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Effect of Alcoholic Tax on Financial Performance of Selected Brewery Firms in Nigeria (2012-2022)

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Abstract
This research delved into the impact of alcoholic taxes on the financial performance of selected brewery firms in Nigeria within the time frame of 2012 to 2022. Specifically, the study examined the influence of alcohol excise tax, alcohol price, alcohol value-added tax, and alcohol consumption on the financial performance of these brewery firms. Employing an ex post facto research design, the study utilized the general method of moments (GMM) panel least squares regression for data analysis. The findings revealed that alcohol excise tax exerted a significant negative effect on the financial performance of the brewery firms. Conversely, the alcohol price variable exhibited a significant positive impact on their financial performance. Additionally, alcohol value-added tax was found to have a negative and significant effect on the financial performance of the brewery firms. Furthermore, the study determined that alcohol consumption tax had a positive and significant effect on the financial performance of the brewery firms. Based on these results, the study recommends that brewery firms should consider pricing as a crucial element in their production function to boost revenue and profit, thereby enhancing financial performance. Furthermore, adopting a production model where consumption volume is a significant variable is advised, as it contributes positively to financial performance. Additionally, the firms are encouraged to implement strategies to recover value-added tax payments, leveraging external economies of scale and ultimately improving their financial performance.

1. Introduction

The Nigerian brewery industry plays a pivotal role in the overall economic development of the country. As highlighted by Eluma and Shobayo (2018), Nigeria's brewery industry ranks as the second-largest in Africa, following South Africa. This sector is swiftly becoming the continent's most promising market, driven by population growth and significant foreign direct investments from multinational beer companies. In 2015, Deutsche Bank Market Research identified Nigeria as Africa's largest consumer of alcohol, comprising 36% of the continent's formal alcohol market. The growth, reaching 23 million hectoliters by 2015, was attributed to factors such as beer Per Capita Consumption (PCC) expansion, population increase, and nominal per capita income growth. Projections indicate that the market is set to escalate from 15.6 million hectoliters in 2009 to approximately 25.9 million hectoliters in 2012, with a further surge to 60.85 million hectoliters by 2025 (GTI Securities Research, 2020).

Currently, the Nigerian brewery industry contributes significantly to the growth of the industrial sector, accounting for 35.9% of its expansion, which has surged by 6.41% compared to 0.87% in 2013 (PWC, 2022). Notably, this sector has garnered increased attention from global industry giants like SAB Miller, Carlsberg, and Castel. The interest from global leaders in the beer beverage industry signals growth opportunities within the brewery sector. This is anticipated to result in positive developments, including volume growth and expanded market penetration. The industry has demonstrated its capacity for value creation and contribution to the Nigerian economy. However, like many other businesses and sectors, the brewery industry faces performance challenges, partly attributed to fiscal policies such as taxation. Alcohol taxation is a practice both in Nigeria and globally.

Alcohol taxation takes the form of excise and value-added taxes imposed on a product during its manufacturing process rather than at the point of sale. Excises on specific products, like alcohol and tobacco, are often referred to as 'sin taxes,' aimed at mitigating the social costs associated with these products. The objectives of alcohol taxation include revenue generation, reducing demand for alcoholic products by increasing prices, and offsetting some of the social costs linked to alcohol-related harms. The World Health Assembly (WHA) made a global call in 2005 to address alcohol-related issues caused by harmful consumption through policy. In response, the World Health Organization (WHO) Member States adopted a ten-point policy strategy in 2010, with many countries, including Nigeria, implementing alcohol policies to curb harmful consumption.

Additionally, the government imposes value-added taxes on brewery companies, sometimes at high rates. These taxes, unlike other food and beverage items, appear discriminatory as they single out brewery companies, impacting their production costs, retail prices, and overall performance. Forecasts suggest that by 2032, brewery firms will support over 9 million jobs and contribute about 1 trillion Naira in economic activity (Bashir, Benjiang, Shahbaz, Jiao & Xue, 2020). Taxation measures, particularly alcohol tax and value-added tax on alcohol, that increase production costs could have a detrimental effect on these forecasts and the resulting economic benefits for the nation.

