OIL AND GAS

IS THE GLOBAL TRANSITION TO LOW CARBON ENERGY SOURCES A STRATEGIC ISSUE TO NIGERIA AS A NET ENERGY EXPORTING COUNTRY?

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Abstract

The global transition towards low-carbon energy sources is reshaping economies and energy markets, presenting both challenges and opportunities for net energy-exporting countries like Nigeria. This shift has significant implications for Nigeria, whose economy relies heavily on oil and gas exports for revenue generation and foreign exchange earnings. This paper examines the strategic implications of the global low-carbon energy transition for Nigeria. This study adopts strategic issue analysis framework to contextualize these economic conundrums. The study collected primary data in the form of semi-structured interviews with eleven senior government officials in Nigeria from four selected Federal Ministries, Departments and Agencies (MDAs), representatives of civil society groups and academicians in order to answer the interview questions. The outcome shows that global shift towards low-carbon energies has an impact on the Nigeria's oil and gas exports and revenue. Similarly, the findings further indicate that other internal and external factors such as low production volume, pipeline vandalism, improvement in energy efficient technologies; revolutions in the transport sector, Covid 19 pandemic amongst others have contributed to decline in Nigeria's oil export and revenue. The implications of these findings is that budget financing may be difficult and borrowings will increase. Thus, the following recommendations are made. Nigeria should consider the transition to low carbon energy sources as a strategic issue to explore ways of increasing its market share of oil and gas exports volume to other emerging NEICs that have less environmental concerns. Furthermore, Nigeria should utilise its oil and gas domestically for industrialisation to attain full economic growth. More importantly, there is the need for Nigeria to take cautionary position in the global climate change debate in order not to adversely affect the country's economic interest. Similarly, it could be a strategic opportunity for Nigeria to capitalise on and diversify to other sources of revenue in order to mitigate the potential impacts of the transition to low carbon energy sources. The major contribution of this paper provide evidence in support of the relevance of strategic issue analysis framework within the context of global energy transition on one hand and economic and social implications to Nigeria as a net energy exporting country.

Keywords:
Conventional energy, low-carbon energy, World Energy Outlook 2023

1. Introduction

Conventional energy source is an important global primary energy that has stimulated socio-economic activities and generated technological advancement in almost all spheres of life. According to the IEA's "World Energy Outlook 2023," fossil fuels—comprising oil, natural gas, and coal—have accounted for approximately 80% of

the global energy supply. However, in the Stated Policies Scenario (STEPS), which reflects current policy settings, this share is projected to decline to 73% by 2030 (International Energy Agency, 2024).

This anticipated decrease is attributed to the rapid expansion of renewable energy sources, aggressive drive to reduce carbon related energy sources. Thus, transition to Low Carbon refers to the shift from fossil fuel-based energy systems (coal, oil, and gas) to cleaner, sustainable, and low-carbon alternatives to reduce carbon emissions and mitigate climate change. Carbon dioxide (CO2) is a major greenhouse gas emitted from human actions towards achieving economic growth and development (Waziri, 2016). The Intergovernmental Panel on Climate Change Assessment reports (1990; 1995; 2001; 2007; 2014; 2023) has provided that the environment is under severe threat because of carbon emissions. According to the Global Carbon Budget report (2024), oil and gas are adjudged to be responsible for 53.2% of total global carbon emissions by fuels.

Thus, the global paradigm shift towards low-carbon energy sources is reshaping global economies This shift has significant implications for Organization of the Petroleum Exporting Countries (OPEC) including Nigeria as a member of OPEC and Net Energy Exporting Country (NEEC) (OPEC, 2000; Bhattacharyya 2011; Waziri, 2016). Nigeria ranks as the 7th highest oil-producing country globally and Africa's leading crude oil producer, with proven reserves of 37.50 billion barrels and a production capacity of approximately 2.19 million barrels per day (mbpd). It also creates opportunities for Nigeria as a country blessed with abundant renewable energy sources such as wind, solar, geothermal, fertile land and vegetation.

In terms of revenue, oil and gas constitutes approximately 34.4% of revenues accruing to the Federation Accounts (Central Bank of Nigeria Economic Report, 2022). However, the oil and gas revenue contribution falls short of the anticipated revenue by about 43.2% (CBN Economic Report, 2022). This had severe economic and fiscal implications on Nigerian budget and budget performance. Fundamentally, the future energy mix will depend on various factors, including technological advancements, policy changes, and market dynamics. Therefore, this study aims to examines the strategic implications of the global low-carbon energy transition for Nigeria. The rest of the paper is divided into four major sections; literature review, theoretical review: strategic issue analysis framework, linking strategic issue analysis framework to low carbon energy sources, study method, presentation of data, analysis and discussions, summary, conclusion and recommendations.

2.1 Literature Review

Numerous studies on the impact of the shift from conventional energy consumption to low carbon ones have been conducted in the literature within the perspectives of both NEICs and NEECs (see for example, McCollum, et al., 2014; Berg et al., 1997; Radetzki, 2002; McKibbin et al., 1999; Pershing; Johansson, et al., 2009). For instance, McCollum, et al., (2014) empirically analysed the development of fossil fuel consumption, trade and price under different climate policy regimes using multi-model frameworks. The findings of the study suggest that climate mitigation policies could reduce oil importations and consumption, increase share of renewable energy and mitigate energy security concerns. Similarly, Berg et al., (1997) concluded that economic based carbon emissions reduction policies would have significant effects on OPEC members' oil and gas revenue. In addition, a study by Radetzki (2002) also showed that global carbon emissions reduction measures arising from the execution of Kyoto commitments would negatively influence global oil and gas consumption. Another scholar (McKibbin et al., 1999) used the G-Cubed model to investigate the impact of carbon emissions reduction policies on net energy exporting countries. They found that net energy exporting countries might suffer 13% decrease in their oil and gas exports to net energy importing countries. Similarly, using the GREEN approach, Pershing (2000) concluded that net energy exporting countries would suffer of loss revenue from oil and gas exports arising from carbon emissions measures.

