Sustaining the Oil and Gas Industry through corporate social responsibility practices by multinational oil and gas companies in emerging economies.

Ama Twumwaa Gyane  
University of Cape Coast (UCC)

Edward Kweku Nunoo (✉ edward.nunoo@ucc.edu.gh)  
University of Cape Coast (UCC)

Shafic Suleman  
University of Cape Coast (UCC)

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Abstract

The objective of this study was to provide empirical evidence from the perspective of corporate social responsibility practices by multinational oil and gas companies in emerging economies on how investments in and disclosure of this practice could enhance financial sustainability. Accounting-based measures on investments, financial performance, disclosures of activities and panel data set on company size (total assets) over a 10-year period (t) were analysed. Findings show that oil firms with interest in emerging economies take key aspects of corporate social responsibility practices seriously. There was significant positive relationship (p = 0.0035 < 0.05) between investment in the practice and sustainability in financial performance. No significant relationship (p = 0.4409 > 0.05) was established between disclosure and financial performance. Functional corporate social responsibility practices were envisaged to yield sustained dividend in terms of a stronger financial outlook for oil and gas companies for poverty alleviation and to achieve key sustainable development goals and targets in emerging economies.

1. Introduction And Background To The Study

The oil and gas sector is one that asserts itself towards business ethics to ensure industry sustainability. Amongst the evolving code of practices, the industry is paying particular attention to include stakeholder rights, environmental protection, product stewardship, financial transparency, corruption, community relations and corporate social responsibility (CSR) [1, 2, 3]. Per the Global reporting initiative (GRI) and the United Nations’ global compact report [4], multinational oil companies (MOCs) have demonstrated active leadership roles in developing good corporate practices and codes of conduct in their work environment leveraging different sectors of society. The participation of ChevronTexaco, Exxon-Mobil, Shell, BP-Amoco, ENI, Occidental and Total-Fina-Elf, all with investments in emerging economies [4], attest to this. Their activities can be seen, especially in Africa, as key off-takers of labour, transfer of foreign direct investment (FDI) and agents of skills and technology transfer [4]. These companies account for a large share of state revenues in economies where their operations persist [5, 6]. Thus, development interventions through programmes in education, health, commerce, energy, agriculture, transport, and infrastructure in many emerging countries cannot be ignored [7, 8, 9, 10]. Although one would have assumed that the ‘Acts of God’ that drive oil companies to act socially responsible are bone out of mere benevolence to society, [11] affirm that these oil and gas companies engage in supernormal profitable ventures with CSR as key drivers. From the stakeholder theory perspective, functional CSR will boost a company’s external image and leverage its exceptional comparative marketing prawns’ merits among the increasing socially conscious consumers, leading to sustained revenue generation of firms in the long run [12].

There is compelling evidence to suggest that oil and gas firms could gain financially and in kind from CSR activities [13, 14, 15, 16]. Whilst some promoters of CSR argue favourably for the CSR business profitability case, another school of thought is of the view that multinational oil and gas companies, neck-deep in CSR activities, may depart from their main mandate of oil and gas economic gains, and rather
see it as a mere superficial window-dressing [17, 13, 18]. However, ample evidence abounds to suggest that Tullow Oil has made significant investments in education and local content development to empower local businesses in Ghana and Uganda [13, 19, 20, 21, 22]. In Angola, Chevron Texaco and BP-Amoco have committed significant resources in the development of education and in combating the acquired immune deficiency syndrome (AIDS) whilst Eni, Shell, Chevron Texaco, Total-Fina-Elf, and Petro China have contribute significantly to Nigeria's gross domestic product (GDP) and also run a lot of community development programmes in education, health, agriculture and transportation [23, 19, 20, 21]. BP-Amoco and Shell have leveraged South Africa's economy in terms of capital and technology transfer, market provision for their exports and supply of imports while PETRONAS, ExxonMobil and Eni have been the revenue backbone to Chad, Gabon, Sudan and South Sudan, Gabon, Algeria and Libya's economies with Elf and ExxonMobil serving as the main sources of revenue, major employment off-taker and a strong GDP contributor to the growth of Congo and Equatorial Guinea's economies [20, 23, 24]. The underlying question this study seeks to peruse is, 'what is it that motivates Multinational Oil Companies (MOC) to invest so much resources in CSR that needs to be disclosed?'

