Effect of Economic Policy Uncertainty on the Performance of Quoted Firms in Nigeria

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Abstract

We investigated the effect of economic policy uncertainty on the productivity and profitability performance of quoted firms in Nigeria. We sampled a panel of 38 quoted firms in Nigeria from 2015 to 2024 and the data were sourced from the annual reports and audited financial statements of the firms as well as the Nigerian economic policy uncertainty index and the World Development Indicators of the World Bank. We analysed the data using the panel Fixed Effects estimator with Driscoll-Kraay standard errors, which provided the baseline estimates, while the traditional panel Fixed Effects, Random Effects, and Pooled Ordinary Least Squares estimators were used to provide robustness checks. The results showed that economic policy uncertainty significantly and negatively affects both capital productivity and labour productivity of quoted firms in Nigeria. This implies that rising economic policy uncertainty impairs the ability of quoted firms in Nigeria to efficiently utilize their capital and human resources. However, the results further showed that the effect of economic policy uncertainty on the return on capital employed, return on assets, and return on equity of quoted firms in Nigeria is generally negligible**.** Hence, the significant adverse effect of uncertainty on productivity does not necessarily translate immediately into significant reductions in accounting profitability. Among others, we recommended that Nigerian governments and policy makers should promote policy stability and predictability, improve policy communication and stakeholder engagements, strengthen the transparency and credibility of policies emanating from public institutions, and enhance the policy coordination between fiscal and monetary authorities.

Key words: Economic Policy Uncertainty; Firm Performance; Quoted Firms; Panel Data Models; Nigeria

JEL Classification Codes: D80; H32; L22; C23; N17

1. INTRODUCTION

In Nigeria, quoted firms are companies whose shares are publicly traded on the Nigerian Exchange (NGX). The play a critical role in Nigeria's economy by mobilizing capital, providing investment opportunities, and contributing to economic growth through infrastructure development and job creation. They also facilitate broad-based ownership of firms through the stock market, and hence, provide avenues for both retail and institutional

investors to participate in the economy. The NGX Group facilitates the trading of equity shares and other securities for these companies, providing liquidity and enabling price discovery. Quoted firms in Nigeria span diverse sectors, including financial services, manufacturing, consumer goods, telecommunications, agriculture, oil and gas, and construction. As of 2025, there were over 150 companies listed on the NGX Group, categorized into different boards: the Premium Board for highly capitalized companies with stringent disclosure and governance requirements; the Main Board for established companies that meet minimum financial and regulatory standards but may not have the scale of Premium Board firms; and the Growth Board for small emerging businesses with growth potential benefiting from a less stringent regulatory environment to encourage capital formation and business maturation. Hence, the companies listed on the NGX range from multinational conglomerates such as Dangote Cement Plc, Nigerian Breweries Plc, and Nestle Nigeria Plc to banks like Access Bank Plc and United Bank for Africa Plc (Nigerian Exchange Group, 2025).

Quoted firms in Nigeria operate under the oversight of the Nigerian Exchange Group and the Securities and Exchange Commission (SEC). These regulators enforce compliance with listing rules, continuous disclosures, and corporate governance codes designed to protect investors and maintain market integrity. Reporting requirements, including timely financial statements and corporate disclosures, aim to ensure transparency and reduce information asymmetry. The Nigerian Code of Corporate Governance establishes principles for board composition, audit committees, risk management, and shareholder rights. Compliance with these codes enhances the reputation and performance of quoted firms, though enforcement challenges remain (Nigerian Exchange Group, 2024).

However, despite the importance of quoted firms in the Nigerian economy, they also face a multitude of challenges that can impact their operational efficiency, financial performance, and long-term sustainability. For instance, weak corporate governance structures undermine the ability of such firms to perform sustainably. Empirical analysis by Ayeni-Agbaje et al. (2024) reveals that ineffective board oversight, lack of experienced non-executive directors, and poor risk management practices contribute to suboptimal performance of Nigerian quoted firms. The absence of strong governance exposes firms to operational risks, fraud, and mismanagement, eroding investor confidence and limiting access to capital. Moreover, governance challenges often manifest in financial distress as firms fail to balance growth with prudent financial management. Some studies also demonstrate how excessive leverage and poor capital structure management lead to deteriorating profitability and liquidity crises in quoted firms (Olamide &

Paul, 2021). The frequent restructuring of governance frameworks by the NGX Group and regulatory bodies strives to address these challenges through enhanced disclosure requirements and board reforms. However, enforcement gaps and corporate culture issues persist, requiring concerted efforts by firms and regulators alike (Nigerian Exchange Group, 2024).

Furthermore, corruption and weak institutions increase transaction costs and undermine fair competition. For quoted firms in Nigeria, weak rule of law raises operational risks and reduces investor appetite, especially among foreign investors (Transparency International, 2024). Furthermore, foreign-exchange scarcity and ad hoc trade restrictions also constrain listed firms in Nigeria that rely on imported inputs. Multiple exchange rates and import bans also complicate pricing, hedging, and capital budgeting for these firms, and such distortions impair productivity and profitability, particularly for manufacturing firms (CBN, 2024). Additionally, high leverage in terms of over-reliance on debt financing often leads to high interest burdens that erode net income and increase bankruptcy risk among listed firms in Nigeria (Olamide & Paul, 2021). Consequently, many firms adopt conservative capital structures despite the need to expand production capacity and market share. Other challenges faced by quoted firms in Nigeria include: shortage in skilled labour, which hinders their adoption of new technologies and constrains innovation and efficiency (Oladipo & Fashola, 2023); infrastructural deficits, which constrain operational efficiency; and unreliable power supply, which increases production costs and disrupts business operations (Ogunbanjo, 2024).

Apart from the foregoing challenges, an important factor that may considerably hamper the efficient and smooth operations of quoted firms in Nigeria is economic policy uncertainty (EPU). Sahinoz et al. (2018) defined EPU as the inability of economic agents (such as individuals, households, and firms) to predict a change in existing economic policies as well as their inability to predict future economic policies of the government. Ozili (2021) explained EPU in terms of uncertainty about whether existing economic policies of the government will change, while Aina (2025) defined it as the unpredictability surrounding government policies that affect economic decisions and outcomes of various economic agents. It reflects frequent shifts in the economic, political, and global landscape. Hence, EPU captures the unpredictability surrounding fiscal, monetary, regulatory, and other government actions and policies that influence economic conditions and business performance. For quoted firms in Nigeria, EPU is a significant factor shaping investment decisions, market dynamics, and strategic planning. Nigeria's volatile policy landscape, marked by changing regulations,

political events, inflation, and external shocks, generates considerable uncertainty that can constrain firm productivity, profitability, and growth (Fakunmoju, 2024).

As a developing economy that is considerably reliant on oil revenue, Nigeria is persistently exposed to rising EPU induced by fluctuations in oil prices, inconsistencies in fiscal and monetary policies, and political instability. These factors create an unpredictable business environment, which affect the real and financial sectors of the economy. In fact, recent efforts by the Nigerian government aimed at stabilizing the economy and turning around the country's economic fortunes often ended up becoming significant sources of rising EPU. For instance, the 2022 cashless and Naira redesign policies of the Central Bank of Nigeria led to considerable Naira scarcity and heightened uncertainty in the business environment. The fuel subsidy removal and exchange rate adjustment policies of the current government triggered market uncertainties. In particular, the 2023 free-floating exchange rate policy immediately triggered the depreciation of the Naira from ₦800 to ₦1800 per USD by February 2024 (This Day Newspaper, 2024), while the February 2024 Monetary Policy Committee (MPC) meeting of the CBN compounded this uncertainty arising from the exchange rate policy by raising the MPR from 18.75% to 22.75%. These twin policies heightened uncertainty in the economy, and affected the investment decisions of firms as well as the financial market. Global evidence in Okonkwo and Okereke (2025) suggests that weak regulatory control and inconsistent policies have caused economic declines, with EPU leading to a 10% drop in stock exchanges across countries.

EPU is generally measured through indices that track news coverage of policy-related uncertainty, tax code expirations, and forecaster disagreements, among other proxies (Baker et al., 2016). For Nigeria, researchers have developed country-specific EPU indices reflecting the unique political economy and macroeconomic factors influencing uncertainty (Salisu, 2024). From 2016 to date, Nigeria has been experiencing elevated EPU levels due to major disruptive events, including the 2016 economic recession, the 2019 and 2023 general elections, the COVID-19 pandemic, tumbling oil prices and the new tax laws that became effective on January 1, 2026 (Aina, 2025). These events have intensified the unpredictability surrounding government economic policy directions, thereby creating cautious investment climates. Such rising EPU impacts on quoted firms in Nigeria through multiple channels. For instance, high EPU induces firms to delay or reduce investment spending. This is because capital projects become riskier due to possible unfavorable changes in taxation, subsidies, tariffs, and/or

regulations (Fakunmoju, 2024). Aina (2025) documents that reduced capital expenditure by manufacturing and non-oil sectors coincided with rising EPU in Nigeria since 2019.

Besides, EPU heightens stock price volatility, diminishes market liquidity and increases the cost of capital for listed firms. A study using Nigerian stock market data from 2010 to 2023 showed that spikes in the EPU index significantly reduce stock trade volumes (Fakunmoju, 2024). Such business environment creates challenges for firms' equity financing and share price stability. Indeed, Nigerian banks and other financial institutions face increased credit risk during periods of high EPU, leading to tighter lending standards and higher borrowing costs. Hence, an increase in perceived risk can starve listed firms of affordable debt capital needed for growth (Oyetade & Muzindutsi, 2024). Furthermore, EPU also adversely affects firm profitability and operational efficiency. Uncertainty about future policies can delay procurement decisions, supply agreements, and hiring. Quoted firms in sectors such as consumer goods and financial services have recorded lower profit margins during periods of high economic uncertainty (Oyadeyi, 2024).

Persistently high inflation rate is another factor inducing rising uncertainty in Nigeria. Indeed, the Nigerian economy has faced high inflationary pressures in recent years, which has made it particularly difficult for listed firms to operate productively and profitably in the country. Nigeria's headline inflation rose from 8.2% in June 2014 to 34.2% in June 2024, while food inflation rose from 9.8% to 40.9% during the same period. Following this unprecedented rise in inflation, 133 million Nigerian people became multi dimensionally poor while many firms operating in the country either shutdown or exited to other countries (National Bureau of Statistics, 2024). Apart from inflation-induced uncertainties, frequent shifts in fiscal policies (like tax policies arising from the new tax laws in the country) and regulatory policies (like the ongoing changes in import policies and the prolonged delay in the passage of the new Petroleum Industry Bill between 2020 and 2023) also created uncertainty in Nigeria's business environment and raised the costs of planning and investment and increased the risk premium demanded by investors (NESG, 2024). Ejedegba (2023) and IMF (2024) document that policy uncertainty raises financing costs, delays capital projects, reduces firm revenues and depresses share prices as investors reprice future cash flows under greater risk. In addition, Oyetade and Muzindutsi (2024) also found that financial sector firms listed on NGX showed a negative correlation between EPU and performance metrics like return on assets during the period 2020–2022. Banks usually tighten credits during periods of heightened EPU, thereby limiting access to capital for corporate clients, including quoted companies.