Similarly, Bartsch and Müller (2000) corroborated the above findings and established that climate mitigation

policies in developed countries causes decline in oil and gas revenue in net energy exporting countries. Similarly, the findings from Barnett, Dessai, and Webber (2004) acknowledged that OPEC will be affected by the global climate control regime; however, the degree of the impact will vary amongst these countries. Bernstein, Montgomery and Rutherford (1999) investigated the economic impacts of cutting carbon emissions in industrialised countries using a multi-sector and multi-region model (MS-MRT). The study revealed that cutting emissions has negative consequences on energy exporting countries. However, Persson, et al., (2007) and Johansson, et al., (2009) established that net energy exporting countries stand to gain rather than lose because of carbon emissions reduction policies.

Based on these empirical studies, the focus is on OPEC member countries as a whole. However, with regard to being more country specific, one barely finds existing literature on the topic. In addition, different methodologies are used which resulted in different findings. Findings from these studies have led to the emergence of three opposite views. One point of view suggests that carbon emissions reduction is a limiting factor to oil and gas revenue (Berg et al., 1997; McKibbin et al. 1999; Bernstein, Montgomery and Rutherford 1999; Linden, et al. 2000; Pershing, 2000; Radetzki, 2002; Bartsch and Müller 2000; Suranovic, 2013; Dike, 2013; McCollum, et al., 2014). The second opinion is contrary to the first (Persson, et al., 2007; and Johansson, et al., 2009). The third point of view agrees that carbon emissions reduction may influence oil and gas revenue of net energy exporting countries, which depends on the structure of the economy and the stage of economic growth of the oil dependent country concerned (Barnett, Dessai, and Webber 2004). Therefore, this study selected Nigeria being a net energy exporting country and analysed how transition to low carbon energy may influence its oil and gas exports within the ambit of strategic issue analysis.

2.2 Theoretical Review: Strategic Issue Analytical Framework

Theoretically, strategic issue is rooted within the strategic management disciplines that involve raising strategic questions, taking strategic decisions and making strategic plans (Dutton and Jackson, 1987; Dutton, Fahey and Narayanan, 1983). Mintzberg, Raisinghani and Theoret (1976) opined that the occurrence of perceived problems, opportunities and crises are the underlying stimulant of strategic issue. According to Dutton and Jackson (1987), what is classified as a strategic issue mostly emanates from an outside/external origin. Thus, Johnson, Bransford and Solomon (1973) made a descriptive analogy as thus: “Upon hearing a passage describing a person pounding a nail, people infer the presence of a hammer”. In this regard, Heath (2002), asserted that strategic issue management requires being vigilant for threats and opportunities that can affect achievement of organizational objectives.

In principle, when an issue is branded as strategic, it falls within two extreme strands of being either an opportunity or threat. When an issue is labelled as an opportunity, it is considered as positive, gainful and controllable. Thus, an opportunity presents a high chance of recording gain, however with a limited degree of control. When an external event is positively related with certain variables, it is likely that an increase is anticipated. However, a threat is synonymous with negativity, loss and uncontrollability. At times of threat, loss is anticipated and there is a limit to avert the occurrence of such loss. Similarly, Heath and Palenchar (2009) contend that strategic issue management (SIM) comprises of four actions: collecting and monitoring information, evaluating the information and categorizing the issue, prioritizing the issue, and evolving an action and implementation.

In analyzing strategic issue, there are two independent parties involved, the prospector and the defender (Miles and Snow, 1978). The former is assumed the party making a new invention. On the other hand, the latter party

suffers the consequences that may occur due to the former's action. Therefore, the focus of the defender is to strategize and address the influence of the innovation. Hence, strategic issue is connected with the occurrence of certain developments, events and trends that vary within or without a geographical space. These developments, events and trends could be labelled as either critical and or inconsequential (Nutt, 1984). Some scholars opined that the theory enables decision makers to take decisions that hinge on opportunity or threat (Christensen et al., 2003). Thus, the responsibility of evaluating external events, developments and issues lies with the decision makers of an organisation and by extension public policy makers (Dutton, Fahey and Narayanan, 1983; Judge and Fowler, 1996).

Most of the literature reviewed indicates that the concept of strategic issue is widely used within the context of organizational level (micro perspective) (Dutton, Fahey and Narayanan, 1983; Thomas, McDaniel and Dooris 1989; Judge and Fowler, 1996; Jackson, 1988; Health, 2002; Health and Palenchar, 2009). Within the framework of organizational theory, strategic issue represents the responsiveness of decision makers in an organization to scan their external environment and identify long and short-term potentials and challenges. It operates in such a way that decision makers assess the external environment to determine areas of strength and opportunities to capitalize on them for the good of the organization. Similarly, they assess the constraints and threats facing the organization in order to overcome the challenges.

Thus, capacities and capabilities of public decision managers play a significant role towards understanding the matrix of the external environment in order to make plans to reap the available opportunities and address the emerging threats (Paget, 1952). In compliance with Heath (2002), application of a strategic issue framework requires public policy and decision makers to be vigilant for opportunities and threats that can influence the society. According to Dutton, Fahey and Narayanan (1983), labelling of an issue as a threat or opportunity is dependent on the professional views of public policy and decision makers that have an understanding of the implication of the external developments.

In this perspective, the perception of public policy and decision makers on what constitutes a threat and/or opportunity depends on geographical locations and the prevailing circumstance existing within that environment. However, the world is becoming a global village, as most countries are interdependent; hence, development in any country or countries may affect others. Hence, what may be considered as an opportunity by public decision makers in a particular country could be seen as a threat by public decision makers in a different country. In this way, strategic issue analytical framework could be applied within the context of national, regional and global perspective.

