Clean Surplus Accounting and Quality of Financial Reports of Oil and Gas Firms in Niger Delta Region, Nigeria: The Hausman and Cointegration Tests Approach

Hwerien Rosemary Idamoyibo

Department of Accounting, Delta State University, PMB 1, Abraka, Nigeria.
Email: idamoyibohwerien@gmail.com

Abstract

Clean surplus accounting is the reported financial statement on comprehensive income of business organizations. The study ascertains the effect of reported profits on value of assets and value of liabilities. The population consists of the 13 oil and gas listed firms under the Nigerian Exchange Group as at 27th January, 2024. The sample size comprises 6 of the oil and gas listed firms whose activities were based on extraction, marketing and distribution were selected using judgmental sampling techniques based on their market size and share value. The study employs quantitative method with data obtained from the annual financial reports of the listed-oil and gas extraction, marketing and distribution firms from the period 2009-2023. The study employs regression analysis to analyze the data and uses three econometric models to achieve the empirical results with the aid of E-views 12.0. The findings reveal that reported profit has positive significant effect on value usefulness of assets with a long run effect, but has no positive significant effect, yet it has a long run effect on the value usefulness of liabilities of the firms. The study established that accounting information drafted from reported profit of companies has positive significant effect on the value usefulness of assets, but has no positive significant effect on the value usefulness of liabilities of the firms. The study also established that the statement of comprehensive income being projected by clean surplus accounting method is an effective and reliable measure of companies' assets value, however the method is ineffective and not reliable to measure companies' liabilities value. The accounting method has the propensity to reduce earnings management problem, yet it has the propensity to increase earnings manipulation problem, in order to enhance the quality of financial reports.

Keywords: Clean Surplus Accounting, Value Usefulness, Agency Theory, Hausman and Co-integration Tests

Introduction

The interest of prospective investors and shareholders in the financial reports and analyses published by companies is to ascertain and assess the worth of the companies. This is because they want to know whether or not the companies are doing well with regards to stock prices and financial performance. The financial reporting key objective is to offer investors with pieces of information that are relevant for investment decision making (Kumari & Mishra, 2017, p. 2). When it comes to estimating the value of companies, the interest of prospective investors and stakeholders in the financial reports is to evaluate the value and standing of the companies to know whether they can invest in it or not and to take an informed decision. Hsiangtsai *et al* (2015, p. 454), and Siyanbola *et al* (2019, p. 27) assert that high-quality financial information aids capital market productivity as shareholders are usually interested in high quality information as the condition for investing in companies. The notion of clean surplus accounting and reporting is certainly not new. The idea was deliberated upon in the conceptual framework of the Financial

Accounting Standards Board (FASB) in the year 1980. The notion of clean surplus accounting is fixed into the all-inclusive income concept in which all realized and unrealized gains or losses are to be recognized in a firm's income statement, notwithstanding the nature of the accounting items (Chang, 2015, p.2). The exclusions arise in the accounting standards which control future contracts, investments in debts and equity securities, pension and foreign exchange translations. This makes the net profit reported in the income statement a subgroup of the all-inclusive comprehensive income (Chang, 2015, p. 2).

Clean surplus accounting is the change in the stockholder equity and it is not the value of transaction of shareholders like share repurchases/share offerings, and dividends, etc., which are made known in statement of comprehensive income (Ezenwafor, 2021, p.104; International Financial Reporting [IFRS], 2020; Mahmood et al., 2018, p. 5). The clean surplus accounting methods provide elements of forecasting model that make price a function of change in book value, earnings, expected returns, etc. In the calculation of returns in clean surplus accounting, the transactions of shareholders are excluded. In the present accounting of financial statements of companies, it is stated that the book value is equals to earnings less dividends (Ezenwafor, 2021, p. 104; IFRS, 2020). The primary practice of the clean surplus accounting is to carry out an estimation of the value of the shares of company, while the secondary practice is to make an estimation of the cost of capital to substitute for capital asset pricing model. The postulation of the model is that there is perfect condition. It is asserted that company's market value is equal to net value of net assets of the company with the addition of present value of abnormal earnings of the future. This aids the reading and gaining knowledge of firm value with no trouble in the statement of financial position. Several benefits in this method are that the market value of a firm could be calculated easily. However, this is same as valuation from cash flow model and also discounted dividend (Ezenwafor, 2021, p. 104; IFRS, 2020). Feltham and Ohlson's (1995, pp. 690, 692) model estimated the shares of a company and their comparison to the market value. Other studies have proven that calculation ratio is good at foreseeing the share returns for two to three periods in the future and advocate that where there are no manipulations of the accounting and determination, abnormal earnings should not be computed by the fair values used in income statement. Accordingly, if fair values were made known by the statement of financial position which is computed with present values covers all information on it and nothing in net investment. With respect to clean surplus accounting model where determination of earnings does not happen, the same principle is used (IFRS, 2020).