The implementation of alcohol tax has consequences for the financial performance of brewing firms. High alcohol tax rates could affect cash flow due to increased prices and reduced consumption, potentially leading to increased inventory that may go to waste. Despite alcohol taxes, the industry continues to post gains, as indicated by annual turnover reports. However, there is a concern that increased taxes may lead to lower financial performance in the brewery industry. Consequently, the researcher aims to investigate the effect of alcohol taxation on the financial performance of selected brewery firms in Nigeria.

1.2 Statement of the Problem

Firms in the brewery sector have expressed challenges in production, attributing them to high tax rates applicable to the sector. According to the nine-month report card of some firms in the PWC (2022) report, a pre-tax loss of N2.2 billion was recorded during that period.

Perspective: Nigerian Breweries' quarterly reports reveal a noteworthy surge in their debt, escalating from N24.3 billion to N72.8 billion over the past year. The reports also highlight a pre-tax loss of N2.2 billion during the current period. According to the reports, Nigerian Breweries attributes this Q3 2019 pre-tax loss primarily to a substantial increase in borrowing costs, with total debt more than tripling to N72.8 billion. The altered excise tax regime significantly impacted the company's performance, despite reported growth in beer volumes driven by the premium segment. The 30% surge in excise tax charge eroded the overall growth. Additionally, financial research firm PWC notes a 46% decline in Nigerian Breweries' shares on the Nigerian Stock Exchange (SNE, 2023).

Furthermore, the FBN Quest report signals a negative medium-term outlook for the beer industry in Nigeria. In a 2018 analysis by PWC before the initiation of the new tax regime on June 4, the government, while citing the need to raise revenue, reduce health hazards, and align with tax impositions by the Economic Community of West African States (ECOWAS) members, had planned a gradual tax increase from 2018 to 2020. However, this policy has posed challenges and negatively impacted the industry's performance.

Another issue is the incremental tax rate applied to the industry. As of June 1, 2022, brewery firms are subject to an additional specific rate of NGN 50 per litre, alongside the existing 20% ad valorem rate. This specific rate is set to increase to NGN 65 per litre in 2023 and further to NGN 75 per litre in 2024 (PWC, 2023).

Moreover, there is a dearth of empirical evidence regarding the impact of alcohol tax on the financial performance of brewery firms in Nigeria. Consequently, the researcher aims to explore the effect of alcohol taxation on the financial performance of selected brewery firms in Nigeria. The overarching objective is to investigate the influence of alcohol tax on the financial performance of these firms, with specific objectives including:

1. Scrutinizing the effect of alcohol excise tax on the financial performance of selected brewery firms in Nigeria.
2. Evaluating the impact of alcohol price on the financial performance of selected brewery firms in Nigeria.
3. Ascertaining the effect of alcohol value-added tax on the financial performance of selected brewery firms in Nigeria.
4. Investigating the impact of alcohol consumption on the financial performance of selected brewery firms in Nigeria.

2. Review of Related Literature

2.1.1 Tax

Tax is defined as the revenue collected from various sources, including taxes on income and profits, social security contributions, levies on goods and services, payroll taxes, property-related taxes, and other forms of taxation. The total tax revenue, expressed as a percentage of the Gross Domestic Product (GDP), signifies the portion of a country's output acquired by the government through taxation. This metric serves as an indicator of the extent to which the government exercises control over the resources of the economy. Taxation is a dynamic subject, evolving with the continual changes in the economic environment in which it operates. It refers to a mandatory payment made by individuals and organizations to the government based on predetermined criteria, without the expectation of receiving a direct or specific benefit in return (Bassey, 2013).
For governments to effectively fulfill their primary and ancillary functions, they require sufficient funding. Tax proceeds are utilized by governments to carry out traditional roles such as providing public goods, maintaining law and order, defending against external and internal threats, and regulating trade and business to ensure social and economic justice. Unfortunately, the responsibilities of governments continue to expand, particularly in developing countries, due to factors such as the increasing population of citizens and technological advancements (Ofoegbu, Akwu & Oliver, 2016).

