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International Public Sector Accounting Standards (IPSAS) Implementation and Financial Reporting: Issues and Challenges in South-East Nigeria

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Abstract

The main objective of the study was to identify the challenges of IPSAS implementation in the Nigerian Public Sector. This was as a result of low level of accountability and improper application of accounting standards by government institutions. A structured questionnaire was used to elicit information from the various respondents. The population of the study consists of accountants, auditors and cash officers in government ministries, departments and agencies in Abia, Anambra, Enugu, Ebonyi and Imo States. The population was estimated at 8901 for the five States. The sample size of 387 was drawn using the stratified sampling technique. The Analysis of Variance (ANOVA) was used for the hypothesis test. The results showed that the challenges that impinge the full implementation of IPSAS in Nigeria include: governments' unwillingness in terms of political-will towards full IPSAS implementation; statutory adjustment, inadequate funding and institutional commitment among others. It was therefore recommended that there should be adequate funding for the IPSAS implementation projects as most of the Public Sector Entities attributed inability to implement IPSAS Accrual to paucity of funds. Government should also show more political will as well as commitment and support for the accrual basis IPSAS implementation at the Local Government level.

Keywords: IPSAS, Political-Will, Expertise Availability, Institutional Commitment, Statutory Adjustment

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1. Introduction

As the transparency and disclosure of financial information has increased between countries around the world, efforts are being made to increase public confidence in financial reporting. This is also intervened in the globalization resilience through international trades, investments and collaborations (Beredugo, Igbeng, & Eze, 2013). The need to hold the government accountable for results is becoming more desirable. This makes the demand for quality

financial reports imperative as financial reports remain the only means to communicate organisations' financial affairs to its stakeholders.

However, in recent times, even after the implementation of accrual-based IPSAS by some State Governments in Nigeria there still exists contention on the reliability of their financial reports. This could be as a result of the infrastructural gap regarding the need for skilled staff that could effectively translate the standards and should report on some specific areas, particularly in the narrative notes accompanying the financial statements to provide detail explanation of the financial data to the users. Another gap could be the need for a paradigm shift in finance culture and mindset to exploit the opportunities presented to drive value. Reports from some States in Nigeria shows audit qualifications on government's assets; income and receivables; uncommon and extravagant expenditure; and investment property. Technical accounting issues and challenges include valuation, depreciation, impairments and fair value of investment property, while the existing technology in some States does not equally support full IPSAS implementation (Izueke, Onah, Ugwuibe, Okwueze, Agu, Ugwu & Ezeibe, 2020).

IPSAS is the focal point of the global government accounting revolution. It is the response to calls for more government accountability and financial transparency. On the other hand, comparability, reliability, and relevance of financial information are key issues in the IPSAS and it is here that significant changes with major implications for IPSAS takes place. IPSAS indeed poses homogenizing effect on the Nigerian public sector financial reporting system. These effects also revolve in the application of some unique standards that are completely alien to government financial reporting in Nigeria.

1.2 Statement of the Problem

The IPSAS accrual basis financial reporting framework is expected to be a successful tool to address government provision of financial information problem, but there still exist infrastructural gaps in the public sector that is required for the full IPSAS implementation. Financial reports had continued to witness a low level accountability and improper application of accounting standards by government institutions in the Nigerian Public Sector. In a study conducted by FAAC (2020), it was also alleged that some States that have implemented IPSAS do not fully comply with the reporting requirements.

Revamping institutional commitments and engaging in statutory adjustments toward IPSAS implementation have become important issues confronting the financial reporting quality in Nigerian Public sector (Babatunde, 2017). It is no doubt that some challenges were responsible for the nonconformity with the trend in globalization and when they are adequately addressed it would enhance full IPSAS implementation in Nigeria. It is the pervasive nature of IPSAS challenges that led to the following question begging for answer which include if there are differences in the opinion of accountants, auditors, cash officers on the challenges of IPSAS implementation in the Nigerian Public Sector?

2. Literature Review

There is a broad agreement that as a matter of corporate policy, every organization be it government or private entities should strive to be committed in a manner that is ethically transparent through effective financial reporting (Ebitu & Beredugo, 2015). Financial

statements of governments are expected to be fashioned after the standards established by the IPSASB.

The acceptance of IPSAS by government entities is driven by the need to increase efficiency, accountability, and expertise in public resource management (Aggestam, 2010). This is also underpinned on the agency theory wherein the agency cost can be reduced by educating government officials and others privy to the financial statement and by disclosing more information in the financial statement in order to enhance more transparency, and effective use of government resources in the right direction. By implication, stakeholders expect cumulative income to be used in an appropriate, practical and well-thought-out manner, in line with strategic management ideals. In view of this government should give stewardship of its affairs through acceptable standards (Igbeng, Beredugo & Adu, 2015).

Accrual based IPSAS incorporates relevant standards basically to make decisions through extensive asset and liability reporting and enhanced financial management by providing an overview of a company's overall financial position by providing an immediate comparison between accounting periods while improving strategic planning (Aggestam, 2010). This hybrid level of measurement and disclosure is also used in informing interested publics on government activities.

Accrual IPSAS improves the ability to provide accurate information on resources, debt and income, thereby improving communication with a variety of stakeholders (Wong, 1998). Accrual accounting also improves the ability to obtain comprehensive cost information. This is a key factor in improving an organization's planning, governance, and accountability (Chan, 2003). The Accrual based IPSAS was advocated because of the failure in the cash basis accounting system of the public sector. The Accrual based accounting recognizes both cash and non-cash transactions reflecting the true cost of an entity's operations. This was not the case for cash accounting (Biraud, 2012).

Accrual based IPSAS has made some changes to the accounting methods for assets, mostly long-term assets. It brings about the full disclosure of all assets and liabilities irrespective of when payment is made (Diamond, 2002). Robinson (2008) found that IPSAS also ensure that assets are carried at their recoverable costs and proper treatment of depreciation and some of the cost of capital are adequately treated to improve the conceptualization.

2.1 Challenges of IPSAS Implementation in the Nigerian Public Sector

Although the Nigeria Government at the federal level has fully accepted IPSAS since January 2016 (Ugwumadu, 2015), each of the 36 States in Nigeria has its distinct implementation period. With respect to the Financial Reporting Commission (FRC) Act of 2011, the FRC is in-charge for establishing IPSAS-compliant framework. The FRC has developed a roadmap for the phased acceptance and implementation of IPSAS at all levels of the Federal Government of Nigeria. The FRC says it hopes IPSAS will help attract foreign investment, improve financial management, transparency, accountability and combat corruption. Nigeria is working to improve financial reporting and accountability, but we need to do more from a best practice perspective. Some government agencies have not relocated to IPSAS as needed (Premium Times, 2016).

The Nigerian Accountant General acknowledged that the country needs to develop its accounting capacity to meet the requirements for implementing IPSAS. Akhidime, (2012) concluded that the quality and accountability of financial reporting in the public sector of Nigeria leaves room for improvement. There are also ongoing challenges with the internal audit function of some entities.

Most States have partially adopted the accrual-based IPSAS, but are waiting for the completion of certain financial management information system projects that support full implementation. Some states use the built-in IPSAS but it is not fully in compliance with actual IPSAS requirements due to legal adjustments. The quality of accounting in Nigeria's public sector remains a serious problem, although the number and number of ratings has declined. The main reason for qualified, unfavorable and negative opinions is the inadequate or lack of documentation of the amounts disclosed in the financial statements (FAAC, 2020).

In particular, infrastructure assets, revenue and accounts receivable have been identified as problem areas. Examples of some local government review paragraphs that received rated audit opinions suggest that qualifications are mainly associated with financial management instead of financial reporting standards (Akinleye & Alaran-Ajewole, 2018). A common area of qualification is related to long-term assets. Income and accounts receivable; regulation; irregular and extravagant spending and investment in real estate. Common evaluation issues include misrepresentations due to lack of support documentation and inconsistent display of documentation. Technical accounting challenges are associated with impairment, accounting for fair value of assets, other valuation and staff challenges (Onuba, 2018).

Indeed, the Nigerian public sector faces a number of challenges in implementing IPSAS. Some of them are associated with certain accounting issues, such as incomplete and inaccurate records that are not available to determine opening balances and valuation issues for certain types of assets and complex financial instruments (Akinleye & Alaran-Ajewole, 2018). But there were also broader issues. Ability issues that lead to excessive reliance on donor funding and consultants, talent and skills issues with a lack of appropriate IPSAS skills. There is also the issue of accounting and budget integration. As a result, both frameworks are compatible and government can be held accountable for how they use their allocated resources. Specifically, the challenges of implementing IPSAS in Nigeria are listed under the following headings:

2.1.1 Political-will to implement IPSAS

The level of knowledge and understanding of the IPSAS framework, as well as the level of stakeholder involvement in its adoption, varies considerably from State to State. Public institutions, ministries, legislators, politicians, and the general public are accustomed to the principles of cash accounting (Akhidime, 2012). Successful adoption of IPSAS requires the understanding, education and participation of key stakeholders such as politicians, auditors, accountants, state-owned banks and ministries. This is difficult and government executives need to participate in auditing and financing functions with the public accounting committee (or equivalent) to support the process. If the change is introduced, the change will not succeed. Political will of implementation is required and a "champion" is necessary for IPSAS to gain momentum. Similarly, IPSAS approval requires successful internal participation. We need

cross-functional support, a strong partnership between finance and auditing. Support for auditing capabilities is especially important (Harjowiryo, 2016).

2.1.2 Cost of implementation

Nigeria has decided to adopt IPSAS for all government agencies on the same day as International Financial Reporting Standards. Therefore, resources were insufficient and the initial consultation cost was high. Implementation costs (finance and resources) are underestimated from a financial and auditing perspective. The implementation cost was enormous. This includes training, the use of specialized external consultants, IT updates, and the cost of developing appropriate translation and guidance tools. All Nigerian states have adopted IPSAS in conjunction with a broader financial management improvement program that requires additional investment (FAAC, 2020).

Existing technologies do not necessarily support implementation. It is expensive and requires expert advice and consultation to support setup, replace existing IT systems, data structures, and spreadsheets. The reporting system and structure need to be updated as part of the migration process.

2.1.3. Expertise availability

The need to train staff on the standards and systems used was greater than expected, and the public sector lacked relevant knowledge and skills, requiring manuals to be developed. As a result, most Accountant General Offices across the country lack competence, experience and skills, and as a result, offices do not regulate accounting policies or guidelines.

FAAC (2020) also identified that the accounting of some States that implemented IPSAS was not fully compliant with IPSAS. That is, government guarantees and debt are undervalued. Resources and liabilities are not properly accounted for. Pension debt is not considered. Managing the change process, such as accepting staff and stakeholders and developing effective communication strategies, was difficult. Human resources were needed to support the deployment of computerized growth-based systems. Fixed asset accounting was a particular challenge, as fixed asset records were not retained in older cash accounting systems (Alleyne, 2014).

Ministries and government agencies lack the required skills, competencies and staff levels. IPSAS implementation requires training, hiring and retention of qualified staff with IPSAS proficiency. Other technical challenges to overcome are the lack of knowledge and understanding of IPSAS. Other topics include translation of values and manuals (Onuba, 2018).

The skills gaps described in this study include a wide range of information areas, primarily the descriptive information that follows financial statements to explain what financial data tells users. IPSAS implementation requires not only a radical shift in skills, but also change in financial culture and ideas to gain access to the resources professionals provide to generate profit. In addition to the required skills, there must be balance between the internal and external resources. Caution should be taken with consultants, ensuring that appropriate knowledge is transferred to long-term indoor staff. Long implementation deadlines mean that staff is not always involved, so entities need to consider ways to maintain organizational memory and retain implicit organizational knowledge throughout the process. Means Implementation also requires new business models and spreadsheets (Onuba, 2018).

2.1.4. Statutory adjustment

The challenge of structural reforms to address the implementation of IPSAS is a major challenge. Legal amendments, new regulations and government practices are needed. It is complex, time consuming, and varies from State to State. Government standards bodies and funding committees must take responsibility for reviewing and reflecting country-specific interpretations and applications. Most States have chosen to introduce advanced cash standards as a useful milestone for the full implementation of IPSAS. The implementation plan does not fully reflect the constitutional, national, state and local conditions. Other issues include lack of project management and defined milestones, lack of legislative framework to implement IPSAS, and lack of resources and investment in processes.

Some States that have begun implementing accrual IPSAS, have witnessed deviations from IPSAS requirements to comply with the statutory / legislative requirements of financial reporting; although, for them, such a difference does not mean a difference that goes against the purpose of the financial statement listed in IPSAS as described in paragraph 31 of IPSAS 1. However, it is clear that such a difference is necessary and, as such, the Government cannot claim to comply with IPSAS. Therefore, structural and legal changes are needed. Government regulatory frameworks strengthen the need to change the environment of information systems to support IPSAS integration and disclosure requirements, the technical challenges of integrating State entities implementing IPSAS, and staff capacity in application of IPSAS (Onuba, 2018).

2.1.5 Institutional commitment

The issue of compromise from most Nigerian state governments further paralyzed the full implementation of IPSAS. Nigeria began implementing accrual-based IPSAS in 2016, and since then some lessons have been learned and challenges have been identified. From the process to the present, most government accounting contains errors, some of which were years old. We needed policies to address these errors in the past and the new technology needed by ministries to revise their accounts. The integrated financial system failed to comply with the detailed spreadsheets required to implement IPSAS. IPSAS based computer information system is required. In most cases, State governments have adopted standards consistent with cash-based IPSAS without announcing their commitment to adopt IPSAS on an accrual basis (FAAC, 2020).

3. Research Method

3.1 *Research Design*

The survey research design was used to investigate the Challenges of IPSAS Implementation in the South East of the Nigerian Public Sector. This is undertaken by administering a questionnaire to accountants, auditors and cash officers in government's ministries, departments and agencies.

3.2 Population and Sample size determination

The accessible population of the study comprises staff of all accounting departments of various ministries and local government areas, in the five South-East States, in Nigeria. This population consists of professional accountants and auditors in Anambra State, Abia State, Enugu State, and Imo State. The population was 8901 for the five states, while the sample size used was 397 after the application of the Yamane (1967) sample size determination techniques. The stratified sampling was used to ascertain the respective respondents from the 5 states. The collected data were tested for reliability using the Cronbach alpha and a reliability result of 0.7721 was arrived at indicating that the instrument was reliable.

3.3 Method of Hypothesis Testing

The Analysis of Variance (ANOVA) was applied to test the hypothesis stated in a null (H_0) form that there are no significant challenges of IPSAS implementation in the Nigerian Public Sector.

4. Finding and Discussions

4.1 Data presentation and Analysis

Table 1 contains information on items 1 to 5. This information is on factors affecting IPSAS implementation. Items 1 reveal that 5 (1.3%) and 50 (12.9%) respondents respectively were undecided and strongly disagree that Political-will is a factor affecting IPSAS implementation, 103 (26.6%) respondents, on one hand, disagreed, 150 (38.8%) agreed while 79 (20.4%). Item 2 shows that 9 (2.3%) respondents were undecided that cost of implementation is factor affecting IPSAS implementation. It was discovered that 72 (18.6%) respondents strongly disagreed to the assertion, 73 (18.9%) disagreed, 163 (42.1%) agreed; while 70 (18.1%) strongly disagreed

Table 1: Distribution of Responses on factors affecting IPSAS implementation

Component of factors affecting IPSAS implementation:	U	SD	D	A	SA	Total
1) Political will towards IPSAS implementation	5 1.3%	50 12.9%	103 26.6%	150 38.8%	79 20.4%	387 100%
2) Cost of implementation	9 2.3%	72 18.6%	73 18.9%	163 42.1%	70 18.1%	387 100%
3) Availability of expertise	4 1.0%	49 12.7%	115 29.7%	171 44.2%	48 12.4%	387 100%
4) Statutory adjustment	8 2.1%	38 9.8%	84 21.7%	112 28.9%	145 37.5%	387 100%
5) Institutional commitment	21 5.4%	33 8.5%	115 29.7%	131 33.9%	87 22.5%	387 100%

Source: Field Survey, 2021

Item 3 shows that 4 (1.0%) respondents were undecided that the availability of expertise was a factor that affects IPSAS implementation, 49 (12.7%) respondents on the other hand strongly disagreed with the assertion, 115 (29.7%) respondents disagreed, 171(44.2%) agreed, while 48 (12.4%) strongly disagreed. item 4 also shows that 8 (2.1 %) and 38 (9.8%) respondents were undecided and strongly disagreed respectively that statutory adjustment is a factor affecting IPSAS implementation. 84 (21.7%) respondents disagreed, 112 (28.9%) respondents agreed, while 145 (37.5%) respondents strongly agreed. item 5 reveals that 21 (5.4%) respondents were undecided while 33 (8.5%) respondents strongly disagreed that institutional commitment is a factor affecting IPSAS implementation; 115 (29.7%) respondents on the other hand disagreed; 131(33.9%) agreed, while 87 (22.5%) strongly agreed.

4.2 Test of Hypothesis

Table 2 a, b shows the result of the Analysis of variance of the opinion of Accountants, Auditor and cash officers on the challenges of IPSAS implementation in the Nigerian Public sector.

Table 2 a. Group Statistics

IPSAS challenges

Designation	Mean	N	Std. Deviation
Accountants	16.4818	137	6.46836
Auditors	17.0093	108	6.15151
Cash officers	16.8873	142	6.37270
Total	16.7778	387	6.33374

Source: Field Survey, 2021

Table 2 b

ANOVA Table

		Sum of Squares	Df	Mean Square	F	Sig.
IPSAS Challenge Designation	Between (Combined) Groups	19.497	2	9.748	.242	.785
	Linearity	11.287	1	11.287	.280	.597
	Deviation from Linearity	8.209	1	8.209	.204	.652
	Within Groups	15465.392	384	40.274		
	Total	15484.889	386			

Source: Field Survey, 2021

The result from the f –statistics shows that there is no significant difference in the perception of the respondents on the challenges of IPSAS in the Nigeria public sector. This was further evidence in the mean and standard deviation which shows accountant had (M=16.4818, SD=6.46836), Auditors (M=17.0093, SD=6.1515) and Cash Officers (M=16.8873, SD=6.3337). $f(384) = .242$, $p=.785$. The magnitude of the differences in the means was equally insignificant (eta squared = 0.001).

