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Awoseyila Folorunso

Department of Agriculture
Extension and Management,
Rufus Giwa Polytechnic, Owo
Ondo, Nigeria

Corporate social responsibility practices and profitability of the listed agricultural companies on the Nigerian stock exchange

Awoseyila Folorunso

Abstract

This study focused on the companies in the agricultural sector of the Nigeria stock exchange. Corporate social responsibility practices among the companies were measured and the effect on profitability was evaluated. The general linear model (GLM) multivariate was used as a procedure to model the values of multiple dependent scale variables, based on their relationships to categorical and scale predictors. The two dependent variables are earning per share (EPS) and return on equity (ROE). Corporate social responsibility (CSR) is the major variable and size (SIZE) and age (AGE) of companies are the control variables. Findings revealed that there is no significant effect of CSR on EPS and ROE. There is no significant effect of SIZE of companies on EPS and ROE. Lastly, there is no significant effect of AGE of companies on EPS and ROE. This implies that the agricultural companies cost on CSR does not affect profitability and so, the companies are at the advantage of increase in CSR and legitimate their continued existence in the host community they operate. It is recommended that CSR has no option in mitigating the degrading effects of the agricultural activities on the environment.

Keywords: Agricultural, EPS and ROE, EPS, AGE

Introductions

The global economy is a major subsystem operating within the planetary boundaries for human interference. It serves to provide the products and infrastructure whereby human kind secures the goods and services it needs for survival and improved quality of life (Stead & Stead, 1996) ^[10]. The industrial revolution started in Britain operating on the assumption that economic growth has no limit and that the assumption is desirable and possible forever. (Davey, 2017) ^[2] Reference this assumption as the world's mad obsession. The solar radiation which enters the biosphere (the living part of the planet), in a quantity and with a geographical distribution, was one of the exception of environmental resources which are inexhaustible. Other inexhaustible resources are wind and air, water, and sunlight. However, the planet vindicated itself from the unlimited economic growth assumption as environmental degradation sets in no sooner had the unchecked economic activities continued than the reaction from nature. The consequences of this vandalism include anthropogenic (human) greenhouse gas emission from fossil fuel burning, causing global warming and eventual climate change (Idowu *et al.*, 2011) ^[5], atmospheric ozone layer (stratosphere) depletion (UNEP 2003), soil erosion, water and air pollution, biodiversity imbalance and species loss, and deforestation. The world faces many environmental challenges. But which are strained by growing populations and the human demand for the Earth's precious resources" (World Health Organization [WHO], 2017) ^[13]. These are heralding signals that the economic subsystem is out of balance with the natural environment.

The natural environment is the source of energy and resources for the economy but only repaid by dumping of economic wastes (Stead and Stead, 1996) ^[10]. An understanding of the natural environment, its nature and characteristics, composition and interaction with other subsystems is desirable to orientate the players of economic activities to be environmentally focused. Science for Environment Policy (2018), documents these subsystems as ecosystem services and biodiversity. An assessment of the implication of economic actions or in actions guides various business decisions. The derivative collective views of Frost and Wilmshurst (2000) ^[13], were that management should make decisions that are economically successful, environmentally friendly, ecosystem services and biodiversity sensitive.

Corresponding Author:

Awoseyila Folorunso
Department of Agriculture
Extension and Management,
Rufus Giwa Polytechnic, Owo
Ondo, Nigeria

On sustainable development, In 1987 the World Commission on Environment and Development sought to address the problem of conflicts between environment and development goals by formulating a definition of sustainable development: Sustainable development is development which meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987).

Statement of the Research Problem

The agricultural sector has been facing some attacks since the past decades on its impact on the environment. The degradation of land in one form or the other is a matter of serious concern endangering sustainability of agriculture. Landslides caused by rains and flowing water in hilly areas and deforestation, overgrazing and faulty cultural practices in the forest and other plain areas expose the soil to water and wind erosions. Similarly, increased dependence on intensive agriculture and irrigation also resulted in salination, alkalination and water logging in most irrigated areas for farming. Drastic steps should be taken to mitigate negative effects on the environment. A popular mitigation policy contemporarily and with the consent of stakeholders is corporate social responsibility (CSR). Again an enduring CSR should not significantly and negatively affect profitability. This study therefore, examine the environment, CSR undertaken by the agricultural sector on the Nigerian stock exchange, and the effect on corporate profitability.

Research Questions

1. What is the effect of corporate social responsibility on earning per share of the agricultural sector on the Nigerian stock exchange?
2. What is the effect of corporate social responsibility on return on equity of the agricultural sector on the Nigerian stock exchange?

