrial goods firms in particular have not been environmentally responsive; hence, the huge environmental concern in our contemporary world today cannot be unconnected to the activities of industrial goods firms and other manufacturing and explorative industries. Based on the findings and conclusion, the study hereby recommends as follows:

Corporate firms in general and industrial good firms in particular should take the issue of environmental management information disclosures serious, so as to enhance the confidence of the public on the operations of the firms, which will consequently translate to better performance of the firms. The legislative arm of the government should tighten the legislation on environmental information disclosures of corporate entities in Nigeria by making it compulsory with specific indices. The ministry of environment and other environmental regulatory agencies in Nigeria should strengthen their monitoring and oversight function on the compliance level of corporate entities towards environmental frameworks. Stiffer penalties should be meted out to corporate entities that violate environmental sustainability measures spelt out for corporate firms.

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APPENDIX 1: RESULTS OF STATISTICAL ANALYSES FOR MODEL 1

Fixed Effect

Method: Panel Least Squares
Date: 04/18/22 Time: 14:38
Sample: 2011 2020
Periods included: 10
Cross-sections included: 5
Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.831982	0.517485	5.472586	0.0000
LOGEWM	0.045510	0.071534	0.636199	0.5280
LOG_TA	-0.253975	0.088973	-2.854515	0.0066

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.211822	Mean dependent var	1.312000
Adjusted R-squared	0.101844	S.D. dependent var	0.094631
S.E. of regression	0.089683	Akaike info criterion	-1.855889
Sum squared resid	0.345852	Schwarz criterion	-1.588206
Log likelihood	53.39724	Hannan-Quinn criter.	-1.753954
F-statistic	1.926040	Durbin-Watson stat	2.148856
Prob(F-statistic)	0.098275		

Source: E-View 8.0 Statistical Output, 2022.

Random Effect

Dependent Variable: LOGROA
Method: Panel EGLS (Cross-section random effects)
Date: 04/18/22 Time: 14:41
Sample: 2011 2020
Periods included: 10
Cross-sections included: 5
Total panel (balanced) observations: 50
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.831982	0.517485	5.472586	0.0000

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LOGEWM	0.045510	0.071534	0.636199	0.5277
LOG_TA	-0.253975	0.088973	-2.854515	0.0064
Effects Specification				
			S.D.	Rho
Cross-section random			0.000000	0.0000
Idiosyncratic random			0.089683	0.2300
Weighted Statistics				
R-squared	0.611822	Mean dependent var		1.312000
Adjusted R-squared	0.578283	S.D. dependent var		0.094631
S.E. of regression	0.085782	Sum squared resid		0.345852
F-statistic	6.315618	Durbin-Watson stat		2.148856
Prob(F-statistic)	0.003721			
Unweighted Statistics				
R-squared	0.211822	Mean dependent var		1.312000
Sum squared resid	0.345852	Durbin-Watson stat		2.148856

Source: E-View 8.0 Statistical Output, 2022.

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.670000	2	0.1300

* Cross-section test variance is invalid. Hausman statistic set to zero.

** WARNING: estimated cross-section random effects variance is zero.

FOR MODEL 2

Fixed Effect

Dependent Variable: LOG_ROE

Method: Panel Least Squares

Date: 04/18/22 Time: 14:48

Sample: 2011 2020

Periods included: 10

Cross-sections included: 5

Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.490331	0.462187	7.551766	0.0000
LOGEWM	0.042131	0.063890	0.659432	0.5131
LOG_TA	-0.332696	0.079465	-4.186679	0.0001

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.386168	Mean dependent var	1.491000
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Adjusted R-squared	0.300517	S.D. dependent var	0.095773
S.E. of regression	0.080100	Akaike info criterion	-2.081911
Sum squared resid	0.275887	Schwarz criterion	-1.814227
Log likelihood	59.04776	Hannan-Quinn criter.	-1.979975
F-statistic	4.508623	Durbin-Watson stat	2.054071
Prob(F-statistic)	0.001259		

Source: E-View 8.0 Statistical Output, 2022.

Random Effect

Dependent Variable: LOG_ROE
 Method: Panel EGLS (Cross-section random effects)
 Date: 04/18/22 Time: 14:52
 Sample: 2011 2020
 Periods included: 10
 Cross-sections included: 5
 Total panel (balanced) observations: 50
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.490331	0.462187	7.551766	0.0000
LOGEWM	0.042131	0.063890	0.659432	0.5128
LOG_TA	-0.332696	0.079465	-4.186679	0.0001

Effects Specification

	S.D.	Rho
Cross-section random	0.000000	0.0000
Idiosyncratic random	0.080100	1.0000

Weighted Statistics

R-squared	0.386168	Mean dependent var	1.491000
Adjusted R-squared	0.360047	S.D. dependent var	0.095773
S.E. of regression	0.076615	Sum squared resid	0.275887
F-statistic	14.78409	Durbin-Watson stat	2.054071
Prob(F-statistic)	0.000010		

Unweighted Statistics

R-squared	0.386168	Mean dependent var	1.491000
Sum squared resid	0.275887	Durbin-Watson stat	2.054071

Source: E-View 8.0 Statistical Output, 2022.

Correlated Random Effects - Hausman Test
 Equation: Untitled
 Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.324000	2	0.6810

* Cross-section test variance is invalid. Hausman statistic set to zero.
 ** WARNING: estimated cross-section random effects variance is zero.

FOR MODEL 3

Fixed Effect

Dependent Variable: LOG_EPS
 Method: Panel Least Squares
 Date: 04/18/22 Time: 14:59
 Sample: 2011 2020

Periods included: 10
 Cross-sections included: 5
 Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.348477	0.499988	-2.697019	0.0100
LOGEWM	0.049394	0.069115	0.714661	0.4787
LOG_TA	0.737232	0.085965	8.576003	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.785824	Mean dependent var	3.149000
Adjusted R-squared	0.755939	S.D. dependent var	0.175398
S.E. of regression	0.086651	Akaike info criterion	-1.924684
Sum squared resid	0.322860	Schwarz criterion	-1.657001
Log likelihood	55.11710	Hannan-Quinn criter.	-1.822749
F-statistic	26.29492	Durbin-Watson stat	2.160602
Prob(F-statistic)	0.000000		

Source: E-View 8.0 Statistical Output, 2022