H₀: There is no significant difference in the opinion of accountants, auditors, cash officers on the challenges of IPSAS implementation in the Nigerian Public Sector.

The result from the F – statistics shows that there is no significant difference in the perception of the respondents on the challenges of IPSAS in the Nigeria public sector. This was further evidence in the mean and standard deviation which shows that accountant had (M=16.4818, SD=6.46836), Auditors (M=17.0093, SD=6.1515) and Cash Officers (M=16.8873, SD=6.3337). $f(384) = .242$, $p=.785$. The magnitude of the differences in the means was equally insignificant (eta squared = 0.001). H₀ is retained and H₁ is rejected.

Thus, there are no significant differences in the opinion of accountants, auditors, cash officers on the challenges of IPSAS implementation in the Nigerian Public Sector.

5. Summary

Result from the hypothesis shows that there are no significant differences in the perception of respondents (accountants, auditors, cash officers) on the challenges of IPSAS implementation in the Nigerian Public Sector. The challenges discovered are political will toward IPSAS implementation, cost of implementation, availability of expertise, statutory adjustment and institutional commitment. Evidently all respondents from the five States collectively agreed that key stakeholders such as political office holders are showing little enthusiasm in the implementation of accrual based IPSAS for some obvious reasons. The respondents were also of the opinion that the huge cost of implementation such as: costs of training, the use of specialized external consultants, IT upgrades and the development of appropriate guidance and translation tools have continued to impede full accrual based IPSAS implementation. Another important challenge was the need for expertise to supports accrual based accounting technology which is deficient in the wake of IPSAS implementation. There is also a need for structural reform to accommodate accrual based IPSAS requirement while there is little or no commitment in ensuring that accrual-based IPSAS is implemented in the required time-frame.

Governments' unwillingness in terms of political-will towards full IPSAS implementation, statutory adjustment as well as institutional commitment among others have continued to truncate the efficacy attached to IPSAS implementation drive in Nigeria.

There should be adequate funding for the IPSAS implementation projects as most of the Public Sector Entities attributed inability to implement IPSAS Accrual to paucity of funds. Government should also show more political will as well as commitment and support for the accrual basis IPSAS implementation at the Local Government level. There should be efforts to intensify the three tiers of government towards the passage of enabling laws and Public Finance Management Legislation.

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Study The Link Between Accounting and Taxation Practice in Vietnam

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Abstract

The objective of the study is to analyze and evaluate the link between accounting and taxation through the synthesis of domestic and foreign studies, combined with analysis of specific regulations in Vietnam. The study identifies 11 contents that have an interference between accounting and tax to conduct surveys in enterprises. After analyzing and explaining the survey results, the researcher decides to choose 06 representative contents in choosing the rules according to the level (low, medium, high) to conduct the analysis. The research results show that the tendency to choose to use accounting rules higher than tax rules and the link between accounting and taxation in Vietnam is moving to become more independent. At the same time, large enterprises will prefer the use of accounting rules over tax rules and vice versa for small and medium enterprises. Through the results of this research, policy makers can identify the position of the link between accounting and taxation, and then make decisions to adjust the relationship between accounting and taxation appropriately with the integration and development of Vietnam's economy.

Keywords: Accounting, Tax, Link, Rules, Content.

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1. Introduction

The relationship between accounting and taxation is a topic attracting more and more attention of researchers around the world through a lot of discussions, articles and analysis which have been done to understand their influences and existing relationships. Solving the relationship between the accounting system and tax regulations is not only an important job of tax authorities and businesses, but also influences the economy development. The accounting system and tax laws are two important policy systems of a country. The purpose of accounting is generally believed to provide interested parties with information related to management, control, and decision-making. The relationship between accounting and taxation develops in different stages in different countries. In Vietnam, in the period of centrally planned economy (before 1986), taxation and accounting followed the Soviet model, which served the common purposes of the State. Since 1986, Vietnam's economy has transformed to a socialist-oriented market economy, the accounting and tax systems have undergone many

changes and have been greatly reformed as well. Until now, accounting and taxation in Vietnam have made new developments when the separation has increased. However, this separation is essential for the developments. In order to assess the separation between accounting and taxation, this study focuses on analyzing the relationship between accounting and taxation in Vietnam in the current period through 06 connection contents, from which the research shows the selection trend of using accounting and tax rules. What is the relationship between accounting and taxation in Vietnam? Then researchers have to base on the results to bring about conclusion.

2. Literature Review

2.1. Overview of The Research on The Relationship Between Accounting and Taxation

There have been many studies conducted to understand the relationship between accounting and taxation in many countries in the world. It is generally assumed that this relationship develops differently between countries, periods and historical contexts of each country. There are two fundamentally different relationships between accounting and taxation which are “independent” and “dependent” ones (Hoogendoorn, 1996). Although this relationship is dependent or independent, the relationship is still considered to be the same in general. When it is considered to be independent, it does not mean that there is no intersection between accounting and taxation, but just a weak relationship. Accounting principles and tax regulations are two concepts developed and applied by two different bodies, so the principles are often not identical due to different purposes (Duhanhxiu & Kapllani, 2012), which leads to different regulations. However, the relationship between accounting and taxation is never completely independent, they always govern each other in various manners, tax liabilities are based on accounting principles (Alley & James, 2005) and accounting is affected by taxation (Fekete et al., 2012). Therefore, it can be asserted that there is a real dependence of accounting on taxation and vice versa. The relationship between accounting and taxation can take the following forms: the accounting principles are consistent with tax regulations, the degree of relationship and the similarity between the two systems.

In fact, the relationship between accounting and taxation is much more complicated due to the difference in perception or approach. The relationship between accounting and taxation is considered to be a significant improvement, since taxation and accounting govern each other (Shaviro, 2009) and there is always a relationship between them (Cuzdriorean, 2012). The relationship degree between accounting and taxation can vary depending on countries (due to differences in accounting between countries) as well as the size of businesses.

Lamb et al. (1998) developed a method to assess and classify the relationship between accounting and taxation in countries into five cases, including: case I (disconnection), in which the accounting and tax rules are different and are applied differently depending on mentioned types (accounting rules for accounting profits and tax rules for taxable profits); case II (identity), in which accounting and taxation must follow the same principles; case III (accounting leads), in which accounting principles are used in both determining accounting profits and taxes (accounting leads), accounting principles are more specific than tax rules; case IV (tax leads), in which accounting profits are determined according to accounting and tax principles, and tax profits are determined according to tax principles, tax principles are more specific than accounting principles; Finally, case V (tax dominates), in which tax principles are used to determine taxable income and accounting profits (Diagram 1).

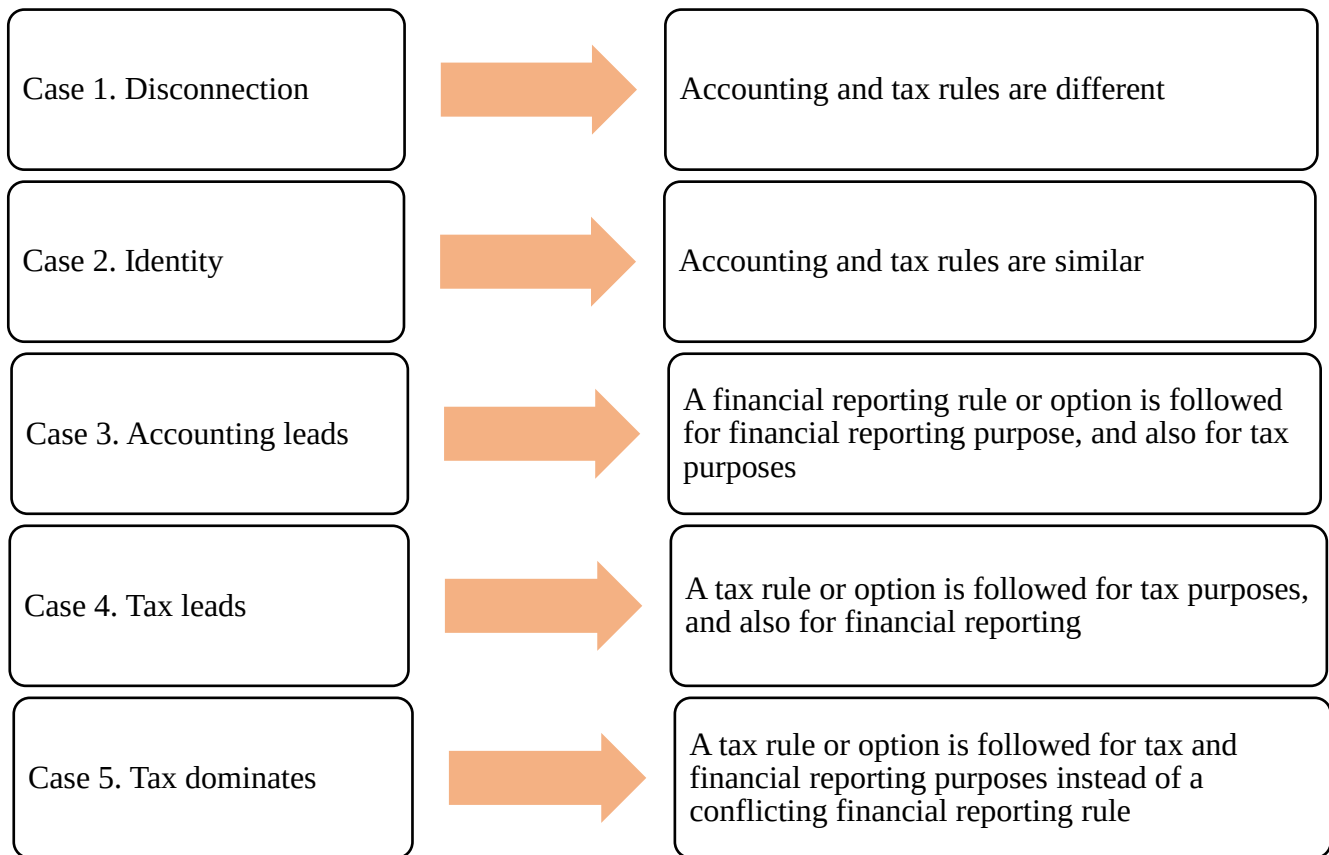


Diagram 1. The research model of the relationship between accounting and taxation

Source: Author's projection based on study conducted by Lamb et al. (1998)

2.2. The Relationship Between Accounting and Taxation

2.2.1. The basis for determining the relationship between accounting and taxation

Lamb et al. (1998) based on 15 contents of the relationship between accounting and taxation (the record and valuation of fixed assets; financial leases and operations; provisions, assets and contingent liabilities; allowances; research and development costs; inventory valuation; long-term contracts; interest expenses; foreign currency transactions; non-consolidation purchased goodwill; pensions; changes in accounting policies and serious mistakes; scope of accounting; fines, charitable donations, entertainment expenses) in order to assess the taxation-accounting relationship which is classified into five cases (Diagram 1). When analyzing the relationship between accounting and taxation for listed Spanish companies, Gallego (2004) identified the following contents, including: income tax expenses, welfare regime, pension provisions, accelerated depreciation, or reinvestment tax exemptions which are differences between accounting and tax profits. Continuing to develop the research method of Lamb et al. (1998), Nobes & Schwencke (2006) built a model to develop and evaluate the relationship degree between accounting and taxation in Norway and proposed to add more principles on fixed asset devaluation and financial asset measurement, which was different for the research of Lamb et al. (1998).

In Vietnam, based on the method of Lamb et al. (1998), Nobes & Schwencke (2006), Nguyen Cong Phuong (2010) conducted a research on the relationship between accounting and taxation in Vietnam and adjusted the contents used to assess the relationship between accounting and taxation in order to conform to specific regulations in Vietnam, including: contingent liabilities and liability provisions; consolidation purchased goodwill; revenue recognition; accrual expenses, amortization expenses, the rate of provisions; and expenses for marketing, advertising, promotions, meetings. Based on the above studies, this study has determined 17 typical overlapping contents between accounting and taxation, including: (1) fixed asset measurement; (2) fixed assets depreciation; (3) Classification of leases; (4) Grants and subsidies; (5) Contingent liability and provision; (6) Research and development expenses; (7) Inventory valuation; (8) Interest expenses; (9) Foreign currency transactions; (10) Consolidation purchased goodwill; (11) Government grants and subsidies; (12) Changes in accounting policies, accounting estimation and serious mistakes; (13) The scope of accounting entity and taxpayers; (14) Fines, compensation, charitable donations, entertainment expenses; (15) Revenue recognition; (16) Revenue recognition from financial operations; (17) Accrued expenses, amortized expenses, provisioning rate.

2.2.2. The relationship between accounting and taxation in Vietnam

On the basis of the content connections between accounting and taxation identified in section 3.1. The study conducted a preliminary analysis based on the compulsory accounting principles and tax rules in Vietnam and decided to remove 06 items from the survey because these contents of accounting and taxation are similar, which is based on some of the following arguments:

Fixed asset measurement: Basically, both accounting and taxation apply the historical cost principle to record the historical cost of fixed assets. The relationship between accounting and taxation is independent in some specific cases, so this content is not a general representation.

Research and development costs: In this case, taxation is based on accounting, because the record of research and development costs in accounting is more detailed than that of tax regulations as follows: Research and development costs that do not meet the criteria of intangible fixed assets are recognized immediately as production and business expenses (Ministry of Finance, 2014a).

Changes in accounting policies, accounting estimation and serious mistakes: In this case, taxation is based on accounting, because accounting clearly prescribes and instructs the principles and methods of accounting. When there are changes in accounting policies, accounting estimation and serious mistakes, which is required for the preparation and presentation of the financial statements (Ministry of Finance, 2005a), but there are no detailed instructions and regulations in taxation on this issue.

Classification of leases: In taxation, the classification of leases is not clearly regulated, so taxation relies on accounting.

Consolidation purchased goodwill: The goodwill determination is particularly regulated in accounting (Ministry of Finance, 2005b; Ministry of Finance, 2014b). However, in taxation, this content is not fully stipulated because the consolidated financial statements have not been used for tax purposes.

The scope of accounting entities and taxpayers: According to accounting, an accounting entity is an agency, organization or unit that prepares financial statements and is responsible for providing timely, complete, truthful and transparent accounting information and

documents to organizations and individuals as prescribed by law (National Assembly, 2015). According to taxation, taxpayers are all organizations, business households, manufacturers that earn income and must pay tax.

Thus, after removing 06 items from the survey, the study focused on building a survey questionnaire based on 11 content connections between accounting and taxation in Vietnam according to Diagram 2.



Diagram 2. The contents of the link between accounting and taxation in Vietnam

Source: Author's recommendation

3. Research Method

3.1. Questionnaire Design for Survey Research

The survey questionnaire in the study was built to determine the preference for using accounting principles, tax rules or both through 6 content connections between accounting and taxation in Vietnam.

In terms of the survey structure, it consists of two parts as follows: Part A - Respondents are categorized according to professional experience and business sizes. Part B - 11 selected content connections (questions are formulated about preference for using accounting principles).

3.2. Data Collection Methods

The data of the study is collected through primary and secondary sources. The secondary data is collected from conference documents, seminars, topics, scientific articles... related to the research. The primary data is collected from the survey by detailed survey questionnaires

through direct interviews or via emails or random posts to 200 accountants in different provinces of Vietnam, including: Hanoi, Hai Phong, Bac Ninh, Nam Dinh, Ha Nam, Thua Thien Hue, etc. The questionnaire is about the content connection between accounting and taxation based on 11 contents of the section 3.2. As a result, 185 questionnaires are valid, reaching the rate of 88%. The survey period is from March to July 2020.

3.3. Data Analysis Methods

The study uses cross-table analysis to test the relationship between accounting and taxation based on the content connections. Researchers apply Chi-square. Meanwhile, comparative analysis is used to identify trends in different business types.

4. Finding and Discussion

4.1. Descriptive Statistics of the Study Sample

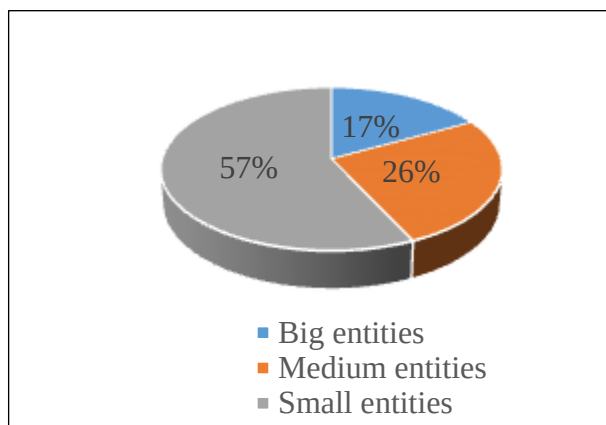
The collected survey results of sections A and B are presented in tables, charts and explanations related to accounting principles or tax rules or both which are selected by correspondents (the tables and charts below).

The first part of the survey consists of two general questions regarding the respondents' experience in the accounting field (Table 1) and the size of enterprises (Figure 1).