Objectives of the Study

The general objective is to analyze the effect of CSR on corporate performance of the agricultural sector on the Nigerian stock exchange. Specifically:

1. Evaluate the effect of corporate social responsibility on earning per share of the agricultural sector on the Nigerian stock exchange.
2. Evaluate the effect of corporate social responsibility on return on equity of the agricultural sector on the Nigerian stock exchange.

Research Hypotheses

Ho-1. There is no significant effect of corporate social responsibility on earning per share of the agricultural sector on the Nigerian stock exchange

Ho-2 There is no significant effect of corporate social responsibility on return on equity of the agricultural sector on the Nigerian stock exchange

Scope of the Study

The study focused on the listed agricultural companies in the agricultural sector on the Nigerian stock exchange.

Review of Related Literature

Corporate social responsibility and its relationship between corporate performances had been studied by both local and

foreign authors. The essence of an additional cost of CSR on the company lies in ensuring cooperating employees (Luce *et al.*, 2001), meeting the expected strategies to mitigate degrading effects of the activities the firms on the host community to guarantee the firms' reputation and a positive influence on their relationship. Zygadlo, *et al.* (2016) ^[14] established that CSR actions' effects measured by value increase as well as transitory effect on earnings conditional upon the company's sector. And in addition prove that eco-efficiency investments are value destructors in 8 out of 10 sectors and they also observe relatively lesser impact of CSR actions on firms' financial performance in case of four sectors. Short-term studies based on abnormal return measure (Posnikoff, 1997) ^[8] and showed a positive relation between performance and CSR. According to Ndukwe (2015) ^[7], Griffin and Mahon's (1997) empirical study was one of only a handful of studies that was industry-specific with industry as a moderating variable. Another study indicated that there is a significant relationship between corporate social responsibilities and performance of oil and gas companies in Nigeria. The study recommended that the companies should review the expenditure items of their corporate social responsibilities (Adewoye *et al.*, 2018) ^[11]. A mixed result was produced by Demetriades and Auret (2014) ^[3]. The CSR practices covers but not limited to the following areas:

1. **Community development:** investments in social infrastructure (schools, hospitals, cultural clubs, libraries, etc.), investments in physical infrastructure (gas pipelines, electricity lines, roads, etc.), lobbying of useful initiatives in local and state authorities, etc.
2. **Diversity:** employment of disabled people or minorities, women employment/engagement, childcare, elder care programs, other benefits to economically disadvantaged people, etc.
3. **Corporate governance:** considerate decision making, political accountability, etc.
4. **Employee relations:** no-layoff policy, profit-sharing programs with employees, ownership / stock options to employees, retirement benefits, health and safety programs, etc.
5. **Environment protection:** biodiversity, animal welfare programs, reduction of CO2 emissions programs, bioenergy programs, introduction of environmentally friendly technologies such as drip irrigation, no-till, etc.
6. **Production quality:** participation in voluntary quality and safety standards, own quality standards, R&D investments, economic security programs against theft, etc.
7. **Supplier management:** CSR clauses in contracts, explicit CSR requirements to suppliers, etc.
8. **Transparency:** transparent and effective reporting on social and environmental issues, information disclosure on ownership structure, financial results, etc. If you have any questions or need assistance with the study, please do not hesitate to contact us.

The CSR measurements will be based on the above area of coverage

Methodology

The research design to be adopted is ex-post facto by corporate annual report content analysis. The population

consists of the five companies in the agricultural sector of the Nigerian Stock Exchange (NSE) and therefore no sampling needed as all the companies will be studied. The currently listed companies in the Agric sector of the stock exchange are FTN COCOA Processors, Livestock Feeds Plc, Okomu Oil Palm PLC and Presco PLC. Their

characteristics are tabulated in Table 1 below. As a result of the challenges faced by ELLAH LAKES, the militancy activities in the area where the firm is located the company has suspended business activities until the environment is safe for business act.

Table 1: The characteristics of the companies

Name of Company and Head Office	Nature of Business	Date of incorporation	Date Listed on the Exchange	NSE Classification
FTN Cocoa Processors, Magodo GRA Lagos	Processing of Cocoa beans and palm kernel into cocoa cake, liquor, butter, powder and PK oil and PK cake.	1979	1991	Agriculture (Crop Production)
Livestock Feeds Ikeja Lagos	Manufacture and sales of animal feeds and concentrates	1963	1978	Agriculture (Livestock / Animal Specialist)
The Okomu Oil Palm Benin City Edo State	Oil Palm and Rubber	1979	1991	Agriculture (Crop Production)
PRESCO Benin City Edo State	Palm Plantation and Processing	1991	2002	Agriculture (Crop Production)

Source: NSE Fact Book 2012/2013

Data Collection

Data were collected from the various annual reports of the companies as presented in Appendix XX. Content analysis method was used to extract CSR practices from the respective annual reports from 2009 to 2017.

