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PROFITABILITY AND DIVIDEND PAYOUT OF LISTED FIRMS IN NIGERIA; A DYNAMIC MODEL ANALYSES

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Abstract
This study examines the effect of profitability on the dividend payout of listed non-financial firms in Nigeria from 2012 to 2021. The population of the study consists of all the listed non-finance firms with representation from the following sectors: Agriculture, Consumer goods, industrial goods, oil and gas, healthcare, services, natural resources, technology, and conglomerate making a total of 108 non-finance firms. However, through a purposive sampling technique, 67 listed non-finance firms were selected from the population. Specifically, to achieve the objectives, the researcher conducted pool Ordinary Least Square (OLS) regression before proceeding to check for inconsistencies with the basic assumptions of the pool OLS regression. Succinctly, these diagnostics tests include test for multicollinearity as well as test for heteroscedasticity. Furthermore, the study also performs preliminary pre-regression analysis such as descriptive statistics, correlation matrix and normality test. Specifically, to capture the dynamism of dividend policy, this study relied on the Arellano–Bond GMM step one and two dynamic panel estimators. The results show that profitability has a significant negative effect on dividend policy at 1% significant level when proxied in terms of dividend per share and dividend payout. The study recommends among others that high profitability firms should endeavor to have stable internal sources of funds since investors will be discouraged from investing in a firm that does not pay dividends. Specifically, there is an essential concern for investors to be more careful in addressing their investment problems.

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1.0 Introduction

Struggle for survival or continuity, following the global economic meltdown and with surge in covid-19 pandemic, spurred the recognition of dividend policy by companies as an emphasis to regain the lost investors' confidence through eventual increase in stock value – the scenario that ominously aroused research on dividend policy (Khan, Zhao, & Iqbal, 2022). The subject of corporate dividend policy has captivated many economists. Broadly speaking, many market imperfections do exist, mainly asymmetric information, agency costs, bankruptcy, financial distress costs, clientele effects, etc. Therefore, various arguments do bear on the issue. Beyond that, the picture is still cloudy. Dividends are defined as the distribution of incomes between the shareholders in relation to their ownership of shareholders. Dividend is always paid to shareholders on after-tax income. If there is irregularity in dividend payments due to a firm's policies or state factors, then shareholders may be uncertain about the dividend cash flow that may cause volatility in the price level.

Miller and Modigliani (1961) irrelevance theory emphasized that dividend policy is irrelevant and do not affect the firm's value or its stock price under the perfect market assumptions because a rational investor should regularly prefer higher capital gain than the dividend yield. However, the capital markets are imperfect in real world. In contrast to the irrelevance theory, Baker & Powell (1999) as cited in Kajola, Desu & Agbanike (2015) conducted a survey among 603 Chief Financial Officers of American firms and showed that dividend policy has impact on value of the firms. Moreover, Lintner's (1956) Bird-in-Hand theory stated that dividend payments are positively associated with the value of the firm. He suggested that investors desire to have a bird in the hand (dividend), rather than two in the bush (capital gains), implying that investors prefer dividend paying shares since dividend payment from a stock is less uncertain than the promise of a capital gain in the future. He found that US firms adjust their dividends to sustain a target long run pay-out ratio.

There are several factors that may influence a firm's dividend payment decision. Such factors may include profitability, growth opportunities, firm size, free cash flow, ownership concentration, debt tax shield, inflation rate, exchange rate, interest rate and so on (Weston & Copeland, 1992; Chen & Steiner, 1999; Iturriaga & Sanz, 2001; Brigham & Houston, 2004; Al-Najjar, 2009; Al-Shubiri, 2011). In terms of profitability, managers usually prefer to use retained earnings to finance projects, as no asymmetric information is involved. Similarly, firms with slow growth and fewer investment opportunities will probably pay more dividends to prevent managers from over-investing firms' cash. However, ownership structure will dictate the monitoring policy and in turn would influence dividend policy. Large shareholders in a company have an incentive to monitor management due to the substantial amount that they invested in the company.