2.3 Linking strategic issue to global energy transition to low carbon sources

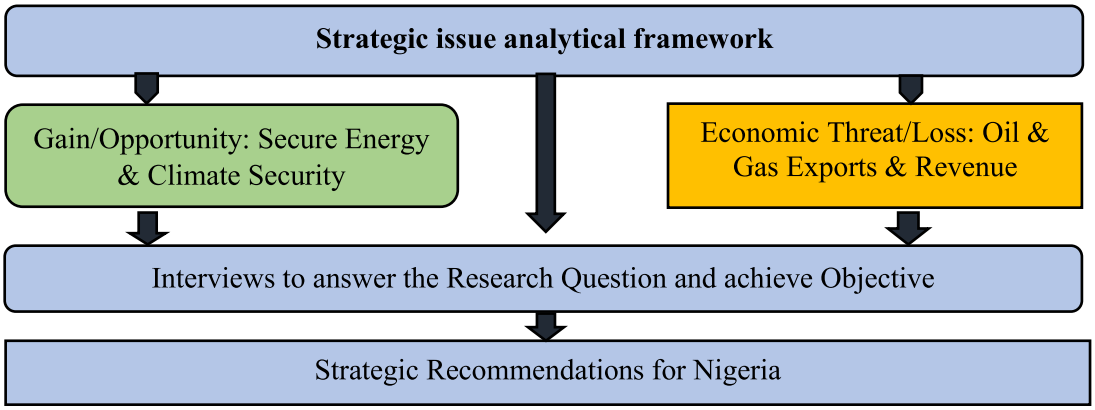
Net energy importing countries (NEICs) have seen opportunities in transiting to low carbon energy sources such as renewable energy. This development was considered a strategic issue to attain energy security, economic and macro environmental accountability. However, net energy exporting countries (NEECs) such as OPEC member countries are seeing these developments as a threat to their oil and gas export volumes and revenues to finance their national budgets. In this perspective, the global energy transition to low carbon sources is viewed differently by countries, where some countries see it as an opportunity; others consider it as a threat.

This study contextualizes that the prospectors are the NEICs since most of them are sourcing new forms of energy in order to reduce the influence of conventional energy sources in their energy mix. Specifically, these countries have made a commitment to reduce dependence on foreign energy associated with carbon emission, GDP and financial loss. On the other hand, the defenders are the OPEC member countries that appear to have raised concerns about the NEICs action on their oil and gas export revenue.

In this context, the global energy transition is considered as a strategic issue for OPEC member countries. Nigeria as a member of OPEC and oil and gas exports revenue dependent may be affected by the energy

transition of the NEICs. Consequently, the study recognised transition to low carbon energy sources in NEICs as a strategic issue to Nigeria because of its potential impact Nigerian oil and gas exports volume, revenue and budgets. Hence, the strategic issue analysis was applied to seek professional views of Nigerian public decision and policy makers and other stakeholders that have an understanding of the implications of the energy transition on Nigeria. Figure 1 below shows the conceptual framework of the paper.

Figure 1. Conceptual Framework



Source: Waziri, 2016.

3. Study Method

The interviewees were chosen using purposive sampling, a non-probability sampling method commonly used in qualitative or mixed-methods research. In this approach, the researcher exercises personal judgment to select participants based on their characteristics to ensure they can effectively address the research questions (Waziri et al., 2017). Thus, top senior management staff from four Ministries, Departments and Agencies (MDAs) were identified and interviewed. The MDAs incudes: Federal Ministry of Finance, Budget and National Planning (FMFBNP), Office of the Accountant General of the Federation (OAGOF), Nigerian Investment Promotion Commission (NIPC), and The Nigerian National Petroleum Company (NNPCL). One Senior lecturer and a public analyst were interviewed to corroborate the opinions of the senior government officials. The interview was tape-recorded and transcribed verbatim by the researcher. The data were carefully organised and presented in accordance with three main processes of interview analysis: data reduction, data codification and drawing conclusions (Lewis and Thornhill, 2012; Waziri, 2016). The transcripts and the field notes formed the basis of the data analysis. The transcripts were analysed using the qualitative analysis. Overall, 11 people participated, comprising 9 males, 2 females. The semi-Structured interviews were used.

Table 1: Category of Respondents and their Organisations

Participants Code	Position	Organisation	Nature of Organisation
R1, R2, R3	Managerial	FMFBNP	Government agency
R4, R5	Managerial	NIPC	Government agency
R6, R7	Managerial	NNPCL	National oil Company
R8, R9	Managerial	OAGOF	Government Agency
R10	Academicians	UNIMAID	Academic institution
R11	Public Analysts	Civil society	Civil society group
Total	**11**		

4. Presentation, Analysis and discussions of Interviewees Responses

In this section, the perception of stakeholders in the MDAs on whether global transition to low carbon energy sources a strategic issue to Nigeria as a net energy exporting country are presented, analysed and discussed.