Umobong and Ogbonna (2017, p. 19) opines that management reward assumption on managers who have their accounting inducements hinged on company's financial performance may have the intention to manipulate accounting system and figures to display financial performance that are healthier than how it ought to appear in the financial statement. Managers that are using diverse depreciation method permit lower profits at the begging and higher profits at the ending of their company business affair. While managers who have many years of experience might have an intention for ignoring research and development costs, the reason been that it lower current year profits that will have effect on their income. The issues raised in academic studies regarding the consistency of accounting figures have necessitated the study of clean surplus accounting, especially after Enron, WorldCom, Xerox, Adelphia, Tyco, One-Tel, HIH, Cadbury Nigeria PLC and Pamalat's corporate scandals (Siyanbola *et al*., 2019, p. 27; Penman, 2003, p. 1&9). Professional accountants or manager's creative accounting and earnings manipulation of accounting numbers of some items in statement of comprehensive income have motivated

prospective investors, stakeholders and the general public the necessity for quality financial reports. This is because creative accounting and earnings manipulation are tantamount to fraud in financial statements prepared by the preparers, which are published for users for the purpose of taking informed decisions. Financial statements which have vital information for users like prospective investors and stakeholders are recently being manipulated to achieve interpretational objectives. The emphasis of this work is to assess how accounting items in the statement of comprehensive income affect quality of items reflected in statement of financial position. The study assesses the effect of reported profit on the value of assets and the value of liabilities of oil and gas firms operating in the Niger-Delta, Nigeria. The weight of examined literature is supportive of the fact that reported profit from the comprehensive income statement affects the book value of assets and that of liabilities of firms. However, the work has no clear supposition of the above claim; hence, the following hypotheses were tested. Reported profit does not have any positive significant effect on the value of assets and value of liabilities of oil and gas firms in the Niger-Delta, Nigeria.

Conceptual Clarification

Clean Surplus Accounting

Clean surplus accounting is a theoretical outline in accounting, it offers an element of estimating model that yields price as a function of earnings, anticipated returns, and change in book value. The main practice of clean surplus accounting is to carry out an estimate on the value of company's shares as a substitute of discounted dividend or cash flow approaches. The next practice is the estimation of the cost of capital to substitute capital asset pricing model (Ezenwafor, 2021, p. 103-104; Penman, 2013, p. 768; Ohlson, 1995, P. 661-664; Feltham & Ohlson's, 1995, p. 689). Mahmood et al. (2018, p. 5) assert that clean surplus accounting is an approach whereby some items in other comprehensive income which are reported in retained earnings in financial statement that will make the value of information in it irrelevant are taken away from the statement of comprehensive income. Mahmood *et al* (2018, p. 5) posit that in clean surplus accounting, 'other comprehensive income' should be recognized as part of earnings or disjointed from it, while those of old and unresolved issues in accounting and other comprehensive income items that are rightly reported in retained earnings are grouped as dirty surplus .Dirty surplus is observable in the financial statements. Nonetheless, there are certainly dirty surplus arises from identifying equity transactions (Mahmood *et al*., 2018, p. 5). The acceptance of dirty surplus in relation to financial reporting in Malaysia allows a number of value-relevant information to detour the income statement such as assets revaluation reserves and goodwill amortization. Yet, this 'information leakage' negatively impacts the interpretations drawn from the investigation (Chang, 2015, p. 1). Ezenwafor, (2021, p. 102), and Abderrahmane (2019, p. 266) assert that the usefulness of accounting information is always stated in academic literature particularly when assessing the value of a firm; and Abderrahmane further argues that Beaver 1968, Ball and Brown 1968 remain the forerunners of the school of thought that protects the relevance of accounting information on the aspect of earning and book value, while the relevance of accounting information is repeatedly evaluated through the quality of the relationship amongst the capital market and financial statements.

Theoretical Framework

This study is hinged on agency theory which explains the relationship between owner and manager. The theory was independently propounded by Stephen Ross and Barry M. Mitnick in the

year 1970. Ross was acknowledged for the economic theory, while Mitnick was acknowledge for the institutional theory and Mitnick developed a general theory which presented a detailed set of theories and cataloguing them in typologies, recognizing varieties of agency relationships and also linguistic for describing agency and emerging hypothetical clarifications for behavour in agency. The theories were combined to form the agency theory and was published in the year 1973. The important ideas were developed by intellectuals in economics, political science, and other fields of study in a diversity of streams on the firm, organizations, incentives and information, and they were integrated into the agency approach. However, Michael C. Jensen and William Meckling's initiated a variation of the agency theory of the firm, the most named mention to the agency theory is accredited to Michael C. Jensen and William Meckling's in the year 1976 (Mitnick, 2019, pp. 3, 5 & 7). The theory was formulated to discourse of the conflict of interest between business owner and manager of business. The owner plans the commitments and tasks of the manager, and in return the manager discharges the tasks that are assigned to him or her by the owner of the business. The owner hires the services of the manager, plans the terms of the service, commitments, tasks and hands over the operation of the business to the manager to achieve set tasks on his or her behalf (Zogning, 2017, pp. 1-2; Umobong & Ogbonna, 2017, p. 18).