The goal of this study was to advance empirical evidence from the perspective of corporate social responsibility activities and practices of MOCs in emerging economies and how investments in and disclosure of these practices influence their financial performance in emerging economies using accounting-based methods. Specifically, it identified and examined CSR practices of MOCs and assessed the relationship between CSR disclosure practices and financial performance of MOCs with investments in Africa, and how this can sustain financial performance. To achieve these objectives, three key compelling questions were raised to elicit responses deemed relevant, as based on the preposition of the study: - (i), What are the CSR practices and activities of MOCs; (ii), How does CSR disclosure practices influence financial performance of MOCs; and (iii), In what ways will investments in CSR enhance sustainable financial performance of MOCs with investments in Africa? Apart from contributing immensely in bridging literature gap on CSR activities in emerging economies, especially Africa, this study is expected to enhance understanding of the relationship between investments in CSR practices, disclosures and financial sustainability of the MOC's operations. Furthermore, outcome of this study will be useful for managers and decision makers to develop transparent social performance policies that may lead to the sustainability of MOCs' operations.

2.0 Is Corporate Social Responsibility (csr) Relevant?

With turn of the millennium, the concept of CSR has generated a lot of headlines, and was seen as one, where companies integrate social and environmental concerns in their business operations and their interaction with their stakeholders on a voluntary basis [25]. To explain the main idea behind this, [26] argue that although CSR activities tend to reflects both the social imperatives and consequences of business success with the responsibility lying within the preview of the firm, its implementation and direction of responsibility is at the discretion of the business performance. This assertion seems to introduce the aspect of mandatory CSR, and that businesses have direct responsibility towards engaging society solve its problems. In recent time CSR has been interpreted by another school of thought to
embrace the triple bottom-line concept; people, planet and profit (PPP) [27, 28, 29]. This conception widens the scope of CSR to include a range of criteria for measuring the success of a business investing in CSR activities. Thus, beyond MOCs maximizing profit, they are better placed to play critical roles in engaging communities within their jurisdiction of operations to solve societal problems. It is also seen as a differentiation strategy by firms that may have positive effect on value creation for the establishments and benefits for clients, and with the potential to result in improvement of the firms’ own performance in the long run [30, 31].

2.1 Theoretical concepts

This study has its underpinnings in the CSR instrumental theory (IT) that focus on firms achieving their economic goals through social interventions [32, 33]. This goal, according to the proponents, was to maximize shareholders’ value in the long term, making social investment in the context of competition and see their dynamic capabilities in exploiting natural resources as altruistic and a cause-related marketing tool. This may help to explain how investments in CSR and disclosure of same are expected to improve the financial performance of companies. Why companies undertake CSR activities and the types of activities that they engage in and what is considered as social responsibility (respect for the environment, human and labour rights) may as well be founded on both ethical and integrative theoretical domains of CSR [34]. Ethical theories focus on firms doing the right thing for the good of society based on universal rights and the common good. According to [32, 33], it takes into consideration fiduciary duties to stakeholders of the business (labour rights, human rights, and respect for the environment). The objective is the achievement of human development with consideration of present and future generation. The integrative perspective builds on a firm’s public responsibility, management issues, management of stakeholders and a firm’s corporate social performance to respond to how businesses respond to political and social issues, existing policy process and law for social performance, creating a balance between the interest of a business’s stakeholders and searching for social legitimacy and ways to give the right response to social issues.

Situated within the enlightened shareholder approach, there is emerging evidence to suggest that firms could gain financially and in kinds from CSR activities [13, 15]. By this focus, MOCs need to consider a range of social and environmental matters if they are to maximize long-term financial returns [36]. Critics of CSR, however, have argued on the contrary that firms spending monies on CSR activities may be distracted from their fundamental economic mandate and see such ventures as mere superficial window-dressing [36, 37]. Per their assertion, they assume once CSR is not priced, strict compliance expected to have the same rate of returns may be bedevilled with the risk of cost of equity capital [37, 38]. To this, another school of thought [39, 40], have argued that pricing of CSR issues cannot be given on theoretical grounds only. It will ultimately depend on investors’ perception of the relevance of the CSR’s principles in the end.