Table 1. The respondents' experience

Experience	Quantity	Percentage (%)
From 0 – 5 years	62	34
From 5 – 10 years	80	43
More than 10 years	43	23

Source: Survey results



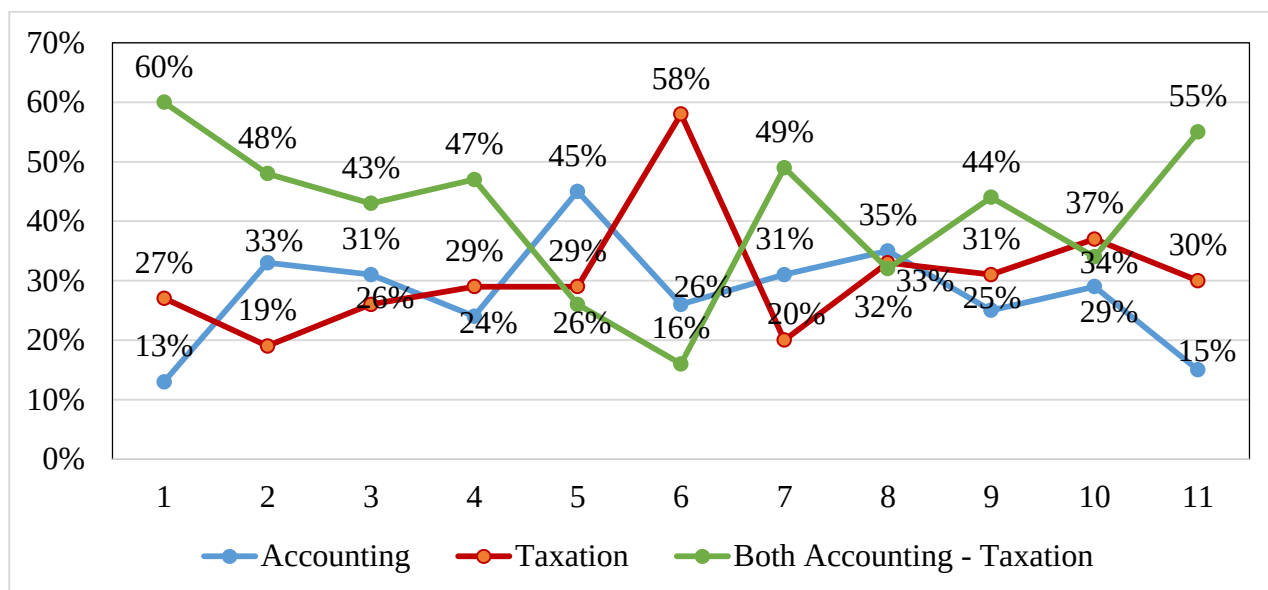
Source: Survey results

Figure 1. Size enterprises of surveyed

4.2. Research Results and Discussion

The next section explains the choice of using accounting principles, tax rules or both through the content intersections between accounting and taxation.

The details are presented in Figure 2.



Source: Survey results

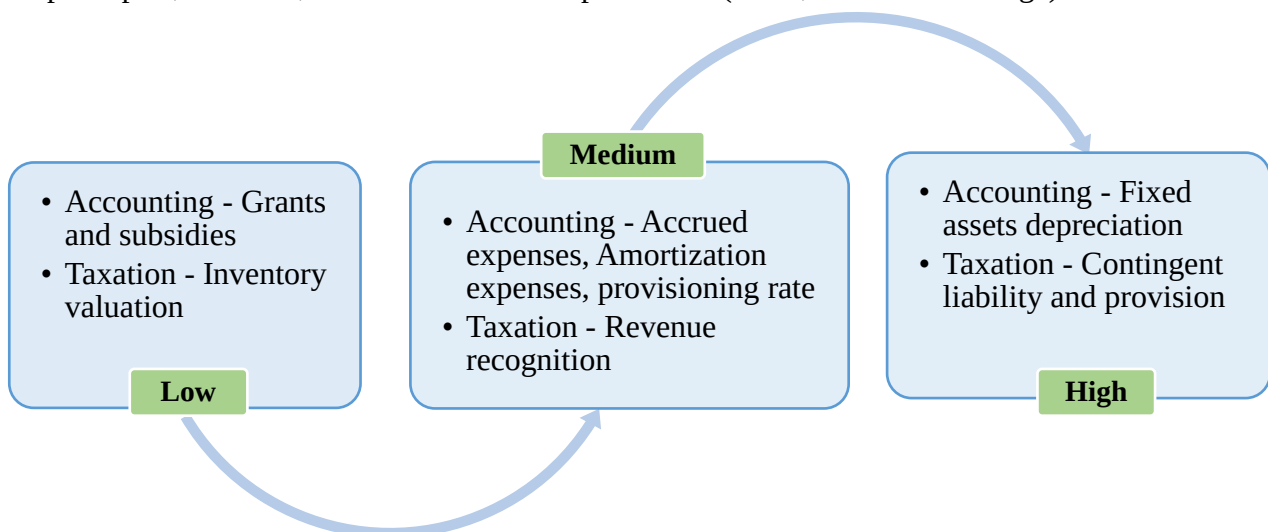
Figure 2. Survey results on the use of different rules in different contents

From the survey results illustrated above, Figure 2 shows:

- (1) Grants and subsidies: In this case, the least common options is using accounting principles (13%), the most common is using both accounting principles and tax rules (60%).
- (2) Inventory valuation: In this case, most respondents choose to use both accounting principles and tax rules (48%), while using the accounting is 33% and tax percentage is quite low, at only 19%.
- (3) Interest expenses: In this case, the number of respondents using both accounting and tax rules is highest (43%), followed by correspondents of accounting principles (31%) and the last is correspondents of tax rules (26%).
- (4) Foreign currency transactions: This case is similar to case 3, in which the number of correspondents using both rules is highest (47%). However, the number of people choosing accounting principles is only 24%, the rest of people choosing tax rules is 29%.
- (5) Fixed assets depreciation: Most respondents choose the accounting method of depreciation (45%), followed by those who use tax depreciation recognition (29%) and the rest choose both (26%).
- (6) Contingent liability and provision: Most of the respondents use tax rules (58%), while choosing to use accounting rules accounts for only 26%. This shows that there is a significant difference; the rate of using tax rules is 2 times higher than that of using accounting principles.
- (7) Fines, compensation, charitable donations, entertainment expenses: In this case, the number of people choosing to use tax rules is lowest (20%), the number of people choosing to use both rules is highest (49%). The rest of choosing accounting principles accounts for 31%.

- (8) Accrued expenses, amortized expenses, provisioning rate: The survey data shows a relative balance among options (accounting principles, tax rules, and both).
- (9) Revenue recognition from financial operations: In this case, tax users (31%) are higher than accounting users (25%). However, most respondents chose both rules (42%).
- (10) Revenue recognition: In the case, the survey data shows similarities among choices.
- (11) Government grants and subsidies: In this case, most respondents choose both rules (55%), tax users (30%) are higher than accounting users (15%).

In order to analyze and evaluate the collected data from the survey, the study conducted an overall data analysis to observe the practical situations between accounting and taxation. Through the above analysis of the survey results, we can see that there are relatively equal choices in accounting principles and tax rules. Therefore, this study focuses on combining situations related to the choice of using accounting principles, tax rules corresponding to low, medium and high levels, specifically: The (1) Grants and subsidies and (2) inventory valuation are considered low; (8) accrual expenses, amortization expenses, provisioning rate and (10) revenue recognition are considered average; (5) fixed assets depreciation and (6) contingent liabilities and provision are considered high. These results are presented in detail in Figure 3. Meanwhile, the study analyzes the survey results of 6 contents corresponding to the low, medium and high levels in order to determine the practical trends of using accounting principles, tax rules, or both rules in enterprise sizes (small, medium and large).



Source: Research results

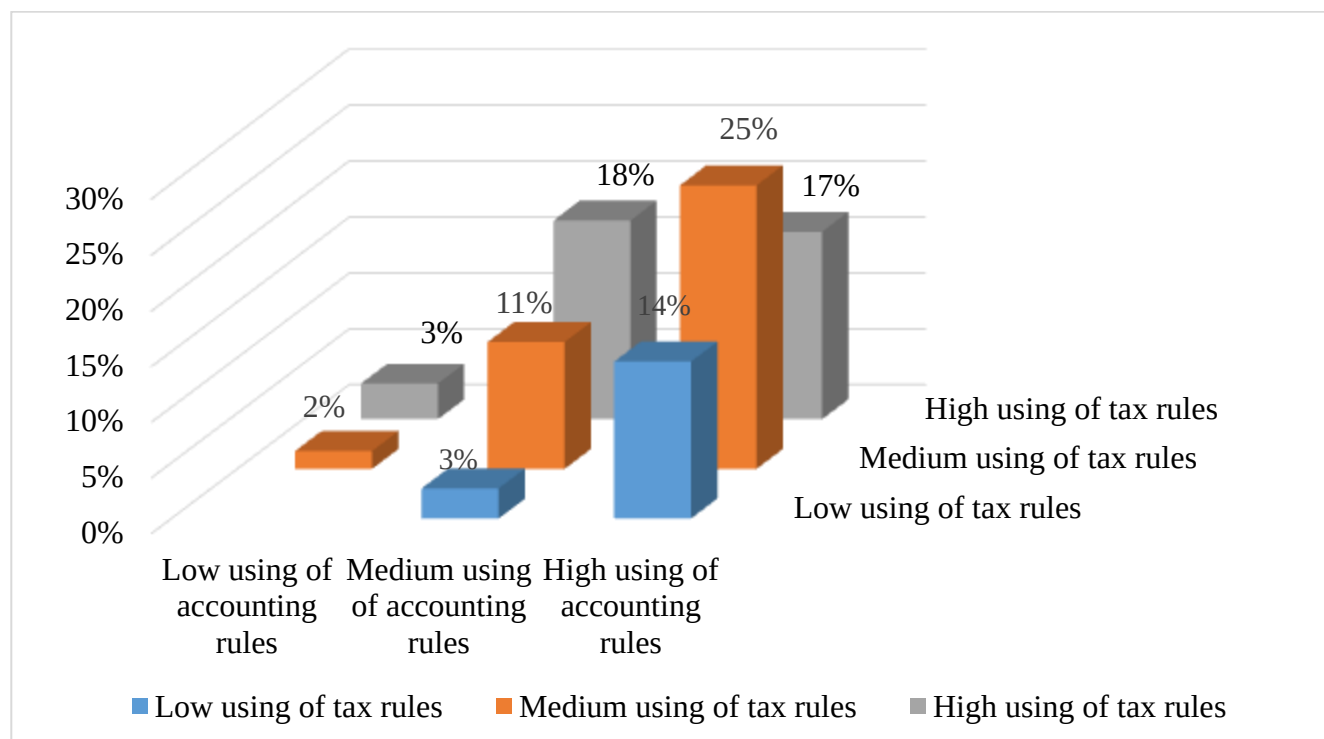
Figure 3. Selection of using rules according to low, medium and high levels

Based on classification results of Figure 3, the study analyzes the relationship between accounting and taxation based on 6 contents arranged from low to high levels by analyzing the following criteria: Cross-tabulation analysis using the descriptive statistics software SPSS 20 whose data analysis results are shown in Table 2.

Table 2. Results of cross-tabulation data analysis collected from the survey

		Low using of Accounting rules		Medium using of Accounting rules		High using of Accounting rules	
Low using of tax rules	Count	0	$(\chi^2 = 16,398, df = 4, sig = 0,003).$ Cramer's V = 0,211	5	$(\chi^2 = 11,621, df = 4, sig = 0,020).$ Cramer's V = 0,177	26	$(\chi^2 = 15,905, df = 4, sig = 0,003).$ Cramer's V = 0,207
	Expected Count	4.5		12.1		15.7	
	% within Taxation	0%		14%		74%	
	% within Accounting	0%		8%		31%	
	% of Total	0%		3%		14%	
Medium using of tax rules	Count	3	$(\chi^2 = 14,377, df = 4, sig = 0,006).$ Cramer's V = 0,197	21	$(\chi^2 = 18,031, df = 4, sig = 0,001).$ Cramer's V = 0,221	47	$(\chi^2 = 26,614, df = 4, sig = 0,000).$ Cramer's V = 0,268
	Expected Count	8.8		23.5		30.5	
	% within Taxation	4%		31%		69%	
	% within Accounting	13%		33%		57%	
	% of Total	2%		11%		25%	
High using of tax rules	Count	6	$(\chi^2 = 12,931, df = 4, sig = 0,012).$ Cramer's V = 0,187	33	$(\chi^2 = 25,797, df = 4, sig = 0,000).$ Cramer's V = 0,264	31	$(\chi^2 = 28,928, df = 4, sig = 0,000).$ Cramer's V = 0,280
	Expected Count	13.9		37.0		48.0	
	% within Taxation	6%		31%		29%	
	% within Accounting	25%		52%		37%	
	% of Total	3%		18%		17%	

Source: Research results



Source: Research results

Figure 4. Selection degrees of accounting principles and tax rules

According to the analysis results performed (Table 2), it can be seen that, there is a relationship between accounting and taxation due to the treatment difference in 6 contents (all values Sig.<0.05). However, their content connections are at different levels. At the same time, the research results show that the accounting principle selection is quite high (56%) compared to that of tax rules (38%) – Figure 4. This means there is a separation trend between accounting and taxation in accounting practice. In other words, the relationship between accounting and taxation has been diminished gradually because accounting is affected by taxation. This separation is arranged according to various levels (low, medium, high) and the relationship is different due to diversified contents (Grants and subsidies; Inventory valuation; Accrued expenses, amortized expenses, provisioning rate; Revenue recognition; Fixed assets depreciation; Contingent liability and provision). The distribution levels between accounting users and tax users are shown in Table 3.

Table 3. Distribution between accounting rules and tax rules

	Low using of accounting rules	Medium using of accounting rules	High using of accounting rules
Low using of tax rules	-	3%	14%
Medium using of tax rules	2%	11%	25%
High using of tax rules	3%	18%	17%

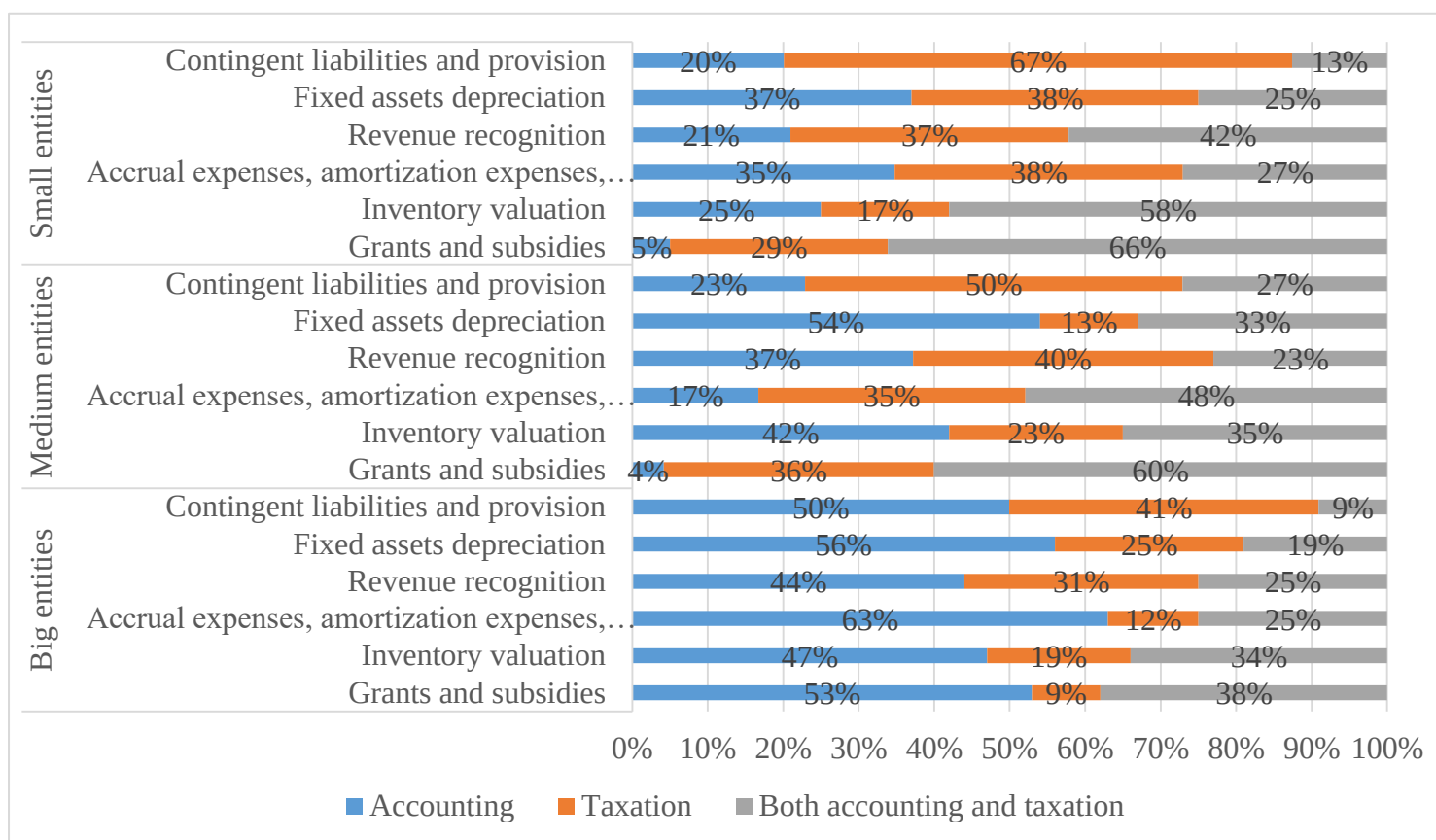
Source: Research results

The analysis results of 6 contents (according to business size) in (Table 4) show that the choices of accounting principles, tax rules and both rules are affected by business sizes (with the value Sig.< 0.05) and these selection trends are different depending on types of organizations. The results of Figure 5 explain that large-scale enterprises will prefer accounting principles to tax rules (more than 50% of the total choices). In small and medium-sized businesses, tax rules or both rules are preferred. However, in the case of fixed asset depreciation for a small business, the use of the rules (accounting, tax and both) is quite balanced.