The theory presupposes that both the owner and manager are self-enthusiastic and they pursue self-ambitions. This postulation of self-interest engenders agency theory to certain characteristic battles. The self-centered reasons of owner and manager lead to a nonconformity of the manager to the established objective of the owner and present evidence of battles and prospects. The prospect aspect indicates that the manager will carry out his or her obligations to accomplish the interest of the owner (Idamoyibo, 2024, p. 2265; Umobong & Ogbonna, 2017, p. 18). To approve when a manager carries out his or her obligations in the unsurpassed interest of the owner or in manners different from the interest of the owner, the standard of "Agency Loss" is used. The agency loss is the gap amid the unsurpassed likely anticipated results expected by the owner of the corporate and the actual results arising from the actions of the manager (Umobong & Ogbonna, 2017, p. 19). In a business organization, when a manager accomplishes the anticipated outcomes of the owner, the agency loss is zero, while an increase in the defilement of owner and manager agreements increases agency loss. It is stated in some empirical works that agency loss is minimized when owner and manager goals are allied together. This proposes prospect of similar outcome for owner and manager of business organizations. Agency loss is minimized when the owner has total understanding of the manager's day to day affairs and the results of his or her actions. Thus, it must be clear to the business owner if the action of the manager unsurpassed his or her interests (Umobong & Ogbonna, 2017, p. 19). Clean surplus accounting is founded on agency theory. Agency theory is built on the postulation that managers are stimulated by self-centeredness and they maximize their personal monetary treasure by it. In the postulation, managers are driven by self-interest, viewing clean surplus relation as a simple tool to be employed in financial reporting when it yields benefit.

Empirical Review

Considering the previous literature, Mahmood et al (2018) studied earnings quality and the clean surplus principle. The study assessed the quality of reported earnings with respect to the clean surplus principles over time and in diverse industries. The study modeled earnings and other income employing error correction model, the data are for all active Compustat companies covering 1963-2014. The study employed a planned quality metric Q which allows comparisons of earnings quality over time. The metric Q offers ways of comparing the facets of earnings quality

to investors, regulators, standard setters, credit rating agencies, analysts, accounting scholars, and other contributors in the yearly financial reporting process. The study examined other comprehensive income and accumulated other comprehensive income (AOCI) to evaluate the quality of reported book value against a theoretical clean surplus book value. The study did this for all the firms under study by industries. The study established that AOCI is increasingly negative, where losses are accumulated through movements in equity. The metric Q, captures the quality where transitory items are not retrogressive. The study revealed that, the study of Conoco Phillips displays that the losses get larger and such movement through the retained earnings in the year 2012 show that these transactions are affecting earnings quality and not retrogressive over time. The effect of how write downs or big bath is treated, affects earnings quality over a time line that is greater than two years, and has consequences to securities exchanges, in using the Q statistic, to evaluate the earnings quality of firms over time.

A study by Chukwu *et al* (2020a) on environmental liability approximations and equity value of oil firms in Nigeria assesses whether decommissioning and environmental restoration approximations affect equity assessment of oil firms in Nigeria, and whether changes in environmental liability approximations value are relevant in Nigeria. The study used data from four registered oil firms under the Nigeria Exchange Group (NGX) that projects and reports decommissioning liabilities in their yearly financial reports covering 2012-2018. Regression analysis was employed to analyze the data. The result revealed that investors in Nigeria's oil companies value environmental liability approximations negatively, and changes in decommissioning and restoration approximations were not related with dissimilarities in the market value of oil companies in Nigeria.

Abderrahmane (2019) studied valuation-based accounting research: Predominance of the clean surplus valuation model, deliberated on the development of the examination from its roots to the current by delineation of the focal conclusions. Also, the study reviewed other researches on the assessment of firm value through accounting determinants. The study examined Ohlson's clean surplus valuation model, deliberating on its strengths and limitations. The analysis of the conclusions of the research stream offered understandings into firm valuation through accounting data that are likely to be useful to financial market members and accounting standard setters. The study revealed that more than a few methodologies have been used in the past to determine the theoretical nature of accounting approaches as precisely as imaginable, and the relationship between accounting information and the market value of equity found in Ohlson (1995), Feltham and Ohlson (1995). The researchers on valuation of a firm's value through financial statement conducted by Ohlson, 1995 and Feltham and Ohlson, 1995 were motivated by the inability of traditional accounting models to convey firm's market value based on accounting data. While their models have some restrictions, they remain among the most widely employed in quantitative accounting research. The study established that, the abnormal income and book value, other financial and non-financial data can be added to the models in order to comprehend the change in a firm's market value. Notwithstanding the effect of Ohlson, 1995 and Feltham and Ohlson's, 1995 study on empirical accounting, revealed that a long and positive research path remains to be discovered in order to empirically validate the vitality of accounting data, without trusting on preventive conventions that are occasionally problematic to prove.