2.1.2 Excise tax

Customs duties in Nigeria represent the oldest form of contemporary tax revenue, with their inception dating back to 1860 under the term "import duties." These duties, also known as taxes on imports into Nigeria, are levied either as a percentage of the imported goods' value or as a fixed amount based on quantity (Buba 2007). Customs duty serves as a significant revenue source for the Federal Government, payable by importers of specified goods (Buyonge 2008). Excise duties were also introduced on various goods in 1962 to diversify Nigeria's revenue base, as outlined by Buba (2007).
Both customs and excise duties play a crucial role in the non-oil revenue sector, serving as a vital source of income both before and after the discovery of oil in Nigeria. Over the years, these duties have made substantial contributions to national development. According to Buba (2007), the Nigeria Customs Service bears the responsibility of collecting duties, excise, fees, tariffs, and other levies imposed by the Federal Government on imports, exports, and statutory rates. This function is essential for trade facilitation and serves as a key instrument of state sovereignty.

2.1.3 Alcohol Tax

Alcohol tax refers to specific sales taxes imposed on the purchase of alcohol. Most states enforce this tax by setting a fixed amount for each unit sold, such as per gallon of beer, wine, or liquor. The producer or seller of the alcohol pays the tax during the wholesale transaction, with the understanding that the tax is subsequently incorporated into the final purchase price and consequently passed on to consumers. Additionally, certain states and localities generate revenue through government-owned liquor stores. Termed as a corrective or "sin tax," alcohol taxes aim, in part, to discourage alcohol consumption due to its associated costs impacting both the consumer and the general public, such as increased healthcare expenses.

In the European Union (EU), alcohol taxes and revenues exhibit significant variation, ranging from over 100 euros per capita in Scandinavian countries to less than 30 euros in Mediterranean countries. The justification for high alcohol excises, based on 'inverse-elasticity' rounds (Ramsey rule), faces challenges. The nature of alcohol as a complement or substitute for leisure remains unclear. While taxing alcohol sales assists in mitigating external costs linked to abusive consumption, it comes at the expense of diminishing the satisfaction of non-abusive consumers. Unlike concerns about the regressivity of tobacco taxes, such issues do not apply with the same intensity to alcohol taxes in the United States. A considerable portion of the net external cost associated with abusive alcohol consumption in the U.S. is attributed to the valuation of alcohol-related traffic fatalities, whereas UK studies highlight significant items under the category of 'social cost to industry.'

2.1.4 Alcohol Value Added Tax

Alcohol Value Added Tax (VAT) is imposed on the entire alcohol production value chain and the sale of alcohol at each stage of distribution and consumption, typically integrated into the price. VAT is essentially a tax on consumer spending, applicable to anyone who pays for goods and services. It is embedded in the cost of commonly consumed items like clothing and petrol, making the percentage of VAT less visible. Nevertheless, for certain items or services, such as electricity and professional services, consumers may encounter a clear display of the VAT amount and the associated rate on their bills.

In Nigeria, the VAT Act stipulates that input VAT can be reclaimed against output VAT only when incurred on stock-in-trade used directly in the production of a new product or on goods purchased for resale. Given that a significant portion of Nigeria's energy is generated from gas-fired power plants, with natural gas being a crucial stock-in-trade subject to VAT, brewery firms should be able to recover VAT paid to gas suppliers from the amounts collected on the sales of their products or to bulk traders. Similarly, recovery of input VAT paid to suppliers of other raw materials should be feasible. However, the recouping of VAT translates into price increases for products, impacting consumers.

In June 2018, the Federal Executive Council (FEC) endorsed two Executive Orders and five Amendment Bills aimed at addressing tax issues in vital economic sectors. The Minister of Finance emphasized this as a commitment to reducing the tax burden and enhancing the ease of doing business. Among these measures, one Executive Order modified the Value Added Tax Act, granting exemptions from VAT for residential property leases or rentals, public transport services, and life insurance premiums. While this brought relief to the real estate, transport, and insurance industries, it was notable that the alcoholic beverage industry, a notably productive subsector, was omitted. This omission is especially perplexing given that another draft Executive Order addressing VAT modifications, expected to resolve the issue, is yet to be officially published.