We sought to examine the effect of profitability on dividend payment in Nigeria. Most past studies were done in Asia especially in India, Malaysia, and Pakistan while in Africa the few studies were in Ethiopia, Ghana, and Nigeria. However, all the studies in Africa and Nigeria in particular only examine a direct determinant of dividend policy ignoring the dynamic part of it. Furthermore, none of the studies reviewed employed data up to 2021, hence we identify a period gap. Although studies in this area have been done in Nigeria, inconsistent findings are observed. For instance, the studies of Opeyemi, Olusegun, Olukayode, & Olusola (2017), Kajola, Desu & Agbanike (2015); Sasona (2017) as well as Alaeto, (2020) reported significant positive effect of profitability, firm size and growth opportunities on dividend payout decision. However, a significant negative effect was documented by Iheduru1 &Okor,

2018). Although this study will not bridge the inconsistencies recorded in these prior studies, however, the empirical irregularities and inconclusiveness among the various studies particularly from the perspective of developing and emerging economies and Africa suggest that there is need for further country level test of the portability and plausibility of dividend policy dynamic response to exogenous variables in an emerging market in Africa and Nigeria in particular.

The remaining section of this study highlights the reasons for undertaking the research more analytically by relating it to a preliminary literature review dealing with the relevant theory, best practice, established approaches, techniques or research already existing in the field. This preliminary survey of the relevant literature includes the key sources, which have helped to shape the underlying ideas for the research and provide justification for the significance of the research problem. The study will also discuss the merits of the proposed methodological and theoretical approaches that will be applied with references to key research methods or industry theoretical insights. It will also indicate the practical steps for collecting research data.

2.0 Conceptual Literature

Dividend Payout (DPO)

Dividend pay-outs are important to shareholders and potential investors in showing the earnings that a company is generating. Healthy dividends pay-outs thus indicate that companies are generating real earnings rather than cooking books (Barron, 2002). A study by Zhou & Ruland (2006) revealed that high dividend pay-out firms tend to experience strong future earnings but relatively low past earnings growth. The findings of another study done by Arnott & Asness (2003) also revealed that future earnings growth is associated with high rather than low dividend pay-out. They concluded that historical evidence strongly suggests that expected future earnings growth is fastest when current pay-out ratios are high and slowest when pay-out ratios are low. Their evidence contradicted the view that substantial reinvestment of retained earnings would fuel faster future earnings growth. Low dividend resulting in low growth may be as a result of suboptimal investment and less than ideal projects by managers with excess free cash flows at their disposal. This is prominent for firms with limited growth opportunities or a tendency towards over-investment. Paying substantial dividends which in turn would require managers to raise funds from issuance of shares, may subject management to more scrutiny, reduce conflicts of interest and thus curtail suboptimal investment (Arnott &Asness, 2003). This assumes that suboptimal investments lay the foundation for poor earnings growth in the future whereas discipline and a minimization of conflicts will enhance growth of future earnings through carefully chosen projects. Therefore, paying dividends to reduce the free cash flows enhances the performance of a company since managers will have less cash flows thus avoiding suboptimal investments.

Profitability

Profit is the primary objective of a business (Nimalathasan, 2009). In terms of the heavy investment which is necessary for the success of most enterprises. Profit in the accounting sense tends to become a long-term objective which measures not only the success of the product, but also of the development of the market for it. It is determined by matching revenue against cost associated with it. Only those costs are placed against revenue, which have a contribution in the generation of such revenue. An enterprise should earn profits to

survive and grow over a long period of time. It provides evidence concerning the earnings potential of a company and how effectively a firm is being managed. If the enterprise fails to make profit, capital invested is eroded and if this situation prolongs, the enterprise ultimately ceases to exist. Profit and profitability are two different terms. Profit is an absolute measure of earning capacity, while profitability is a relative measure of earning capacity.

Profit is defined by Iyer (1995) as "excess of return over outlay" (Nimalathasan, 2009 p.14) while profitability is defined as "the ability of a given investment to earn a return from its use'. The word profitability is composed of two words: profit and ability. The word profit has already been defined but the meaning of profit differs according to the use and purpose of the enterprise to earn the profits. Thus, the word profitability may be defined as the ability of a given investment to earn a return from its use. Profitability ratios measure the firm's ability to generate profits and central investment to security analysis, shareholders, and investors. Profitability is the primary measure of the overall success of an enterprise. The analysis of profitability ratios is important for the Shareholders, creditors, prospective investors, bankers and government alike. Profitability is defined as return on investment and is measured by the net income to total shareholder's equity for the period. Profitability or Performance (ROE) is used as a proxy of quality of management II hypothesis (Chaibi et al.2015; Louzis et al. 2012).