Table 4. Analysis results of using rules in different business sizes

	Grants and subsidies	Inventory valuation	Accrued expenses, Amortization expenses, provisioning rate	Revenue recognition	Fixed assets depreciation	Contingent liability and provision
Size entities	($\chi^2 = 62,815$, df = 4, sig = 0,000). Cramer's V = 0,412	($\chi^2 = 12,228$, df = 4, sig = 0,016). Cramer's V = 0,182	($\chi^2 = 20,321$, df = 4, sig = 0,000). Cramer's V = 0,234	($\chi^2 = 10,780$, df = 4, sig = 0,029). Cramer's V = 0,171	($\chi^2 = 10,380$, df = 4, sig = 0,034). Cramer's V = 0,167	($\chi^2 = 16,111$, df = 4, sig = 0,003). Cramer's V = 0,209

Source: Research results



Source: Research results

Figure 5. Selection levels according to business sizes

5. Conclusion

Accounting and taxation are considered as two core systems of every country, so there have been quite a lot of studies focusing on the relationship between accounting and taxation recently. Basically, most of the studies show that there is always a relationship between accounting and taxation, because there is never a complete independence between them, and they influence each other. In order to demonstrate this relationship in accounting practice in Vietnam, this study focuses on analyzing 6 selected representative contents. The results show that, there is a separation between accounting and taxation in accounting practice due to the difference in accounting and tax rules. In other words, the relationship between accounting and taxation in Vietnam is gradually shifting to an independent stage, and large-scale enterprises will prefer accounting principles and vice versa for medium and small ones. However, in Vietnam, taxation exerts significant influence on accounting. In other words, taxation still dominates. Therefore, the theory and practice separations show the differences between policy enactment and implementation. Besides the obtained results, this study still has some limitations and more future studies should be carried out. In the first place, in 11 surveyed accounting issues, the research only focuses on analyzing 06 representative contents according to low – medium - high level. So the rest of contents have not been considered. Last but not least, the sample size in the study is small, so it is not representative of all enterprises.

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Moderating Effect of Financial Constraint on Relationship Between Accounting Conservatism and Investment Efficiency of Nigerian Consumer Goods Firms

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Abstract

This study explores the moderating effect of financial constraint on relationship between Accounting conservatism and investment efficiency of consumer goods firms listed on the Nigerian Stock Exchange market. The study used correlational and ex-post facto research design in a sample of 27 consumer goods firms. Secondary data for a period of 10 years (2010-2019) was used, and Advanced panel multiple regression was employed in data analysis. The results obtained from this research indicate that there is a significant relationship between accounting conservatism and investment efficiency. The study also found that there is a significant moderation effect between accounting conservatism and financial constraint on defining investment efficiency of consumer goods firms in Nigeria. The study concludes by showing that financial constraint has antagonistic role to accounting conservatism on explaining investment efficiency thus, conservatism may not improve investment efficiency in firms facing financial constraints. The study suggests that consideration of firms financial conditions should form an essential part of any analysis towards understanding the impact of Accounting conservatism more especially on investment behaviour, because of the influence financial constraint has on accounting conservatism is antagonistic in nature.

Keywords: Accounting conservatism, investment efficiency, financial constraint and Nigeria consumer goods firms

How to Cite:

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1. Introduction

Due to the existence of information asymmetry and agency problem, it is possible that firms' managers don't use firms' resources to increase stockholders' wealth. Therefore, to support stockholders' resources, different tools are used to resolve this problem. According to the role of accounting in determining contract condition and monitoring its correct implementation between

owners and managers, accounting principles and procedures are applied which aimed to protect the rights of beneficiaries and fair proposing of financial statements. Conservatism concept is applied to give an effective determining and monitoring mechanism to investment contracts between firm, creditors and stockholders (Mansoori & Kiamehr, 2014). Thus, accounting conservatism is predicted to be paramount in achieving investment efficiency (Lalbar, Mehdi, & Karamali, 2012 and Lawal & Shehu, 2016).

Managers in presenting quality information are faced with precincts commonly termed constraints, namely, cost-benefit relationship, materiality principle, industry practice, and conservatism. Accounting conservatism is an outlook of caution (prudent reaction) in dealing with the uncertainty and risks inherent in the business environment. Therefore, the role of accounting conservatism in increasing investment efficiency is expected to be stronger when firms smear litigation risk (Ardana et al, 2021).

Following Zahra & fatemeh, (2015) it is argued that financial constraint can also help provide important insights into the relationship between accounting conservatism and the investment efficiency of firms. Conservatism is expected to reduces potential underinvestment in the presence of information frictions and ameliorates the negative impact of the financing frictions on corporate investment because of focusing on the financial constraints challenge allows firms to use a conservatism measure immediately prior to the external shock to explain changes in firm investment. In this study, firms cash holdings is used as proxy of financial constraints (as used by Arslan, Florackis & Ozkan, 2006; Leonida, Ozkan & Ozkan, 2006; Honda & Suzuki, 2006; Khalid, Albusaidi & Serkan, 2015 and Demonier, Almeida & Bortolon, 2015).

Managers decide whether to invest in innovative projects based on financial reporting and incentives. By implementing more-stringent verification standards for recognizing good news, conservative reporting practices may lower the probability that risky innovations will receive positive future earnings reports if they are not offset by appropriate incentive contracting. However, more-conservative accounting policies raise the profitability threshold above which the manager invests in a new idea. A firm will be less likely in these circumstances to issue a favorable report showing new investments that yield high profits, but if it does so, such a favorable report is more likely an accurate indicator. Conservative reporting may foster risk avoidance and tamp managers' inclination to overinvest, but it also may inhibit innovation in organizations (Laux & Ray, 2020).

This study is motivated by the recent economic challenges which significantly affect the level of investment and the overall economic activities across the world. In Nigeria, where economic activities are highly experiencing serious recession, there are issues across almost all the sectors and subsectors of the economy that has to do with their investment decisions and consequently their general performance. This study focuses on consumer goods firms operating in Nigeria because it was report that cumulative operating expenses of majority of them increases in the recent times (FBN Capital Research, 2015). These brought up question, particularly relating to these symptom revealed by the Nigerian consumer goods firms, that does a consumer goods firm in Nigeria have low commitment to conservatism? Similarly, there are no empirical studies so far examining the moderating effect of financial constraint on relationship of accounting conservatism and firm investment efficiency in Nigeria. However, it is against this background

that this study aims to examine the moderating effects of financial constraint of listed consumer goods firms in Nigeria on relationship between their accounting conservatism and their investment efficiency. In line with this objective of the study, null hypotheses have been formulated that:

H0₁: Conditional accounting conservatism has no significant impact on investment efficiency of listed consumer goods firms in Nigeria.

H0₂: Unconditional accounting conservatism has no significant impact on investment efficiency of listed consumer goods firms in Nigeria.

H0₃: financial constraint has no significant impact on investment efficiency of listed consumer goods firms in Nigeria.

H0₄: financial constraint has no significant moderating effect on the relationship between conditional conservatism and investment efficiency of listed consumer goods firms in Nigeria.

H0₅: financial constraint has no significant moderating effect on the relationship between unconditional conservatism and investment efficiency of listed consumer goods firms in Nigeria.

2. Literature Review

Accounting conservatism can be associated with investment efficiency in at least two ways (Verdi, 2006). First, it is commonly argued that conservatism mitigates adverse selection costs by reducing the information asymmetry between the firm and investors, and among investors (Mohammadi, 2014). For instance, Mohammadi (2014) finds out that a commitment to more conservative accounting reduces information asymmetries and increases firm liquidity. On the other hand, the existence of information asymmetry between the firm and investors could lead suppliers of capital to discount the stock price and to increase the cost of raising capital because investors would infer that firms raising money is of a bad type (Myers and Majluf, 1984). Thus, if conservatism reduces adverse selection costs, it can improve investment efficiency by reducing the costs of external financing.

Second, a large literature in accounting suggests that conservatism plays a critical role in mitigating agency problems. For instance, financial accounting information is commonly used as a direct input into compensation contracts (Lambert, Leuz, & Verrecchia, 2007). Further, financial accounting information contributes to the monitoring role of stock markets as an important source of firm specific information (Mohammadi, 2014). Thus, if conservatism as quality of this accounting information and disclosure reduces agency problems, it can then improve investment efficiency by increasing shareholder ability to monitor managers and thus improve project selection and reduce financing costs.

Several empirical studies on accounting conservatism and/or investment efficiency have been conducted in different countries using different group economic units in a different geographical environment at a different time frame. However, the findings from the studies are mixed and some inconclusive. This, calls for further researches on the subject matter.

Table 1 Summary of Empirical Review

Author	Year	Result
Balakrishnan, Watts & Zuo	2014	They found that firms with less conservative accounting experienced a sharper decline in investment activity following the onset of the crisis than firms with more conservative accounting on the other hand which experienced lower declines in both debt raising activity and stock performance
Brochman, Liu & Ma	2014	They found negative correlations which is consistent with the accounting literature's prediction that accounting conservatism can reduce overinvestment but can also lead to dysfunctional investment incentives whereby managers forego positive net present value (NPV) projects (Leuz, 2001; Watts, 2003a; Guay and Verrecchia, 2006). Consistent with expectations, their results also show that the negative relationship between conservatism and firm investments for underinvestment firms is concentrated in firms with high return volatility and firms with short CEO investment horizons.
Demonier, Almeida & Bortolon	2015	The results show financially constrained firms adopt less conditional conservatism practices on their accounting figures. In other words, those firms avoid to disclose losses trying to access more external funds, however, increasing information asymmetry.
Garcia lara, Garcia osma & Penelva	2016	The results revealed that more conservative firms invest more and issue more debt in settings prone to underinvestment and that these effects are more pronounced in firms characterized by greater information asymmetries. They also find that conservatism is associated with reduced overinvestment, even for opaque investments such as research and development.
Lawal & Shehu	2016	The results obtained from this research indicate that there is a significant relationship between accounting conservatism and investment efficiency. They suggest that need to embrace the element of conservatism in to the accounting regulatory framework, because of it role in constraining managers to act efficiently in an investment monitoring and decision making.
Louis, Sun & Urcan	2012	The study predicts that accounting conservatism could mitigate the value destruction associated with an increase in cash holdings. It further suggests that accounting conservatism is associated with a more efficient use of cash holdings, supporting the notion that accounting conservatism can serve as a substitute for external monitoring and reduce agency conflicts between managers and shareholders.
Mansoori & Kiamehr	2014	Their findings show that there is a significant relationship

		between conservatism and investment of companies accepted in Tehran stock exchange market during 2007 to 2011. The studies provide evidence that by identifying conservative optimal level, it can be also hopeful to increase investment. Hence, investors can predict investment rate using identification of firm's conservatism level. Secondary data was used in this study
Zahra & Fatemeh	2015	They found that over-investment has had a direct and positive effect on conditioned and unconditioned conservatism. Their findings suggested that conservatism has information advantages that reduce over-investment and thus reduces investment's inefficiency.

There are many relevant theories in the field of Accounting conservatism, Investment efficiency and financial constraint some of which include Agency theory, Trade-off theory, Pecking Order theory, MM theory, and positive accounting theory. However, the theory that underpins this study is agency theory from efficiency perspective. The theory provides a framework and a linkage between the accounting conservatism as a mechanism for monitoring managers and firms investment efficiency within a financial constrain circumstance.

3. Research Method

Predicated on the objectives of this study, it was believed that this study is quantitative in nature. Therefore, the worldview was post-positivism paradigm and research design is quasi experimental and the study approach is quantitative approach. To describe the statistical association between variables of the study quasi experimental family (correlational and Ex post facto research designs) are used. The sample of the study consists of all the 27 consumer goods firms listed on the Nigerian Stock Exchange (NSE) for the period 2010 to 2019, making 270 observations. In order to test the hypotheses of this study, advance multiple panel regression analysis is employed. This is because of the effectiveness and efficiency of the technique in estimating the statistical relationship of one variable on another variable. Hence, this is consistent with the objective of this study. Two way interaction effects analysis was also used in estimating the statistical effect of moderator variable in the study. The explanatory variables used as proxies of accounting conservatism are unconditional and conditional accounting conservatism. The choice of explanatory variable is based on the existing literature related to accounting conservatism. The moderator variable used as proxy of financial constraint is cash holding as guided by literature. The model designed for the study is specified as follows:

$$INVEFF_{it} = \alpha + \beta_1 CON_{it} + \beta_2 UNCON_{it} + \beta_3 CASH_{it} + \beta_4 CON_{it} * CASH_{it} + \beta_5 UNCON_{it} * CASH_{it} + \varepsilon_{it}$$

Where:

INVEFF = Investment efficiency

i = firm

t = period/time

α = Constant

β_{1-5} = coefficient of independent variables

CON = conditional conservatism

UNCON = unconditional conservatism

CASH = Cash holding

ε = Error term

Variables Measurement

Table 2 Summary of Variable measurement

Variable	Measurement
1. Investment efficiency (INVEFF)	$Invest_{i,t} = \alpha_0 + \alpha_1 NEG_{i,t} + \alpha_2 \%RevGrowth_{i,t-1} + \alpha_3 NEG * RevGrowth_{i,t} + \varepsilon$ by Biddle & Hillary (2006)
2. Conditional conservatism (CON)	$ACC_{it} = \beta_{0it} + \beta_{1it} DCFO_{it} + \beta_{2it} \Delta CFO_{it} + \beta_{3it} (DCFO_{it} * \Delta CFO_{it}) + \varepsilon$ by Ball & Shivakumar (2005)
3. Unconditional conservatism (UNCON)	$ACC_{it} = (NI_{it} + DEP_{it}) - CFO_{it}$; $oACC_{it} = \Delta (AR_{it} + I_{it} + PE_{it}) - \Delta (AP_{it} + TP_{it})$; $NoACC_{it} = ACC_{it} - oACC_{it}$ by Givoly & Hayne (2000)
4. Cash holdings (CASH)	The ratio of total cash and equivalent items to total assets by Myers & Majluf (1984)

Source: Author, 2021

To measure investment efficiency; this study adopted Biddle & Hillary (2006) model as stated in the work Ialbar et al (2012) and Mohammadi (2014) in which the formula of deviation from expected investment and investment prediction model as a function of income growth is used as follows.

$$Invest_{i,t} = \alpha_0 + \alpha_1 NEG_{i,t} + \alpha_2 \%RevGrowth_{i,t-1} + \alpha_3 NEG * RevGrowth_{i,t} + \varepsilon$$

Where:

$Invest_{i,t}$ = Total investment, sum of investment in machinery, equipment, acquisition, plant, capital and research and development expenditure, minus cash receipts from sale of property, divided by the total assets of firm i and fiscal year t.

$NEG_{i,t}$ = An indicator variable that takes the value of one if the firm's income growth is negative, and zero otherwise.

$RevGrowth_{i,t-1}$ = annual income growth rate for firm i at year t-1.

ε = the residual error from the regression model.

α_0 = Coefficient calculated by the regression model.

α_{1-3} = Coefficients of variables (slope).

Based on the study, the amount of deviation from the expected investment (residual error) indicates the investment inefficiency. Investment below/ above the standard level represents a negative/positive value for the residual error (McNichols & Stubben, 2008; Ialbar et al, 2012; Mohammadi, 2014). The study adopted Ball & Shiva Kumar (2005) model for measuring conditional conservatism and Hayne & Givoly's (2000) model for measuring unconditional conservatism as accounting conservatism proxies following the work of Zahra & Fatemeh (2015).

Conditional conservatism is measured as follows:

$$ACC_{it} = \beta_{0it} + \beta_{1it}DCFO_{it} + \beta_{2it}\Delta CFO_{it} + \beta_3(DCFO_{it} * \Delta CFO_{it}) + \varepsilon$$

Where:

ACC_{it} = accruals of firm in year t

$DCFO_{it}$ = if operating cash flow in year t is negative, it would be 1, or otherwise 0.

CFO_{it} = cash flow resulted from operating activity

β_0 = Coefficient calculated by the regression model.

β_{1-3} = Coefficients of variables (slope).

Conservatism means that when there is negative cash flows, the accruals are more probably negative due to the faster recognition of losses not realized. When this relationship is bigger, the asymmetric behavior against profit would be present when there are not positive cash flows. The more good news (profit) and bad news (losses) will result in more conservatism (Zahra & Fatemeh, 2015).

Unconditional conservatism is measured as follows:

$$ACC_{it} = (NI_{it} + DEP_{it}) - CFO_{it} \dots\dots\dots(i)$$

$$oACC_{it} = \Delta (AR_{it} + I_{it} + PE_{it}) - \Delta (AP_{it} + TP_{it}) \dots\dots\dots(ii)$$

$$NoACC_{it} = ACC_{it} - oACC_{it} \dots\dots\dots(iii)$$

In which: ACC=Total accruals NI=Net profit before Items DEP=Depreciation Expense Payable CFO=Cash Flow from Operations oACC=Operational Accruals ΔAR =Change in Accounts Receivable ΔI =Change in Inventory ΔPE =Change in Prepaid Expenses ΔAP =Change in

Accounts Payable $\Delta TP = \text{Change in Taxes Payable}$ NoACC=Non-operational Accruals (unconditional conservatism)

The only difference between unconditional and conditional model is that the total non-operating accruals alter operating accruals and the reason is that the main incentive for unconditioned conservatism is the difficulty of assessing assets and liabilities. Meanwhile, the main incentive for conditioned conservatism is to neutralize the tendency of managers in presenting financial information (Zahra & Fatemeh, 2015).

To measure Moderating Variable this study adopted Myers & Majluf (1984): The moderating variable is firm cash holding as proxy of financial constraint, in which it is measured as the ratio of total cash and equivalent items to total assets (Leonida et al, 2006, Khalid et al, 2015 and Demonier et al, 2015).