The interview responses from all the fifteen interviewees (R1, R2, R3, R4, R5, R6, R7, R8, R9, R10) designated to answer the interview question are stated above. Interviewees from NIPC and NNPCL who are Senior Director (R4) and Senior Managers (R6) respectively opines that:

> *"Awareness of the need for environmentally friendly energy sources has been growing, highlighting the significance of renewable energy in ensuring a safer environment. Significant technological advancements are being made in this field. However, in the long term, this shift may render oil and gas obsolete worldwide, as countries prefer energy sources that do not contribute to environmental pollution (R4).*
>
> *"Exporting oil and gas to net energy importing nations especially developed ones will become unsustainable due to two interconnected factors: climate change and energy security concerns. Regarding climate change, these countries aim to achieve zero emissions from petroleum by 2030. Additionally, to enhance energy security, they continue to advance and invest in renewable energy and innovative technologies. As a result, Nigeria's oil and gas exports to these nations will not remain viable in the future (R6).*

Similarly, interviewees (R1 and R2), who are Senior Directors from FMFBP asserted that:

> *"I believe that as global efforts to transit to low carbon energy sources persist, oil-exporting nations will inevitably be affected, almost as though they are being singled out. In the long term, the export of crude oil and gas will no longer be viable due to challenges posed by climate change and energy security (R1)"*
>
> *"oil and gas exports to NEICs will not be sustainable if these nations successfully transit to other clean sources of energy. Currently, major global powers are heavily investing in clean energy, it however remains costly and may not be entirely sustainable. Nigeria is already struggling to maintain its oil production quota and export capacity. Currently, the country relies primarily on Europe and other emerging countries, and if European nations stop purchasing Nigerian crude oil, it would create significant challenges. Also, future technological advancements, such as using water as fuel, could further disrupt the oil industry (R2)''*

Another respondent (R11), who is a Senior Public Financial and Economic Analysts from CISLAC, stated that:

> *"with the strong global commitment to reducing carbon related energy sources, the oil and gas industry will face significant challenges. This issue will not only affect Nigeria but all oil-producing countries, as alternative energy sources increasingly contribute to the global energy mix"*

In line with the views of R1, R2, R4, R6, and R10, Nigerian oil and gas exports to net energy importing countries may not be sustainable in the future due to carbon reduction policies. They also noted that this challenge extends beyond Nigeria to other net energy-exporting countries.

Similarly, other respondents (R3; R8 and R9), who are Senior Directors from the FMFBP and OGOAF, argue that the current fluctuation in Nigerian oil and gas exports is not being influenced by global transition to low carbon energy sources. However, the respondent believed that it would have a long-run influence on Nigerian oil and gas exports. They narrate as thus:

"The primary factor affecting Nigeria's oil and gas exports is not due to transition to low carbon energy sources but internal factors. However, if major world powers and emerging economies significantly cut oil and gas consumption in the future due to carbon emissions concerns, it will inevitably impact Nigeria"(R3).
"It is fact that any global policy that discriminates against oil and gas is essentially a direct threat to Nigerian oil exports and other OPEC member countries. Therefore, Nigeria's stance on the carbon emission reduction debate aligns with OPEC's position"(R8).
"The transition to green fuel as part of global efforts to reduce carbon emissions will have a negative impact on Nigerian oil exports, as there are now more environmentally friendly energy alternatives"(R9).

Conversely, the last respondent who is a petroleum expert and senior lecturer in UNIMAID opines that Nigerian crude oil has very low sulphur content with less density. Thus, the transition to low carbon energy sources will not affect the exportation of Nigerian oil and gas to the international energy market.

"The magnitude of the impact largely depends on the quality of the oil being exported. Fortunately, Nigeria's oil is Brent crude, which has less sulphur and considered relatively safe. Therefore, it will continue to be in demand until a renewable energy alternative is economically viable" (R10).

Findings from the above responses have led to the emergence of two opposite views. One of the views suggests that transition to low carbon energy sources could lead to reduction in Nigerian oil and gas exports. This could translate to reducing oil and gas revenue generated from oil and gas exports to these countries. This result is consistent with the concerns raised by of OPEC member countries that carbon emission reduction has potential effect on global fossil fuel consumption and resultant effects on their export revenues (Yamin 1998; Organisation of the Petroleum Exporting Countries, 2000). Similarly, some previous studies have argued that carbon emission measures to achieve environmental and carbon accountability has the potential to significantly reduce future demand for oil and gas and foreign direct investment into oil producing countries (Linden, et al., 2000; Barnett et al., 2004; Zhang et al., 2010; Dike, 2013; Suranovic, 2013; McCollum, et al., 2014).
Conversely, the result supports the assertion that stabilisation of global concentration of greenhouse gases depends on the reduction in fossil fuel consumption and supports the development of renewable energy sources. However, the second views believed that transition to low carbon energy sources would not influence the exportation of Nigerian oil and gas to developed NEICs due to its high quality and preferred choice for consumers. The works of Persson, et al., (2007) and Johansson, et al., (2009) who found that carbon emissions reduction have positive influence on net energy producing and exporting countries support this finding.

5. Summary, Conclusion and Recommendations

In conclusions, this paper examines the strategic implications of the global low-carbon energy transition for Nigeria. The study used primary data in form of semi-structured interviews to obtain the perceptions of stakeholders in Nigeria. The paper adopts strategic issue analysis framework to contextualize these economic conundrums. The outcome shows that global shift towards low-carbon energies not only affect Nigerian oil and gas exports but including other net energy exporting countries. Similarly, the findings established that low production volume, pipeline vandalism, improvement in energy efficient technologies; revolutions in the transport sector, Covid 19 pandemic, oil theft and declining investment into the Nigerian oil sector plays significantly role in affecting Nigerian oil and gas export volumes. Scrutinising the transition to low carbon

emission on Nigeria within the strategic issue analytical framework, it portends an economic loss arising from reduced oil and gas exports volume and revenue. On the other hand, it also creates opportunities for Nigeria to diversify its economy, invest in renewable energy development and harness its abundant natural resources to align with global energy trends.

Based on the foregoing, the following recommendations are made. Nigeria should consider the transition to low carbon energy sources as a strategic issue to explore ways of increasing its market share of oil and gas exports volume to other emerging NEICs that have less environmental concerns. Furthermore, Nigeria should utilise its oil and gas domestically for industrialisation to attain full economic growth. More importantly, there is the need for Nigeria to take cautionary position in the global climate change debate in order not to adversely affect the country's economic interest. Similarly, it could be a strategic opportunity for Nigeria to capitalise on and diversify to other sources of revenue in order to mitigate the potential impacts of the transition to low carbon energy sources.