2.1.5 Financial Performance

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2.1.7 Global Outlook on Alcohol Taxation

Taxation of alcohol is a critical global issue, offering governments a significant means to influence alcohol prices and, consequently, reduce alcohol-related harms. Alcohol taxation commonly takes the form of an excise, a tax imposed on the product during manufacturing rather than at the point of sale. Excises on specific products like alcohol and tobacco are often referred to as 'sin taxes,' as they aim to counteract or alleviate the social costs linked to these products. Globally, excise amounts are generally determined by the alcohol content within the product. Another taxation method, the Wine Equalization Tax, imposes a 29% tax on the monetary value of the final product for wine manufacturers and certain producers of alcohol products made from fruit and vegetables. The Wine Equalization Tax indirectly promotes the production of cheaper alcohol, which is associated with increased alcohol-related harms because lower-priced end products result in lower taxes paid by manufacturers. The objectives of alcohol taxation include generating revenue, curbing demand for alcoholic products through price increases, and mitigating some of the social costs related to alcohol-induced harms. Although alcohol taxation is just one facet of overall alcohol pricing, it serves as an effective policy tool to diminish alcohol-related harms by reducing consumption and generating revenue to offset the social costs associated with these harms.

Economists contend that hikes in alcohol excise taxes reduce heavy consumption, justifying taxation based on the community's cost of alcohol abuse. However, a review by the alcohol industry argues that excise taxes on alcohol do not effectively reduce heavy drinking due to shifts toward lower-cost products, disproportionately affecting low-income drinkers (International Alliance for Responsible Drinking, 2018). This paper addresses research questions related to the effects of excise taxes on heavy and low-income drinkers. Alcohol is taxed at both federal and state levels, generally through volume-based excise taxes. Federal tax rates, with some exceptions, are $13.50 per gallon for spirits, $1.07 per gallon for wine, and $0.58 per gallon for beer.

Previous studies on alcohol taxes or prices, particularly older ones, face significant data and methodological challenges. State monopolies for the retail sale of wine or spirits render state alcohol taxes meaningless in some cases. While meaningful beer taxes are available for all but one state, prior price studies often relied on problematic data from a survey by the American Chamber of Commerce Research Association (ACCRA).

2.2 Empirical Review

In Ahangar's (2021) examination of the relationship between tax and financial performance, Ordinary Least Squares (OLS) analysis was employed to establish this connection. The study revealed that a company's performance could be clarified through tax policy variables. Specifically, the research unveiled that alcohol excise tax and alcohol pricing significantly influenced company performance, as measured by profit after tax. Moreover, it affirmed the importance of the alcohol consumption variable in the financial performance of brewery firms. In a separate study, Rehma (2021) investigated the impact of alcohol consumption on brewery firms' performance. Utilizing a quantitative research approach with an ex post facto research design, the study utilized Ordinary Least Squares regression analysis. The findings validated a substantial relationship between alcohol tax, price, and financial performance metrics such as Returns on Capital Employed (ROE) and Earnings Per Share (EPS).

Furthermore, Micha (2021) proposed the existence of an inverse relationship between a firm's performance metrics, particularly Return on Assets (ROA), and tax variables. This supports the argument for acknowledging specific human resource costs as investments to be capitalized and reported in the statement of financial position, rather than categorizing them as expenses in the statement of comprehensive income. According to Micha (2021), this inverse relationship is not surprising, given that Return on Assets (ROA) reflects a company's overall profitability. Treating investments in human capital development as expenses would lead to understated assets and earnings. This underscores the significance of companies, especially those with lower earnings, providing relevant information to investors and stakeholders about investments in human capital that may not be reflected on the balance sheet.

2.3 Theoretical Framework

The theoretical foundation for this study is the Laffer Curve Theory, conceptualized by Prof. Arthur Laffer in 1978. The Laffer Curve serves as a theoretical model illustrating the relationship between government revenue generated through taxation and its impact on the economic performance of productive sectors. It examines tax revenue at extreme rates of zero percent (0%) and one hundred percent (100%), positing that a 100% tax rate generates no revenue, similar to a 0% tax rate. This is due to the absence of incentives for rational taxpayers to earn income at a 100% tax rate, resulting in revenue being 100% of nothing. Consequently, the theory suggests the existence of an optimal tax rate where revenue would be maximized. As it pertains to Value Added Tax (VAT), a form of taxation, the Laffer Curve is applicable to this study, indicating that raising the VAT rate beyond a certain level could create disincentives and prove counterproductive for generating revenue from VATable transactions, such as those involving alcohol and brewery firms.