4. Finding and Discussion

In this section, the study's results are presented and discussed. The descriptive statistics are first presented, Correlation result, then finally followed by the regression results.

Table 3: Descriptive Statistics of the Variables

VARIABLES	Min	Max	Mean	SD	Skewness	Kurtosis
INVEFF	-0.055	0.40	0.194	0.0776	-0.1459	3.292
CON	2.158	336	131	83.874	0.6531	2.766
UNCON	12.71	390	138	80.885	1.1679	3.9461
CASH	6.198	531	159	117.39	1.3137	4.2616
CONCASH	-0.482	1.228	0.466	0.3253	-0.6159	3.8257
UNCONCASH	3.976	358	131	84.509	4.0548	2.7845

Source: computation

Table 3 show that our measure of Investment efficiency (INVEFF), has an average value of 0.194 with standard deviation of 0.078, and minimum value of -0.055 and 0.400 as the maximum value. This is an indication that the data is normally distributed and is fit to produce a reliable result, because the mean is greater than standard deviation. The Table 3 also shows that the Accounting conservatism (CON) have an average value of 131 with standard deviation of 83.874, and the minimum and maximum value of 2.158 and 336 respectively. This shows that the data is not dispersed from the mean because the standard deviation is lower than the mean. Finally, the average firm financial constraint, which is The ratio of total cash and equivalent items to total assets is 159, ranging between 6.198 to 531. Here also, there is an indication that the data are not positively skewed and are fit to produce result that is reliable.

The correlation matrix Table 4 presents the correlation results between predictor variables (conditional accounting conservatism, unconditional accounting conservatism, financial constraint proxy, and interaction terms CONCASH and UNCONCASH) and the investment efficiency (INVEFF) of the listed consumer goods firms in Nigeria. The result shows that there is a significant positive relationship between investment efficiency (INVEFF) and conditional

accounting conservatism (CON) from the correlation coefficient of 0.5813, at 1% level of significance, (p-value 0.0000). This result suggests that conditional accounting conservatism increases in the sample firms, investment efficiency would increase.

Also, from the Table 4 the results indicate that there is a negative relationship between investment efficiency (INVEFF) and unconditional accounting conservatism (UNCON) from the correlation coefficient of -0.0936 which is not significant at all levels of significance (p-value of 0.1277). This implies that the more unconditional accounting conservatism increases in the sample firms, investment efficiency decreases, but is not statistically significant.

In the Table 4 also the results show that there is a negative relationship between investment efficiency (INVEFF) and financial constraint proxy (CASH) from the correlation coefficient of -0.0048, with p-value of 0.9373. This suggests that investment efficiency (INVEFF) of listed consumer goods firms in Nigeria decreases with increase of their financial constraints, but is not statistically significant. The results from the Table 4.3 also indicate that there is a significant negative relationship between investment efficiency (INVEFF) and interaction term CONCASH, given the correlation coefficient of -0.4911 and p-value of 0.0000. This result suggests that investment efficiency of listed consumer goods firms in Nigeria decreases with antagonistic effect of financial constraint on conditional accounting conservatism which is statistically strongly significant at 1% level of significance, thus the causal effect of financial constraint increases.

Moreover, Table 4 shows that there is a significant positive relationship between investment efficiency (INVEFF) and interaction term UNCONCASH from the correlation coefficient of 0.2000, at 1% level of significance, (p-value 0.0010). This result suggests that investment efficiency of listed consumer goods firms in Nigeria increases when enhancing effect of financial constraint with unconditional accounting conservatism is increased.

Table 4 Correlation Matrix

VARIABLES	INVEFF	CON	UNCON	CASH	CONCASH	UNCONCASH
INVEFF	1.0000					
CON	0.5813 (0.0000)	1.0000				
UNCON	-0.0936 (0.1277)	-0.0386 (0.5309)	1.0000			
CASH	-0.0048 (0.9373)	0.4938 (0.0000)	0.5177 (0.0000)	1.0000		
CONCASH	-0.4911 (0.0000)	-0.0404 (0.5123)	-0.1579 (0.0099)	-0.1529 (0.0126)	1.0000	
UNCONCASH	0.2000 (0.0010)	0.0159 (0.7965)	0.0560 (0.3627)	-0.4274 (0.0000)	0.0322 (0.6014)	1.0000

P-Values in Parentheses, Source: Computation, 2020

Table 5. Summary of Regression Results

Variable	Coefficient	Std. Err.	T. Test	P> T
Constant	0.198303	0.009224	21.50	0.000
CON	0.000852	0.000049	17.42	0.000
UNCON	0.000223	0.000049	4.58	0.000
CASH	-0.000468	0.0000468	-10.01	0.000
CONCASH	-0.1244884	0.00876	-14.21	0.000
UNCONCASH	-0.0001043	0.0000435	-2.40	0.017
R ²				0.7506
Wald-Statistic				749.01
Prob. of F				0.000
Autocorrelation				No autocorrelation

Source: Computation, 2020

The Table 5 presents the regression results of PCSE models. The classical assumption of regression model assumed that the error terms are normally distributed and independent (that is the error terms are uncorrelated); the predictor variables are not perfectly correlated (absence of multicollinearity); the variance of the error terms is constant (Homoskedastic). When these assumptions have not been met, the estimators are biased and cannot be used in drawing any inference. However, the results proved the absence of perfect multicollinearity among the independent variables, because on average variance inflation factor (Mean VIF) is 2.26. The rule of thumb for the Tolerance Value is that any value of 1.0 and above implies the presence of perfect multicollinearity in the estimates, while for the Variance Inflation Factor a value of 10 and above is an indication of perfect multicollinearity.

The evidence from Breuch Pagan/Cook-Weisberg coefficient of 0.01 with p-value of 0.9352 confirms the absence of the effects of heteroskedasticity, that is, there is constant variance in the residuals. Moreover, Breuch Pagan/Cook-Weisberg test may also be an evidence of the absence of serial correlation. Similarly, the panel is a micro-panel which the problem of autocorrelation may not cause much harm on the findings (Wu & Zumbo, 2008).

The time-series and cross-sectional nature of panel data usually lead to the production of bias estimators when pooled-OLS regression is used. The usual solution to this problem was to conduct Feasible Generalized Least Squares regression (FGLS), however Beck & Katz (1995) argues, that this procedure too tends to under-estimate standard errors seriously thus, they suggested panel corrected standard errors regression (PCSE) take care of FGLS inefficiency. In this study, all relevant tests are carried out alongside the regression model (PCSE). The multiple coefficient of determination R^2 from Table 4 indicates that the predictor variables (conditional accounting conservatism, unconditional accounting conservatism, financial constraint, interaction term CONCASH and interaction term UNCONCASH) explained 75.06% of the variations in the dependent variable, investment efficiency of the listed consumer goods firms in Nigeria, (R^2 value of 0.7506). The result also shows that the model is fitted as evidenced by the Wald-Statistics of 749.01 which is significant at 1% level of significance (P-value 0.0000).

4.1 Conditional Conservatism and Investment Efficiency

The results in Table 5, shows that conditional accounting conservatism (CON) has a statistically significant positive impact on the investment efficiency (INVEFF) of listed consumer goods firms in Nigeria as indicated by the t-value of 17.42 with P-value 0.000 which is significant at 1% level of significance. That is, conditional accounting conservatism (CON) significantly improves the investment efficiency of listed consumer goods firms in Nigeria. The study infers that conditional accounting conservatism has positively significant impact on the investment efficiency of the listed consumer goods firms in Nigeria, during the period covered by the study. Thus, the null hypothesis (H_{01}) which states that, conditional accounting conservatism has no significant impact on investment efficiency of listed consumer goods firms in Nigeria is rejected.

This paper showed that conditional conservatism has information advantages that reduce inefficiency in firm's investment activities. Regarding the role of conditional conservatism, it seems that the reason is the improvement of control over management decision making through reducing investment where managers tend to over-investment and fostering cheap external financing through increasing investment where managers tend to under-investment. This finding is in accord with researches by Lawal & Shehu (2016), Garcia Lara et al (2010; 2016), Zahra & fatemeh (2015), Mahmoudabadi & Mehtari (2012) and Lalbar et al (2012), Thus, the implication of this finding is that when investment efficiency decreases, the investors become sensitive and consider it as a result of mis-use by managers of the confidential information and they would act for more conservative methods to preserve their benefits.

4.2 Unconditional Conservatism and Investment Efficiency

The Table 5, also shows the main effect of unconditional accounting conservatism on the investment efficiency of listed consumer goods firms in Nigeria is significantly positive, considering the t-value of 4.58 and p-value Of 0.000. That is, when unconditional accounting conservatism improves investment efficiency would also improve. Therefore, the study infers that unconditional accounting conservatism has significant positive impact on the investment efficiency of listed consumer goods firms in Nigeria, during the period covered by the study. Based on this, we reject the null hypothesis (H_{02}) which states that Unconditional accounting conservatism has no significant impact on investment efficiency of listed consumer goods firms in Nigeria.

From the result it was found that unconditional conservatism has significant positive effects on the investment efficiency of listed consumer goods firms in Nigeria. This implies that for every improvement in unconditional conservatism, there would be improvement in efficiency of Nigeria consumer goods investment activities. The reason may be by understating book values free cash flows would increase, in which projects with positive NPV may be financed. The finding supports the findings of Mahmoudabadi & Mehtari, (2012), Mansoori & Kiamehr, (2014), Balakrishnan et al (2014), Brochman et al (2014), Nakano et al, (2014), Nuanprdit & Boonlert-U-Thai, (2013), Shirin & Seyyd, (2015). Thus, the implication of this finding is that when investment efficiency decreases, the creditors analyze the ratios and observe financial

leverage increase against lack of increase in expected profits regarding investments and may avoid conferring credits, hence lead to higher cost of capital.

4.3 Cash Holding and Investment Efficiency

On the contrary, the results from the Table 5 shows that the financial constraint proxy cash holding has a significant negative impact on the investment efficiency of consumer goods firms in Nigeria, given the t-value of -10.01 which is significant at 1% level of significance (from the p-value of 0.000). This suggests that the higher the financial constraint of a firm the lower the investment efficiency of listed consumer goods firms in Nigeria during the period of the study. The study infers that cash holding can cause over or under investment which is inefficiency. Based on this, the study rejected the null hypothesis (H_{03}) which states that financial constraint has no significant impact on investment efficiency of listed consumer goods firms in Nigeria.

This signifies that when the level of cash holdings increases investment efficiency would decrease, therefore the higher firms Holds cash the lower their investment efficiency. The reason could be investment-cash flow sensitivity which would lead to firm's strict retention policy that would lead to pass up positive NPV project. The finding is in consistence with the work of Louis et al, (2012) Zahra & fatemeh, (2015), Balakrishnan et al (2014) while is contrary to that of Leonida et al, (2006) and Khalid et al, (2015). Thus the implication here is that firms facing higher level of financial constraint may not be able to have efficient investment activities.

4.4 Interaction Term (Conditional Conservatism X Cash Holding) and Investment Efficiency

The results presented in the Table 5, also shows that the interaction term CONCASH has a significant negative impact on the investment efficiency of listed consumer goods firms in Nigeria, from the t-value of -14.12 which is significant at 1% level of significance (from the p-value of 0.000). This signifies that the interaction term coefficient β_4 is statistically different from zero; there is significant moderation effect of the conditional accounting conservatism-investment efficiency relation. it can be claimed that financial constrain affects the relationship between conditional accounting conservatism and investment efficiency directly and meaningfully in a way that by increasing financial constrain the effect of conditional accounting conservatism on investment efficiency significantly changing inversely.

This signifies that the financial constraint changing the influence of the conditional accounting conservatism on investment efficiency of listed consumer goods firms in Nigeria during the period of the study, significantly negatively. In other words in firms that conditional accounting conservatism along with having financial constraints (i.e. conditional accounting conservatism X financial constraint as interaction term), there would be more tendency of inefficient investment decisions. Therefore, based on this, we rejected the null hypothesis (H_{04}) which states that, financial constraint has no significant moderating effect on the relationship between conditional conservatism and investment efficiency of listed consumer goods firms in Nigeria.

This results showed that financial constrain proxy cash holdings has negative and direct effect on the relationship between conditional conservatism and investment efficiency. In other words there is moderation effect between conditional conservatism and financial constraint proxy. This

means that by increasing cash holding in the company and lack of investment would follows, which means in projects under considerations, the firms managers would increase their precision in selecting a project for investment. Thus, the projects chosen for the investment would be chosen with higher cautious and more precise calculations. The finding is in consistence with the work of Zahra & fatemeh, (2015), Demonier et al (2015), Balakrishnan et al (2014) and contrary to that of Khalid et al, (2015). Thus the implication of this finding is that managers may be using conditional conservatism while facing financial constraint leading to under investment which is investment inefficiency.

4.5 Interaction Term (Unconditional Conservatism X Cash Holding) and Investment Efficiency

Finally from the Table 5 results show that the interaction term UNCONCASH has a significant negative impact on the investment efficiency of listed consumer goods firms in Nigeria, considering the t-value of -2.40 which is significant at 1% level of significance (p-value 0.017). This signifies that the interaction term coefficient β_5 is statistically different from zero; there is significant moderation effect of the unconditional accounting conservatism-investment efficiency relation. We can say that financial constrain affects the relationship between unconditional accounting conservatism and investment efficiency directly and meaningfully and increasing firms' financial constrains result in changing the effect of unconditional accounting conservatism on investment efficiency.

This indicates that the financial constraint changing the influence of the unconditional accounting conservatism on investment efficiency of listed consumer goods firms in Nigeria during the period of the study, significantly negatively. Therefore, based on this, we rejects the null hypothesis (H_{05}) which states that, financial constraint has no significant moderating effect on the relationship between unconditional accounting conservatism and investment efficiency of listed consumer goods firms in Nigeria.

This results indicate that financial constraint have also negative and significant moderation effect on the relationship between unconditional conservatism and investment efficiency. This indicates that financial constraint influence of the unconditional accounting conservatism on relationship with investment efficiency of listed consumer goods firms in Nigeria during the period of the study. This mean that unconditional conservatism changes as a result of cash holdings which may decreases value added and the earnings created for equity owners that finally affect the goal of the firm regarding maximum earnings. The finding is in consistence with the work of Zahra & fatemeh, (2015), Balakrishnan et al (2014), Demonier et al (2015) and contrary to that of Khalid et al, (2015). Thus the implication of this finding is that Firms may significantly changes in their unconditional conservatism resulting from financial constraint.

This study in general, is consistent with the views of Lawal & Shehu, (2016), Balakrishnan et al (2014), Brochman et al(2014), Nakano et al, (2014), Nuanprdit & Boonlert-U-Thai, (2013), and Shirin & Seyyd, (2015), stating that more conservative firms act more efficiently in their future investments. The finding add to the current flow of relevant empirical literature, such as the relationship between the higher quality reports and investment efficiency (Verdi, 2006; Biddle, 2006; and McNichols & Stubben, 2008), and particularly, the studies concerning how conservatism affects the investment decision (Hope & Thomas, (2008), Balakrishnan et al (2014), Brochman et al 2014, Nakano et al, (2014), Nuanprdit & Boonlert-U-Thai, (2013), and

Shirin & Seyyd, (2015). Also, in line with Suijs (2008), Ialbar et al (2012) and Garcia lara et al (2016) the study argued that eliminating the accounting conservatism is similar to pursuing the adverse economic outcomes.

5. Conclusion

Based on the key findings of this research, the study concludes as follows:

There is significant positive relationship between conditional accounting conservatism and investment efficiency of listed consumer goods firms in Nigeria. Therefore conditional conservatism plays a prominent role in improving control over management decision making through reducing investment where managers tend to over-investment and fostering cheap external financing through increasing investment where managers tend to under-investment

There is significant positive relationship between conditional accounting conservatism and investment efficiency of listed consumer goods firms in Nigeria. Therefore unconditional conservatism improves investment efficiency by increasing free cash flows in which projects with positive NPV may be financed, when book values is understated.

There is significant negative relationship financial constraint and investment efficiency of listed consumer goods firms in Nigeria. Therefore, firms experiencing higher level of financial constraint may not be able to have efficient investment activities.

Conditional Accounting conservatism doesn't matter for investment decisions in the presence of financial constraint. Because the information role of conditional conservatism changes inversely at interaction with financial constraint.

And finally unconditional conservatism and financial constraint interaction term significantly determine investment efficiency of the Nigerian consumer goods. The higher the degree firm needed financing the higher it practice unconditional conservatism negatively.

Overall the study concluded that firm facing financial constraint may optimally trade off costs and benefits of accounting conservatism and is willing to bear the costs of accounting conservatism as long as the corresponding benefits are sufficiently large.

In line with the findings and conclusion of the study, it is recommended that:

- i. Managers of consumer goods firms in Nigeria should embrace the practicing of conditional conservatism as a means to manage information asymmetry in their financial reporting strategies. This is because of the positive impact of conditional conservatism on the investment efficiency activities.
- ii. Since unconditional conservatism is one of the significant determinants of investment efficiency, it is recommended that investors should be conversant with it. Because it has been observed that it is mainly practiced by managers only.
- iii. To prevent the risk of expropriating the interests of the shareholders by facilitating empire-building or overinvestment, government, through Financial Regulation Council

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- of Nigeria (FRCN) should institute regulatory framework as mechanism devoid of unnecessary accumulating cash for financially constraint firms to protect shareholders.
- iv. Overall, the results of the study indicate that financial constraints proxy plays a role in explaining the relations of accounting conservatism to investment efficiency. It is therefore recommended that consideration of firm's financial conditions should form an essential part of any analysis towards understanding the firms accounting conservatism practices by the stakeholders.
 - v. Accounting conservatism should be encouraged by the accounting standard setters and all other stakeholders especially, those in the Nigerian consumer goods firms because of the impact it does in attaining efficient investment decisions.