A study carried out by Chukwu *et al* (2019) on firm-specific attributes and the value relevance of accounting information in Nigeria investigates how firm-specific attributes affect the value

relevance of summary accounting numbers in Nigeria. The study also questioned whether the implementation of international financial reporting standards (IFRS) affects the association between the summary accounting numbers (book value of equity and earnings) and firm specific characteristics (firm size, liquidity and leverage). Data were gathered from fifty- four firms in ten sectors of the NGX from 2009-2014, divided into 3 years pre-IFRS period and 3 years of IFRS period, which were analyzed with respect to the Ohlson's, 1995 model. The finding showed that firm specific characteristics affect the association between swift accounting numbers and market value, this effect increased in the period after IFRS adoption. Chang (2015) studied the informativeness of comprehensive income in Malaysia: A test of clean surplus relation and dirty surplus relation conventions. The exploratory study was driven by the current debate on the pre-eminence of clean surplus relation to comprehensive accounting information on a firm's earnings that were reported on the view of dirty surplus relation. The study employed a modified price model adapted parsimonious to Ohlson's (1995) conceptual work, "equation (1)" and the Easton-Harris (1991) return model, "equation (2)" to analyze the information about the accounting earnings measured in dirty surplus relation and clean surplus relation convention. The level of informativeness of the accounting earnings were reported in the income statement (created on DSR convention) of listed companies in Malaysia and the all-inclusive comprehensive income extrapolated from the same yearly reports were analyzed. The value relevance examinations on the income performance metrics recognized from two distinguishing accounting conventions were conducted using three hundred and twenty-three, and three hundred and seventeen sample companies with incessant market and accounting data of fifteen, and fourteen years. The findings showed that stock prices were more responsive to accounting earnings of dirty surplus relation income notion when compared to the clean surplus relation. The findings further indicated that comprehensive accounting information well-known under the idea of clean surplus relation is not active in passing on value relevant information to investors.

A study conducted by Hsiangtsai *et al* (2015) on financial reports quality and corporate social responsibility investigates the association between corporate social responsibility, corporate governance and the quality of financial reports with respect to Stewardship theory. The companies were chosen from the one hundred on one hundred preeminent corporate citizens register spanning from 2009-2011 editions published yearly by the Corporate Responsibility Office. Three hundred companies were selected out of which thirty-four were removed for a deficiency of allied financial data and forty-five oligopolistic companies were disallowed, making up the investigational group. The study employed pairing method to form a comparison group with respect to industry type, total assets and sales. The sample size consisted of four hundred and forty-two companies, with two hundred and twenty-one companies which were carrying out corporate social responsibility activities and two hundred and twenty-one companies which were not performing corporate social responsibility activities. With respect to corporate governance variables, the dual position data and the number of inside directors were collected from 10-K and def-14a forms in the United State Securities and Exchange Commission website. Finance data for the sample companies were sourced from the Standard and Poor's COMPUSTAT of the North American edition. Multiple regression of ordinary least squares analysis was employed to analyze the data. The result showed that in carrying out corporate social responsibility, firms can successfully decrease their level of earnings management and also provide quality financial reports. The cluster sampling outcome revealed that corporate social responsibility has a facilitating consequence and reduces the direct consequences of corporate governance board structures on the quality of financial reports. The

study pondered on the development of Stewardship Theory rewards for the shortcomings and insufficiencies of agency theory in explaining the behaviours of managers.

Timbate and Park (2018) studied corporate social responsibility performance, financial reporting, and investors' perception on financial reporting. The study ascertains whether socially responsible companies perform otherwise from other companies in their financial reporting. The study queried whether firms that are better in their corporate social responsibility performance also perform in an accountable way to uphold their financial reporting quality and the market rewards of such accountable performances. Data of S&P 500 US firms was employed; and the results revealed that socially responsible firms are less expected to manage their earnings. The study failed to find significant associations between corporate social responsibility performance and investors' perceptions on earnings measured by stock returns and earnings response coefficient.

A study conducted by Idamoyibo (2021) on evaluation of environmental accounting, financial reporting and profitability of oil and gas companies in Nigeria, assess the association among environmental accounting reporting standard index and return on asset, liquidity and tobin's q, Leverage and Tobin's q of the chosen oil and gas companies in Nigeria spanning from 2009-2019. The study used quantitative data, the population comprises the 12 oil and gas firms listed on NGX. A sample size of 6 oil and gas companies were chosen for the study, data were gathered from the yearly financial reports of the firms. Panel and pooled data (cross-sectional data) was employed, with application of least square using multiple linear regression to analyze the data. The study findings revealed no significant association among ERA and ROA, but founds a significant association among LQT and TOQ. However, founds no significant association among LVG and TOQ.