Numerous scholars have explored the impact of taxation on organizational growth and financial performance, drawing from empirical reviews within and outside Nigeria. Despite this, tax components have not been fully harnessed in many Nigerian firms, with limited attention given to brewery firms in existing studies. Recognizing this gap, this study deviates from the norm by focusing on the alcohol component of tax and examining its effect on the financial performance of brewery firms over a period of ten (10) years. This extended timeframe allows for comparative analysis of financial performance.

3. Methodology, Model and Data

This study adopted Ex-post Facto Research Design using Panel Data. Ex-post Facto Research Design was adopted because the data for the study were drawn from past economic events. The Panel Data was used because the study involves both Time-Series and Cross-Setional study. Again, a Cross-Sectional research enables data drawn from different sectors to be analyzed and compared on sector by sector basis (Ryan, Scapens & Theobald, 2002 as cited in Chukwu, 2015) . The Time Series Data design nature is because the data for the study relates to different years of the operations of diverse economic sectors in Nigeria, (Aneke, 1998 as cited by Onyekwelu, 2015). The study will also employ empirical analysis of the relationship between intellectual capital and financial performance of quoted Brewery firms in Nigerian stock exchange. It will be useful in examining the relationship among variables through the collection of data for hypotheses testing. This study made use of secondary data sourced from the annual financial statements of the firms and the database of the Nigeria Stock Exchange (NSE, Factbook). These data were considered credible since they have been audited and filed with the Securities and Exchange Commission.

Model Specification

The analytical framework employed in this study involves the dimensions of intellectual capital (specifically, Relational Capital and Human Capital) as predictor variables and Financial Performance (ROA) as the criterion variables. The formulated model for this study is presented as follows:

Functional Relationship

ROA = f(BET, BP, ACC, AVT)…………………………………………....1

This can be converted into linear or stochastic model, we have

$ROA=\beta0+\beta1AET_t + \beta2AP_t + \beta3ACCt + \beta3AVTt + U_t$ …………………………………2

Where β0 is a constant term; ROA=Return on Asset; AET = alcohol excise tax, AP = alcohol price, ACC = alcohol consumption, AVT = alcohol value added tax, ε=Error Term; Apriori expectation: $\beta1$ to $\beta3 < 0$.

The statistical methodology utilized for data analysis in this study is multiple regression analysis. Multiple regression analysis proves to be highly pertinent for examining the predictive capacity of the independent variables on the dependent variable. The analysis adhered to the specified model outlined in each hypothesis. The E-views econometrics software package was employed for the data analysis process.

4. Results and Discussion

*T*he ensuing analysis was conducted on panel data, encompassing a cross-section of five selected brewing firms for the period 2012-2022, amounting to a total of 45 observations. The chosen firms include Champions Brewery, Consolidated Brewery, Nigerian Brewery Limited (NBL), Guinness Nigeria PLC, and International Breweries. The objective of the analysis is to provide an overview of the characteristics of the dependent and independent variables. The conducted tests involve the unit root test, the correlations test, and Panel Least Squares Regression.

4.1 Unit Root Test

Stationarity holds significance in both panel and time series analysis, indicating that the statistical properties of a series, or the process generating it, remain constant over time. This concept is crucial, as numerous analytical tools, statistical tests, and models rely on stationarity. Additionally, economic and finance theories often propose the existence of long-run equilibrium relationships among non-stationary series. To ensure the reliability of the data for policy and forecasting, it underwent a unit root diagnostic test, and the summarized results are presented below:

Table 1: Unit root test result

Variable	ADF-Fisher @level	P-value	cross section	observation	Order	Remark
ROA	8.81193	0.0000	5	45	1(0)	stationary
AET	8.66380	0.0043	5	45	1(0)	stationary
AP	23.5584	0.0089	5	45	1(0)	stationary
ACC	28.4537	0.0015	5	45	1(0)	stationary
AVT	17.0109	0.0001	5	45	1(0)	stationary