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Forecasting and Measuring The Impact on Non-Tax Revenue of Its Principal Determinants in Nepal

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Abstract

This study aims to examine the impact on non-tax revenue of its principal determinants like charges, fines, fees, forfeiture, dividend, principal and interest payment, income received from sales, Royalty, and sales from fixed assets. It also explores the ex-post forecasting of non-tax revenue. It is based on the secondary data taken from various economic surveys of Nepal covering from 1980 to 2019. Descriptive and exploratory research designs are used to examine the impact and forecast the dependent variable. Some statistical and econometric tools like descriptive statistics, unit root testing, ordinary least square, serial correlation, heteroscedasticity test, and dynamic ex-post forecasting approaches. There is a positive impact on non-tax revenue of its principal determinants. The income received from principal and interest payment is found more consistent, whereas the non-tax revenue from sales government goods and services is found more inconsistent than other variables. The value of root means squared error is encountered very small (i.e., 0.7865). So, the gap between actual and forecasted non-tax revenue is tiny. The results, design, and techniques of this study are not affected by the results and findings of other researchers.

Keywords: Consistent, forfeiture, root mean squared error, ex-post, dynamic forecasting.

JEL Selection: P43, C32, C53.

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1. Introduction

The government of a country collects required funds through various taxes, non-taxes, and public borrowing. The government requires a considerable amount of resources for carrying out further development and welfare activities in the country, which it collects imposing taxes and non-taxes. (Ghimire, 2019). Among the other sources of public revenue, the non-tax revenue is essential and comparatively less burden-bearing to the general public. The origins of

non-tax revenue are divided into six parts in Nepal. Like (a) charges, fees, fines, and forfeiture, (b) receipts from sale goods and services, (c) dividend, (d) Royalty and sale of fixed assets, (e) principal and interest payment, and (f) Miscellaneous items.

Firm registration charges, arms registration charges, vehicle license, judiciary fines, penalty, forfeiture, and administrative tasks fall under charges, fees, fines, and forfeiture. Bill of drinking water, irrigation, education, postal service, food and agriculture, electricity, forest, and transport falls under receipts from sales of goods and services. Dividend comprises financial institutions trading concerns, industrial undertakings, service sector, and other related factors. Similarly, Royalty from mining, mountains, and tourist sites falls under the heading of Royalty and sales of fixed assets. Principal and interest payment comprises loans to corporations and interest from loans to companies and corporations (GoN, 2020). Non-tax revenue is a significant source of generating revenue capacity of the government. Dividend, charges, and income received from Royalty and sales from government goods and services ordinarily adequate to determine non-tax revenue (Kulshrestha and Sharma, 2015)

While taxation is a primary source of government income, it also earns some recurring income other than tax, known as non-tax revenue. The payment obtained by the government from other sources other than tax is called non-tax revenue. Fees, fines or penalties, betterment levy or special assessment, grants and gifts, deficit financing, license fees, natural resources. The profit of public enterprises and escheats are excellent sources of revenue other than tax (Dahal, Dhakal, et al., 2020). Tax revenue is the most significant source of revenue for the government. Still, the amount of tax collection may vary due to the employment situation, consumption level, etc. The non-tax revenue is somewhat balanced with a low but steady flow of revenue from many sources. Apart from earning for the government, non-tax revenues help recover the cost of services offered (Gupta, 2007). The non-tax revenue from financial services comprises receipts from crops industry, animal husbandry, fisheries, forestry and wild lives, corporations, other agricultural and rural programs, major and minor irrigation, village and small scale industries, plantations, power, petroleum, lighthouses, road transport tourism and others (Mohanty and Patra, 2016). Non-tax revenue has certain advantages as compared to taxes. They do not have disincentive potentials, which generally go up the high tax rate (Poterba, 2011). Non-tax revenue does not create various economic problems. Most of the non-tax revenue sources contain an element of quid-pro-quo and price (Niyazmetor, 2018).

This study explores the impact on non-tax revenue of its principal determinants. It also shows the actual condition of non-tax revenue and its main determinants over 40 years from 1980 to 2019. Finally, it also aims to the ex-post forecast of non-tax revenue during eight years whether it is near actual data or not.

2. Literature Review

Many types of research are related to tax revenue and its impacts on the size of budget or government expenditure or investment or GDP. The various study can be found on the effects of tax revenue on its main determinants. Still, microscopic research is related to the influence and impact on non-tax revenue and its principal determinants. Therefore, some relevant studies on non-tax income in public finance are reviewed.

Upender (2008), Kaur and Gursimran (2010), Bagchi (2005), Kaur (1991), Mawia and Nzomoi (2013), Mohantly (2014) pointed out that non-tax revenue has accounted for a small and declining share of total revenue in their respective country.

The world development bank (2012) examined the trends of non-tax revenue in Nepal. It observed that the determinants are individually significant to explain the non-tax revenue.

Mourre and Reut (2017) examined the characteristics of government non-tax revenue in the European Union. It is found that the receipts from sources other than Taxes amount to slightly more than one-tenth of the total income. Still, the fiscal risk steaming from the volatility of non-tax revenue is three times higher than that from tax revenue volatility. Panel data analysis examines whether macroeconomic and budgetary variables can explain the differences in non-tax revenue among the member countries. The more significant part of non-tax revenue consists of intakes from sales of goods and services. Reliance on non-tax revenue is higher for local government compared to the central government.

Purohit, and purohit (2009). Observed the contribution of various sources of non-tax revenue and its mobilization. They found the long-run and positive associations between non-tax revenue and its determinants like charges, dividend, betterment levy, and others. Prichard, Salard, et al. (2018) observed strong evidence of the positive impact of non-tax revenue to determine the size of budget and democracy. It was based on the norms that less dissatisfaction with the public's tax guarantees the democratic government.

3. Research Method

3.1. Research design

This study is based on descriptive and exploratory research design, and the outcomes are analyzed. It is based on the 40-time series annual points. The dynamic forecasting model is used to explore the impact, and ex-post forecasting is used to check the predicting power of the model.

3.2. Variable specification

The charges, fines fees, forfeiture, dividends, principal and interest payment, revenue received from sales, Royalty, and sales from fixed assets are taken as independent variables. In contrast, non-tax revenue is taken as the dependent variable. Therefore, this study solely depends upon secondary data collected from various economic surveys. To analyze and derive the required conclusion from the collected secondary data.

3.3. Model specification

Depending upon the assumptions of two inputs labour and capital are used in the production process, the Cobb-Douglas production is;

$$Y_t = AK^\alpha L^\beta \quad (1)$$

Where, Y_t = Real output K = Capital L = Labour

A = Efficiency Parameter

α , and β shows the contribution of capital and labour in the production process, respectively. It is assumed that α and β have a positive contribution to the production process. The sum of α and β is always 1.

The non-tax revenue depends on charges, fees, fines, forfeiture, dividends, principal and interest payment, and Royalty. In this sense,

$$NTR = f(CFF, DD, PI, RFS, RS) \quad (2)$$

Where NTR stands for the amount of non-tax revenue, CFFF stands for charges, fees, fines, and forfeiture, D.D. means dividend, P.I. means principal and interest payment, RFS stands for revenue received sales. R.S. means Royalty and income received from fixed assets. The static regression model:

$$\ln NTR = \beta_0 + \beta_1 \ln CFFF + \beta_2 \ln DD + \beta_3 \ln PI + \beta_4 \ln RFS + \beta_5 \ln RS + \mu_t \quad (3)$$

In equation (3), β_0 indicates the intercept of the regression line. $\beta_1 \beta_2 \dots \beta_5$ shows the coefficient of respective variables as shown in equation (3). μ_t is the error correction term of the equation. In dynamic model the lagged values of dependent variable has entered as repressors (Gujarati, 1995). The dynamic regression model is specified as:

$$\ln NTR = \beta_0 + \beta_1 \ln NTR(-1) + \beta_2 \ln CFFF + \beta_3 \ln DD + \beta_4 \ln PI + \beta_5 \ln RFS + \beta_6 \ln RS + \mu_t \quad (4)$$

Where, $\ln NTR(-1)$ stands for autoregressive variable of $\ln NTR$. It is lag 1 variable of non-tax revenue which is treated as independent variable.

4. Finding and Discussion

4.1. Condition of non-tax revenue and its determinants

The condition of non-tax revenue and its principal determinants like charges, fees, fines, and forfeiture, dividends, principal and interest payment, receipts from the sale, Royalty, and sales from fixed assets are considered. All variables are gradually increasing, but slight variation occurs. The condition of non-tax revenue and its principal determinants from 1980 (the fiscal year 1978/80) to 2018 is presented in figure 1.

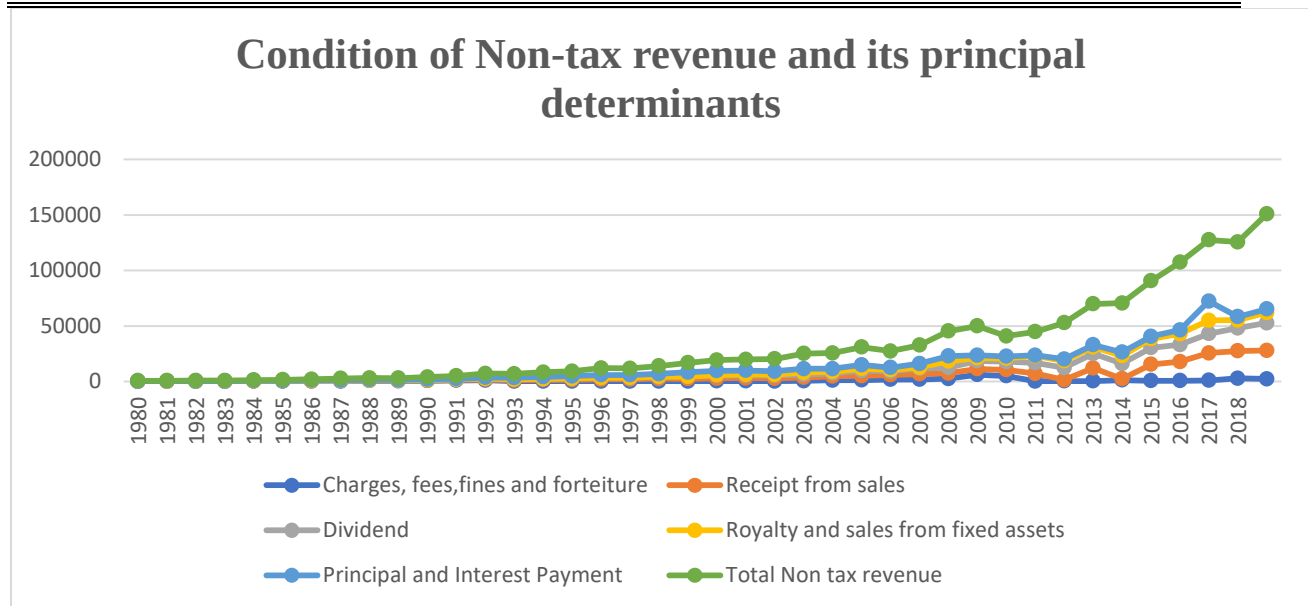


Figure 1: Condition of non-tax revenue and its determinants

Source of data: Economic Survey of Nepal 2000/01 (GoN, 2001), 2008/09 (GoN, 2009). 2019/20 (GoN, 2020).

Descriptive Statistics

Table 1

Descriptive statistics of variables

Source: Authors Calculation

	NTR	DD	CFFF	PI	RFS	RS
Mean	17090.00	4886.932	982.9438	2269.388	4647.287	2389.441
Median	9120.000	2059.650	420.5000	2084.400	1973.100	564.2500
Maximum	85582.00	24741.70	6180.400	17180.30	25674.20	12079.10
Minimum	351.2000	80.00000	29.70000	29.10000	145.0000	16.10000
Std. Dev.	21186.42	6465.218	1290.045	2773.868	6990.191	3386.065
Skewness	1.613749	1.488664	2.550535	3.934743	2.071360	1.333705
Kurtosis	4.831034	4.235819	9.663689	22.08579	6.150940	3.506889
Jarque-Bera	22.94904	17.31955	117.3761	710.3268	45.15091	12.28669
Probability	0.000010	0.000173	0.000000	0.000000	0.000000	0.002148
Coeff. Of vari.	123.97	132.30	131.24	122.22	150.41	141.71
Sum	683600.2	195477.3	39317.75	90775.52	185891.5	95577.64
Sum Sq. Dev.	1.75E+10	1.63E+09	64904450	3.00E+08	1.91E+09	4.47E+08
Observations	40	40	40	40	40	40

NTR= Non-tax revenue

DD = Dividend

CFFF = Charges, fines, fees, and forfeiture R.S. = Royalty and sales from fixed assets.

PI = Principal and Interest payment

RFS = Received from sales

The mean value of non-tax revenue is found 17090 million rupees during 40 years from 1980 to 2018. The non-tax revenue ranges from 351.2 to 85582.0 million rupees. The second highest mean is received from dividends, 4886.932 million rupees during 40 years, followed by payment received from fixed-assets sales. The distribution of all variables is positively skewed, and the data related to income received from Royalty and sales from fixed assets is approximately Mesokurtic. The standard deviation of income received from charges, fines, fees, and forfeiture is less than others so, the average revenue received from these sources is more representative. The coefficient of variation of principal and interest payment is small (122.22%) than other variables. So the income received from principal and interest payment is more stable or consistent.

Similarly, the coefficient of variation of income obtained from sales is the highest. So, income received from this source is more variable or inconsistent than other non-tax revenue sources. The descriptive statistics of variables are presented in Table 1.

4.2. Measurement of relation among variables

Ordinary least squares observe the measurement of relation and impact between variables. To run the regression model, lag selection and unit root testing are performed here.

Lag selection

Lag selection is how many terms back down the autoregressive process. It helps to identify the affecting period of one variable by itself. Akaike Information criteria (AIC), Final Predictor Error (FPE), Schwarz Information criteria (SIC), Hanna-Quinn Information Criteria (HQI), Sequential modified L.R. test statistics (L.R.) are the principal methods for lag selection. AIC and SIC values indicate one as optimum lag. All criteria suggest selecting lag one, which is showing by asterisks (*). The minimum value of AIC and SIC indicates lag one, which is regarded as the best method of lag selection. The outcomes of all criteria of lag selection are presented in Table 2.

Table 2

Outcomes of different lag selection criteria.

Endogenous variables: LnNTR LnDD LnCFFF LnPI LnRFS LnRS					
Exogenous variables: C					
Sample: 1 40					
Included observations: 38					
Lag	Log L	LR	FPE	AIC	SIC
0	-221.2131	NA	0.006291	11.95858	12.21715
1	-73.98442	240.2152*	1.85e-05*	6.104443*	7.914407*
2	-46.38359	36.31688	3.34e-05	6.546505	9.907866
* indicates lag order selected by the criterion					
L.R.: sequential modified L.R. test statistic (each test at 5% level)					
FPE: Final prediction error					
AIC: Akaike information criterion					

SIC: Schwarz information criterion
H.Q.: Hanna-Quinn information criterion

Unit root testing

A unit root is a stochastic trend in time series analysis. They are sometimes called random walk. If time series data has a unit root, it shows a systematic pattern that is unpredictable. Unit roots are the test for stationary in time series data. Unit root test checks the predictable power of the time series data. The Augmented Dickey fuller test is commonly used for unit root testing. All the variables are non-stationary in their level form. The P- values of all variables are more than 0.05, and the absolute value of the ADF test is less than the critical value of t-statistics in both intercept and trend and intercept form. So, we can reject the null hypothesis of saying they have a unit root. All variables are stationary in their first difference because P-values are less than 0.05, and the absolute value of ADF is more than the absolute value of t-statistics. The outcomes of the ADF test are listed in table 3.

Table 3

Results of Augmented Dickey-Fuller Test (ADF)

Series name	Description	Level		First Difference	
		Intercept	Trend & intercept	Intercept	Trend & intercept
LnNTR	t- value	-2.938	-3.529	-2.943	-3.536
	ADF test	-1.053	-2.547	-6.325	-6.549
	P-value	0.724	0.305	0.000	0.000
LnDD	t-value	-2.938	-3.529	-2.941	-3.533
	ADF test	-0.408	-2.162	-7.116	-7.022
	P-value	0.898	0.496	0.000	0.000
LnCFFF	t- value	-2.938	-3.529	-2.941	-3.533
	ADF test	-2.476	-2.864	-5.736	-5.682
	P-value	0.129	0.185	0.000	0.0002
LnPI	t value	-2.938	-3.529	-2.941	-3.533
	ADF value	-2.092	-2.068	-7.979	-8.339
	P-value	0.248	0.549	0.000	0.0003
LnRFS	t- value	-2.941	-3.529	-2.941	-3.533
	ADF value	-0.243	-2.165	-15.944	-15.749
	P-value	0.923	0.494	0.000	0.000
LnRS	t- value	-2.943	-3.536	-2.943	-3.536
	ADF value	-0.112	-2.286	-9.569	-9.
	P-value	0.941	0.431	0.000	0.000

Source: - Authors Calculation.

Where,

LnCFFF = Charges, fees, fines, and forfeiture after taking the log

LnRFS = Receipt from sales after taking the log.

LnDD = Dividend after taking log

LnRS = Royalty and sales from fixed assets after taking the log

LnPI = Principal and Interest Payment after taking the log

LnNTR = Total Non-tax revenue after taking log

Measurement of Impact on non-tax revenue of its Determinants

Non-tax revenue is the revenue received by the government without tax revenue. Non-tax revenue is the sum of revenue received from charges, fees, fines and forfeiture, dividend, principal and interest payment, income from royalty betterment levy, and other sources without taxes. The income received from charges, fees, fines, and forfeiture (CFFF) is significant to explain the non-tax revenue. Similarly, principal and interest payment (P.I.), income received from the sale (RFS) are substantial to justify the dependent variable, i.e. non-tax revenue. More than 50% of independent variables are essential to explain the dependent variable. So, this model is robust and near reality. The value of R- the square is 99.39% which is more than 60%. Therefore, independent variables are nicely fitted. The probability value of F- statistics is 0.000, which is less than 0.05 or a 5% level of significance. It means independent variables have a combined effect to determine the size of non-tax revenue.