In recent years, Nigeria has witnessed abrupt adjustments in monetary and fiscal policies, such as changes in interest rates, foreign exchange controls, and subsidy reforms, which in turn, amplified costs for quoted firms, depressed their profitability and constrained their supply chain contracts (Fakunmoju, 2024). Quoted firms also suffered from policy reversals leading to delays in promised tax incentives and unfulfilled regulatory commitments. Such reversals discouraged reinvestments and forced multinationals to reallocate resources to more predictable markets (Independent, 2023). Unpredictable changes in Nigeria's foreign exchange regime, which persistently manifest in multiple exchange rates, restrictions on access to foreign exchange, and sudden devaluations, have undermined firms' ability to import inputs and repatriate profits. Companies with foreign-currency liabilities faced sharp cost increases, while manufacturers reliant on imported raw materials struggled to remain operational. For example, many consumer goods companies cited foreign exchange scarcity as a reason for scaling down or exiting the country (CBN, 2024). Besides, frequent shifts in tax regimes and inconsistent regulatory enforcement increase compliance costs and make financial forecasting difficult for quoted firms. The Nigerian Association of Chambers of Commerce, Industry, Mines and Agriculture explained that sudden tax increases push firms into closure, particularly those already weakened by macroeconomic shocks (The Cable, 2024). World Bank (2024) document that rising inflation, exchange rate crises, abrupt tax increases, and weak consumer purchasing power erode profit margins, reduce capacity utilization, render firms unviable and lead to firm closure or exit.

Stylized facts indicate that Nigeria has witnessed numerous firm shutdowns and/or exits in the last one decade as a results of the foregoing issues heightening uncertainty in the business environment. For instance, the Manufacturers Association of Nigeria reported that about 767 manufacturing firms shut down in 2023 due to foreign exchange scarcity, inflation, and policy inconsistency (Business Post, 2024). The Nigerian Economic Summit Group also reported that nearly 30% of micro, small and medium enterprises in the country closed between 2023 and 2024, with policy unpredictability among the leading causes (Guardian, 2024). Similarly, several multinationals like Procter & Gamble, GlaxoSmithKline (GSK), and Unilever either exited Nigeria or significantly scaled down operations, highlighting the difficulty of sustaining profitability under volatile policy regimes (Vanguard, 2024). Independent (2023) also affirmed that "past government policies", including failed foreign exchange and fiscal frameworks, were directly linked to the closure of around 800 companies in 2023.These divestments or shutdowns of firms resulted in worsened unemployment statistics, increased social tensions and

vulnerability, declined industrial production, increased reliance on imports, depressed investor confidence, weakened non-oil revenues, and increased perception of Nigeria as a high-risk market, which discourages future investments (AfDB, 2024; UNCTAD, 2024).

Clearly, the foregoing paragraphs indicate that economic policy uncertainty can considerably influence the performance of quoted firms in Nigerian. Hence, to tackle the challenge of economic policy uncertainty, Nigerian government has introduced a number of measures, such as establishing foreign exchange unification; tax reform legislation; social safety nets/cash transfers to cushion reforms; securing loans/external support to back reforms on adoption of regulatory clarity/public communication**,** fiscal discipline & revenue mobilization; price adjustment/cost pass-through; diversification of supply chains & local sourcing**;** financial restructuring & deleveraging**;** digital transformation and efficiency gains; and risk mitigation, compliance with laws and regulatory requirements by firms; among others. However, despite these efforts by the government to address the challenges arising from economic policy uncertainty, these problems still persist. It is against this background that this study investigates the effects of economic policy uncertainty on the performance of quoted firms in Nigeria. Specifically, the study: (i) examined the effect of economic policy uncertainty on the capital productivity of quoted firms in Nigeria; (ii) assessed the effect of economic policy uncertainty on the labour productivity of quoted firms in Nigeria; (iii) ascertained the effect of economic policy uncertainty on the return on capital employed of quoted firms in Nigeria; (iv) evaluated the effect of economic policy uncertainty on the return on asset of quoted firms in Nigeria; and (v) analyzed the effect of economic policy uncertainty on the return on equity of quoted firms in Nigeria.

2. LITERATURE REVIEW

2.1. Some Theoretical Perspectives Underpinning the Study

The Behavioral Theory of the Firm advanced by Cyert and March (1963) views firms as combinations of different stakeholders, such as shareholders, managers, and employees, with diverse, and often times, conflicting goals. Contrary to usual profit-maximization model of firms that emphasize profit maximization as the key objective of firms, the theorists emphasize satisficing behavior, that is, firms aim for "good enough" outcomes rather than optimal ones due to bounded rationality. This theory also highlights the fact that firms set multiple goals (such as productivity, sales, asset growth, market share, and profitability goals) negotiated among diverse stakeholders so that decision-making by firms adapts to both internal and external complexities. Economic Policy uncertainty complicates the decision-making

processes of firms, and thus can influence the attainment of the various goals of firms. Thus, firms may alter their goals from profit maximization to survival and risk mitigation, exemplifying satisficing behaviors underlined by the Behavioral Theory of the Firm. In other words, the theory helps in understanding how firms' dynamics shape their responses and performance under uncertainty threats.

The Real Option theory advanced by McDonald and Siegel (1986), and extended by Pindyck (1991), posits that most corporate investments are irreversible, can be delayed, and are made under uncertainty. When uncertainty is high, the value of the option to delay investment increases because committing capital now exposes the firm to the risk of policy-induced losses later (Bloom, 2009). Quoted firms in Nigeria respond to periods of forex volatility or pending tax reforms by reducing capital expenditure on new plants and equipment. This leads to underutilization of capacity and low capital productivity. EPU functions like an implicit tax on investment because firms demand a higher risk premium before committing funds (Baker et al., 2016). When policy on tariffs, forex allocation, or import bans is unclear, the required ROCE for new projects increases. Projects that would be accepted under stable policy environment are rejected, leading to weak demand and stagnant revenues.

The Financial Constraint and Credit Channel Theory explains the financing dimension. It argues that uncertainty increases information asymmetry and perceived default risk. Consequently, financial institutions raise lending rates or ration credit to firms during periods of rising uncertainty. For quoted firms in Nigeria, higher EPU therefore translates to higher cost of capital and reduced access to funds. This constrains working capital and operational expansion, resulting in lower profitability and a fall in productivity. Ghosal and Loungani (2000) and Gilchrist et al. (2014) demonstrate that uncertainty increases information asymmetry between firms and lenders. Lenders respond by rationing credit, increasing collateral, and charging higher interest spreads (Nguyen et al., 2022). Furthermore, credit rationing reduces working capital for inventory and receivables, which lowers sales and thus labour productivity (Uwalomwa et al., 2020).

The Macroeconomic Uncertainty Transmission theory links the macro environment to firm performance. The theory states that shocks at the macroeconomic level are transmitted to firms through demand, cost, and financial channels. In the Nigerian context, EPU arising from exchange rate volatility, subsidy removal, and policy reversals increases input costs and reduces consumer demand. This transmission mechanism directly affects asset efficiency and shareholders' returns. Bloom (2009) and Ahir et al. (2022) explain that EPU generates a "wait-

and-see" effect across the economy. Households delay consumption, firms delay hiring, and suppliers delay orders. This reduces aggregate demand and increases macroeconomic volatility (International Monetary Fund, 2023). For quoted firms, the demand shock reduces sales while fixed costs remain, lowering Net Profit Margin and Capital Productivity (Bloom, 2009). Exchange rate or trade policy swings also disrupt supply chains, raising input costs and delaying imported materials, which reduces labour productivity (National Bureau of Statistics, 2022). Asset price volatility also raises the cost of equity and lowers ROE (Baker et al., 2016). The 2023 fuel subsidy removal in Nigeria reduced household purchasing power, which cut sales for quoted consumer goods firms and lowered ROA (National Bureau of Statistics, 2022). Overall, the foregoing theoretical perspectives collectively suggest that rising economic policy uncertainty have the potential to constrain the profitability and productivity performances of quoted firms by causing investment delays, tightening financial constraints, and transmitting macroeconomic shocks to the firm level**.**

2.2 Empirical Review

Empirically, studies across developed and emerging markets, including Nigeria, have tested how EPU affects the performance of firms. The relationship between EPU and firm performance has become a critical area of inquiry in corporate finance and macroeconomics. This is because policy actions by government, such as changes in tax laws, exchange rate regimes, interest rates, and regulatory frameworks, directly affect the operating environment of firms. When such policies are unpredictable or inconsistent, firms face difficulty in making optimal investment, production, and financing decisions. In Africa, empirical evidence on this relationship is growing but remains limited. Prevailing institutional weaknesses, frequent policy reversals, and shallow markets in Africa suggest that the effect of EPU may be more severe than documented in the literature. Hlatshwayo and Saxegaard (2016) investigated the South African economy from 1997 to 2015 using a Structural Vector Autoregression, SVAR, model and the South African EPU index. They found that uncertainty shocks led to a sharp and persistent decline in private fixed investment and aggregate output. Hence, they concluded that firms responded by postponing capital expenditure and running down inventories. Kargbo and Adamu (2021) studied 45 quoted firms in Ghana and Kenya between 2010 and 2019 using panel generalized method of moments. They reported that policy uncertainty had a negative and significant effect on return on equity and sales growth. They attributed this to increased cost of capital and reduced investor confidence during uncertain periods. These African studies confirm the negative effect of EPU. However, these studies focused mainly on investment and

profitability, while ignoring efficiency measures of firm performance, such as labour productivity and capital productivity.