Source: Author's computation 2023 (E-views)

The outcomes presented in Table 1 indicate that the model variables (return on assets – ROA, alcohol excise tax – AET, alcohol price – AP, alcohol consumption - ACC, and alcohol value-added tax – AVT) have attained stationarity at the level. Therefore, they possess an integration order of 1(0). This conclusion regarding stationarity is drawn from the adherence to the unit root testing rule, where the p-value of the individual (ADF-Chi-square test statistic) for the variables is less than the 5% significance level. The significance of a stationary process or series is that the employed model can be trusted for policy analysis and decision-making..

4.2 Correlation Test

The correlation test was utilized to determine the strength and magnitude of the relationship between the dependent and independent variables. The outcome of the correlation test is displayed in Table 3.

Table 2: Correlation Matrix

	ROA	AET	AP	ACC	AVT
ROA	1.000000				
AET	-0.861426	1.000000			
AP	0.312747	0.073925	1.000000		
ACC	0.479315	0.088338	0.249590	1.000000	
AVT	-0.612747	0.073925	0.430109	0.091735	1.000000

Source: Author's Computation 2023 (Eviews)

The correlation test results in Table 3 above illustrate the correlation movements between the dependent variable (return on assets - ROA) and the independent variables (alcohol excise tax, alcohol price, alcohol consumption, and alcohol value-added tax). A positive relationship was observed between return on assets and the variables representing alcohol price and alcohol consumption. This suggests a direct positive association between the production components of the firms (volume of alcohol consumption and price) and the financial performance (ROA) of the brewing firms.

Conversely, there was a negative relationship between return on assets and the variables representing alcohol excise tax and alcohol value-added tax. This implies that the tax components of the brewing firms negatively impact their financial performance.

4.3 Panel Regression Result

The primary goal of this study was to explore the impact of alcohol taxation on the financial performance of selected brewery firms in Nigeria. The study modeled the performance of the firms (proxied by return on assets) as a function of the alcohol tax variable, which was decomposed into alcohol excise tax (AET), alcohol price (AP), alcohol consumption (ACC), and alcohol value-added tax (AVT). To estimate the coefficients of the impact of the explanatory variables, the researcher conducted panel least squares regression analysis. The results are presented in the table below:

Table 3: Regression result

Dependent Variable: ROA
Method: Panel Least Squares
Date: 11/23/23 Time: 04:34
Sample: 2012 2022
Periods included: 9
Cross-sections included: 5
Total panel (balanced) observations: 45

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AET	-0.200155	0.760206	-15.54695	0.0000
AP	0.008085	0.001888	4.282727	0.0001
ACC	24.09649	2.277025	10.58244	0.0000
AVT	-7.179218	0.291882	-3.192981	0.0000
R-squared	0.880628			
Adjusted R-squared	0.874944			
Durbin-Watson stat	2.383958			

Source: author's computation 2023 (Eviews)

Examining the results in Table 3 above, the study utilized a pooled approach with all 45 observations in the regression model, neglecting the cross-sectional and time-series nature of the data. The coefficient of determination (R-squared value) for the regression model is 0.880628, indicating that approximately 88.06% of the total variation in the financial performance of the firms is explained by the alcohol tax variables. According to the regression estimates, the alcohol price and alcohol consumption variables showed positive and significant effects. This is supported by the population parameters (t-stat) and the p-values of the coefficients: [alcohol price, AP - t-stat = 4.282727, p-value = 0.0001], [alcohol consumption, ACC - t-stat = 10.58244, p-value = 0.0000].

In contrast, the regression results for alcohol excise tax and alcohol value-added tax indicated negative impacts on the performance of the brewing firms. Specifically, the excise tax had a coefficient of -0.200155, with a p-value of [AET - t-stat = 15.54695, p-value = 0.0000], while the alcohol value-added tax had a coefficient of -7.179218, with a p-value of [AVT - t-stat = 3.192981, p-value = 0.0000]. Thus, the tax components of the firms significantly influence their financial performance.