Table 4

Measurement of impact and relation

Dependent Variable: LnNTR

Method: Least Squares

Sample (adjusted): 1981 2010

Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
C	1.250258	0.356505	3.506983	0.0019
LnDD	0.058082	0.089390	0.649767	0.5223
LnCFFF	0.127429	0.031963	3.986825	0.0006
LnPI	0.199006	0.042788	4.650947	0.0001
LnRFS	0.392211	0.185793	2.111012	0.0458
LnRS	0.041540	0.039562	1.049998	0.3046
LnNTR(-1)	0.192438	0.132797	1.449110	0.1608
R-squared	0.993911	Mean dependent variance	8.333732	
Adjusted R-squared	0.992322	S.D. dependent variance	1.278705	
S.E. of regression	0.112042	Akaike info criterion	-1.338917	
Sum squared residual	0.288730	Schwarz criterion	-1.011971	
Log-likelihood	27.08376	Hannan-Quinn criteria.	-1.234324	
F-statistic	625.7063	Durbin-Watson stat	2.020304	
Prob (F-statistic)	0.000000			

Serial correlation P- value of observed R square = 0.4202

Heteroscedasticity (P- value of chi square) =0.9424

Jarque-Bera Normality (p value) = 0.6638

Source: - Authors calculation

Depending upon table 4, the regression line can be developed:

$$\text{LnNTR} = 1.250 + 0.058\text{LnDD} + 0.127\text{LnCFFF} + 0.199\text{LnPI} + 0.392\text{LnFRS} + 0.042\text{LnRS} + 0.192\text{LnNTR} (-1) \quad (5)$$

According to Table 4, the Probability of the observed R square is more than 5% that is 42.02%. So, there is no problem with serial correlation. The value of heteroscedasticity is 0.9424, which is more than 0.05. It confirms the absence of residual heteroscedasticity. The result of the Jarque-Bera normality test indicates that residuals are not normally distributed. Different diagnostic ensures the reliability of this model.

Forecasting of non-tax revenue

The ordinary least square model has no serial correlation problem, no problem of heteroscedasticity, and residuals are not normally distributed. So, we can use this model in forecasting. The forecasting of the dependent variable, i.e. non-tax revenue from 2011 to 2019, is presented in figure 2.

Figure 2

Forecasting of dependent variable

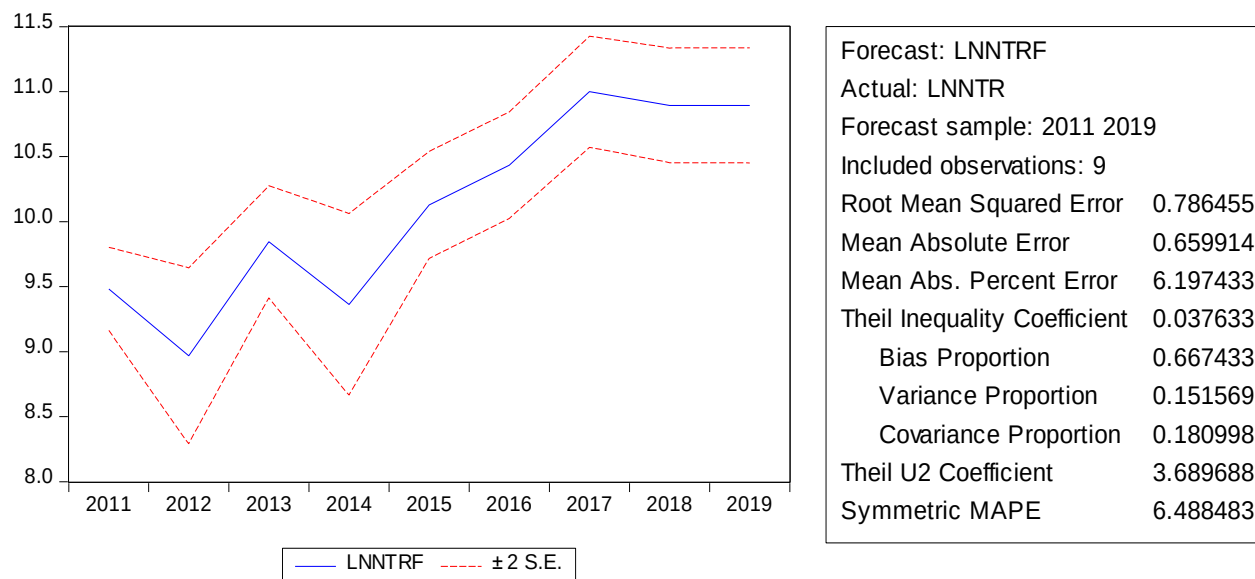


Figure 2: foresting of non-tax revenue

Figure 2 shows the ex-post forecasting of the dependent variable, i.e. non-tax revenue. The blue line is the forecasted value of non-tax revenue. The blue line is passing through the 95% confidence interval. So, our forecasting is good. It means it has good predicting or forecasting

power. The value of root means squared error is 0.7865, which is relatively small. Therefore, forecasted non-tax revenue (LNNTRF) and actual non-tax revenue (LNNTR) are moving closer. Recall that root mean squared error is taken as a benchmark to decide the capacity of predicting power. Root mean squared error is a gap between actual and forecasted value. The predicting power of our regression model is good and satisfactory.

The gap between forecasted non-tax revenue and actual non-tax revenue is presented in figure 3.

Figure 3

Difference between actual value and forecasted value.

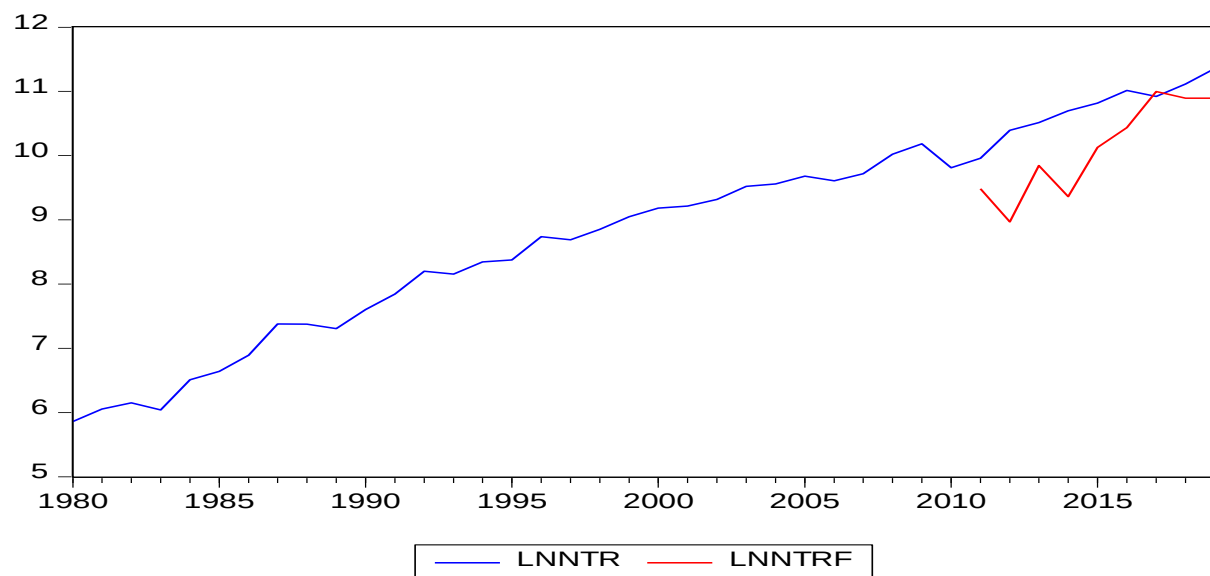


Figure: - 3 Comparison of forecasted and actual non-tax revenue.

Figure 3 shows the condition of the gap between forecasted and actual non-tax revenue. The blue line shows the accurate data, and the red line shows the estimated or projected non-tax revenue data. They are moving together. The Predicted value of non-tax revenue is closer to the actual data of non-tax revenue of Nepal.

5. Conclusion

The non-tax revenue depends upon income received from charges, fees, fines forfeiture, sales from government services, principal and interest payment, Royalty, and income from fixed assets, dividends, and so on. All determinants of non-tax revenue are increasing with some variation in some years. The average non-tax revenue is found 17090 million rupees during 40 years. The income received from principal and interest payment is found more consistent, but the income received from sales is found more variable than other non-tax revenue sources. All determinants of non-tax revenue have a positive impact on non-tax revenue. They have a combined effect of increasing the size of non-tax revenue in Nepal. The ex-post forecasting

dynamic model shows that the forecasted and actual non-tax revenue moved together, and their gap is relatively small.

The ex-post forecasting model may be the guideline for the anti-post forecasting process. All determinants have a positive impact on increasing the size of non-tax revenue. So, sources of non-tax revenue must be supplemented, i.e. it is necessary to explore the new sources of non-tax revenue, which may be the extension of particular sources of non-tax revenue. An increase in non-tax revenue may fulfil the heads of government revenue. An increase in non-non tax revenue may not increase the general public's dissatisfaction than the rise in the tax rate.

This study covers 40 years from 1980 (the fiscal year 1979/80) to 2019 (The fiscal year 2018/19). It is based on the secondary data collected from various economic surveys of Nepal. The ordinary least square and ex-post dynamic approach of forecasting are used. Many variables are, and the numbers of techniques are untouched. Therefore further research is needed by using other variables, tools, techniques, and data processing software. The untouched area of this topic is forwarded to other researchers.

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Audit Firm Type and Sustainability Performance: A Study of Quoted Oil and Gas Marketing Companies in Nigeria

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Abstract

The study specifically examines the impact of audit firm types on sustainability performance effort (health care, employment and education) of quoted oil and gas marketing company in Nigeria. The population of the study consists of all the 13 oil and gas marketing companies quoted on the Nigeria Stock Exchange as at end of the year 2020. Secondary data was sourced from the annual reports and accounts of the sampled companies for the period of 5 years (2016-2020). The dependent variables for the study were Sustainability Performance effort proxied by expenditure on education, employment and health care by the oil and gas companies, while the independent variable was audit firm type. A panel regression model was employed for the analysis as the data cuts across different firms over periods. The results revealed that there is no significant relationship between audit firm type and sustainability performance. This is evident from the p-value of 0.554 which is related to audit firm type and health care. Also, the result of the audit firm and education revealed a p-value of 0.422 and that of audit firm type and employment 0.364. This result provided a basis for rejecting all the hypotheses. The study therefore, recommends that the oil and gas companies should continue to undertake their responsibility in the sustainability performance without any reference to whether they are being audited by any type of audit firm.

Keywords: Audit Firm Type, Sustainability, Performance, Education, Employment, Health Care.

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1. Introduction

The current sustainability concept talks about sustainability on environmental issues, human and business practices. Sustainability can be interpreted as a development that can meet current

needs without sacrificing future needs by considering carefully and paying attention to resource conservation (Amacha & Dastane, 2017). Currently, the concept of sustainable development agenda has become a concern of companies in many countries. With the increasing awareness and demand for sustainability, which has become a mainstream business practice (Milne, Tregidga, & Walton 2009). Companies that consider sustainability rationally used existing resources to achieve efficiency and social justice (Martins, Rampasso, Anholon, Quelhas, & Leal 2019). Companies can achieve sustainable development through business performance that considers the concept of sustainability (Escrig-Olmedo, Muñoz-Torres, Fernández-Izquierdo, & Rivera-Lirio, 2017). The economic motive of organizations is to maximize the wealth of the investors which is being achieved, in today's operations, through activities that violate or disregard environmental laws and regulations while environmentalists are concerned with how to limit or eradicate activities that impacted negatively on the environment. It is obvious from the corporate angle that attempts would continue to be made towards maximizing shareholders' wealth at the detriment of the environment because it is cheaper to do so. For instance, the emission of waste into the atmosphere is found to be harmful to the climate and invariably human existence yet many companies dispose of their industrial wastes through emission. It is high time businesses are directed in line with acceptable corporate governance codes to stem the persistent infraction against the environment.

Sustainable development transforms the role of professional accountants during the entire accounting cycle. The cycle is finished with the SR. SR requires identification of key stakeholder groups and their information needs; thorough knowledge and use of reporting standards; planning, execution and control of reporting process; management, monitoring, improvement of financial and non-financial reporting information systems; expansion of reporting indicators among environmental, social and managerial; use of new technologies, such as extensible Business Reporting Language, real-time reporting, integrated reporting (IFAC (2012).

Sustainability Reporting help companies identify economic, social, and environmental impacts and share information with stakeholders, including regulators and the wider community (Usman, 2020). Corporate governance mechanism constitutes an instrument for effectively and efficiently controlling the operations of an organization. Mechanisms such as board structure, the board size, related party transactions, and audit firm type, etc. The emphasis of this study is audit firm type because auditors are instruments or authority for ensuring compliance with regulatory frameworks or policies.

The assurance of a sustainability report (SR) serves as an independent control method in which an assurer gives an opinion in order to lend credibility to the sustainability data presented by companies. The Fédération des Experts Comptables Européens (FEE, 2006) emphasizes the significance of using a criterion to validate SRs in order to increase the level of trust among SR users. When compared to non-specialists, auditor industry specialization is seen as a kind of proficiency in delivering high-quality audits due to superior knowledge of the industry's business and client's accounting processes (Habib, 2011; DeFond & Zhang, 2014).

Unlike financial auditing, assurance statements (ASs) for SRs are optional; as a result, managers must decide whether or not they want to inform their stakeholders about their environmental, social, and economic performance, as well as whether or not they want to

enrich their reports by hiring an independent reviewer. Furthermore, despite the fact that assurance is supposed to test a subject against criteria (IAASB, 2010), there is no widely established standard for this assurance procedure. According to Bakker (2012) of the World Business Forum for Sustainable Development, "accountants will save the world." Accountants reduce information asymmetry and assess investment risks, establish and test standards of sustainable accounting, reporting, and auditing within the new business model, and produce integrated reporting and integrated audit. Professional accountants are reassessing their roles in light of the SDGs and corporate sustainability, with specific professional skills and involvement in governance, risk management, business analysis, decision support, due diligence, anticorruption activities, and ensuring corporate transparency.

Audit firm type is considered to be the audit firm that undertakes the audit exercise of an organization. These firms can be audited by either the Big4 Audit Firms or Non -Big 4 Audit Firms and it is expected that the quality of audit performed and institution of compliance with regulatory framework might be different. Setyahadi and Narsa (2020) and Ashok (2018), investigated corporate governance mechanism and sustainability performance using variables that include board structure, disclosure, related party transactions, shareholder rights and board procedure, firm size, etc as mechanisms for corporate governance, with no study ever conducted concerning investigating the impact of audit firm size on Sustainability performance. this study deemed it right to fill this literature gap by conducting a study on Audit Firm Size and Sustainability performance of oil and gas companies in Nigeria for a period of 5 years ranging from 2016-2020. Based on this assertion the following research objectives were formulated; to examine the effect of audit firm types on health care, to determine the effect of audit firm types on employment and to determine the effect of audit firm types on the education of quoted oil and gas marketing company in Nigeria. To achieve these objectives of the study, the following hypotheses were developed: Health Care has no significant effect on audit firm type listed oil and gas marketing companies in Nigeria, Employment has no significant effect on audit firm type listed oil and gas marketing companies in nigeria and education has no significant effect on audit firm type listed oil and gas marketing companies in Nigeria.

2. Literature Review

In today's business world, companies are striving more for sustainable performance by incorporating the economic, social and environmental policies in their business operations. Corporate governance plays an important role in this respect by making an effective decision about proactive sustainability practices (Arora & Dharwadkar, 2011).

Good governance is also associated with better monitoring of social and environmental performance in a way that illegal and socially not unacceptable actions must be avoided to maintain a firm's market image. The components of corporate governance (i.e., the composition of the board, CEO duality, and board size,) could have a strong influence on sustainability performance. In a similar vein, et al. (2014) contended that more disciplined boards (regarding board meeting attendance) and boards with a higher percentage of independent directors result in better sustainability performance. Moreover, high sustainable

firms have more responsible boards whose incentives are closely linked to economically, environmentally and socially related activities as compared to their counterparts (Eccles et al., 2012).

According to Aras and Crowther (2008), sound governance is mostly expected to load a positive influence on sustainability performance. Also, governance and sustainability are converging through the “triple bottom line” in the firms’ boardroom (Hussain et al., 2018). The governance mechanism could align the economic, social and environmental impacts and leads to sustainable value creation (Benn & Dunphy, 2007). In particular, stakeholders’ theory may explain the link between firm governance and sustainability performance in a way “the system of corporate governance shall ensure the protection of stakeholders’ interest by integrating the economic, social and environmental concerns into the corporate practices and strategies (Galbreath, 2018).

2.1. Audit Firm Type /External Assurance

External assurance is said to enhance the credibility and reliability of sustainability reports (Braam and Peeters, 2018). The increase of the credibility of reports by third parties and by Audit firm type, in particular, is caused by more experience, better qualities and integrity (Becker, DeFond, Jiambalvo, Subramanyam, 1998). Therefore, it increases the corporate reputation as well (Simnett, Vanstraelen and Chua, 2009). Since there is increasing pressure on firms to take responsibility for their actions on sustainability issues and to provide credible reports about these issues, external assurance mostly by audit firms is a way to deal with these pressures. Another reason for issuing external assurance through audit firms is to improve stakeholder engagement because firms use their sustainability reporting process as the basis for ongoing dialogue with their stakeholders (GRI report, 2013). Braam and Peeters (2018) found that high-quality assurance reports influence decisions about sustainability issues as well. Accordingly, the high-quality external assurance further enhances the credibility and the reliability of the sustainability reports (Gürtürk and Hahn, 2016). Firms that choose to issue high-quality external assurance comply with sustainability reporting guidelines, because this is what these high-quality external assurances are meant to do. Furthermore, high-quality external assurance is a very costly process and when firms are not compliant the advantages do not outweigh these costs.