2.2 Corporate social responsibility disclosure and financial performance
The legitimacy theory of CSR is the foundation of firms disclosing their CSR activities [41]. Firms are expected to operate in the environment with the implied notion of a social pact on which survival of the companies thrives [42]. Their legitimacy to operate in the society is signalled by them to engage in and make significant disclosure of their CSR activities, which according to [42], also has the potential to serve as a channel for the MOCs to advertise themselves, ensure competitive sustainability and maintain a good public image. In other words, CSR disclosures enable firms to avoid adverse selection risks, access the capital markets and gain support of the community and their customers through awareness of products and services promotion [43, 44].

### 2.3 Measuring corporate social responsibility and sustainability of financial Outlook

Measuring the relationship between CSR and corporate financial performance can be achieved using either the accounting or market-based methods, each with its own strength and challenges. Whereas [1] and [45] choose to perform such measurement using the return on Assets (ROA) ratio, the return on equity (ROE), return on sales (ROS), return on investment (ROI) and profit margin (PM) financial ratios [46, 47, 48] could also be used to measure the profitability of different companies in establishing a relationship between CSR, financial performance (FP) and firm size. According to [36, 49], these measures help to provide a reflection of the internal efficiency of a company that have been employed. Although accounting measures are widely employed due to their ease of calculation and understanding, operationalization are based on historical figures of performance and may be subject to bias through managerial influence and certain differences in accounting procedures [39, 49, 50].

With the market-based measure, the firm's share performance is used to determine the relationship between CSR and Corporate financial performance. A study by [51, 52] evaluated the stock market performance of socially responsible firms by considering a combination of aggregate buy-and-hold portfolios and individual stocks did not find any significant advantage from their CSR in relation to corporate financial performance. In another study where researchers did comparisons between movements in the share price of socially responsible establishments and non-socially responsible ones based on the impact of announcements on CSR, results did indicate that positive share price movements, in relation to CSR announcements, are associated with companies that employ effective and credible stakeholder management [53, 54]. It can be concluded that market-based measures have the advantage of being less susceptible to managerial influences. Again, it has the advantage of being used to evaluate the perceptions of a company's future performance as opposed to historical events. Stock performance is thus a clear indication of how investors view the operations of a company.

### 2.4 Disclosure of CSR activities and reporting

Comparative analysis of CSR disclosure levels among different types of industries differ with very low levels recorded in emerging economies [23]. According to a survey by KPMG, reporting of CSR by firms increased worldwide from 50% in 2005 to 95% in 2011 [21] and have since become one of the benchmarks for ensuring sustainability in the extractive industry. Most of the firms reporting on CSR were
found within the oil and gas industry, attributed largely to the pressure and high expectations of stakeholders [20, 21]. However, in spite of the popularity CSR reporting by firms is gaining, it is not clear to determine empirically whether the CSR performance data by companies are under or over reported since only few companies have their reports externally verified [20, 21, 22].

3.0 Methods And Context

This study used a mixed qualitative and quantitative research methods. Qualitative data on CSR activities of international oil companies with strong presence in emerging economies was analyzed to understand the CSR practices of these companies through inductive analysis. Quantitative data on CSR investments and financial performance of 7 multinational Oil and Gas companies with presence in Africa was used to test hypothesis that investing in CSR leads to improved financial performance. This approach was expected to provide clear understanding of the research problem; how CSR behaviour of MOCs with presence in Africa influence financial performance and hence, sustainability. Descriptively the study explored and explained the effects of investments in CSR and disclosures on their corporate financial performance through secondary data and examined relationships and correlations between study variables. Multiple sources of secondary data on MOCs’ CSR activities and practices were utilized [55, 56] to offer comparative analysis and contextual setting on how CSR disclosures influence financial performance of firms in developing countries. Out of 17 MOCs with strong presence in Africa (Appendix 1), 9 were purposively sampled (Appendix 2), based on data availability; CSR investments and disclosures, financial performance and sustainability indicators reports, published in the companies audited financial statement and annual reports and available on websites. The information was used to construct a 11-year panel data set (2007-2018) to estimate the model below,

\[
YP_{xt} = \alpha_0 + \alpha_1\text{CSRIV}_{xt} + \alpha_2\text{CSRDC}_{xt} + \alpha_3\text{TAST}_{xt} + \varepsilon_{xt}
\]