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EFFECT OF ACCOUNTING CONSERVATISM ON FIRM VALUE OF LISTED OIL AND GAS INDUSTRIES IN NIGERIA

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Abstract

In December 2024, several multinational companies, including Holcim, Pick n Pay, Kimberly-Clark, Diageo, and Equinor, exited the Nigerian market after operating for over 30 years. This study investigates the relationship between accounting conservatism and firm value within Nigeria's listed oil and gas sector, focusing on the influence of conservative financial reporting on firm profitability and sustainability. Using panel data from 10 listed companies over a 10-year period (2014 - 2023), we employ multiple regression analysis with the random-effects model to examine two key proxies for conservatism: Asymmetric Accrual to Cash Flow and Default Adjusted Basu. The dependent variable is Return on Equity (ROE), while firm size and leverage serve as control variables. Results indicate a significant positive relationship between Asymmetric Accrual to Cash Flow and firm value, suggesting that conservative accounting practices enhance investor perception of stability and reduce risk. Conversely, the Default Adjusted Basu proxy shows a positive but statistically insignificant association with firm value. The findings underscore the importance of accounting conservatism as a managerial tool for mitigating agency problems and improving financial reporting quality in emerging markets. Regulators and corporate managers are encouraged to promote conservatism principles to improve transparency and sustainable value creation.

Keywords:
Accounting Conservatism, Asymmetric Accrual to Cash Flow, Default Adjusted Basu profitability, Oil and Gas Industries, Nigeria.

Introduction

Accounting conservatism is a fundamental principle in financial reporting, emphasizing prudence in recognizing revenues and expenses under uncertainty. As defined by the International Accounting Standards Board (IASB), conservatism requires that assets and income are not overstated while liabilities and expenses are not understated (IASB, 1987). This approach aims to provide a realistic and cautious portrayal of a firm's financial position, thereby protecting stakeholders from overly optimistic financial disclosures.

Despite its importance, accounting conservatism remains subject to varying interpretations and applications, particularly in emerging markets where economic volatility and regulatory environments differ substantially from developed countries. Recent developments in Nigeria, including the exit of multinational corporations such as Holcim, Pick n Pay, Kimberly-Clark, Diageo, and Equinor after decades of operation (Odeyinka, 2024), raise critical questions about how conservative accounting practices influence firm value and investor confidence in such volatile contexts.

Prior studies have documented the role of conservatism in mitigating agency problems, reducing information asymmetry, and enhancing the reliability of financial reports (Watts, 2003; Teymouri & Sadeghi, 2020).

However, empirical evidence on its effect on firm value, particularly within Nigeria's oil and gas sector, remains limited. This study seeks to fill this gap by examining the impact of two widely accepted proxies for accounting conservatism Asymmetric Accrual to Cash Flow and Default Adjusted Basu on firm profitability, measured by Return on Equity (ROE), while controlling for firm size and leverage.

Specifically, this research addresses the question: To what extent does accounting conservatism affect the firm value of Nigerian listed oil and gas companies? Understanding this relationship is vital for regulators, investors, and corporate managers aiming to foster sustainable growth in emerging economies.

This study aims to bridge the identified gaps by investigating the influence of accounting conservatism on the sustainable firm value of quoted Oil and Gas Industries in Nigeria. While specific objectives are to:

i. Determine extent to which Asymmetric Accrual to Cash Flow conservative accounting contribute to sustainable firm value of quoted oil and gas industries in Nigeria.
ii. examine extent to which conservative accounting of default adjusted Basu affects firm value of quoted Oil and Gas Industries in Nigeria.

The research articulates the following hypotheses in null forms to align with research objectives:

Ho_1: Asymmetric Accrual to Cash Flow conservative accounting does not significantly exert effect on firm value of Nigerian listed Oil and Gas Industries.

Ho_2: There is no notable effect of Default Adjusted Basu on firm value of quoted Oil and Gas Industries in Nigeria.

The research introduces a novel analysis, emphasizing that accountants require a higher point of proof to acknowledge positive information compared to negative news. This approach, adopted in financial statements of Nigerian listed companies, utilizes Basu's (1997) standard measures and Wang's (2009) default adjusted Basu measures of conservatism.

2. Literature Review

Accounting conservatism has long been recognized as a key principle in financial reporting, aimed at providing cautious recognition of revenues and prompt recognition of losses (Basu, 1997; Watts, 2003). It plays a critical role in mitigating agency conflicts by reducing information asymmetry between managers and investors (Teymouri & Sadeghi, 2020). However, the empirical relationship between accounting conservatism and firm value is complex and sometimes inconclusive.

Several studies suggest that conservative accounting practices enhance firm value by improving the credibility of financial reports and protecting investors from overly optimistic earnings reports (Affes & Sardouk, 2016; Garcia, Osma, & Penalva, 2009). These practices encourage prudent managerial decision-making and reduce the risk of financial misstatements. For instance, Watts (2003) argues that conservatism serves as an efficient contracting mechanism between shareholders and managers, aligning incentives and enhancing firm sustainability.