A study carried out by Siyanbola *et al* (2019) on corporate governance and reported earning quality in deposit money banks in Nigeria, evaluates the influence of corporate governance on reported earnings quality in Nigerian deposit money banks. Cross sectional data were used, and was gathered from the yearly reports of ten listed deposit money banks in NGX from 2008-2017. Descriptive and inferential statistics were used, adopting earnings predictability as an index for reported earnings quality, while board size, board independence, foreign directorship and firm size were employed as proxies for corporate governance. The findings showed that board size has positive and insignificant association with earnings quality, board independence has negative and insignificant association with earnings quality, foreign directors on board has positive and significant association with earnings quality, also, firm size has negative and insignificant association with earnings quality. Hamdan *et al* (2013) studied audit committee characteristics and earnings quality: evidence from Jordan and ascertains the relationship among audit committee characteristics and earnings management covering 2004-2009. It used fifty industrial companies registered on Amman Stock Exchange. It explored two models to measure earnings quality. The first model used earnings continuity as an indication of quality, and the second model used the decrease of discretionary accruals of quality, using pooled data regression of ordinary least squares and binary logit. The finding showed that the companies meet the requests of establishing auditing committees required in Jordanian legislation. When testing its effect on earnings quality measured by its ability to survive in the future. Hamdan et al also studied the role of independence of members of the audit committee in making them further able to recover earnings quality, but they did not find any association among the variable and earnings quality. Their finding showed that members of the audit committees of companies were not independent. It was clear that there were family and financial associations among members and the boards of directors, it has condensed

their ability to control companies work and recover earnings quality. The study concluded that, there is an effect of a number of standard characteristics of the audit committee on earnings quality. A study conducted by Marilena et al (2015) on the relevance of financial reporting on the performance of quoted Romanian firms in the context of adopting the international financial reporting standards (IFRS) ascertains the value relevance of the comprehensive income in relation to that of net income, as a consequence of the use of IFRS in Romania corporations whose securities are acknowledged for transactions on a controlled market from the year 2012. The study analyzed the influence of big four corporations in the direction of enhancing the relevance of reporting net income and comprehensive income for the stakeholders on the financial market and the quality of audit being recognized. The informational usefulness of net income for pre-IFRS in 2011 and the post-IFRS in 2012 including comprehensive income for the post-IFRS in 2012 was also assesses using the sample of sixty-five corporations quoted in the Bucharest Stock Exchange. The findings revealed that the two (2) kinds of accounting results have significant association with the share price, which shows an increased value relevance and usefulness for the stakeholders on the Romanian financial market, after the adoption of the international financial reporting standards. A study by Gergana (2014) on the measuring and assessing the quality and usefulness of accounting information presented a sample methodology for measuring and assessing the quality and usefulness of accounting information. The study developed sample scales and tables, which allowed the author to establish the degree to which financial statements match the qualitative characteristics separately and in combination. Firstly, sample set of tools was constructed for measuring and assessing the quality and usefulness of accounting information with respect to qualitative characteristics mandatory by the financial accounting standards board and the international accounting standards committee in the conceptual framework. Secondly, the study studied current works on assessing and measuring the quality and usefulness of accounting information. Thirdly, the study developed some hypotheses, which, upon their application in business enterprise, were whichever established or disallowed. The findings revealed that high quality accounting information is of significant importance for a large number of users, because it influences the quality of their economic decisions, and the provisions of high quality and useful accounting information is a precondition for the productivity of the companies. The usefulness of information is determined by the quality of accounting information, measuring and assessing the quality and usefulness of accounting information were of precise importance, as it will not only augment the quality of economic decision making for the users, and also the global market productivity of business.

Cetin and Ugur (2015) carried out a comprehensive review of accounting quality models. The study examined and analyses the models and techniques employed to detect manipulation in financial information computed in the financial statements using content analysis of extant literature. The study found that accrual-based model takes deliberate accruals as the sign of the earning management. Nevertheless, total accruals were employed to measure deliberate accruals due to problems in recognizing deliberate accruals. The model which assessed deliberate accruals method was inadequate and it provided extra attention to the relationship between working capital changes and cash flows from operating activities were formed. The scholars who examined the earning management applications by means of an exact accrual account as alternate to the total accruals method emphasis on the determination of the level of the accruals and how accruals change in extraordinary conditions with respect to the predetermined level accruals. Yet, the accruals of few precise financial statements in a number of sectors can be manipulated without difficulty and more regularly. The accruals possibly would take a significant place and they could

be determined by assumptions of the managers. Another method which was formed for identifying earning management dealt with the scrutinizing income distribution regarding to the scheduled reference arguments. Several scholars have shown that the methods with regard to incidence distribution were informative, nevertheless they were inadequate with respects to category and room of earning. The findings also showed that implementation of IFRs have greater impact and well mirror on accounting quality subject.

A study carried out by Soyinka et al (2017) on the decision usefulness and financial reporting: the general public perspective investigates how the quality of financial reports helps accounting information users to make economic decisions. The existing staff and postgraduate students of the Accountancy Department of Rufus Giwa Polytechnic Owo, Ondo State, Nigeria for the 2015-2016 academic session of a total of ninety-two are the study population. Seventy-five questionnaire were administered and fifty-seven were retrieved, which represent 76% response rate. The data were analyzed using the ordinary least square regression techniques. The finding indicated that reliability, understandability, comparability, timeliness and verifiability of financial reports were insignificant for decision making by the users. While relevance and faithful representation were positive and statistically significant for decision making by the users. The study concluded that some of the respondents do not depend on the financial reports provided by firms because they do not provide their information needs as stakeholders. A study on environmental liability provisions and earnings persistence of oil companies in Nigeria, evaluates the association among provision for environmental liability and earnings persistence of oil companies in Nigeria. The study queried the association among changes in provision for environmental liability and earnings quality. Secondary data gathered from four oil firms covering 2012-2018 were employed, future earnings were matched with environmental liability indices gathered from yearly financial reports of the oil firms under study. The study employed least square regression and robust standard errors to analyze the data. The finding showed no significant association among environmental liability provisions and earnings persistence, and insignificant association among changes in these provisions and earnings quality (Chukwu *et al*., 2020b).