where, \(YP_{xt}\) is multinational company X at time t’s financial outlook (dependent variable), determined as turn in on assets [17], \(\text{CSRIV}_{xt}\) signify MOC X’s CSR investments at time t and \(\text{CSRDC}_{xt}\) depictss MOC X’s CSR disclosures at period t. \(\text{CSRIV}_{xt}\) and \(\text{CSRDC}_{xt}\) explains intrinsic variables for the model. To regress MOCs current year’s financial performance to reflect their true effect, natural log of actual spendings on CSR activities disclosed in previous annual reports of the companies were analysed. This is because effects of these investments are expected to reflect on the ensuing year’s financial performance of the companies. \(\text{CSRDC}_{xt}\) is used as a dummy variable and is assigned the value, ‘1’, if company ‘X’ vividly discloses CSR activities in its annual report, and scores ‘0’, if otherwise. \(\text{TAST}_{xt}\) is total asset of company X, determined as the natural logarithm of assets at period t. To control variation in the dependent variable, this operationalization is deemed necessary [57, 42]. In the model the error for company x at time t is expressed as \(\varepsilon_{tx}\), the intercept as \(\alpha_0\) and coefficients for \(\text{CSRIV}_{xt}\) and \(\text{CSRDC}_{xt}\) (explanatory variables) of the companies, defined as, \(\alpha_1 – \alpha_9\).

3.1 Data analysis
Statistical Package for Social Scientists (SPSS, 24th edition) was used to analyse the panel set of data. Using the multiple regression analysis model to assess the influence of CSR and CSR disclosure on financial sustainability, descriptive analysis was performed to determine the variables (mean and standard deviation measures). To establish empirical relationship among the variables, the Pearson correlation analysis was performed, and also, to check for multi collinearity disturbances among the independent variables [58, 59]. The Wallace and Hussain estimator of component variances analysis was operationalized to test the hypotheses of the study. The panel data analysis is assumed to have merits over conventional cross-sectional or time-series data sets [60, 61]. It also allows for larger data points (higher degrees of freedom) and reduces collinearity among explanatory variables and to test complicated behavioural models. Content analysis was performed on the annual reports and other secondary information on MOCs to determine their CSR activities and practices. Finally, based on [62, 63, 64], a sustainability benchmarking framework was adopted to assess CSR activities of the MOCs in 7 core areas; Commitment to CSR, CSR spending, Community, environmental aspects, workplace environment, marketplace and CSR reporting. These areas are summarily tabulated (Table 1) below;

Table 1: Core CSR Practices and Activities

| Core CSR Practices          | Assessment Criteria                                                                 |
|-----------------------------|--------------------------------------------------------------------------------------|
| 1. Commitment to CSR activities | Measures how MOCs integrate CSR into their business model and their pledges and agendas on CSR. |
| 2. Environmental aspects    | Measures how MOCs manage environmental issues related to their business in the areas of climate change, energy consumptions and emissions, biodiversity, water quality and depletion, waste, noise, dust, recycling. |
| 3. CSR spending             | Measures spending and reported-financial commitments towards CSR and monies spent on CSR activities by the company. |
| 4. Work environment         | Measures commitment of MOCs to their employees in terms of health and safety, human rights, training and development, equal opportunity, diversity, work-life balance, training and development, remuneration and benefits, child labour issues. |
| 5. Market environment       | Measures the economic and social impacts of the company's products and services, how the business leverages its CSR activities to promote its business (reputation, competitive advantage) as well as relationship with third party entities like suppliers, (Frankental, 2001). |
| 6. The Community            | Measures CSR activities that are focused on the communities in which the companies operate and stakeholder relations. |
| 7. CSR reporting            | CSR Reporting- measures the scale to which companies report the CSR activities and through which media. |

The benchmark assessment was based on a scale of 1-5, where; 1: Does not highlight activities, 2: to a
low extent, 3: to some extent, 4: to a high extent, and 5: to a very high extent (Table 2).

Table 2: CSR benchmarked assessment scale

| 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Does not highlight activities | To a low extent | To some extent | To a high extent | To a very high extent |

3.2 Ethical Considerations

Due to extensive use of secondary data which are published publicly by the firms, there are no severe ethical issues. Data for the study was collected from the website, annual reports and other publicly accessible publishing channels of the multinational oil companies with investments in Africa. Ethical issues in regard to legal access to books and articles cited, and all works and studies consulted have been duly acknowledged through in-text citations and referenced [57] respectively in the study.