4.4 Discussions

This study delved into assessing the impact of alcohol taxation on the financial performance of selected brewery firms in Nigeria. It aimed to determine to what extent tax variables, including excise tax, value-added tax, price, and alcohol consumption, influence the return on assets of the selected firms. The study explored whether alcohol taxation, along with other microeconomic and macroeconomic environmental variables, significantly affects the financial performance of brewery firms in Nigeria. Utilizing a panel data sample from five selected brewery firms in Nigeria over the study period (2012-2022), panel least square, assets and earnings will be understated and this motivates companies with low levels of earnings to provide relevant information to investors and stakeholders regarding investments in human capital that are not reflected on the balance sheet.

A complicating factor in this conceptual model arises from the fact that different types of alcoholic beverages (e.g., beer, wine, and spirits) are taxed at different rates. When tax increases affect only one type of beverage (designated as the "targeted" alcoholic beverage), one must consider the possibility of substitution effects. Alcoholic beverages not affected by the tax increase may be consumed in greater quantities. However, binge drinkers often prefer specific types of alcoholic beverages for reasons unrelated to price (e.g., availability, convenience, taste). It remains unclear how much beverage substitution would impact overall alcohol consumption, even when tax increases affect only one beverage type.

Most studies (95%) reported negative price elasticities, indicating that higher prices were associated with lower consumption. These results were consistent across beverage types, with median elasticities ranging from -0.50 for beer to -0.79 for spirits. Intervals for beer, wine, and spirits were also consistent, with the 25th percentile elasticity ranging from -0.91 to -1.03, and the 75th percentile ranging from -0.24 to -0.38. Results for studies of overall ethanol consumption across beverage types were somewhat more variable due to outliers with very large elasticities.

The regression result reveals that the coefficient of the alcohol price variable (AP) is 0.008085, and its p-value is [0.0001]. This variable has a significant positive effect on the return on assets of the firms. Following the decision rule, the study rejects the null hypothesis. Some studies, such as Micha (2021), found an inverse relationship between the performance metrics (ROA) of a firm and tax variables. While the tax components were negative, the alcohol price and consumption volume were positive. This emphasizes the importance of considering volume of consumption and the pricing model, particularly in the decision-making process of the firms. According to Micha (2021), this relationship is unsurprising because return on assets (ROA) indicates a company's overall profitability. When investments in assets and earnings are understated, it encourages companies with low earnings to provide relevant information to investors and stakeholders regarding investments in human capital that are not reflected on the balance sheet.

When the expansion of consumption is expensed, the result is that both assets and earnings will be high. This motivates companies with a low level of earnings to provide relevant information to investors and stakeholders regarding their investments.

Nigerian brewers increased the prices of their products across different categories from the pandemic in 2020 to 2021, in contrast to the stable prices before the pandemic era. "Based on market surveys, the average price of beer has increased by approximately 60 percent between 2019 and 2023. This increase is led by the premium beer category, which rose by 75 percent on average. The mainstream category follows closely at 58 percent, and the value category at 46 percent, respectively. Brewers currently have increasingly limited capacity for further price increases, and consumers have become more self-conscious about their lifestyle choices, impacting alcohol sales in the future. On June 14, 2023, the Central Bank of Nigeria collapsed all segments of the foreign exchange markets into the importers and exporters window. After trading on Wednesday, the naira depreciated to 770.38 per dollar at the I & E window, the official FX market.

Based on the presented regression result, the coefficient of the alcohol value-added tax variable (AVT) is -7.179218, with a p-value of [0.0001]. The negative coefficient indicates that the amount paid as tax for each value added by the firms to the various alcohol products influences the return on assets negatively, probably due to increases in tax leading to higher prices. Increases in price discourage consumption and hence affect the performance of the firms negatively. One of the fundamental laws of economics, the Law of Demand, states that the quantity demanded of a product is inversely related to its price. Taxes could slow production, increase competitive pressures, and force additional price increases on beer products. The tax focus on production output rather than sales could stunt the growth of the beer industry as consumers reduce or switch to other alcoholic beverages.