Model Specification

The model is based on a general linear model (GLM) multivariate of the type

$$\begin{matrix} y_1 \\ y_2 \end{matrix} = B_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 \dots + \beta_nx_n + e$$

The GLM Multivariate procedure allows you to model the values of multiple dependent scale variables, based on their relationships to categorical and scale predictors.

Where:

Y₁, y₂ are dependent variables /profitability indicators s which are y₁=earnings per share [EPS] and y₂ = return on asset [ROA] and x₁, x₂, x₃ are the independent variable referred to as either categorical or scale predictors. These represent CORPORATE SOCIAL RESPONSIBILITY (CSR), SIZE and AGE of companies respectively.

Therefore

$$\begin{matrix} EPS_i \\ ROA_i \end{matrix} = B_0 + \beta_1CSR_1 + \beta_2SIZE_2 + \beta_3ROA_3 + e$$

EPS = earnings per share is expressed in Kobo as the profit after tax relative to outstanding shareholders. It is normally stated after the statement of financial position

ROE = the return on equity is the expression of profit after tax relative to shareholders fund. It is a ratio. Further negative ROE = 0 and positive ROE = 2.

CSR = is measured using an index. If CSR is not mentioned at all, the score = 0, if mentioned in general terms (e.g. we awarded scholarships to host community secondary school leavers), the score – 1, if mentioned in specific term (e.g. we

awarded scholarships to 25 host community secondary school leavers), the score = 2 and if mentioned in monetary term (e.g. we awarded scholarships to 25 host community secondary school leavers at the cost of 30 million naira), the score = 3. Maximum points depend on the number CSR initiatives of companies.

SIZE = the log on the company’s total revenue/turnover
AGE = the date of incorporation of the companies taken in years irrespective of the month of incorporation.

While CSR is the major variable, SIZE and AGE are control/moderating variables representing corporate characteristics.

β₀= the constant or intercept

β₁ - β₃= the array of predictors coefficient to be estimated.

e = error term

For the purposes of testing hypotheses concerning parameter estimates, the GLM Multivariate procedure assumes:

- The values of errors are independent of each other across observations and the independent variables in the model. Good study design generally avoids violation of this assumption.
- The covariance of dependent variables is constant across cells. This can be particularly important when there are unequal cell sizes; that is, different numbers of observations across factor-level combinations.
- Across the dependent variables, the errors have a multivariate normal distribution with a mean of 0.

Discussion of Findings

The two hypotheses to be tested at 0.05 significant level are the effect of CSR, SIZE and AGE of companies on EPS and also on ROE. Table A-4 is summarized below:

Predictors	EPS		ROE	
	Coeff	Sig	Coeff	Sig
CSR	0.373.4*	0.073	0.212*	0.763
SIZE	159.57	0.209	0.19.5	0.101
AGE	-18.13	0.118	0.517	0.620

*Estimated

There is neither any significant positive effect of CSR on EPS nor significant negative effect on ROE since Sig of 0.073 and 0.763 respectively are greater than 0.05 sig level

used for this study. Hence the null hypothesis could not be rejected at 0.05 significant levels.

There is neither any significant positive effect of SIZE on EPS nor significant positive effect on ROE since Sig of 0.0209 and 0.101 respectively are greater than 0.05 sig level used for this study. Hence the null hypothesis could not be rejected at 0.05 significant levels.

There is neither any significant negative effect of AGE on EPS nor significant positive effect on ROE since Sig of 0.118 and 0.620 respectively are greater than 0.05 sig level used for this study. Hence the null hypothesis could not be rejected at 0.05 significant levels.

Further explanations are available under each table. Table A-1

Conclusion

This paper has modeled the evaluation of the effect of corporate social responsibility, size of companies and age of companies on profitability in the index of earnings per share and return on equity. The findings revealed that corporate profitability cannot be significantly predicted by corporate social responsibility, size of companies and age of companies. It is recommended that:

1. The agricultural companies should improve on the current CSR practices especially on the host community where they operate
2. The only option for these companies to pursue in their efforts in mitigating environmental effects especially on biodiversity and erosion/deforestation is ideal CSR practices far from window dressing and profiteering politics.
3. Government must make IDEAL CSR mandatory for companies in Nigeria as against the voluntary stance presently.

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Appendix

Tables are identified as TABLE A-1, TABLE A-2TABLE An. A=Appendix

Table A-1: Between-Subjects Factors

CSR points scored	No of companies that scored the points
1.00	1
3.00	11
4.00	2
7.00	1
8.00	4
9.00	4
10.00	4
11.00	2
12.00	2
17.00	1

Table A-1 signals that 11 companies scored 3 points, 4 companies scored 9 points and only a company scored 17 points.