4.0 Results And Discussions

MOCs’s CSR Activities and Practices

Findings from Multinational Oil and Gas CSR activities and practices show how each of the MOCs, with interest in Africa, behave against the 7 benchmark areas (Appendix 3-4) of: 1. Commitment, 2. Spending, 3. Community, 4. Environment, 5. Workplace, 6. Market place and 7. CSR reporting. Their pledges and agendas result on CSR are presented in Table 3. Based on [60, 61, 62] the sustainability benchmarking framework was adopted to assess CSR activities of the MOCs in 7 core areas. The results show that multinational Oil and Gas companies with interest in emerging economies, especially Africa, are committed to CSR in all 6 identified core areas. To a large extent, data showed that they place very high emphasis on the environment (4*, Sum=42) in which they operate (Table 3). High priority was also given to other aspects of CSR; spending, the community, workplace, market place and reporting, with each scoring above a 30-score point (Table 3). The least CSR area of interest, however, was in the market place, which scored 31 points (6*, Sum=31). This may be due to the history of the industry and sensitivity of their operations to the environment, communities where they operate and their workers. These outcomes are in line with [37], who concluded that a business entity that can make a strong claim to business ethics and or corporate social responsible human rights, employee rights, stakeholder rights, environmental protection, community relations, transparency, environmental stewardship and sustainability principles is the Oil and Gas industry. [66], collaborates this assertion and noted that MOCs are active and play leadership roles in developing good corporate practices and codes of conduct in the work place and engagement with different facets of society in which they operate.
To a very high extent (Table 2), were aggregated and ranked. With just one-point difference between Shell and ExxonMobil ratings (Table 3) on the scale, the later ranked first (Figure 1) as both companies, to a 'high extent' and 'very high extent' registered CSR activities and practices in their documents and websites [20, 21, 22, 67] that impact on sustainability operations.

Table 3: Core CSR ratings of MOCs’ activities and practices

| Oil and Gas Company | Core CSR Activities and Practices Rating | Cumulative Aggregatescore | Ranking |
|---------------------|-----------------------------------------|---------------------------|---------|
|                      | 1* 2* 3* 4* 5* 6* 7*                   |                           |         |
| Total               | 4  2  4  5  4  3  3                   | 25                        | 7th     |
| Shell               | 4  4  4  5  4  4  4                   | 29                        | 2nd     |
| Eni                 | 4  4  4  5  4  3  4                   | 28                        | 3rd     |
| ExxonMobil          | 4  5  4  5  4  4  4                   | 30                        | 1st     |
| Tullow Oil          | 4  4  3  4  4  3  3                   | 25                        | 8th     |
| BP                  | 4  4  4  5  3  4  4                   | 28                        | 4th     |
| Chevron             | 4  3  4  5  4  4  4                   | 28                        | 5th     |
| Petronas            | 4  3  4  4  3  3  4                   | 25                        | 9th     |
| Sinopec             | 4  5  4  4  3  3  5                   | 28                        | 6th     |
| **Sum**             | **36 34 35 42 33 31 35**              |                           |         |

1* = commitment, 2* = spending, 3* = community, 4* = environment, 5* = workplace, 6* = marketplace, 7* = CSR reporting

Source: Based on field data, 2020

The MOCs’ CSR activity and practice performance of their operations were rated across the 6 identified core CSR areas (Table 3) and ranked using a benchmarking framework based on a scale of 0-5. The 9 companies were scored with their cumulative aggregate performance weightings with the following connotations; 1: Does not highlight activities, 2: To a low extent, 3: To some Extent, 4: To a high extent, 5:
Descriptive Analysis

The mean score and standard deviation, together with kurtosis and skewness distributions are presented for the dependent and independent variables specified in the model. A left tail position is indicative of negatively skewed distribution and a right tail distribution is indicative of a positively skewed distribution. For kurtosis on the other hand, it can either be flatter peak or substantial peak distribution [68]. From analysis in Table 4, YP has a mean score of 15.51, suggesting a healthy profitability margin across sampled MOCs with interests in Africa. The variable has a right tailed skewness distribution with flattened peak (Skewness= 0.16 and Kurtosis =1.89). The mean score for CSRIV was 3.28, indicative of consistent CSR investment over the period by the MOCs in the areas of operations in Africa. The kurtosis for CSRIV indicates a substantial peak (Kurtosis=5.97) with left-tailed negatively skewed distribution (Skewness= -1.37). The mean score for CSRDC of 1.00 means all the selected MOCs disclose their CSR activities through consistent periodic reporting in annual and sustainability reports over the period with progressive improvement on the scope and quality of reporting from year to year. The mean value for TAST was 6.13, left-tailed skewed and negative (Skewness= -0.64), with flattened peak distribution (Kurtosis=2.39).