Studies from developed and emerging economies also provide evidence on how EPU affects firms. An example is Baker et al. (2016), which developed the widely used EPU index for the United States. Using firm-level data, Baker et al. (2016) established that spikes in policy uncertainty, such as during government shutdowns or debt ceiling crises, led to a significant decline in corporate investment and industrial production. The argument was that uncertainty increases the value of waiting before committing to irreversible projects. Gulen and Ion (2016) extended this work by examining a large sample of U.S. firms from 1985 to 2011. They found that an increase of one-standard deviation in EPU caused an 8.7 percent reduction in capital investment and a statistically significant decline in return on assets. The effect was most pronounced for firms with high government exposure and high irreversibility of capital. Julio and Yook (2016) adopted a cross-country approach using data from 22 OECD countries. Their findings showed that firms systematically reduce investment and delay equity issuance during periods of national elections, which are proxies for high policy uncertainty. The consequence was lower firm growth and profitability during those periods. These studies generally indicate that rising EPU leads to delayed investment, lower capacity utilization, and reduced profitability. The frequency and magnitude of policy shocks between 2015 and 2024 arising from the tumbling oil price in 2015, the 2016 FX restriction, the COVID-19 lockdowns, the 2022 Naira redesign, and the 2023 subsidy removal and FX floatation, among others, make the Nigerian policy environment a interesting case study. Gbadebo (2022) examined how firm characteristics affect the performance of 76 non-financial firms listed on the Nigerian Exchange Group, finding that firm size and liquidity had significant positive effects and asset tangibility a significant negative effect on value added productivity. Okika, Udeh, and Okoye (2018) investigated the effect of exchange rate fluctuations on the profitability of selected quoted conglomerates in Nigeria, motivated by concerns that currency instability could influence firms' production costs, investment decisions, and financial performance. Specifically, the study examined the effects of exchange rate fluctuations on return on capital employed (ROCE) and return on assets (ROA), using secondary data obtained from company annual reports and the Central Bank of Nigeria's statistical bulletin. The authors employed multiple regression analysis with SPSS version 21 and found that exchange rate fluctuations had statistically insignificant effects on the two profitability measures. Ibrahim and Musa (2023) analyzed monetary policy uncertainty and 25 quoted manufacturing firms from 2015 to

2021. They found that volatility in the monetary policy rate significantly reduced capital productivity. Interestingly, the effect on labour productivity was not statistically significant, suggesting that firms hoarded labour during uncertain times. Oyadeyi (2024) examined the effect of macroeconomic uncertainty on sectoral output in Nigeria using quarterly data from 1981Q1 to 2023Q4, a composite uncertainty index and Dynamic ARDL estimation, and found that uncertainty significantly reduced sectoral output; however, the study focused on aggregate sectoral output rather than firm-level economic policy uncertainty and did not examine the financial and productivity performance indicators (CP, LP, ROCE, ROA and ROE) of quoted companies in Nigeria-2024, which had the most intense shocks, is not fully covered.

Summarily, the review of global, African, and Nigerian literature reveals a consistent pattern: economic policy uncertainty tends to reduce firm performance. Globally, the focus has been on investment and ROA. In Africa, evidence points to lower investment and ROE. In Nigeria, studies confirm negative effects on ROA, ROCE, and ROE, with limited attention to productivity measures. Hence, there is a need for a comprehensive study that uses a composite EPU index to examine its effect on five key performance measures (labour productivity, capital productivity, return on assets, return on equity, return on capital employed) among quoted firms in Nigeria from 2015 to 2024. This study addressed this gap in the literature. Furthermore, most of the studies in the literature used one methodology or the other in the study of how firm performance is responding to economic policy uncertainty. The use of a single estimator does not allow for the consistency or robustness of the estimates to be adequately established. This study addressed this gap by using a range of panel estimators drawn from advanced panel data econometrics in order to fully establish the consistency or robustness of the findings. Finally, there is a limited examination of how firms in Nigeria respond strategically to the EPU, and how such responses influence firm resilience or vulnerability, which is critical for policy formulation and corporate governance improvements. This study fills these gaps by examining the effect economic policy uncertainty on multiple dimensions of quoted firms' financial performance in Nigeria, using recent data and robust econometric techniques. It contributes to a nuanced understanding of the mechanisms through which policy volatility shape firm outcomes, offering tailored recommendations for policymakers and investors in a fragile economic and environment.

3. DATA AND METHODOLOGY

3.1 Research Design

This study adopted an *ex-post facto* research design. *Ex-post facto* is a Latin term which means "after the fact". In other words, this research design enables a researcher to study the effect of a regressor or an independent variable on a regressand or a dependent variable after the outcome has already occurred. Hence, it is a study design that uses secondary data that are already in existence before the commencement of the study. This research design is quite apt for this study since annual data were obtained from the published financial statements of quoted firms in Nigeria as well as other relevant secondary sources. The annual data collected were analyzed through panel data regression technique, which is a quantitative approach for analyzing data with both cross-sectional and time dimensions.

3.2 Population of the Study

The population of the study is made up of all the 147 firms quoted on the Nigerian Exchange Group (NEX) as of 2024. These 147 firms include: 131 main board companies; 8 premium board companies; and 8 growth board companies.

3.3 Sample Size Determination

The sample size of the study is thirty-eight (38) firms, which is in line with Nwanna (2000), which recommended that when the population of the study runs into hundred, use at least 20% or more, when thousand use 10%, and when several thousand use 5% or less. The study also adopted convenience sampling technique in drawing the sample. Hence, the quoted firms included in the study were strictly selected based on availability and access to their annual financial statements. In other words, quoted firms whose financial statements are available during the period covered by this study were included in the sample.

3.4 Method of Data Collection

This study made use of secondary data obtained from the annual financial statements of quoted companies listed in the Nigeria Exchange Group (NGX). The data were collected over the annual period 2015 – 2024. The choice of this period is based on data availability for most of the quoted firms in Nigeria.

3.5 Description of Variables and Data Sources

The variables in this study are described with respect to their measurements, data sources and *a priori* expectations as shown in Table 1.

Table 1: Description of Variables and Data Sources

Variable	Measurement	Source of data	A Priori Expectations
Dependent Variables (Measures of Firm Performance)			
Return on Assets (ROA)	Net income (net profit) after tax divided by total assets (expressed as a percentage)	Annual financial reports of the firms	-
Return on Equity (ROE)	Net income divided by shareholders' equity	Annual financial reports of the firms	-
Return on Capital Employed (ROCE)	Net operating profit before interest and taxes divided by capital employed (expressed as a percentage)	Annual financial reports of the firms	-
Labour Productivity (LP)	Number of workers divided by total output (total revenue expressed in Naira).	Annual financial reports of the firms	-
Capital Productivity (KP)	Shareholders' fund (Equity) divided by the total output (total revenue expressed in Naira).	Annual financial reports of the firms	-
Independent Variables (Terrorism, EPU, and other Macroeconomic and Firm-specific Factors)			
Economic Policy uncertainty (EPU)	Nigerian economic policy uncertainty index	Davis (2016), https://www.policyuncertainty.com/all_country_data.html	This variable is expected to impact negatively or adversely on the performance of quoted firms
Exchange rate (EXR)	Official naira to dollar exchange rate, period average	World Bank's World Development Indicators https://databank.worldbank.org/source/world-development-indicators	The effect of this variable on the performance of quoted firms can be positive or negative.
Inflation Rate (INFL)	Inflation rate, measured using annual inflation rate (%)	World Bank's World Development Indicators https://databank.worldbank.org/source/world-development-indicators	This variable is expected to impact negatively or adversely on the performance of quoted firms
Interest rate (INTR)	Interest rate, measured using lending interest rate (%)	World Bank's World Development Indicators https://databank.worldbank.org/source/world-development-indicators	The effect of this variable on the performance of quoted firms can be positive or negative.

Firm Age (AGE)	Number of years of existence of the firm	Annual financial reports of the firms	This variable is expected to impact positively on the performance of quoted firms
Firm Liquidity (LIQ)	Measured using current ratio, that is, current assets divided by current liabilities (expressed as a percentage)	Annual financial reports of the firms	This variable is expected to impact positively on the performance of quoted firms
Firm Leverage (LEV)	Total debt divided by total assets (expressed as a percentage)	Annual financial reports of the firms	The effect of this variable on the performance of quoted firms can be positive or negative depending on the leverage level and how it is utilized by the firm.

Source: Author compilation. **Note:** To ensure that the results of the study can be interpreted as elasticities, the natural logarithm of the variables were computed prior to the estimation of the underlying models.

3.6 Method of Data Analysis

To achieve the specific objectives of this study, the data were analyzed through panel regression techniques. This is because the data has both cross-sectional (i.e. firm) and time (i.e. annual period) dimensions. The panel regression analysis unveiled how economic policy uncertainty is impacting on the performance of quoted firms in Nigeria.

3.7 Model Specification

The broad objective of this study is to investigate the effect of economic policy uncertainty on the performance of quoted firms in Nigeria. The measures of firm performance of interest in the study include: profitability measures (return on assets, return on equity, and return on capital employed), and productivity measures (labour productivity and capital productivity).

Thus, broad objective of this study can be expressed in its implicit or functional form following Odusanya *et al*. (2018), Nanda and Panda (2019), and Fareed *et al*. (2016) as follows:

$$PERF = f(EPU, EXR, INFL, INTR, AGE, LIQ, LEV) \quad (1)$$

where: $PERF$ = performance of quoted firms, which is measured using the following: return on assets (ROA), return on equity (ROE), return on capital employed (ROCE), labour

productivity (LAP), and capital productivity (CAP); EPU = economic policy uncertainty; EXR = exchange rate; $INFL$ = inflation rate; $INTR$ = lending interest rate; AGE = firm age; LIQ = firm liquidity; and LEV = firm leverage.

The implicit model in Equation (1) explains that the performance of quoted firms in Nigeria is influenced by economic policy uncertainty, which is the core independent variable in this study. In addition, the performance of quoted firms in Nigeria is also influenced by macroeconomic factors that are external to the firms, such as exchange rate, inflation rate, and lending interest rate, as well as firm-specific factors, such as age, liquidity, and leverage of the firms. This study controls for these macroeconomic and firm-specific factors in the model in order to achieve robust estimations and avoid the problem of estimating confounded models.

To facilitate estimation, the implicit model in Equation (1) must be expressed in its explicit or econometric form so that each of the specific objectives of the study can be achieved. Recall that the specific objectives of this study are to ascertain the effect of economic policy uncertainty on the capital productivity, labour productivity, return on capital employed, return on asset, and return on equity of quoted firms in Nigeria. To achieve this objective, this study followed Odusanya *et al*. (2018), Nanda and Panda (2019), and Fareed *et al*. (2016) by explicitly specifying a panel data model of the form:

$$PERF_{it} = \alpha_i + \beta_1 EPU_{it} + \beta_2 EXR_{it} + \beta_3 INFL_{it} + \beta_4 INTR_{it} + \beta_5 AGE_{it} + \beta_6 LIQ_{it} + \beta_7 LEV_{it} + \varepsilon_{it} \quad (2)$$

where: α_i = is the intercept; β_1 to β_7 = are the unknown parameters estimated in order to determine how economic policy uncertainty is influencing the various performance indicators (capital productivity, labour productivity, return on capital employed, return on asset, and return on equity) of quoted firms in Nigeria, as well as the influence of other macroeconomic and firm-specific factors; ε_{it} = the error term; i = the ith firm; t = the time period; and other variables remain as earlier defined under Equation (1).