Table A-2: Box's Test of Equality of Covariance Matrices^a

Box's M	96.555
F	7.917
df1	9
df2	908.791
Sig.	.000

a. Design: Intercept + SIZE + AGE + CSR
Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

The covariance matrix equality is violated since the Box M sig is less than 0.05. An improvement is to convert some variables to logarithm

Table A-3: Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
earnings per share	5.585	9	22	.000
ret on equity	.654	9	22	.740

Tests the null hypothesis that the error variance of the dependent variable is equal across groups. Table A-3 is a test of autocorrelation. No autocorrelation if significance is greater than 0.05, otherwise it is violated. It is violated by EPS since the significant level is less than 0.05.

Table A-4: Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	earnings per share	6258317.305 ^a	11	568937.937	2.580	.032	.587
	ret on equity	31693.371 ^b	11	2881.216	1.526	.198	.456
Intercept	earnings per share	66300.249	1	66300.249	.301	.590	.015
	ret on equity	3057.460	1	3057.460	1.620	.218	.075
SIZE	earnings per share	372313.119	1	372313.119	1.688	.209	.078
	ret on equity	5562.159	1	5562.159	2.947	.101	.128
AGE	earnings per share	586848.183	1	586848.183	2.661	.118	.117
	ret on equity	477.991	1	477.991	.253	.620	.013
CSR	earnings per share	4274832.800	9	474981.422	2.154	.073	.492
	ret on equity	10610.116	9	1178.902	.625	.763	.219
Error	earnings per share	4410485.070	20	220524.253			
	ret on equity	37750.118	20	1887.506			
Total	earnings per share	12221331.417	32				
	ret on equity	70269.700	32				
Corrected Total	earnings per share	10668802.375	31				
	ret on equity	69443.489	31				

a. R Squared = .587 (Adjusted R Squared = .359)

b. R Squared = .456 (Adjusted R Squared = .157)

Table A-5: Univariate Test Results

Source	Dependent Variable	Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	Earnings per share	4274832.800	9	474981.422	2.154	.073	.492
	Ret on equity	10610.116	9	1178.902	.625	.763	.219
Error	Earnings per share	4410485.070	20	220524.253			
	Ret on equity	37750.118	20	1887.506			

Table A-5 further confirms that the independent variables are insignificant on EPS at 0.073 and on ROE at 0.763 level of significance since these are greater than 0.05,

Table A-6: Data Computed/Extracted from Corporate Annual Reports

S/N	Year	Companies	Code	EPS	ROE	ROE %	CSR	Size	Age
1	2010	FTN Cocoa Proce	FTN	2.89	0.024	2.4	3	3.08	32
2	2011		FTN	-11.08	-0.102	-10.2	3	2.92	33
3	2012		FTN	-18.45	-0.204	-20.4	3	2.44	34
4	2013		FTN	-9	-0.115	-11.5	3	2.66	35
5	2014		FTN	-26	--0.481	-48.1	3	2.39	36
6	2015		FTN	--9	--0.190	-19	3	3.14	37
7	2016		FTN	-39	--0.735	-73.5	3	2.93	38
8	2017		FTN	-35	--1.96	-196	3	1.27	39
9	2010	Livestock Feeds	LIF	2.36	0.066	6.6	3	3.30	49
10	2011		LIF	8.16	0.200	20	3	3.56	49
11	2012		LIF	17.56	0.190	19	3	2.64	50
12	2013		LIF	17.56	0.128	12.8	4	3.29	51
13	2014		LIF	17.56	0.128	12.8	8	3.29	52
14	2015		LIF	9.4	0.096	9.6	8	3.29	53
15	2016		LIF	7.61	-0.073	-7.3	1	3.32	54
16	2017		LIF	24.19	-0.346	-34.6	4	3.32	55
17	2010	OKOMU Oil Palm	OKP	3.42	0.385	38.5	10	1.08	32
18	2011		OKP	7.22	0.286	28.6	12	3.78	33
19	2012		OKP	7.18	0.242	24.2	17	4.046	34
19	2013		OKP	2.19	0.229	22.9	7	3.95	35

20	2014		OKP	1.39	0.151	15.1	10	3.94	36
21	2015		OKP	2.79	0.718	71.8	9	3.99	37
22	2016		OKP	9.59	0.292	29.2	11	4.16	38
23	2017		OKP	5.15	0.373	37.3	10	4.31	39
24	2010	PRESKO NIG PLC	PRE	110	0.311	31.1	11	3.73	20
25	2011		PRE	169	0.361	36.1	8	3.93	21
26	2012		PRE	349	0.204	20.4	9	4.05	22
27	2013		PRE	184	0.056	5.6	9	6.05	23
28	2014		PRE	520	0.214	21.4	8	3.93	24
29	2015		PRE	234	0.080	8	9	3.96	25
30	2016		PRE	2176	0.418	41.8	10	4.2	26
32	2017		PRE	2534	0.688	68.8	12	4.35	27

Calculated by the author