Nigerian brewers are facing a double whammy of excise duties and naira devaluation, leading to profit cuts. In Nigeria, there are fears that manufacturers of alcoholic beverages, which recorded modest gains in their last year's performances, may slip into loss territory as the federal government's newly revised excise duty rates take effect from June this year. The brewery industry is expected to be under pressure due to the new excise taxes, cost inefficiencies, and naira devaluation.

In a Circular (HMFBNP/MDAs/circular/2023 FP/04) dated April 20, 2023, the Nigerian government announced that N75 per litre will be charged on "beer and stout, including all alcoholic beverages and beer not made from malt—whether fermented or not fermented" in 2023. This new excise duty on beer and stout will be increased to N100 per litre in 2024. The revised excise duties might pose a threat to the brewery and other related sectors, already dealing with high costs of foreign exchange, high energy costs, transportation, and multiple taxation. The increased rates could reduce the industry's revenues and profits, affecting their ability to pay for other taxes like education, company income, and value-added tax. The brewers that import raw materials and finished goods may experience around a 40 percent increase in the foreign exchange front, impacting them on raw materials and finished products.

5. Summary, Conclusion, and Recommendations

The study explored the effects of alcohol taxation on the financial performance of selected brewery firms in Nigeria from 2012 to 2022. The summary of the findings is based on the results obtained from the econometric techniques and tests carried out in the study.
Summary of Major Findings:
The study found that alcohol excise tax has a significant negative effect on the financial performance of the brewery firms, as indicated by its p-value [0.0000].
Additionally, the study found that the alcohol price variable has a significant positive effect on the financial performance of the brewery firms, with a coefficient that is...
Conclusion: In conclusion, the study provides insights into the impact of alcohol taxation on the financial performance of brewery firms in Nigeria. The findings suggest that specific tax components, such as alcohol excise tax, have a negative influence on financial performance, while the pricing model, specifically alcohol prices, exhibits a positive impact.
Recommendations: Based on the study's outcomes, the following recommendations are proposed: Tax Policy Evaluation: The government should carefully evaluate the impact of alcohol excise taxes on the brewery industry, considering the potential negative effects on financial performance and consumer behavior. Pricing Strategy: Brewery firms should strategize their pricing models, taking into account the positive correlation between alcohol prices and financial performance. However, they should also be mindful of consumer preferences and market dynamics. Industry Resilience: Brewery firms should enhance their resilience by diversifying revenue streams, exploring cost efficiencies, and adapting to changes in the economic environment, such as currency devaluation and tax policy adjustments. Stakeholder Engagement: Industry stakeholders, including government agencies, brewers, and consumers, should engage in constructive dialogues to find a balance between revenue generation through taxes and sustaining the economic viability of the brewery sector. Long-Term Planning: Brewery firms should engage in robust long-term planning that considers potential challenges arising from changes in tax policies, foreign exchange rates, and other macroeconomic factors. In conclusion, addressing the challenges posed by alcohol taxation requires a collaborative effort between government authorities, industry players, and consumers to ensure a balanced and sustainable approach that supports both economic growth and public health (0.008085 and a p-value of 0.0001) Conversely, the alcohol value-added tax (AVT) demonstrated a significant negative impact on the financial performance, as indicated by a coefficient of -7.179218 and a p-value of 0.0001. Additionally, the alcohol consumption tax was found to have a positive and significant effect on the financial performance, with a coefficient of 24.09649 and a p-value of 0.0000.
In light of these findings, the study puts forth the following recommendations:

1) Incorporate Pricing as a Strategic Component: Brewery firms should consider pricing as a crucial element in their production function. A well-designed pricing strategy can contribute significantly to revenue and profit, thereby enhancing the overall financial performance of the firms.
2) Adopt a Production Model Emphasizing Consumption Volume: Firms should adopt a production model where consumption volume is regarded as a significant variable. The

expansion in consumption volume can positively contribute to the financial performance of the brewery firms.

3) Implement Strategies for Recovering Value Added Tax: To leverage external economies of scale and enhance financial performance, firms should implement strategies to recover value-added tax payments. This proactive approach can positively impact the overall financial health of the brewery industry.

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