2.2. Empirical Review

Setyahadi & Narsa (2020) conceptually reviewed the relationship between corporate governance Mechanism and corporate sustainability performance in Indonesia. The study explores some effective corporate governance principles such as transparency, accountability, responsibility, independence, fairness, and equality to achieve business sustainability in Indonesia’s setting. The results show that good corporate governance regulation in Indonesia has been improved, but the enforcement is still needed to be optimized because good corporate governance will positively impact corporate sustainability.

Maha, Rashidah & Saeid (2020) examined the impact of ESG information disclosure on EES sustainability performance among Asian firms from 2005 to 2017. The positive ESG disclosure–EES sustainability performance relationship found in this study provides evidence that disclosing the implementation of environmental and social strategies within an effective

system of corporate governance in the organization strengthens corporate sustainability performance. The results also show that environmental performance and social performance are significantly positively related to economic sustainable performance, indicating that the corporation's economic value and creating value for society are interdependent. In line with the stakeholder theory and the shared value theory, ESG information disclosure to all stakeholders is an important factor in creating a competitive advantage for enhancing corporate sustainability performance.

Franco & Francesco (2020) examined the impact of Corporate Governance Mechanisms on corporate environmental performances and then tested the hypothesis against a sample of 83 Italian-listed firms, noting the characteristics of their governance and ownership structures over the five years from 2013 to 2017. We also take note of data from the firms' Sustainability Reports on emissions of greenhouse gases over the 2014–2018 five-year period. The results we obtain support the prediction, made in line with the Agency-Theory perspective, that there is a positive relationship between board independence and the adoption of environmentally responsible practices. Only partial support emerges for the hypotheses, made in line with the Resource Dependence Theory, according to which better corporate environmental performances can be obtained by increasing the resource provision of board members. In particular, we discover a positive effect of a large-size board on corporate environmental performances, but no significant effect arising from the presence of interlocked board members. Finally, our study provides support for the theoretically-based hypothesis according to which the non-economic utility (socioemotional wealth) of family ownership makes family firms likely to have better environmental performances than non-family firms.

2.3. Theoretical Review

This segment reviewed the related theories

2.3.1 Agency theory

Agency theory argues that an agent performs tasks for the principal and the agent receives decision-making authority from the principal (Jensen and Meckling, 1976). Both parties will try to maximize their utility by acting in their self-interest. Since the agent performs tasks for the principal, the principal has less inside information than the agent, meaning there is information asymmetry between both parties. The dispersion between ownership and management is the prime example of the agency problem (Jensen and Murphy, 1990). In this situation, management and shareholders have conflicting interests. Management can behave in their interest, which is to work with the least amount of effort possible, while the shareholders want a higher return on their shares. To mitigate the information asymmetry, managers decide to disclose information (Brammer and Pavelin, 2006). Managers have incentives to report to show investors that they behave optimally (Watson, Shrives and Marston, 2002). Shareholders also incur monitoring costs as a result of controlling management in the pursuit of optimal behavior and reduction of information asymmetry (Jensen and Murphy, 1990). In this process, corporate governance mechanisms play an important role. Corporate governance mechanisms have both the potential to monitor and control management and have an important role in the reporting process (Shleifer and Vishny, 1997). Sustainability reporting is still voluntary and

managers can choose whether to fully disclose relevant and reliable information (Bebbington et al., 2014).

2.3.2 Voluntary disclosing theories

Two seemingly opposing theories are prominent in the literature on voluntary disclosure of sustainability information that is; the legitimacy and the signaling theory. Signaling theory suggests that firms with superior sustainability performance (sp) will disclose their performance to distinct themselves from firms with inferior performance, while legitimacy theory suggests that firms with inferior SP will disclose their performance to influence the public perceptions about their sustainability performance.

Legitimacy theory predicts that firms with inferior sustainability performance will voluntarily disclose sustainability information, to legitimize their actions within the bounds of what society identifies as socially acceptable behavior (An, Davey & Eggleton, 2011; Hummel & Schlick, 2016; O'Donovan, 2002 and Wilmshurst & Frost, 2000). The legitimacy of firms is threatened when stakeholders think that the long-term survival of the firm is at risk (Davis, 1973). In other words, 'organizations can only continue to exist if the society in which they are based perceives the organization to be operating a value system that is commensurate with the society's own value system' (Gray, Owen & Adams 2009). Furthermore, the theory suggests that firms will disclose information about their SP to influence public perceptions about their performance or to inform them about their progress (Lozano and Huisinigh, 2011). The purpose of signaling theory is to signal the relevant individuals within the society. Signaling theory predicts that firms with superior SP will signal their superior SP to investors and stakeholders to distinguish themselves from firms with inferior SP (Connelly, Certo, Ireland and Reutzel, 2011; Verrecchia, 1983). These firms distinguish themselves from other firms because their disclosure about their SP cannot easily be mimicked by firms with inferior SP (Clarkson, Richardson & Vasvari, 2008). Showing superior SP has the potential to yield some additional financial advantages (Clarkson et al., 2011). Dhaliwal et al. (2011) and Plumlee, Brown, Hayes and Marshall (2015) found that firms who disclose sustainability information have lower costs of equity capital. Furthermore, their analysts' coverage increases and superior SP attracts more dedicated investors who consider long-term perspectives more and play monitoring and governance roles. Signaling superior SP also results in a higher share price (Clarkson et al., 2011). However, the underlying SP of firms has to be stem with the signal, because otherwise the signal is not effective and does not faithfully represent the CSP of the firm (Morris, 1987).

Both theories have opposing views on which firms comply with sustainability reporting guidelines. However, to comply with these guidelines is a costly process (Leitoniene and Sapkauskiene, 2015). This implies that the advantages of complying must outweigh the costs, otherwise, there is no point in complying. If firms with inferior SP comply with sustainability reporting guidelines it is difficult for firms to mask their inferior SP (Cho and Patten, 2007). However, for firms with superior SP, the intend of complying is to increase the reliability of their reports. This means that their SP is indeed superior and this is faithfully represented in their reports (Hahn and Kühnen, 2013).

3. Methodology

The research design adopted for this study is an ex-post facto research design. The ex-post panel survey assumes the use of cross-section heterogeneity and time heterogeneity among the companies sampled. Data were being sourced from the annual reports and accounts of quoted companies in Nigeria since data is secondary. The population of the study is the entire quoted oil and gas marketing companies in Nigeria which stood at 13 companies as of the year 2020. The census sampling technique was employed in arriving at the sample and since the study is utilizing the entire population. The justification for the sampled companies was based on the fact that oil and gas companies have a high level of economic, social and environmental impact on the communities in which they are situated. The study covered five years ranging from 2016-2020. The panel data regression technique was employed in the analysis of the data.

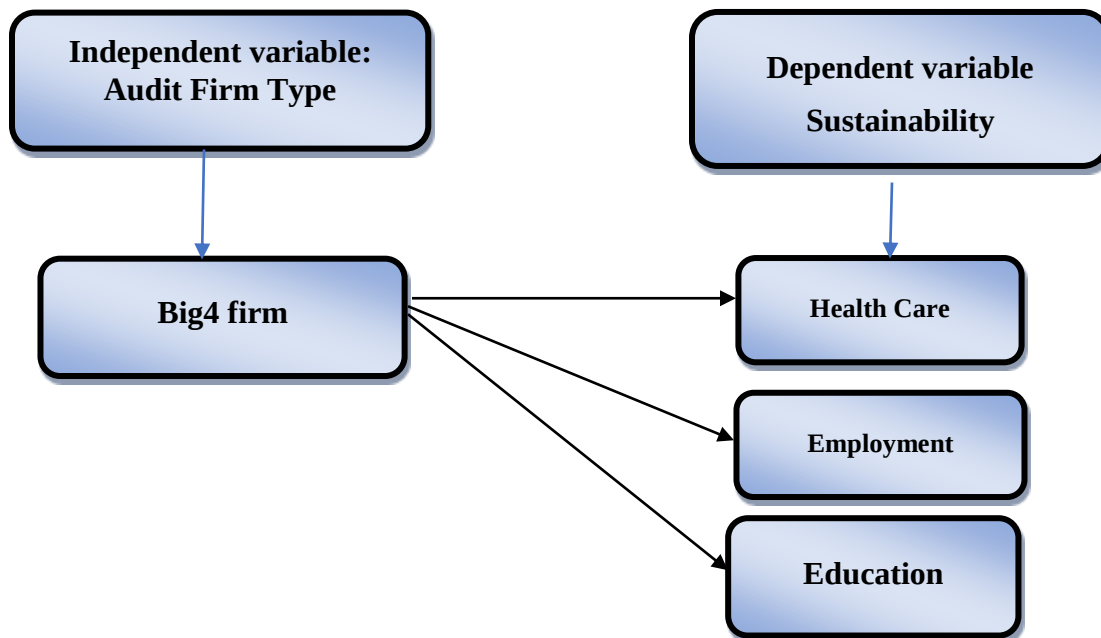


Figure 1: Nature of Relationship Between the Variables of the Study

The conceptual framework shows the relationship between both the independent and dependent variables with the proxies to measure them.

Table 1. Variables Description

Variables	Measurement
Audit Firm Type (Independent Variable)	Represented with Dummy Variable of 1 if the company is being Audited by any of the Big4 audit firms. (KPMG, Deloitte, Ernst Young and PWC} and 0 if audited by a non-big4 audit firm.
Sustainability Performance (Dependent variable)	The proxies for measuring dependent variable (social) are expenses incurred on health care, employment, and education

Authors' Design (2021)

3.1. Model Specification

The model assumed that the dependent variable is a linear function of the independent variable with consideration to the heterogeneity in the panel companies. This means that the panel regression model assumes that there is no difference in the panel companies.

Model: Audit Firm Type and Sustainability performance

$$SUSP_{it} = \beta_0 + \beta_1 AUFT_{it} + \varepsilon_{it} \dots \dots \dots (i)$$

$$HLC_{it} = \beta_0 + \beta_1 AUFT_{it} + \varepsilon_{it} \dots \dots \dots (ii)$$

$$EPY_{it} = \beta_0 + \beta_1 AUFT_{it} + \varepsilon_{it} \dots \dots \dots (iii)$$

$$EDU_{it} = \beta_0 + \beta_1 AUFT_{it} + \varepsilon_{it} \dots \dots \dots (iv)$$

Where:

$SUSP_{it}$ = sustainability performance

β_0 = constant

β_1 = variable that varies across companies

$AUFT_{it}$ = Audit Firm Type

ε_{it} = Error term

HLT = Health care

EPY = Employment

EDU = Education

4. Finding and Discussion

After collection and anlysis of data the results are presented as follows;

Table 2 Descriptive Statistics of Variables of Dependent and Independent Variables

Variable	Mean	Standard deviation	Minimum	Maximum	Variance	Skewness	kurtosis
Aufty	0.75	0.4385	0	1	0.1923	-1.1547	2.3333
HLT	4.6641	2.8012	0	1.7740	7.8514	6.0817	38.0051
EPY	1.4211	4.9321	0	3.0621	2.4310	5.3766	32.1073
EDU	5.7167	2.4411	0	1.5522	5.9710	5.9181	36.6754

Source: Authors' computation 2021

Table 2 revealed the descriptive statistics of the variables used in the study. Audit Firm Type (Aufty) has a mean value of 0.75 while the standard deviation is 0.4385. This revealed a mean level of disparities and deviation. Health (HLT) has a mean value of 4.6641 and a standard deviation value of 2.8012. This revealed that the variables are not too far from each other. Employment (EPY) revealed a mean value of 1.4211 while the standard deviation value is 4.9321. Education (EDU) has a mean value of 5.7167 and the standard deviation value has a value of 2.4411.

Variance displayed how far the number is spread out, the variance shows that Aufty, Health Care, Employment, and Education are 0.1923, 7.8514, 2.4310, and 5.9710 respectively. This implied that there is a low spread out of number.

From the results of skewness, the acceptable values of skewness fall between -3 and +3, it shows that health care, Employment and Education are skewed to the right because the coefficients are 6.0817, 5.3766 and 5.9181 respectively likewise Audit Type are skewed to the left with the coefficient of - 1.1547 which implied that the value is normal.

The appropriate range of Kurtosis is -10 to +10 (Brown, 2006). Therefore, the results of Kurtosis revealed the level of normality of data. Table 2 also revealed the kurtosis of Audit Firm type, Health care, Employment and Education are 2.333, 38.0051, 32.1073 and 36.6754 respectively which indicate that the data is not normally distributed.

4.1 Correlation analysis of Dependent and Independent Variables

The correlation matrix was used to determine the degree of relationship between variables of the study. These associations among the variables of the study are presented in Table 3. It gives the existence of a relationship among the variables which can be either positive or negative. A value closer to 1 depicts that the two variables are highly positively related to each other indicating multicollinearity.

Table 3: Correlation Matrix of Dependent and Independent Variables

	AUFTY	HLT	EPY	EDU
AUFTY	1.0000			
HLT	0.0965	1.0000		
EPY	0.1474	-0.0467	1.0000	
EDU	0.1306	0.9918	-0.0354	1.0000

Source: Authors' computation 2021

Table 3 revealed the correlation matrix of the variables used in this study. Audit firm type has a positive relationship with health care, employment and education. health care has a negative relationship with employment and a positive relationship with education. employment has a negative relationship with education. it can be observed that the relationship between the independent variables themselves is not significant, an indication of the absence of multicollinearity. This can be observed from the two indicators (i.e. Tolerance value and Variance Inflation Factor (VIF) which are within less than 1 and less than 10 respectively.

Table 4 Presents the VIF results of the study which revealed the multicollinearity test of the variables.

Table 4 Multicollinearity Test

Variable	VIF	1/VIF
HLT	61.90	0.01615
EPY	61.85	0.01617
EDU	1.01	0.99058
Mean VIF	41.59	

Source: Authors' computation 2021

Table 4 shows the multicollinearity test which shows the VIF value is above 10 which indicated the presence of a multicollinearity problem. The VIF of the HLT shows 61.90, EPY is 61.85, and EDU is 1.01 which showed that all independent variables have no serious multicollinearity and likewise the tolerance value (DF) showed 0.01615, 0.1617, and 0.99058 for HLT, EPY and EDU respectively.

4.2. Regression Analysis

This section presents the regression results of dependent and independent variables of the study which provided a test of the hypotheses.

Hypothesis One: Audit Firm Type has no significant effect on health care of Oil and Gas Marketing Companies in Nigeria.

Table 5: Audit Firm Type and Health Care

	Coefficient	P-value
Constant (C)	0.7429	0.000
Health	1.5100	0.554
R-Square	0.0093	
Adj. R- Square	0.0168	
Wild Chi 2	0.4422	
P>chi 2	0.5535	

Source: Authors' computation 2021

Table 5 shows that there is a positive and no significant relationship between AUFTY and HLT, on listed Oil and Gas Marketing companies in Nigeria with a p-value of 0.554 and coefficient are 1.5100, which indicate that we reject null hypotheses and accept alternative hypothesis which says AUFTY has a significant effect on HLT on listed Oil and Gas marketing companies in Nigeria.

Hypothesis Two: Audit Firm Type has no significant effect on Employment of Oil and Gas Marketing Companies in Nigeria.

Table 6: Audit Firm Type and Employment

	Coefficient	P-value
Constant (C)	0.7314	0.000
Employment	1.3128	0.364
R-Square	0.0217	
Adj. R- Square	0.0040	
Wild Chi 2	0.4394	
P>chi 2	0.3639	

Source: Authors' computation 2021

Table 6 shows that there is a positive and no significant relationship between AUFTY and EPY, on listed Oil and Gas Marketing companies in Nigeria with a p-value of 0.364 and coefficient are 1.3128, which indicate that we reject null hypotheses and accept alternative hypothesis which says AUFTY has a significant effect on EPY on listed Oil and Gas marketing companies in Nigeria.

Hypothesis Three: Audit Firm Type has no significant effect on Education of Oil and Gas Marketing Companies in Nigeria.

Table 7 shows that there is a positive and no significant relationship between AUFTY and EDU, on listed Oil and Gas Marketing companies in Nigeria with a p-value of 0.422 and a coefficient is 2.3410 which indicate that we reject null hypotheses and accept an alternative hypothesis that says AUFTY has a significant effect on EDU on listed Oil and Gas marketing companies in Nigeria.

Table 7: Audit Firm Type and Education

	<i>Coefficient</i>	<i>P-value</i>
Constant (C)	0.7366	0.000
Education	2.3410	0.422
R-Square	0.0170	
Adj. R- Square	0.0088	
Wild Chi 2	0.4405	
P>chi 2	0.4219	

Source: Authors' computation 2021

5. Conclusion

From the findings of the study, it can be deduced that corporate governance mechanisms play a very crucial role in the performance of a firm in terms of their sustainability efforts and specifically the role played by the audit firm type. From the study, therefore, the findings revealed that there is no significant relationship between Audit Firm Type and Health care, Employment and Education of listed Oil and Gas Marketing companies in Nigeria, even though the relationships are positive. This signifies that the performance of firms in the area of Sustainability is not a result of the type of audit firm that audited these oil companies but can be attributed to other factors. In line with the findings of the study, the study recommends that Managements of listed Oil and Gas marketing companies in Nigeria should continually keep to their effort of performing better in terms of their sustainability without recourse to whether they are being audited by the Big 4 audit firm or the non-Big 4 audit firms but rather strive to continually comply with regulatory framework and policies to keep their firms at a competitive advantage over others.

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