3.8 Model Estimation Technique

The panel data model in Equation (2) was estimated using various panel data estimators. For the baseline analysis, the standard Fixed Effects estimator with Driscoll-Kraay standard errors was used (Driscoll & Kraay, 1998). The choice of Fixed Effects estimator with Driscoll-Kraay standard errors is due to the fact that it accounts for serial correlation and heteroskedasticity in

the error term and controls for cross-sectional dependence that have the potential to bias the analysis. The quoted firms in Nigeria operate under the same macroeconomic environment and share some structural similarities. In fact, they are exposed to common shocks that can predispose this study to the problem of cross-sectional dependence. Furthermore, studies in the established literature, such as Dong et al. (2018) and Sarafidis and Robertson (2009), have shown that for panels in which the number of cross-sectional units exceeds the number of time periods (N > T), controlling for cross-sectional dependence is important to avoid misleading and inefficient estimates. For the robustness check analysis, this study adopted the traditional Pooled Ordinary Least Squares estimator; the Random Effects Estimator; and the Fixed Effect estimator. These traditional panel data estimators were used to verify the consistency of the estimates from the baseline analysis.

3.9 Pre-estimation Tests

This study conducted some pre-estimations tests in order to ensure that the models estimated are neither biased nor inefficient. First, the correlation matrix of the independent variables was used to verify that the analysis is free from the problem of collinearity. This was also supported with the variance inflation factor, which was reported together with the model estimation results, in order to fully establish that collinearity is not a problem in this study. This is consistent with some recent panel data studies like Ogbuabor et al. (2023) and Okolo et al. (2024). Secondly, this study conducted cross-sectional dependence test following Pesaran (2021). This is important in order to avoid misleading and inefficient estimates, since notable studies like Dong et al. (2018) and Sarafidis and Robertson (2009) have shown that cross-sectional dependence test is an important requirement for panels in which the number of cross-sectional units exceeds the number of time periods. Furthermore, this study conducted the Hausman Test in order to choose the better estimator between the traditional Fixed Effects estimator and the Random Effects estimator. This is consistent with Baltagi (2009) and Gujarati and Potter (2009), both of which defined the Hausman test as the standard panel data test for the selection of an appropriate model between the Fixed Effects estimator and the Random Effects estimator. The Fixed Effect estimator is selected if the p-value of this test is less than the conventional 5%.

3.10 Post-estimation Diagnostic Check

The overall performance of the models in this study was evaluated using the F-statistic, which provides evidence on the overall significance of the models. Each model whose probability

value (p-value) of the F-statistic is less than the conventional 5% is said to be statistically significant.

4. EMPIRICAL RESULTS

4.1. Descriptive Statistics of the Variables

Table 2 presents the descriptive statistics of these variables in terms of their mean, standard deviation, minimum and maximum values. These statistics summarizes the data for this study at face value for the panel of 38 quoted firms included in the study. Table 2 shows that there are 380 observations for each variable, which reflects the availability of data for each of the 38 quoted firms from 2015 to 2024. Hence, the panel for this study is a balanced one, without any missing observation. For labour productivity (LAP), its mean value is reported at ₦428,425.55. This shows that on the average, annual output per worker in these quoted firms is valued at ₦428,425.55. In the case of capital productivity (CAP), its mean value is ₦19.84. This shows that on the average, every naira of the shareholders' funds produced ₦19.84 per annum. For return on capital employed (ROCE), its mean value is 391.323. This indicates that on the average, the quoted firms included in the study achieved 391% returns on capital employed. In the case of return on assets (ROA), its mean value is 34.987, indicating that on the average, the quoted firms achieved 34.99% returns on assets. For return on equity (ROE), its mean value is 263.622, indicating that on the average, the quoted firms in the sample achieved 263.62% returns on equity. As expected, all the variables witnessed substantial variations as shown by the standard deviations.

Table 2 also indicate that economic policy uncertainty (EPU) index recorded a mean value of 99.59. This shows that on the average, the quoted firms were exposed to substantial uncertainty in the policy environment during the period under study. Indeed, the high level of economic policy uncertainty in the macroeconomic environment during the period under study can be attributed to uncertainty emanating from such events as the tumbling in oil prices in 2015-2016 that pushed the economy into a recession, the tensions generated by the 2015, 2019, and 2023 general elections, the Covid-19 pandemic, the ongoing Russia-Ukraine war, the increased trade tensions across the world, the subsidy removal policy reform, the tax reform policy, and a myriad of other uncertainty-inducing events in the domestic economy.

Exchange rate (EXR) reported a mean value of 467.483, indicating that on the average, a United States dollar was exchanged for ₦467.48 during the period under study. Inflation rate (INFL) recorded a mean value of 17.165, indicating that on the average, the policy environment witnessed inflation rate of 17.17%, which is quite high. In fact, the maximum inflation rate of 33.24% indicate that the quoted

firms were exposed to high levels of instability in the macroeconomic environment. Lending interest rate (INTR) reported a mean value of 15.358, indicating that the quoted firms borrowed averagely at 15.36% interest rate over the period. Table 2 also shows a mean firm age of 38.129, indicating that on the average, the firms have operated for at least 38 years. For firm liquidity, its mean value is 632.255, indicating that on the average, the firms reported a liquidity ratio of 632.26%. This shows that the firms are generally liquid, and hence can meet their short-term obligations. Firm leverage recorded a mean value of 237.219, indicating that on the average, the leverage ratio is 237.22%. This shows that the firms are highly geared on the average. Again, these macroeconomic and firm-specific variables witnessed substantial variations as shown by the standard deviations.

Table 2: Descriptive Statistics of the variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Dependent Variables					
Productivity Variables					
Labour productivity (LAP)	380	428425.55	1403790.8	2.969	10108734
Capital productivity (CAP)	380	19.836	198.343	.001	2910.55
Profitability Variables					
Return on capital employed (ROCE)	380	391.323	4699.514	.01	75384.562
Return on assets (ROA)	380	34.987	475.108	-.227	9265.356
Return on equity (ROE)	380	263.622	2977.235	-.809	45525.806
Independent Variables					
Macroeconomic Variables					
Economic policy uncertainty (EPU)	380	99.59	14.241	81.863	128.135
Exchange rate (EXR)	380	467.483	357.125	192.44	1478.965
Inflation rate (INFL)	380	17.165	6.798	9.009	33.242
Lending interest rate (INTR)	380	15.358	2.259	11.483	18.56
Firm-specific Variables					
Firm age (AGE)	380	38.129	19.814	7	101
Firm liquidity (LIQ)	380	632.255	5654.989	.135	106695.92
Firm leverage (LEV)	380	237.219	3260.371	-2.723	63603.355

Source: Authors

4.2. Pre-estimation Test Results

Before the estimation of the underlying models for this study, various pre-estimation tests were conducted to guide the model estimations. These tests include the multicollinearity test, the Hausman (1978) test, and the Pesaran (2021) test for cross-sectional dependence. The results of these tests are now presented and discussed.

4.2.1 Multicollinearity Test Result

The correlation matrix of the independent variables was computed in order to verify the presence of multicollinearity or otherwise. This was done using both the untransformed data

and the logged data as shown in Table 3, where Panel A reports for the untransformed data while Panel B reports for the logged data. Multicollinearity is deemed to exist when the pairwise correlation between any pair of independent variables is equal to or above 0.80. The results in Table 3 indicate that a high correlation is observed only between exchange rate and inflation rate, suggesting the presence of multicollinearity. However, a powerful solution to this issue is do nothing, since as documented by Gujarati and Porter (2009), collinearity is God's will and not a problem with the model estimator or statistical technique. Nonetheless, this study further demonstrated that multicollinearity is not a problem in the ensuing analysis by computing the variance inflation factor for all the underlying models as reported in Panel C of Table 3. The mean variance inflation factor is 2.735 for all the models, showing the absence of multicollinearity problem in the models.

Table 3: Correlation Matrix of the Independent Variables

Panel A: Untransformed Data

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) EPU	1.000						
(2) EXR	-0.073	1.000					
(3) INFL	0.011	0.924	1.000				
(4) INTR	-0.076	0.277	0.131	1.000			
(5) AGE	-0.014	0.108	0.115	-0.055	1.000		
(6) LIQ	-0.030	-0.011	0.013	-0.095	-0.059	1.000	
(7) LEV	-0.020	-0.009	-0.000	-0.091	-0.022	-0.005	1.000

Panel B: Logged Data

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) LEPU	1.000						
(2) LEXR	-0.038	1.000					
(3) LINFL	0.092	0.913	1.000				
(4) LINTR	-0.080	0.040	-0.013	1.000			
(5) LAGE	-0.005	0.171	0.157	-0.085	1.000		
(6) LLIQ	-0.045	0.053	0.050	-0.082	0.056	1.000	
(7) LLEV	-0.033	-0.017	-0.006	-0.053	-0.105	-0.412	1.000

Panel C: Variance inflation factor

	VIF	1/VIF
linfl	6.731	.149
lexr	6.727	.149
llev	1.235	.809
lliq	1.232	.812
lepu	1.12	.893
lage	1.052	.951
lintr	1.046	.956
Mean VIF	**2.735**	.

Source: Researcher's computation using Stata 17

4.2.2 Hausman Test Result

This study also conducted the Hausman test for all the underlying models in order to determine the appropriate estimator between the random effects estimator and the fixed effects estimator. The results are presented in Table 4, under the null hypothesis that the random effects model is preferred. Clearly, this null hypothesis is rejected in all the models, since the P-values are all less than the conventional 5% or 0.05 threshold. This implies that the fixed effects model is preferred to the random effects model in all cases. The implication of this finding is that this study will rely more on the fixed effects estimates compared to the random effects estimates.

Table 4: Hausman Test Results

Hausman (1978) specification test (KP Model)

	Coef.
Chi-square test value	35.575
P-value	0.000

Hausman (1978) specification test (LP Model)

	Coef.
Chi-square test value	11.776
P-value	0.038

Hausman (1978) specification test (ROCE Model)

	Coef.
Chi-square test value	11.939
P-value	0.036

Hausman (1978) specification test (ROA Model)

	Coef.
Chi-square test value	15.398
P-value	0.017

Hausman (1978) specification test (ROE Model)

	Coef.
Chi-square test value	20.522
P-value	0.002

Source: Researcher's computation using Stata 17

4.2.3 Cross-sectional Dependence Test Results

This study conducted the cross-sectional dependence test as proposed by Pesaran (2021) in order to avoid inefficient and misleading estimates. This test is particularly important due to two reasons. First, as noted by Dong et al. (2018) and Sarafidis and Robertson (2009), cross-sectional dependence test is critical for panels in which the number of cross-sectional units

exceeds the number of time periods (N > T) as is the case in this study. Second, the traditional random effects and fixed effects estimators become inefficient in the presence of cross-sectional dependence, implying that a more efficient estimator will then be required. An example of such estimator is the fixed effects estimator with Driscoll-Kraay standard errors, which controls for heteroskedasticity, individual-specific heterogeneity, and cross-sectional dependence in the error terms, thereby providing more accurate inference. The results of the Pesaran (2021) cross-sectional dependence tests are presented in Table 5.