Table 4: Descriptive analysis of variables

| Descriptive analysis | YP    | CSRIV | CSRDC | TAST |
|---------------------|-------|-------|-------|------|
| Mean                | 15.51 | 3.28  | 1.00  | 6.13 |
| Median              | 16.40 | 3.29  | 1.00  | 6.17 |
| Maximum             | 28.10 | 3.41  | 1.00  | 6.40 |
| Minimum             | 5.40  | 2.69  | 1.00  | 5.69 |
| Std. Dev.           | 7.51  | 0.13  | 0.00  | 0.22 |
| Skewness            | 0.16  | -1.37 | n/a   | -0.64|
| Kurtosis            | 1.89  | 5.97  | n/a   | 2.39 |
| Sum                 | 1535.4| 324.29| 99    | 606.89|
| Sum Sq. Dev.        | 5527.96| 1.75  | 0.00  | 4.95 |
| Observations        | 99    | 99    | 99    | 99   |

Source: Based on field data, 2020

To establish correlation among variables in the model and test for collinearity disturbance, correlation matrix was computed (Table 5). Result from Table 5 indicate that CSR investment (CSRIV) and size of MOCs (TAST) are correlated significantly with financial performance (YP), an indication of sustainability (p-value of 0.0052 and 0.0029 respectively). The relationship between YP and CSRIV, and YP and TAST
are both negative \((r = -0.2967\) and \(r= -0.2788\) respectively). Among the independent variables (TAST, CSRIV, CSRDC), however, there was no significant correlation among the variables, an indication that no multi-collinearity issues exist, and based on [66], the regression estimates are accepted to be accurate.

Table 5: Correlation and collinearity analysis

|                     | TAST   | CSRIV   | CSRDC   | YP     |
|---------------------|--------|---------|---------|--------|
| Correlation probability | TAST   | CSRIV   | CSRDC   | YP     |
| TAST                | 1.00   | -------- | -------- | ------ |
| CSRIV               | 0.3929 | 1.00    | -------- | ------ |
|                     | 0.0670 | -------- |         | ------ |
| CSRDC               | 0.1509 | 0.1988  | 1.00    | ------ |
|                     | 0.1357 | 0.0675  | -------- | ------ |
| YP                  | -0.2788| -0.2967 | -0.0889 | 1.00   |
|                     | 0.0052 | 0.0029  | 0.3815  | ------ |

*Covariance analysis at 99 observations*

**Correlation is significant at the 0.01 level (2-tailed); Dependent Variable YP**

Source: Based on field data, 2020

**Effect of CSR and CSR Disclosure on Financial Performance**

Influence of CSR disclosure on financial performance was assessed using the model estimation analysis to provide empirical evidence of the effects of CSR investment and disclosure on the financial sustainability of MOCs operating in Africa. The first hypothesis was tested to determine whether investment in CSR activities has a positive or otherwise effect on the financial performance and the second tested whether disclosure of such activities has significant effect on financial performance. The Wallace and Hussain estimator of component variances (a two-way fixed effects and random effects panel model) was operationalized at 0.05 significance level (Table 6). Based on [66, 67] and [68], the Hausman specification test was used to check for efficiency and for which of the two options available to use (where if \(p > \text{chi square} > 0.05\), random effect model recommended, and if \(p < \text{chi-square} < 0.05\), fixed effects model, recommended). This also allowed for utilization of variation in the variables over the 10-year period to estimate the effects of CSR investment and disclosure (independent variables) on financial performance (dependent variable). From Table 6, the Hausman test did not show any correlation between
the unobserved person specific random effects and the independent variables, \( p = 0.81423 > \alpha = 0.05 \), therefore, the random effects model was accepted for the estimation of the panel data model.