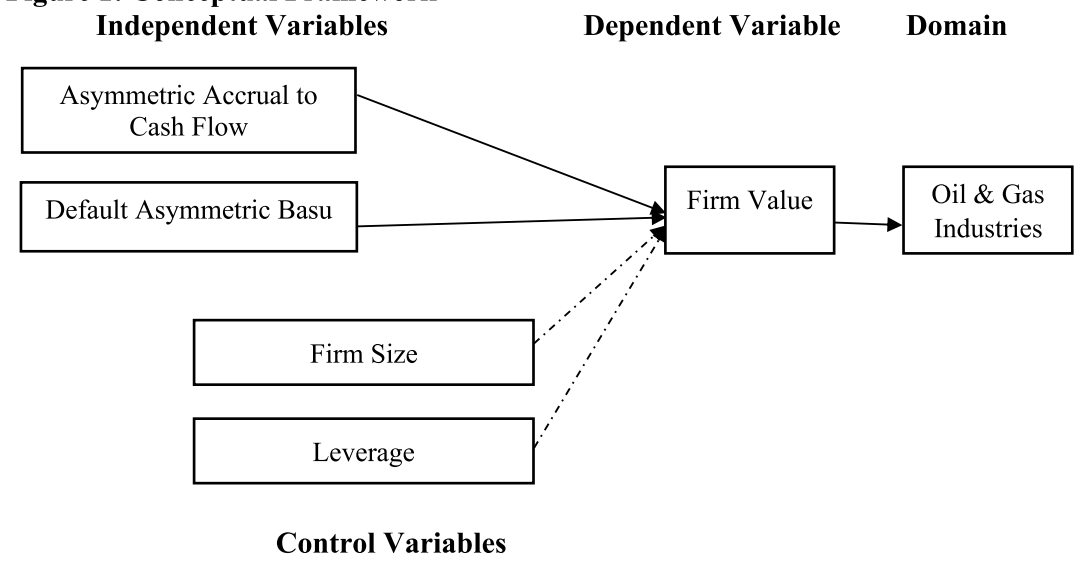
Conversely, some research points to potential drawbacks of conservatism, such as understating assets and income, which can adversely affect market valuations and investment decisions (Bushman & Piotroski, 2006; Ruch & Taylor, 2014). Critics caution that excessive conservatism may obscure a firm's true financial health and limit access to capital.

Most empirical investigations focus on developed markets, leaving a research gap in emerging economies where economic conditions and regulatory frameworks differ. Aminu and Shehu (2017) found no significant association between accounting conservatism and profitability in Nigerian conglomerates, highlighting the need for more sector-specific studies. This study contributes by focusing on the Nigerian oil and gas industry, a

critical sector characterized by economic volatility and exposure to global market dynamics.

Two primary proxies for accounting conservatism are widely used in the literature: Asymmetric Accrual to Cash Flow (Bell et al., 2006) and the Default Adjusted Basu model (Wang, 2009). These measures capture different dimensions of conservatism, with the former reflecting the timeliness of loss recognition and the latter adjusting for default risk.

Figure 1: Conceptual Framework



Source: Compiled by the Author from the identified gaps (2025).

The above conceptual framework explains the relationship between independent variables the measurements of accounting conservatism, presents asymmetric accrual to cash flow and default adjusted Basu. The dependent variable was financial profitability and control variables of the study, as firm size and leverage, objectively.

2.1 Theoretical Underpinnings of Conservatism

2.1.1 Agency Theory and Accounting Conservatism

Agency theory, as developed by Jensen and Meckling (1976), focuses on the principal-agent relationship, where there is a divergence between the interests of shareholders (principals) and managers (agents). Managers may act in ways that maximize their own utility rather than shareholder wealth, a phenomenon known as **managerial opportunism**. To mitigate this, agency theory suggests mechanisms like performance-based compensation, monitoring, and transparent reporting systems.

Accounting conservatism, in this context, can be seen as a tool to curb managerial opportunism. By applying conservative accounting practices, firms recognize potential losses earlier than gains, which provides a "cushion" that reduces the possibility of overstatement of assets or profits. This leads to more conservative financial statements, which limit the opportunity for managers to manipulate financial reporting. As conservatism increases the reliability and transparency of financial reports, it enhances the shareholders' ability to monitor managerial actions more effectively, reducing the agency cost (Watts, 2003).

2.1.2. Information Asymmetry and Conservatism

Information asymmetry theory, as outlined by Akerlof (1970), highlights the information gap between managers (who have inside information) and external stakeholders, including investors and creditors. In markets with significant information asymmetry, managers may exploit their informational advantage to benefit themselves,

potentially leading to moral hazards and adverse selection. This is especially problematic in emerging markets, where the regulatory framework and financial disclosure practices may be weaker.

Conservative accounting practices help address information asymmetry by ensuring that financial reports are more reliable and less prone to managerial manipulation. For instance, by recognizing potential losses earlier, accounting conservatism prevents the over-valuation of assets and ensures that stakeholders have a more realistic view of a company's financial health (Teymouri & Sadeghi, 2020). This reduces the risks faced by investors and creditors, who might otherwise rely on overoptimistic financial statements. Thus, conservative financial reporting reduces the **information gap** between managers and external investors, leading to better decision-making by stakeholders.

Despite the theoretical support for conservatism in mitigating agency costs and information asymmetry, empirical evidence on its effect on firm value, particularly in emerging markets, is still limited and sometimes contradictory. Emerging markets often feature distinctive institutional settings, weaker governance frameworks, and less efficient regulatory environments compared to developed markets, which can influence the effectiveness of accounting conservatism.

3. Methods

This study adopts a quantitative research design using secondary data to examine the relationship between accounting conservatism and firm value in Nigerian listed oil and gas companies. The sample comprises 10 companies listed on the Nigerian Exchange Group (NGX), with annual data collected over a 10-year period from 2014 to 2023, totaling 100 observations. Financial data were extracted from companies' annual reports and audited financial statements, and analyzed using Stata version 14.