The results in Table 5 indicate the presence of cross-sectional dependence in all the models at the conventional 5% level of significance, except for the capital productivity model. This means that the Pooled OLS, Random Effects and Fixed Effects estimators that do not inherently control for cross-sectional dependence will provide misleading estimates of the underlying models for this study. Thus, this study utilized the Fixed Effects estimator with Driscoll-Kraay standard errors in providing the baseline estimates in order to control for heteroscedasticity, individual-specific heterogeneity, and cross-sectional dependence in the error terms (Driscoll & Kraay, 1998). However, the usual Pooled OLS, Random Effects and Fixed Effects estimators will then be used as alternative panel estimators to offer robustness checks.

Table 5: Pesaran (2021) Cross-sectional Dependence Test Results

	Average absolute value	Test Statistic	P-value
Capital productivity (KP) model	0.337	0.729	0.4658
Labour productivity (LP) model	0.396	2.219	0.0265**
Return on capital employed (ROCE) model	0.327	2.385	0.0171**
Return on assets (ROA) model	0.299	2.995	0.0027***
Return on equity (ROE) model	0.307	1.969	0.0490**

Source: Authors. **Note:** ***, ** and * denote significant at the 1%, 5% and 10% levels, respectively, signifying the presence of cross-sectional dependence.

4.3 Presentation and Discussion of Regression Results

4.3.1 Results of the Regressions for the Capital Productivity Models

Recall that the first specific objective of this study is to evaluate the effect of economic policy uncertainty on the capital productivity of quoted firms in Nigeria. To achieve this objective, this study estimated the capital productivity model in Equation (2) using the standard Fixed Effects estimator with Driscoll-Kraay standard errors for the baseline analysis, while the robust

Fixed Effect estimator, the robust Random Effects Estimator, and the traditional robust Pooled Ordinary Least Squares estimator are used for robustness check in order to benchmark the consistency of the estimates. The results of these estimations are reported Table 6, which has four panels. Panel A reports the regression results from the standard Fixed Effects estimator with Driscoll-Kraay standard errors, which captures the baseline analysis. Panel B reports the regression results from the robust Fixed Effect estimator, while Panels C and D report for the robust Random Effects Estimator and the traditional robust Pooled Ordinary Least Squares estimator, respectively. The probability value for the F-statistic in all the panels is less than 0.05 or 5%, and this indicates that all the estimated models are statistically significant.

Table 6: Regression Results for the Capital Productivity Models

Panel A: Fixed Effect Regression with Driscoll-Kraay standard errors

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	-0.258	0.110	-2.340	0.044**
Exchange rate	-0.340	0.313	-1.090	0.306
Inflation rate	0.023	0.167	0.140	0.891
Lending interest rate	0.886	0.462	1.920	0.087*
Firm age	3.854	1.675	2.300	0.047**
Firm liquidity	0.271	0.158	1.720	0.120
Firm leverage	0.017	0.061	0.280	0.789
Constant	-13.808	5.050	-2.730	0.023**
F-stat	818.69	Prob[F-stat]	0.0000	

Panel B: Fixed Effect Regression with robust standard errors

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	-0.258	0.359	-0.72	0.476
Exchange rate	-0.340	0.416	-0.82	0.419
Inflation rate	0.023	0.408	0.06	0.954
Lending interest rate	0.886	0.550	1.61	0.116
Firm age	3.854	1.720	2.24	0.031**
Firm liquidity	0.271	0.224	1.21	0.234
Firm leverage	0.017	0.123	0.14	0.892
Constant	-13.808	6.051	-2.28	0.028**
F-stat	2.532	Prob[F-stat]	0.037	

Panel C: Random Effect Regression results

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	-0.352	0.350	-1.01	0.314
Exchange rate	0.253	0.244	1.04	0.300
Inflation rate	-0.129	0.404	-0.32	0.750
Lending interest rate	0.018	0.510	0.03	0.972
Firm age	0.840	0.257	3.27	0.001***
Firm liquidity	0.174	0.204	0.85	0.394
Firm leverage	0.199	0.147	1.35	0.176
Constant	-3.812	3.126	-1.22	0.223
Chi-square	18.366	Prob[Chi2]	0.010	

Panel D: Pooled Linear regression results

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	-0.364	0.569	-0.64	0.522
Exchange rate	0.345	0.331	1.04	0.298
Inflation rate	-0.185	0.521	-0.35	0.723
Lending interest rate	-0.097	0.484	-0.20	0.841
Firm age	0.741	0.158	4.69	0.000***
Firm liquidity	0.006	0.137	0.04	0.967
Firm leverage	0.395	0.107	3.70	0.000***
Constant	-3.453	3.368	-1.03	0.306
F-stat	6.915	Prob[F-stat]	0.000	

Source: Authors. **Notes:** ***, **, and * denote significance at 1%, 5%, and 10% levels, respectively. In all cases, dependent variable is capital productivity. All variables were logged before the models were estimated.

The results in Panel A indicate that the coefficient of economic policy uncertainty is -0.258. This shows that economic policy uncertainty adversely affects the capital productivity of quoted firms in Nigeria. The p-value for this coefficient is 0.044, which is less than 0.05, indicating that the effect of economic policy uncertainty is statistically significant at the conventional 5% level. This means that economic policy uncertainty significantly deters the capital productivity of quoted firms in Nigeria. This finding is consistent with *a priori* expectation because during periods of rising uncertainty, firms in Nigeria find it difficult to make investment decisions that will improve productivity. In fact, the finding is consistent with some studies in the emerging empirical literature. For instance, Ogbuabor et al. (2023) documented that rising economic policy uncertainty hampers economic growth in Africa's oil exporting countries as firms in those countries cut jobs and restrict investments to hedge against uncertainty shock. Aina (2025) reported that rising uncertainty constrains trade and economic performance in Nigeria, while Ogbonna and Ogbuabor (2025) also documented that rising uncertainty have significant adverse impacts on Africa's real sector. Other studies like Ekeocha et al. (2023), Kisten (2020), Balakeffi et al. (2019), and Redl (2018) also used different estimation methodologies like autoregressive distributed lag (ARDL) modelling, generalised method of moments (GMM) estimator, and vector autoregression (VAR), among others, to establish that rising economic policy uncertainty exerts an adverse effect on economic performance in African economies. These studies generally affirmed the fact that rising economic policy uncertainty rapidly alters the parameters and processes of decision making by firms, while firms respond by delaying decisions on investment, spending and employment. This invariably retards productivity.

Among the control variables in Panel A, only firm age impacts significantly on capital productivity. Its coefficient is 3.854, while its p-value is 0.047, which is less than the conventional 0.05. This indicates that the capital productivity of quoted firms in Nigeria improves significantly with the age of the firms, such that firms exhibit greater resilience with age as also documented by Oyadeyi (2025). This is consistent with the reality of quoted firms in Nigeria, as they are able to overcome initial start-up issues overtime and grow in experience and market share. The effects of other control variables, including exchange rate, inflation rate, lending interest rate, firm liquidity and firm leverage remained negligible at the traditional 0.05 level of significance. Interestingly, these findings remained consistent with the findings in Panels B, C, and D. The only exception is in Panel D, where firm leverage exerts significant positive impact on capital productivity. Its coefficient of 0.395 has a p-value of 0.000, which is highly statistically significant at the 0.05 level. This finding indicates that the quoted firms in this study generally maintain a conservative capital structure as opposed to an excessively leveraged capital structure driven by overreliance on debt financing, which often leads to heavy interest burdens that erode net income and increase bankruptcy risk as posited by Purwasih et al. (2025) and Olamide and Paul (2021).

4.3.2 Results of the Regressions for the Labour Productivity Models

The second objective of this study is to evaluate the effect of economic policy uncertainty on the Labour Productivity of quoted firms in Nigeria. To achieve this objective, this study estimated the labour productivity model in Equation (2) using the panels estimators earlier outlined. The results of these estimations are reported in Table 7.

Table 7: Regression Results for the Labour Productivity Models

Panel A: Fixed Effect Regression with Driscoll-Kraay standard errors

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	-0.740	0.184	-4.020	0.003
Exchange rate	-0.366	0.223	-1.640	0.135
Inflation rate	0.923	0.165	5.610	0.000
Lending interest rate	0.685	0.424	1.610	0.141
Firm age	3.573	1.325	2.700	0.025
Firm liquidity	0.003	0.048	0.070	0.946
Firm leverage	0.103	0.066	1.560	0.154
Constant	-1.644	4.603	-0.360	0.729
F-stat	1777.22	Prob[F-stat]	0.0000	

Panel B: Fixed Effect Regression with robust standard errors

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	-.74	.477	-1.55	.13
Exchange rate	-.366	.467	-0.78	.439
Inflation rate	.923	.505	1.83	.076
Lending interest rate	.685	.539	1.27	.212
Firm age	3.573	1.729	2.07	.046
Firm liquidity	.003	.08	0.04	.967
Firm leverage	.103	.093	1.11	.276
Constant	-1.644	5.92	-0.28	.783
F-stat	11.158	Prob[F-stat]	0.000	

Panel C: Random Effect Regression results

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	-.777	.481	-1.62	.106
Exchange rate	-.149	.344	-0.43	.665
Inflation rate	.882	.495	1.78	.075
Lending interest rate	.331	.447	0.74	.46
Firm age	2.404	.623	3.86	0
Firm liquidity	-.001	.081	-0.01	.991
Firm leverage	.101	.092	1.10	.27
Constant	2.429	3.735	0.65	.516
Chi-square	78.458	Prob[Chi2]	0.000	

Panel D: Pooled linear regression results

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	-.812	1.107	-0.73	.464
Exchange rate	-.083	.67	-0.12	.902
Inflation rate	1.054	1.015	1.04	.3
Lending interest rate	-.196	.942	-0.21	.836
Firm age	1.64	.257	6.37	0
Firm liquidity	-.422	.142	-2.98	.003
Firm leverage	-.01	.103	-0.10	.924
Constant	8.279	6.513	1.27	.204
F-stat	9.496	Prob[F-stat]	0.000	

Source: Authors. **Notes:** ***, **, and * denote significance at 1%, 5%, and 10% levels, respectively. In all cases, the dependent variable is Labour productivity. All variables were logged before the models were estimated.