Materials and Methods

The study employed quantitative data gathered from the yearly financial reports of the oil and gas listed firms spanning from 2009-2023. The population comprised the thirteen oil and gas extraction, marketing and distribution firms listed under the NGX as at 27th January, 2024. Therefore, the firms included Japaul Oil and Maritime Services Plc., Seplat Energy Plc; Oando Plc; Conoil Plc; Eterna Plc; Capital Oil; Forte Oil Plc. (AP ARDOV Plc.); 11plc (Mobil); MRS Oil Nig Plc; Total E&P Nigeria Plc; Anino International Plc; Rak Unity Petroleum; and Caverton Offshore Support Group. A sample size of six of the listed oil and gas firms whose activities were based on extraction, marketing and distribution were chosen using judgmental sampling techniques based on their market size and share value. The study adopted quantitative method, data were gathered from the yearly financial reports of the firms spanning from 2009-2023. All the listed firms have their operation base in at least 6 of the 9 states of the Niger Delta region. The samples firms included Seplat Energy Plc; Oando Plc; Conoil Plc; Eterna Plc; Forte Oil Plc. (AP ARDOV Plc.); and Total E&P Nigeria Plc. The choice of the six firms was informed by their enormous contributions to Nigeria's economic growth and development. The data analysis was carried out with the application of Econometric views software version 12.0.

Models Specifications

The analysis was based on simple linear regression models. The model is stated below:

Model I: $VA_t = f(RP_t)$ ....equ (1)
Model II: $VL_t = f(RP_t)$..equ (2)
These are further stated in econometric forms below:
Model I: $VA_t = b_0 + b_1RP_t + U_i$ ………………………………………………......equ (3)
Model II: $VL_t = b_0 - b_1RP_t + U_i$ ……………………………………………….....equ (4)
Apriori expectations: $b_1>0$ …………………………………………………….....equ (5)
$b_1<0$ ……………………………………………...............equ (6)
Where: VA (Value of Assets), VL (Value of Liabilities), RP (Reported Profits),
β_0 (Constant Term), β_1 (Coefficients of Predictor) and μ (Stochastic Error term)

Method of Data Analysis

The study employed three econometric models to achieve the empirical results. The first econometric model examined the Panel Regression, followed by applying panel unit root test using the Augmented Dickey-Fuller (ADF) test based on Dickey and Fuller (1979, 1981). The third econometric model examined the existence of long-run effect on the variables by applying the co-integration test.

Panel Regression Results

The panel data (cross-sectional data) for the models were presented, compared and analyzed in table. The Hausman test was employed to select the best fit model between fixed and random effects in analyzing the hypotheses as stated above.

Table 1 Multiple Regression Tests: Model I

	Pooled OLS		**Panel OLS (Fixed effects)**		**Panel OLS (Random effects)**	
Variables	**Coeff**	**Prob.**	**Coeff.**	**Prob.**	**Coeff.**	**Prob.**
C	4.529209	0.0000	6.460224	0.0000	5.993103	0.0000
RP	0.920801	0.0000	0.784289	0.0000	0.821246	0.0000
R-Square	0.749834		0.836254		0.644152	
F-Test	221.8042	0.000000	58.73092	0.000000	133.9541	0.000000
DW	0.936009		1.344127		1.163802	

Source: Author's computation (E-view 12.0).

Table 2 Multiple Regression Tests: Model II

	Pooled OLS		**Panel OLS (Fixed effects)**		**Panel OLS (Random effects)**	
Variables	**Coeff**	**Prob.**	**Coeff.**	**Prob.**	**Coeff.**	**Prob.**
C	2668287.	0.5824	6769725.	0.3310	3437368.	0.5162
RP	-144930.5	0.6700	-434878.8	0.3749	-197131.0	0.5945
R-Square	0.002468		0.089315		0.003865	
F-Test	0.183107	0.669960	1.127858	0.355483	0.287097	0.593694
DW	2.358751		2.558097		2.414124	

Source: Author's computation (E-view 12.0).

The analyses below reveal that the random effect model of the panel data is a better model, therefore used to interpret the hypotheses.

Table 3 Model I

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	1.918028	1	0.1661

Source: Author's computation (E-view 12.0).

The Hausman test helps to make a choice between the fixed effect and random effect models. The null hypothesis states that the random effect is an appropriate model fit when the probability value is greater than 0.05 (5%), while the alternative hypothesis states that the fixed effect is an appropriate fit model when the probability value is less than 5%. The analysis of the above model reveals that the random effect model is the appropriate fit model than the fixed effect model.