Table: 6 Hausman Test-Random and Fixed Effects

| Test Summary                        | Chi. Sq. statistic | Chi. Sq. df | Probability |
|-------------------------------------|-------------------|-------------|-------------|
| Cross-Section random                | 1.434075          | 3           | 0.5284      |
| Period Random                       | 0.000012          | 3           | 1.00000     |
| Cross-section and Period random     | 0.876913          | 3           | 0.81423     |

The Wallace and Hussain panel analysis were operationalized to test the hypotheses of the study. Table 6 depicts analysis of the results.

Table 7: Component Variances (Wallace and Hussain)

| Variable | Coefficient | Std. Error | t- statistic | Probability |
|----------|-------------|------------|--------------|-------------|
| CSRIV    | 0.602168    | 0.201410   | 2.989764     | 0.0035      |
| CSRDC    | 2.613769    | 3.377568   | 0.773861     | 0.4409      |
| TAST     | -0.003990   | 0.010036   | -0.397501    | 0.6919      |

| Effects Specification | SD     | Rho    |
|-----------------------|--------|--------|
| Cross-section Random  | 0.007345| 0.0416 |
| Period Random         | 0.006709| 0.0651 |
| Idiosyncratic Random  | 0.031925| 0.8671 |

| Weighted Statistics   | Mean dependent var. | Durbin-Watson Statistic |
|-----------------------|---------------------|-------------------------|
| R-Squared             | 0.231583             | 0.013257                 |
| Adjusted R-Squared    | 0.206448             | 0.035212                 |
| S.E. of Regression    | 0.045621             | 1.897571                 |
| F-Statistic           | 6.437681             |                         |
| Probability           | 0.000603             |                         |

Dependent Variable (YP): Method: Panel (Two-way random effects): Sample: 2007 2018.

Period: 11; Cross sections included 9. Observations: 99.

Source: Based on field data, 2020
From Table 7, the analysis show that CSR investment (CSRIV) significantly predicts financial performance (YP) \((p = 0.0035 < 0.05)\) with a positive relationship (coefficient = 0.602168 and t-statistics = 2.989764), an indication that, investment in CSR activities by the MOCs with interests in emerging economies has a positive impact on their financial performance. However, the results indicate a non-significant positive relationship on the effect of CSR disclosure (CSRDC) on financial performance (YP) of the oil and gas companies \((p=0.4409 > 0.05)\). \(R^2\) and adjusted \(R^2\) were estimated to assess strength of the predictions of the specified model (Table 7). The values suggest that the specified model significantly explains variations in the dependent variable (YP). To check for autocorrelation among variables selected in the specified model, the Durbin-Watson Test was carried out. According to [70], upper limit for this test is a value of four and the lower limit is zero. A value of two means absence of autocorrelation and values less than or greater than two means the presence positive or negative autocorrelation among independent variables. The result for the Durbin-Watson test was 1.9, implying that the specified model for the analysis did not violate the independent residuals assumptions and there was no collinearity problem among the predictor variables.

**Conclusions and Recommendations**

In conclusion, the analysis has showed that multinational oil and gas companies (MOCs) in emerging economies, especially, those with interest in Africa take all aspects of their CSR activities serious. They are seen to be at the forefront of CSR as they adhere and comply with international standards and best practices in the identified 7-benchmarked core areas of CSR practices (Table 3). There is also indication from their reports that MOCs continue to strive for improvement in CSR activities annually, with positive results leading to improvements in their stakeholder relations and environmental impacts. Given the benefits associated with best practices, pressure is mounting on MOCs to adhere to more international CSR standards. It is expected that multi-national oil companies, especially, those with interests in Africa will continue to improve on their operating CSRs to meet global standards and best practices.

The study has also shown that there is a significant positive relationship between investment in CSR and financial performance of MOCs, especially those with interests in Africa. The positive influence of CSR on their financial performance of these firms could be deduced from the diligence and consistency they attach to CSR practices over the 10-year period under investigation, which has yielded dividends in terms of financial performance and sustainability. Investment in CSR has also created positive host community and stakeholder relations that allows MOCs to concentrate on their core business of oil and gas production which in turn increases their production output and improved financial performance with the tendency to sustain the oil and gas industry. Since diligent and consistent investments in CSR can lead to improved financial performance, hence sustainability of the Oil and Gas Companies, the study recommends that MOCs, especially those with investments in emerging economies, where most host
communities are least developed, continue to invest in CSR so that the interventions can make significant impacts in the communities in which they operate.

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