The results in Panel A indicate that the coefficient of economic policy uncertainty is -0.740 with a t-statistic of −4.020 and a p-value of 0.003. This shows that economic policy uncertainty impacts negatively or adversely on the capital productivity of quoted firms in Nigeria. This implies that, holding other factors constant, a 1% increase in economic policy uncertainty reduces labour productivity by approximately 74%. The p-value for this coefficient is 0.003, which is less than 0.05, indicating that the effect of economic policy uncertainty is statistically significant at the conventional 5% level. This means that economic policy uncertainty significantly deters the labour productivity of quoted firms in Nigeria. In fact, the effect of

economic policy uncertainty is statistically significant at the 1% level, suggesting that uncertainty about government policies discourages investment, delays production decisions, weakens business confidence, and reduces employees' productivity. This finding supports the view that a stable and predictable policy environment is essential for improving labour productivity. The works of Li et al (2023) and Chu and Fang (2021) also found that firms' labor productivity experiences a significant decrease under economic policy uncertainty, which is consistent with the result of our study.

Overall, Panel A shows that economic policy uncertainty, inflation rate, and firm age are the only variables that significantly influence labour productivity. Economic policy uncertainty exerts a negative effect, implying that unstable policy environments reduce firms' productive efficiency. In contrast, inflation rate and firm age positively affect labour productivity, suggesting that favourable macroeconomic conditions and accumulated organizational experience contribute to higher productivity. Meanwhile, exchange rate, lending interest rate, firm liquidity, and firm leverage do not exert statistically significant effects on labour productivity in the fixed effects model. This evidence suggests that policies aimed at reducing economic policy uncertainty and fostering a stable business environment are likely to improve labour productivity, while firms may also benefit from organizational learning and experience accumulated over time.

In panel B, all the coefficients remain almost identical to Panel A, demonstrating the stability of the estimates. The Random Effects regression estimator in panel C results broadly agree with the Fixed Effects estimates where firm age remains the strongest determinant of labour productivity. The pooled OLS regression model in Panel D ignores firm-specific heterogeneity and identifies firm liquidity as having a significant negative effect on labour productivity. Among the four estimators, the Fixed Effects model with Driscoll–Kraay standard errors (Panel A) provides the most reliable inference because it controls for unobserved firm heterogeneity while also correcting for heteroskedasticity, serial correlation, and cross-sectional dependence. Based on this preferred specification, economic policy uncertainty significantly reduces labour productivity, and this is consistent with Abor and Harvey(2008) and Joshua (2020), whereas inflation and firm age significantly enhance labour productivity. The remaining variables—exchange rate, lending interest rate, firm liquidity, and firm leverage—do not exert statistically significant effects. These findings suggest that maintaining a stable policy environment and

fostering firm development and longevity are more critical for improving labour productivity than short-term changes in exchange rates, financing costs, or capital structure.

4.3.3 Results of the Regressions for the Return on Capital Employed Models

Recall that the third specific objective of this study is to evaluate the effect of economic policy uncertainty on the return on capital employed of quoted firms in Nigeria. To achieve this objective, this study estimated the return on capital employed model in Equation (2) using the panel estimators earlier outlined. The results of these estimations are reported Table 8.

Table 8: Regression Results for the Return on Capital Employed Models

Panel A: Fixed Effect Regression with Driscoll-Kraay standard errors

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	-0.215	0.166	-1.290	0.228
Exchange rate	0.882	0.133	6.610	0.000
Inflation rate	-0.533	0.212	-2.510	0.033
Lending interest rate	-0.559	0.329	-1.700	0.123
Firm age	-1.369	0.739	-1.850	0.097
Firm liquidity	0.284	0.153	1.850	0.097
Firm leverage	0.048	0.101	0.470	0.649
Constant	4.940	2.771	1.780	0.108
F-stat	263.87	Prob[F-stat]	0.0000	

Panel B: Fixed Effect Regression with robust standard errors

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	-.215	.331	-0.65	.52
Exchange rate	.882	.56	1.57	.124
Inflation rate	-.533	.418	-1.27	.211
Lending interest rate	-.559	.631	-0.89	.382
Firm age	-1.369	2.012	-0.68	.5
Firm liquidity	.284	.226	1.26	.217
Firm leverage	.048	.141	0.34	.737
Constant	4.94	7.024	0.70	.486
F-stat	1.087	Prob[F-stat]	0.388	

Panel C: Random Effect Regression results

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	-.202	.318	-0.63	.526
Exchange rate	.671	.33	2.03	.042
Inflation rate	-.503	.383	-1.31	.189
Lending interest rate	-.207	.469	-0.44	.659
Firm age	-.103	.233	-0.44	.657
Firm liquidity	.157	.195	0.81	.42
Firm leverage	.159	.124	1.28	.2
Constant	.846	2.787	0.30	.761
Chi-square	9.919	Prob[Chi2]	0.239	

Panel D: Pooled linear regression results

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	-.239	.502	-0.48	.634
Exchange rate	.697	.311	2.24	.025
Inflation rate	-.523	.459	-1.14	.255
Lending interest rate	-.265	.471	-0.56	.574
Firm age	-.047	.132	-0.35	.724
Firm liquidity	.038	.139	0.27	.787
Firm leverage	.234	.081	2.88	.004
Constant	1.149	3.257	0.35	.724
F-stat	2.791	Prob[F-stat]	0.008	

Source: Authors. **Notes:** ***, **, and * denote significance at 1%, 5%, and 10% levels, respectively. In all cases, the dependent variable is ROCE. All variables were logged before the models were estimated.

In Table 8, the coefficient of Economic Policy Uncertainty (EPU) in panel A is −0.215 with a p-value of 0.228. This implies that the effect of EPU is not sufficiently strong to conclude that EPU significantly influences ROCE during the study period. Among the macroeconomic variables, the exchange rate has a positive and highly significant coefficient ($\beta = 0.882$, $p < 0.001$)**.** Conversely, the inflation rate exhibits a statistically significant negative coefficient ($\beta = -0.533$, $p = 0.033$**)**, indicating that rising inflation reduces the efficiency with which firms utilize their capital. Inflation likely increases production costs and erodes purchasing power, thereby reducing profitability.

From panel A, the model is highly significant, as indicated by an F-statistic of 263.87 and Prob(F-stat) = 0.0000, implying that the explanatory variables jointly explain variations in ROCE. In panel B, model is also statistically insignificant, with an F-statistic of 1.087 and Prob(F-stat) = 0.388, indicating that the explanatory variables do not jointly explain variations in return on capital employed under this estimation technique. In panel C, model is not statistically significant, as indicated by the Chi-square statistic of 9.919 with Prob(Chi^2) = 0.239, suggesting that the explanatory variables jointly do not provide sufficient explanatory power under the random effects specification while in panel D, the pooled regression model is statistically significant overall, with an F-statistic of 2.791 and Prob(F-stat) = 0.008, indicating that the explanatory variables jointly explain variations in firms' return on capital employed. From the model diagnostics, Panel A (Fixed Effects with Driscoll-Kraay standard errors) appears to provide the most reliable and robust estimates because it controls simultaneously for heteroskedasticity, serial correlation, and cross-sectional dependence, and the model is highly statistically significant.

Across all four estimation techniques, Economic Policy Uncertainty consistently exhibits a negative but statistically insignificant effect on Return on Capital Employed, suggesting that although policy uncertainty tends to reduce firms' capital productivity, its influence is not sufficiently strong to be statistically established in the sampled firms. This is consistent with the works of Li et al (2023) and Chu and Fang (2021), which also found that firm performance decreases under rising economic policy uncertainty. Among the explanatory variables, the exchange rate emerges as the most robust determinant of ROCE, maintaining a positive and statistically significant effect in Panels A, C, and D. This finding indicates that exchange rate movements play an important role in improving firms' returns on invested capital.

The inflation rate generally exerts a negative influence on ROCE and is statistically significant only in the Driscoll-Kraay estimation (Panel A), implying that inflation undermines capital efficiency when cross-sectional dependence and serial correlation are properly addressed. Regarding firm characteristics, firm age generally has a negative relationship with ROCE, while firm liquidity exhibits a positive relationship, although both variables are largely insignificant across the models. Firm leverage only becomes statistically significant in the pooled OLS model, indicating that its influence on capital productivity depends on the Lending interest rate consistently shows a negative but insignificant effect across all specifications, suggesting that borrowing costs do not independently explain variations in firms' capital productivity.

4.3.4 Results of the Regressions for the Return on Asset Models

Recall that the fourth specific objective of this study is to evaluate the effect of economic policy uncertainty on the Return on Asset of quoted firms in Nigeria. To achieve this objective also, this study estimated the ROA model in Equation (2) using the panel estimators earlier outlined. The results of these estimations are reported in Table 9

Table 9: Regression Results for the Return on Asset Models

Panel A: Fixed Effect Regression with Driscoll-Kraay standard errors

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	0.090	0.356	0.250	0.806
Exchange rate	0.995	0.140	7.100	0.000
Inflation rate	-0.228	0.247	-0.930	0.379
Lending interest rate	-0.710	0.258	-2.750	0.022
Firm age	-2.861	0.408	-7.010	0.000
Firm liquidity	0.159	0.044	3.620	0.006

Firm leverage	0.483	0.143	3.390	0.008
Constant	5.348	3.026	1.770	0.111
F-stat	45.08	Prob[F-stat]	0.0000	

Panel B: Fixed Effect Regression with robust standard errors

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	.09	.36	0.25	.803
Exchange rate	.995	.295	3.37	.002
Inflation rate	-.228	.306	-0.75	.461
Lending interest rate	-.71	.518	-1.37	.179
Firm age	-2.861	1.326	-2.16	.037
Firm liquidity	.159	.079	2.01	.051
Firm leverage	.483	.208	2.32	.026
Constant	5.348	5.083	1.05	.3
F-stat	8.790	Prob[F-stat]	0.000	

Panel C: Random Effect Regression results

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	.149	.352	0.42	.673
Exchange rate	.522	.202	2.59	.01
Inflation rate	-.109	.292	-0.37	.71
Lending interest rate	-.045	.343	-0.13	.896
Firm age	-.338	.247	-1.37	.171
Firm liquidity	.148	.083	1.78	.075
Firm leverage	.381	.166	2.30	.021
Constant	-2.607	2.367	-1.10	.271
Chi-square	47.398	Prob[Chi2]	0.000	

Panel D: Pooled linear regression results

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	.13	.496	0.26	.793
Exchange rate	.481	.276	1.74	.082
Inflation rate	-.065	.431	-0.15	.88
Lending interest rate	-.114	.382	-0.30	.766
Firm age	-.217	.114	-1.90	.058
Firm liquidity	.171	.079	2.18	.03
Firm leverage	.249	.11	2.26	.025
Constant	-2.244	2.609	-0.86	.39
F-stat	4.275	Prob[F-stat]	0.000	

Source: Authors. **Notes:** ***, **, and * denote significance at 1%, 5%, and 10% levels, respectively. In all cases, the dependent variable is ROA. All variables were logged before the models were estimated.