Table 4 Model II

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	0.558709	1	0.4548

Source: Author's computation (E-view 12.0).

The analysis of the above model reveals that the random effect model is the appropriate fit model to interpret the results.

Co-integration Tests
Table 5 Model I

Pedroni Residual Cointegration Test
Series: RPT VAT
Date: 11/02/24 Time: 17:15
Sample: 2009 2023
Included observations: 90
Cross-sections included: 6
Null Hypothesis: No cointegration
Trend assumption: No deterministic trend
User-specified lag length: 1
Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	3.101056	0.0010	0.176896	0.4298
Panel rho-Statistic	-2.262972	0.0118	-2.814991	0.0024
Panel PP-Statistic	-3.276758	0.0005	-4.000030	0.0000
Panel ADF-Statistic	-1.885546	0.0297	-1.826848	0.0339

Source: Author's computation (E-view 12.0).

The result in table 5 above reveals that the Panel v-Statistics probability value of 0.4298 is greater than 0.05, this reveals that the variables does not have long run effect.

Table 6 Model II

Pedroni Residual Cointegration Test
Series: VLB RPT
Date: 11/02/24 Time: 17:19
Sample: 2009 2023
Included observations: 90
Cross-sections included: 6
Null Hypothesis: No cointegration
Trend assumption: No deterministic trend
User-specified lag length: 1
Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-0.434201	0.6679	0.089395	0.4644
Panel rho-Statistic	-2.520465	0.0059	-0.895909	0.1852
Panel PP-Statistic	-4.749842	0.0000	-2.531054	0.0057
Panel ADF-Statistic	-2.041827	0.0206	-3.227646	0.0006

Source: Author's computation (E-view 12.0).

The result in Table 6 above reveals that the Panel v-Statistics probability value of 0.4644 is greater than 0.05, this reveals that the variables does not have long run effect.

Granger Causality Tests
Table 7 Model I

Pairwise Granger Causality Tests
Date: 11/02/24 Time: 11:31
Sample: 2009 2023
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
VA does not Granger Cause RP	56	2.63315	0.0816
RP does not Granger Cause VA		0.12025	0.8870

Source: Author's computation (E-view 12.0).

From the Table 7, the result shows a unidirectional causality among the dependent variable VA and the independent variable RP. The data shows that RP does granger cause VA with the value of F-statistic of 0.12025 which is greater than 0.05 of the null hypotheses.

Table 8 Model II

Pairwise Granger Causality Tests
Date: 11/02/24 Time: 11:33
Sample: 2009 2023
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
RP does not Granger Cause VL	56	0.25812	0.7735
VL does not Granger Cause RP		0.61358	0.5454

Source: Author's computation (E-view 12.0).

The Table 8 shows a unidirectional causality between the variables VL and RP. The RP granger causes VL with the value of F-statistic of 0.61358 greater than 0.05 over the period.

Stationarity Tests

In an attempt to confirm the order of integration of the series under study, thereby confirming their suitability for a linear combination in the form of a model, the panel unit root test following the form specified as ADF-Fisher Chi-Square.

Table 9 Panel Unit Root Tests for the Variables using ADF – Fisher Chi Square

Variables	ADF	Prob.V	INT	Remark
VA	58.9792	0.0000	I(0)	stationary
VL	32.2632	0.0013	I(0)	stationary
RP	43.9859	0.0000	I(0)	stationary

Source: Author's computation (E-view 12.0).

Data in Table 9 show the result of the ADF-Fisher Chi Square Panel Unit Root Tests of all the variables. The results are found to be integrated of the same order of intercept and trend. At first difference, the p-values are less than 0.05 significance level. Unlike Philip-Peron statistics which follows the precondition for the Engle and Granger residual-based approach for co-integration tests (PP ≤ critical value), emphasis on ADF-Chi Square statistics is on P-value.

Multi-collinearity/Variance Inflation Factor Tests
Table 10 Model I

Variance Inflation Factors
Date: 11/02/24 Time: 11:02
Sample: 2009 2023
Included observations: 13

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	13.43010	107.3259	NA
RPT	0.102723	107.3259	1.000000

Source: Author's computation (E-view 12.0).

In Table 10 above, the variance inflation factor (VIF) shows that the variable do not have multi-collinearity based on the centered VIF of 1.0 for model I, and the VIF of the variable is less than 10, therefore, there is no multi-collinearity among in the variable.

Table 11 Model II

Variance Inflation Factors
Date: 11/02/24 Time: 11:04
Sample: 2009 2023
Included observations: 13

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	20.15926	107.3259	NA
RPT	0.154192	107.3259	1.000000

Source: Author's computation (E-view 12.0).

The variance inflation factor (VIF) shows that the variable does not have multi-collinearity based on the centered VIF of 1.0 for model II, and the VIF of the variable is less than 10, therefore, multi-collinearity is not presence.

Serial Correlation Tests
Table 12 Model I

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	0.687311	Prob. F(2,9)	0.5275
Obs*R-squared	1.722481	Prob. Chi-Square(2)	0.4226

Source: Author's computation (E-view 12.0).