Variables Measurement and Model Specification

Table 1 below presents variables measurement utilized in this study:

Table 1: Variables Measurement

Variable	Variable Nature	Proxy(ies)	Measurement	Author(s)
Firm Value	Dependent Variable	ROE	Net income divided by total equity capital	(Heikal, Khaddafi, & Ummah et al., 2014; Okeke, 2024; Affes et al., 2016)
Assemtry Timeliness	Independent Variable	ACF	Operating accrual to cash flow operating activities	(Bell, et al., 1997)
Default adjusted Basu	Independent Variable	DAB	Net interest income divided per market value (debt + equity)	(Wang et al., 2009)
Firm size	Control Variable	FSZ	Natural logarithm of total assets	(Hassan et al., 2017; Sultana et al., 2024)
Leverage	Control Variable	LEV	Total debts split into total assets	(Harakeh, 2017; Kang et al., 2023)

Source: Extracted from series of literature, 2025

Model specification:

Asymmetric Accrual to Cash Flow

In another measurement Ball, et al. (2006) was openly argued the Basu model and devised unconditional accounting conservatism to formulate asymmetric accrual to cash flow (ACF) regarding stock prices/stock return.

They reported a model to test the effect of financial performance on the following regression:

$ACCit = \beta_0 + \beta_1 DCFOit + \beta_2 CFOit + \beta_3 DCFOit\, CFOit + \varepsilon it \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$

ACCit operational accruals, proxied by way of $\Delta Inventory + \Delta Debtors + \Delta$ *Other current assets* $- \Delta Creditors -$ Δ*Other liabilities of the current* $-$ *Depreciation*

DCFOit variable of the dummy that is usual to 0 if cash flow after activities of the operating is positive or = to 0 ($CFOit \geq$ zero) and is set to one (1) if negative ($CFOit <$ zero)

CFOit cashflow from activities of operating for period *t*

Default Adjusted Basu

Mysteriously, the Basu model criticizes by Wang et al. (2009) as it formulates the Default Adjusted Basu proxy of conservatism to regulate the effect of default risk in Basu's (1997) conditional accounting conservatism measurement.:

Where:

NIBIit Net-income earlier expense of interest, estimated as net-income afterward tax + pre_tax expense of interest for industry *i* in time *t*.

Vit–1 The economic value of total opening of firm (debts + equity), calculated as *Vit = MVEit + DEBTit*. *MVEit is* the equity market value for entity *i* in time *t*, and *DEBTit is* the total liabilities in market value for entity *i* in time *t*.

TRit The return on economic value of the entity, estimated as *TRit = Vit – Vit*–1– *CFFit*) / *Vit*–1. *CFFit* is net cash flow from activities of financing for entity *i* in time *t*

DTRit A variable of dummy that set to 0, if $DTRit \geq 0$; and set to 1, if $TRit < 0$

However, the study design model for the research is as follows:

$ROE_{it} = \alpha + \beta_1 ACF_{it} + \beta_2 DAB_{it} + \beta_3 FSZ_{it} + \beta_4 LEV_{it} + \varepsilon$ ---------- (3)

Where:

ROE = Return on Equity used to proxy profitability of profitability estimated as net income divided by equity capital, as the dependent variable i for firm and t for the time/year.

A = Constant value.

β1-4 = coefficient of the independent variable.

ACF = Accounting Conservatism (Residual value of Asymmetric Accrual to Cash Flow model Bell, et al 2006) and

DAB = Accounting Conservatism (Residual value of Default Adjusted Basu) measures by (Wang 2009) i for firm and t for the period/time/year as an independent variable.

FSZ = firm size calculated as the natural log of total asset, i for a firm, and t for the period/time/year as a control variable.

LEV = firm leverage considered as the total debt split into total assets i for firm and t for the period/time/year as a control variable.

ε = Error term. Non-operating

Estimation Technique

A panel data regression with random-effects model is employed based on the results of the Lagrangian Multiplier test indicating suitability over fixed effects. Tests for multicollinearity (Variance Inflation Factor), heteroscedasticity (Breusch-Pagan/Cook-Weisberg), and model fitness (Wald chi-square) are conducted to ensure robustness of results.

4. Results and Discussions

4.1 Descriptive Statistics

Table 2 presents the descriptive statistics of the key variables. The dataset includes 100 observations from 10 listed Nigerian oil and gas companies over the period 2014 to 2023.

The findings of the output result of the collected data for the research. The part starts with the descriptive data statistics given as follows in Table 2:

Table 2: Descriptive Statistics

Variables	Mean	SD	Min	Max	N
ROE	13.168	1.7536	10.171	16.928	100
ACF	1.1400	0.9430	0.0728	3.0273	100
DAB	6.2623	3.3777	1.0203	14.107	100
FSIZ	9.5104	11.026	1.0407	81.602	100
LEV	3.7556	1.4470	0.3108	7.1208	100

Source: STATA version 14 Output, 2025

Table 2 shows the statistics from descriptive of the fitted model. The data set contains 100 observations for the 10 Oil and Gas Industries in NGX over the study period of 10 years. The average ROE of 13.17% indicates moderate profitability among the firms. The ACF mean value of 1.14 suggests variability in conservative accounting practices across firms. The relatively high standard deviation of DAB reflects differences in risk adjustment for conservatism among companies. Firm size and leverage also exhibit wide ranges, reflecting diverse financial structures in the sample.

4.2 Correlation Results

ITable 3 shows Pearson correlation coefficients among variables.

Table 3: Correlation Matrix

Variables	ROE	ACF	DAB	FSZ	LEV
ROE	1.0000				
ACF	0.4688	1.0000			
DAB	0.0836	-0.080	1.0000		
FSZ	0.4277	0.2813	0.0770	1.0000	
LEV	0.5375	0.1777	0.2267	0.1641	1.0000

Source: STATA version 14 Output, 2025

The results in the above Table 3 illustrate the correlation coefficients among the independent variables conservatism measurements such as Asymmetric accrual to cash flow and Default Adjusted Basu by Wang 2009, and control variables of firm size, leverage against dependent variable proxy as ROE of listed Oil and Gas Industries in Nigeria. There is a moderate positive correlation (0.469) between ACF and ROE, indicating that higher conservative accounting via asymmetric accruals associates with increased profitability. DAB shows a weak positive but statistically insignificant correlation with ROE. Firm size and leverage are positively

correlated with ROE, consistent with expectations that larger, more leveraged firms generate higher returns.