Panel A reports the fixed-effects estimation corrected using Driscoll-Kraay standard errors, which are robust to heteroskedasticity, serial correlation, and cross-sectional dependence. This specification is widely regarded as one of the most reliable estimators for macro-panel data because it produces consistent standard errors even when firms are exposed to common macroeconomic shocks (Driscoll & Kraay, 1998). The coefficient of Economic Policy Uncertainty (EPU) is positive **(**$\beta = 0.090$**)** but statistically insignificant **(**$p = 0.806$), indicating

that changes in policy uncertainty do not significantly influence firms' return on assets. Although the positive sign suggests that firms may adapt to uncertain policy environments, the absence of statistical significance implies that EPU does not independently explain variations in ROA during the study period. This finding is consistent with studies such as Baker et al. (2016), who argue that the impact of policy uncertainty differs across countries and industries, depending on institutional quality and firms' adaptive capacities.

The exchange rate has a positive and highly significant coefficient **(**$\beta = 0.995$, $p < 0.001$**),** suggesting that exchange rate movements significantly improve firms' asset profitability. This may reflect increased export competitiveness or favourable exchange-rate-induced revenue gains, particularly for firms engaged in international trade. The inflation rate exhibits a negative but statistically insignificant relationship with ROA **(**$\beta = -0.228$, $p = 0.379$), indicating that inflation tends to reduce profitability through higher production costs and declining purchasing power, although the effect is not sufficiently strong to be statistically established. Similarly, the lending interest rate negatively and significantly affects ROA **(**$\beta = -0.710$, $p = 0.022$). This finding implies that higher borrowing costs reduce firms' profitability by increasing financing expenses, thereby lowering returns generated from total assets. The result supports financial theory, which posits that higher interest rates constrain corporate investment and profitability (Bernanke & Gertler, 1995).

Regarding firm characteristics, firm age exerts a strong negative and statistically significant influence on ROA ($\beta = -2.861$, $p < 0.001$). This suggests that older firms may experience declining operational efficiency due to bureaucratic rigidity, technological obsolescence, or organizational inertia. Conversely, firm liquidity positively and significantly influences ROA **(**$\beta = 0.159$, $p = 0.006$), indicating that firms with stronger liquidity positions are better able to finance operations efficiently and withstand short-term financial pressures. Likewise, firm leverage has a positive and statistically significant coefficient ($\beta = 0.483$, $p = 0.008$**)**, suggesting that debt financing enhances firms' profitability when borrowed funds are invested efficiently in productive assets. The overall model is highly significant (F-statistic = 45.08; Prob(F-stat) = 0.0000**)**, implying that the explanatory variables jointly explain variations in firms' return on assets.

The regression results demonstrate that Economic Policy Uncertainty does not significantly influence Return on Assets under any of the four estimation techniques, despite exhibiting a consistently positive coefficient. This suggests that firms in the sample may have developed

strategies to mitigate the adverse effects of policy uncertainty, thereby insulating operational profitability from policy-related shocks. Among the macroeconomic variables, the exchange rate emerges as the most consistent determinant of ROA, remaining positive and statistically significant in Panels A, B, and C, and marginally significant in Panel D. This finding highlights the importance of exchange rate movements in shaping firms' profitability, particularly for firms exposed to international markets.

The inflation rate consistently exhibits a negative but statistically insignificant relationship with ROA, indicating that while inflation may increase production costs and reduce profitability, its independent effect is weak after controlling for other macroeconomic and firm-specific factors. The lending interest rate negatively affects ROA across all specifications but achieves statistical significance only in the preferred Driscoll-Kraay model (Panel A), suggesting that higher financing costs can reduce firms' profitability when cross-sectional dependence and serial correlation are adequately controlled.

Regarding firm characteristics, firm age consistently exerts a negative influence on profitability, implying that older firms may experience declining operational efficiency. Firm liquidity and firm leverage consistently exhibit positive effects, with leverage remaining significant across all four estimators, suggesting that effective liquidity management and productive use of debt financing contribute to improved asset profitability.

The joint significance tests indicate that all four models are statistically significant, as evidenced by the F-statistics (Panels A, B, and D) and the Wald Chi-square statistic (Panel C), implying that the explanatory variables collectively explain variations in firms' return on assets. Nevertheless, Panel A (Fixed Effects with Driscoll-Kraay standard errors**)** should be given greater emphasis because it provides the most robust estimates by correcting simultaneously for heteroskedasticity, autocorrelation, and cross-sectional dependence.

4.3.5 Results of the Regressions for the Returns on Equity Models

Recall that the first specific objective of this study is to evaluate the effect of economic policy uncertainty on the return on equity of quoted firms in Nigeria. To achieve this objective, this study estimated the return on equity models in Equation (2) using the panel estimators earlier outlined. The results of these estimations are reported in Table 10.

Table 10: Regression Results for the Return on Equity Models

Panel A: Fixed Effect Regression with Driscoll-Kraay standard errors

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	0.332	0.292	1.140	0.284
Exchange rate	1.113	0.212	5.250	0.001
Inflation rate	-0.493	0.187	-2.630	0.027
Lending interest rate	-0.603	0.434	-1.390	0.199
Firm age	-2.457	1.207	-2.040	0.072
Firm liquidity	0.379	0.123	3.090	0.013
Firm leverage	0.075	0.100	0.750	0.472
Constant	4.110	4.132	0.990	0.346
F-stat	163.90	Prob[F-stat]	0.0000	

Panel B: Fixed Effect Regression with robust standard errors

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	.332	.428	0.78	.442
Exchange rate	1.113	.475	2.34	.025
Inflation rate	-.493	.436	-1.13	.266
Lending interest rate	-.603	.657	-0.92	.365
Firm age	-2.457	2.061	-1.19	.241
Firm liquidity	.379	.214	1.77	.086
Firm leverage	.075	.154	0.49	.629
Constant	4.11	7.523	0.55	.588
F-stat	3.604	Prob[F-stat]	0.006	

Panel C: Random Effect Regression results

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	.354	.417	0.85	.396
Exchange rate	.733	.268	2.73	.006
Inflation rate	-.424	.412	-1.03	.304
Lending interest rate	-.021	.483	-0.04	.966
Firm age	-.238	.228	-1.04	.297
Firm liquidity	.208	.181	1.15	.249
Firm leverage	.174	.124	1.40	.161
Constant	-2.825	3.177	-0.89	.374
Chi-square	18.579	Prob[Chi2]	0.010	

Panel D: Pooled linear regression results

Regressors	Coefficient	Std. Err	t-stat	P-value
Economic policy uncertainty	.296	.54	0.55	.585
Exchange rate	.762	.296	2.58	.01
Inflation rate	-.441	.467	-0.94	.346
Lending interest rate	-.132	.459	-0.29	.775
Firm age	-.166	.135	-1.23	.22
Firm liquidity	.07	.132	0.53	.598
Firm leverage	.236	.081	2.93	.004
Constant	-2.219	3.137	-0.71	.48
F-stat	3.916	Prob[F-stat]	0.000	

Source: Authors. **Notes:** ***, **, and * denote significance at 1%, 5%, and 10% levels, respectively. In all cases, the dependent variable is ROE. All variables were logged before the models were estimated.

In Table 10, the coefficient of Economic Policy Uncertainty (EPU) **is** positive (β = 0.332) but statistically insignificant (p = 0.284), indicating that policy uncertainty does not significantly influence shareholders' returns. Although the positive coefficient suggests that firms may adjust successfully to uncertain policy environments, the lack of statistical significance implies that such adaptation does not translate into a measurable improvement in return on equity. The exchange rate records a positive and highly significant coefficient (β = 1.113, p = 0.001**),** indicating that favourable exchange rate movements significantly improve shareholders' returns. This finding suggests that firms exposed to export markets or foreign currency earnings benefit from exchange-rate movements through improved revenues and profitability. The positive and significant effect of exchange rate on ROE corroborates the findings of Akinlo and Lawal (2015) and Adelowokan et al. (2015), who found that exchange rate movements significantly influence the financial performance of Nigerian manufacturing firms. A favourable exchange rate may improve export earnings and increase firms' profitability.

The inflation rate exhibits a negative and statistically significant coefficient **(**β = –0.493, p = 0.027**)**, implying that rising inflation reduces return on equity by increasing production costs, reducing purchasing power, and compressing profit margins. This finding is consistent with macroeconomic theory, which argues that inflation increases operating costs and adversely affects corporate profitability. The negative coefficient of inflation supports Akinmulegun (2014) and Egbunike and Okerekeoti (2018), who argued that rising inflation increases production costs, reduces purchasing power and ultimately weakens firms' financial performance. The lending interest rate also has a negative coefficient **(**β = –0.603), although it is statistically insignificant **(**p = 0.199**),** suggesting that higher borrowing costs reduce profitability but not to a statistically significant extent. The negative relationship between lending interest rate and ROE agrees with Uremadu (2012) and Osundina et al. (2016), who observed that high borrowing costs discourage investment and reduce firms' profitability.

Among the firm-specific variables, firm age has a negative coefficient (β = –2.457) and is marginally significant at the 10% level **(**p = 0.072**),** indicating that older firms may experience declining efficiency or reduced growth opportunities. The negative coefficient of firm age supports Ilaboya and Ohiokha (2016), who argued that older firms may suffer from declining operational flexibility and technological inertia, thereby reducing profitability. In contrast**,** firm liquidity exerts a positive and statistically significant effect **(**β = 0.379, p = 0.013**),** implying that firms with stronger liquidity positions are better able to meet operational obligations and

generate higher returns for shareholders. The positive influence of firm liquidity on ROE supports Enekwe et al. (2014), who found that firms maintaining adequate liquidity are better positioned to finance operations efficiently and improve profitability. Firm leverage has a positive coefficient (β = 0.075) but remains statistically insignificant **(**p = 0.472**),** indicating that debt financing does not significantly influence shareholders' returns under this specification. The positive coefficient of leverage corroborates the findings of Salawu and Asaolu (2009) and Onaolapo and Kajola (2010), who reported that optimal debt financing enhances shareholders' returns by providing additional resources for investment.

The overall model is highly significant, with an F-statistic of 163.90 and Prob(F-stat) = 0.0000, indicating that the explanatory variables jointly explain variations in firms' return on equity.