The analysis shows no serial correlation between the variables, the probability has the value of 0.4226 for model I.

Table 13 Model II

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	0.753272	Prob. F(2,9)	0.4983
Obs*R-squared	1.864084	Prob. Chi-Square(2)	0.3937

Source: Author's computation (E-view 12.0).

The analysis reveals no serial correlation between the variables, the probability has the value of 0.3937 for model II respectively.

Heteroscedasticity Tests
Table 14 Model I

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	11.89003	Prob. F(1,11)	0.0054
Obs*R-squared	6.752739	Prob. Chi-Square(1)	0.0094
Scaled explained SS	4.865578	Prob. Chi-Square(1)	0.0274

Source: Author's computation (E-view 12.0).

The analysis shows the presence of heteroscedasticity, the Observed R-squared Probability Chi-Square value is 0.0094 in model I.

Table 15 Model II

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	12.06690	Prob. F(1,11)	0.0052
Obs*R-squared	6.800642	Prob. Chi-Square(1)	0.0091
Scaled explained SS	4.580979	Prob. Chi-Square(1)	0.0323

Source: Author's computation (E-view 12.0).

The analysis shows the presence of heteroscedasticity, the Observed R-squared Probability Chi-Square value is 0.0091 in model II respectively.

Tests of hypotheses

The analyses of both models were based on the random effects as shown by the significance of the hausman test.

Model I

H_{01}: There is no positive significant effect of RP on VA of listed Oil and Gas firms in the Niger-Delta, Nigeria. The analysis reveals that the goodness-of-fit, R^2 = 0.64. Therefore, 64% of the changes in the dependent variable is caused by the changes in the independent variable. The f-test of 13395% reveals that the model is significant. Again, the analysis shows that RP has positive effect on VA. The result shows that as RP increases by a unit, VA increases by 0.821246 and vice versa. The result also shows that RP is significant using the t-test= 11.66934. The null hypothesis is rejected, the alternative accepted. The co-integration reveals no long run effect because the v-statistics probability value is 0.4298 which is greater than 0.05, while its granger causality shows unidirectional effect with F – statistic value of 0.12025, and therefore, concludes that there is a positive significant effect of RP on VA.

Model II

H_{02}: There is no positive significant effect of RP on VL of listed Oil and Gas Firms in Niger-Delta, Nigeria. The analysis reveals that the goodness-of-fit, R^2 = 0.00. Therefore, 0% of the changes in the dependent variable is caused by the changes in the independent variable. The f-test of 28% reveals that the model is not significant. Again, the analysis shows that RP has no positive effect on VL as expected apriori. The result reveals that as RP decreases by a unit, VL remain static at 0.00 unit. The result also reveals that RP is not significant using the t-test= -0.534668. The null hypotheses were accepted, the alternative rejected. The co-integration reveals no long run effect because the v-statistics probability value is 0.4644 which is greater than 0.05, while its granger causality shows unidirectional effect with F-statistic value of 0.61358, and conclude that there is no positive significant effect of RP on VL within the period studied.

Discussion of Findings

The study evaluated the effect of reported profit on value of assets and value of liabilities of the oil and gas listed firms under the NGX operating in the Niger-Delta region. The study found that reported profit of the oil and gas firms has positive significant effect, but no long run effect on the value of assets. This agrees with the findings of Mahmood *et al* (2018) who studied Earnings Quality and the Clean Surplus Principle, they found that reported profit of firms has positive association with the firms valued assets over the period. Abderrahmane (2019) also agrees that reported profit has positive and significant association with the valued assets. Again, the reported profits have positive significant effect, but no long run effect on the value of liabilities. While the finding of Mahmood *et al* (2018) does not agree with these findings. Abderrahmane (2019) tends to agree with it after studying Valuation based Accounting Research which is the Predominance of Clean Surplus Valuation Model.

Conclusion

The study analyzed clean surplus accounting on the quality of financial reports in the oil and gas firms operating in Niger-Delta region of Nigeria and used the reported profits of the value of assets and the value of liabilities as stated in the yearly financial reports of the six oil and gas firms covering 15years, using panel regression analysis. Using the Hausman tests, the random effect model was considered as the best model fit to test the hypotheses. Again, panel unit roots, granger causality and co-integration tests were analyzed, the co-integration tests were employed to test the long run effect of the explanatory variable on the criterion variables. The study showed that reported profits has positive significant effect and it does not have long run effect on the value of assets, and it has no positive significant effect and no long run effect on the value of liabilities. The inference from this is that reported profits could not trigger more value of liabilities of the firms. The study confirmed that accounting information gathered from reported profits of the firms has positive significant effect on the value usefulness of assets, but no positive significant effect on the value of liabilities of the firms. The study further confirmed that the statement of comprehensive income being projected by clean surplus accounting technique is an effective and reliable measure of the firms' assets value, but not on their liabilities value, while the accounting method has the tendency to reduce earnings management problem, yet it has the tendency to increase earnings manipulation problem to enhance the quality of financial reports.

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