4.3 Regression results and testing hypotheses

Table 4: Fixed Effect Model Regression Coefficients

Variables	Coefficients	Z-values	P-Values
ACF	0.3569	2.78	0.005
DAB	0.0509	1.30	0.193
FSZ	0.0394	3.59	0.000
LEV	0.3822	4.20	0.000
CONSTANT	10.631	19.6	0.000
R^2 Between	0.6060		
R^2 Overall	0.4717		
F STATISTICS	49.57		0.000
HETTEST: Chi2	0.59		0.441
MEAN VIF	1.11		
LM TEST: Chi2	56.37		0.0000

Source: STATA version 14 Output, 2025

As shown in table 4, the model findings demonstrate insignificant existence of heteroscedasticity as made known by the Chi2 test Breuch Pagan/Cook-Weisberg of 0.59 and p-value 0.441. Thus, the null hypothesis that state the residuals constantly variable, fail to reject. The p-value is statistically significant with a insignificance level of percent. On the other hand, the table showed no multicollinearity exists amongst the independent variables as revealed by the mean inflation factor (VIF) of 1.11. The decision criteria for the factor of inflation of variance is that a value of 10 or more indicates a perfect multi-linearity (Gujarati). The findings suggest that the random effect regression model is best suite for this model, as demonstrated in the Lagrangian Multiplier specification test, Chi^2 of 56.37 for 1% significance with a p-value of 0.0000.

The finding from Table 4 shows that, in Nigeria's listed oil and gas companies, about 60 percent of the total between explained by the explained variable (return on equity) based on a coefficient of various determinations of the R^2 of 0.4356. The table indicate model fitness about Wald chi2 of 49.57, which remains significant at the 1% meaning of the P-values of 0.0000. We also extend R^2 of Sana'a et al., 2016; Affes et al., 2016; Manuel, Lara, & Osma, 2014; Sanna, 2023; Wang et al., 2017). Therefore, accounting conservatism to firm value gives a better explanation of eliminating information asymmetric to be in line with agency theory in the Nigerian context.

Hypotheses Testing

Table 4 shows that ACF (Asymmetric Accrual to Cash Flow) The coefficient of 0.357 is positive and statistically significant at the 1% level, supporting the hypothesis that greater conservatism measured by ACF increases firm value (ROE). This suggests conservative accounting enhances earnings reliability, reducing risk perception and improving investor confidence. Thus, the study opposed the first null hypothesis (H_{O1}), which states no significant connection between ACF and firm value.

However, Table 4 shows that Basu adjusted default (DAB) conservative accounting measure positively influences equity returns of the oil and gas industries in Nigeria. The coefficient of 0.50 and a t-value of 1.30 statistically remains insignificant at a P-value of 0.193. DAB (Default Adjusted Basu) The coefficient is positive but not statistically significant, indicating that while conservatism adjusted for default risk may be associated with higher firm value, this effect is not strong in the sample. This may be due to measurement challenges or

economic conditions in Nigeria. The study conquered the first null hypothesis (Ho_2), which stated conservatism measurement DAB does not substantially contribute to prolonging the profitability of oil and gas industries in Nigeria.

Control Variables: Firm size and leverage positively and significantly influence firm value, consistent with literature suggesting larger firms and those with moderate leverage enjoy higher profitability.

4.4 Discussion

The findings confirm that accounting conservatism, especially as captured by asymmetric accruals, plays a vital role in enhancing firm value in the Nigerian oil and gas industry. Conservative financial reporting appears to mitigate agency problems by providing more timely recognition of losses and reducing information asymmetry, thereby increasing investors' trust.

The insignificant effect of the Default Adjusted Basu proxy suggests that the impact of risk-adjusted conservatism on profitability may be nuanced or requires further investigation with alternative measures or longer time horizons.

These results align with agency theory and prior research indicating that conservatism protects investors and aligns managerial behavior with shareholder interests (Jensen & Meckling, 1976; Garcia et al., 2009). They also highlight the importance of regulatory frameworks that encourage prudent accounting in emerging markets.

5. Conclusions and Recommendations

This study examined the effect of accounting conservatism on firm value among Nigerian listed oil and gas companies, using two established proxies: Asymmetric Accrual to Cash Flow (ACF) and Default Adjusted Basu (DAB). Employing panel data regression over a 10-year period, the findings reveal that ACF based conservatism significantly and positively impacts firm value as measured by Return on Equity (ROE). This indicates that conservative accounting practices enhance the reliability of financial reports, reduce earnings volatility, and increase investor confidence. Conversely, the DAB proxy, while positive, did not show a statistically significant effect.

These results reinforce the critical role of accounting conservatism as a managerial and regulatory tool to mitigate agency conflicts and information asymmetry in volatile emerging markets. They further suggest that firms adopting prudent accounting policies are perceived as more stable and less risky, attracting investors and fostering sustainable growth.

5.1bPractical Implications:

For Regulators: Nigerian financial authorities, such as the Securities and Exchange Commission (SEC) and Financial Reporting Council (FRC), should encourage the adoption and enforcement of conservative accounting principles to improve transparency and financial reporting quality.

For Investors: The findings provide investors with evidence to consider accounting conservatism indicators as part of their risk assessment and valuation models in emerging markets.

For Corporate Managers: Firms should align their financial reporting practices with conservatism principles to enhance stakeholder trust, reduce information asymmetry, and support long-term strategic decision-making.

Limitations and Future Research:

This study is limited by its focus on a single sector and proxies for conservatism. Future research could explore additional industries, employ alternative conservatism measures, and investigate the role of institutional factors such as ownership structure or corporate governance in moderating the conservatism-firm value relationship. Additionally, the potential link between hidden reserves from conservative accounting and agency theory warrants further investigation.

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