Panel B presents the fixed-effects model estimated with heteroskedasticity-robust standard errors. The coefficient of Economic Policy Uncertainty remains positive (β = 0.332) but statistically insignificant (p = 0.442), confirming that policy uncertainty does not significantly affect firms' return on equity. The exchange rate continues to exhibit a positive and statistically significant relationship with ROE (β = 1.113, p = 0.025), indicating that exchange rate movements consistently improve shareholder returns across different estimation techniques. The inflation rate remains negative but statistically insignificant (β = –0.493, p = 0.266), while the lending interest rate also records a negative but insignificant coefficient (β = –0.603, p = 0.365), suggesting that these macroeconomic variables do not independently explain changes in ROE under the robust specification. Regarding firm characteristics, firm age retains a negative but insignificant coefficient (β = –2.457, p = 0.241), while firm liquidity remains positive and marginally significant at the 10% level (β = 0.379, p = 0.086), indicating that improved liquidity tends to enhance shareholders' returns. Firm leverage has a positive but statistically insignificant coefficient (β = 0.075, p = 0.629), suggesting that debt financing does not significantly influence ROE once robust standard errors are applied. The model is jointly significant, with an F-statistic of 3.604 and Prob(F-stat) = 0.006, indicating that the explanatory variables collectively explain firms' return on equity.

Panel C reports the random-effects estimation. The coefficient of Economic Policy Uncertainty remains positive (β = 0.354) but statistically insignificant (p = 0.396), indicating that policy uncertainty does not exert a statistically significant influence on shareholders' returns. The exchange rate continues to have a positive and statistically significant effect (β = 0.733, p = 0.006), confirming its robustness as one of the principal macroeconomic determinants of return

on equity. The inflation rate remains negatively related to ROE (β = –0.424) but statistically insignificant (p = 0.304). Similarly, the lending interest rate exhibits a negligible and insignificant negative coefficient (β = –0.021, p = 0.966). Among the firm-specific variables, firm age **(**β = –0.238, p = 0.297**),** firm liquidity **(**β = 0.208, p = 0.249**),** and firm leverage **(**β = 0.174, p = 0.161) all fail to attain statistical significance. Nevertheless, the overall random-effects model is statistically significant, with a Wald Chi-square statistic of 18.579 and Prob(Chi²) = 0.010, indicating that the explanatory variables jointly explain variations in return on equity.

Panel D presents the pooled OLS estimation. The coefficient of Economic Policy Uncertainty remains positive **(**β = 0.296**)** but statistically insignificant (p = 0.585), indicating that policy uncertainty has no measurable independent effect on shareholders' returns. The exchange rate continues to exert a positive and statistically significant effect (β = 0.762, p = 0.010), confirming that favourable exchange-rate movements improve firms' return on equity. The inflation rate maintains a negative but statistically insignificant relationship (β = –0.441, p = 0.346), while the lending interest rate also remains negative and insignificant **(**β = –0.132, p = 0.775). Among the firm characteristics, firm age records a negative but insignificant coefficient (β = –0.166, p = 0.220), whereas firm liquidity becomes statistically insignificant (β = 0.070, p = 0.598). Unlike the previous panels, firm leverage exhibits a positive and statistically significant coefficient (β = 0.236, p = 0.004), suggesting that increased use of debt financing enhances shareholders' returns when firm-specific heterogeneity is ignored. The pooled regression model is statistically significant, with an F-statistic of 3.916 and Prob(F-stat) = 0.000, indicating that the explanatory variables jointly explain firms' return on equity.

The results across the four estimators consistently show that Economic Policy Uncertainty has a positive but statistically insignificant effect on Return on Equity, implying that changes in policy uncertainty do not independently influence shareholders' returns. The positive but insignificant effect of economic policy uncertainty on ROE suggests that policy uncertainty does not materially affect shareholders' returns among the sampled firms. This finding partly agrees with Babalola et al. (2023), who reported that policy uncertainty influences corporate performance in Nigeria, although the effect varies across financial performance measures. This finding suggests that firms may have developed mechanisms to manage policy-related risks, thereby reducing the direct impact of uncertainty on equity performance. Among the macroeconomic variables, the exchange rate emerges as the most robust determinant of ROE,

exhibiting a positive and statistically significant relationship across all four estimation techniques. This finding indicates that exchange-rate movements play an important role in improving shareholders' returns, particularly for firms with international operations or foreign currency transactions. The inflation rate consistently exhibits a negative relationship with ROE and is statistically significant only in the preferred Driscoll-Kraay specification (Panel A), suggesting that inflation adversely affects shareholders' wealth when econometric issues such as heteroskedasticity, autocorrelation, and cross-sectional dependence are properly addressed. Similarly, the lending interest rate consistently has a negative coefficient across all estimators but remains statistically insignificant, implying that borrowing costs alone do not significantly explain firms' return on equity during the study period. With respect to firm-specific variables, firm age generally exerts a negative influence on ROE, suggesting that older firms may experience declining operational flexibility and profitability. Firm liquidity consistently has a positive effect, with significance strongest in Panel A, implying that stronger liquidity enhances firms' ability to generate returns for shareholders. Firm leverage exhibits a positive relationship throughout the four estimators but becomes statistically significant only in the pooled OLS model, suggesting that its effect depends on the estimation technique employed.

5. CONCLUDING REMARKS AND SOME POLICY RECOMMENDATIONS

This analysis of the effect of economic policy uncertainty on the performance of quoted firms in Nigeria has yielded several important insights. The findings indicate that economic policy uncertainty constitutes an important constraint on the productivity performance of quoted firms in Nigeria**.** The empirical evidence specifically demonstrates that economic policy uncertainty significantly and negatively affects both capital productivity and labour productivity of quoted firms in Nigeria. This implies that uncertainty surrounding government economic policies can impair firms' ability to efficiently utilize their capital and human resources. However, the study also finds that the effect of economic policy uncertainty on the profitability performance of quoted firms in Nigeria is generally negligible**.** Specifically, the study did not find statistically significant effect of economic policy uncertainty on return on capital employed, return on assets, and return on equity of quoted firms in Nigeria. This finding is particularly important because it indicates that the significant adverse effect of uncertainty on productivity does not necessarily translate immediately into statistically significant reductions in accounting profitability. The absence of significant effects on profitability suggests that quoted firms in

Nigeria possess mechanisms for shielding their profitability against policy uncertainty shocks. Such mechanisms may include cost adjustments, liquidity management, financial restructuring, pricing strategies, operational flexibility and other firm-level responses. These adjustment mechanisms are consistent with the baseline analysis showing the positive roles of firm liquidity and firm leverage on the profitability measures in the study. Overall, the study concludes that economic policy uncertainty affects different dimensions of firm performance differently. Its strongest measurable effect is on the productive efficiency of firms rather than on accounting-based profitability. Consequently, economic policy stability remains important for strengthening the productivity performance of quoted firms, and hence improving investment, employment, industrial efficiency and sustainable economic development in Nigeria.

Based on these findings, the study recommended that:

1. **Government should promote policy stability and predictability:** The findings indicate that economic policy uncertainty significantly hampers the productivity performance of quoted firms in Nigeria**.** Hence, there is need for Nigerian government and policymakers to ensure greater consistency, stability and predictability in economic policy formulation and implementation. Incessant abrupt policy inconsistencies and reversals should be minimized or avoided altogether. Major fiscal and monetary policies, especially those relating to taxation, trade and economic regulation that directly confront quoted firms in Nigeria should be carefully designed and implemented within clearly communicated frameworks.
2. **Government should improve policy communication and stakeholder engagements:** The empirical evidence demonstrates that economic policy uncertainty significantly and negatively affects both capital productivity and labour productivity of quoted firms in Nigeria. This indicates that relevant government institutions should provide timely, transparent and comprehensive information concerning proposed and existing economic policies in order to assist firms in minimizing the adverse effects of economic policy uncertainty on their productivity performance. Again, government should strengthen consultation with quoted companies, investors, organized business communities, professional bodies, labour representatives, and other relevant stakeholders during the formulation and implementation of major economic policy reforms. Policy communication and stakeholder engagements should clearly explain

the rationale for the policy, implementation timelines, transitional arrangements, expected effects on businesses, and mechanisms for addressing unintended consequences. In fact, improved communication and stakeholder engagement will enable quoted firms to incorporate anticipated policy changes into their investment and operational decisions. This is particularly important for fiscal and monetary policies relating to taxation, exchange rates, subsidies, trade, interest rates, and other areas that directly affect corporate operations and performance.

3. **Quoted firms should strengthen enterprise risk management:** The significant adverse effect of economic policy uncertainty on the capital productivity and labour productivity of quoted firms in Nigeria requires that corporate managers should develop comprehensive enterprise risk-management systems capable of identifying, monitoring and mitigating policy-related risks. Corporate managers should continuously assess possible changes in fiscal and monetary policies relating to taxation, exchange rates, interest rates, and subsidies as well as regulatory and trade policies in order to timeously deploy appropriate contingency plans.
4. **Firms should strengthen capital budgeting and investment appraisal systems:** The significant negative effect of economic policy uncertainty on capital and labour productivities of quoted firms in Nigeria requires that these firms should improve their capital investment decision-making processes. Capital projects should be subjected to scenario analysis, sensitivity analysis, stress testing, risk-adjusted investment appraisal, and alternative economic projections. These mechanisms will allow the firms to identify investments that remain viable under different policy scenarios.
5. **Firms should emphasize investments in human capital:** Since economic policy uncertainty significantly reduces labour productivity, quoted firms in Nigeria should avoid indiscriminate reductions in employee training and development during periods of rising uncertainty. This study recommends that continuous employee development, technological training, and organizational learning should be maintained since a highly-skilled workforce can improve firms' capacity to adapt and hedge against changing economic policy conditions.
6. **Firms should maintain adequate liquidity levels:** The findings from the profitability models indicate that firm liquidity is a potent factor in driving the profitability performance of quoted firms in Nigeria. Hence, quoted firms should strive to maintain

adequate liquidity buffers and strengthen working-capital management. Adequate liquidity can provide firms with the financial flexibility required to withstand policy and macroeconomic shocks without unnecessarily disrupting productive activities.

7. **Firms should diversify sources of inputs and markets:** The significant adverse effects of economic policy uncertainty on productivity measures of quoted firms in Nigeria requires that quoted firms should, where economically feasible, reduce excessive dependence on a single supplier, market or source of critical inputs. Supply-chain diversification and market diversification can improve corporate resilience and reduce the adverse operational consequences of unexpected policy changes.
8. **Government should strengthen institutional credibility:** The significant adverse effect of economic policy uncertainty on the productivity performance of quoted firms in Nigeria requires that relevant government institutions should improve the transparency, consistency and credibility of economic policy formulation and implementation. High-quality institutions can reduce uncertainty by ensuring that announced policies are implemented consistently and that regulatory decisions are based on clearly defined rules devoid of corruption and other institutional inefficiencies.
9. **Fiscal and monetary authorities should improve policy coordination:** Greater policy coordination between fiscal and monetary authorities is recommended in order to hedge against the adverse effect of economic policy uncertainty on the productivity performance of quoted firms in Nigeria. This is because inconsistent fiscal and monetary signals can make it difficult for quoted firms to anticipate future economic conditions. Better economic policy coordination will facilitate a more predictable policy environment for corporate investment and production decisions.

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