Hypotheses Development

According to the pecking order theory, firms prefer to use their internal resources to invest, and when external financing is needed, debt issuance rather than equity is preferred to reduce information asymmetry and transactions costs (Myers, 1984; Myers & Majluf, 1984). While managers issue risky securities with private information, the existence of asymmetric information helps investors to discount newly issued and existing securities. Managers usually prefer to use retained earnings to finance projects, as no asymmetric information is involved. Since discount prices are expected, managers are hesitant to issue risky debt and equity. Firms try to finance investment first with retained earnings, then with safe debt, and finally with equity, so as to minimize asymmetric information and other financing costs (Fama & French, 2002). However, high profitability firms tend to have stable internal sources of funds. When these internal funds are declining, the firm will shift to external financing (Vanacker &Manigart, 2010). Since outside funds are costly to obtain for companies with less profitable assets, dividends are less attractive.

Thus, it can be argued that a firm's profit is positively related to dividend payout (Fama & French, 2002; Han, Lee, & Suk, 1999; Jensen, Solberg, & Zorn, 1992; Lintner, 1956; Valipour et al., 2014). In a study of a large sample of firms across more than fifty countries, Brockman, and Unlu (2009) found a significant positive relationship between net income (a proxy for profits) and dividend amounts. Consistent results were found in a study in the context of emerging markets (Mitton, 2004). However, Sawicki (2009) failed to find any significant relationship between profit and dividend payout in the context of five Southeast Asian countries, including Malaysia. Lintner (1956) found that profits are one of the main determinants of dividend policy in addition to dividends of the previous year. The profit is considered to be a crucial factor that affects the dividend policy. Profitable firms are willing to pay higher amounts of dividends and hence a positive relationship is expected between the firm's profitability and its dividend payments (Amidu & Abor, 2006). This result is also supported by the signaling theory of dividend policy. In other words, profitable firms pay high dividends to convey shareholders of their good financial performance (Ho, 2003).

In his study, Aivazian et al. (2003) found that emerging market firms face similar dividend behavior as the US firms, in the sense that dividends are explained by profitability and debt ratios; however, their sensitivity to these variables varies with every country. Upon empirically testing the effect of the profitability on the dividend policy, they found that there is a positive relationship between those two factors. In the developed countries, Pruitt, and Gitman (1991) surveyed financial managers of 1,000 US firms regarding their investment, financing, and dividend decisions taken in their firms. Their evidence suggested that current and past years' profits are one of the most important influences on the dividend payout as well as the year-to-year variability of earnings, and the growth in earnings. Furthermore, Baker and Powell (2000) supported the findings that the level of current and expected future earnings are affecting the dividend policy in addition to the pattern of past dividends payments. However, it should be noted that in the emerging countries, Annuar and Shamsher (1993) found that the dividend decisions and the long-term target dividends of firms in Malaysia partially depended on their current profits. Based on the foregoing, we hypothesize that profitability increases the dividend payout of listed non-finance firms in Nigeria.

Theoretical Position

Jensen and Meckling (1976) argued that agency relationships take place when the principles engage the agents to perform some of their duties on their behalf. Agency cost arises because of conflicting interests of the managers and owners. Short, Zhang, & Keasey, (2002) argue that Dividend policy performs a crucial role in reducing agency costs which have arisen from the conflicting interests of both the parties. According to Rozeff (1982) dividend payment is a device to reduce agency cost. Jensen (1986) suggested that dividend payment could create conflicts among the managers and shareholders because managers are more willing to retain resources instead of paying dividends. Managers are interested in following the growth strategies for their firms because the growth of a firm will give them more power to control these resources. On the other hand, shareholders prefer dividends to retained earnings. If profits are not paid to the shareholders in form of dividend, the managers might change their intentions towards the benefits of the management, or they can engage the resources into unprofitable projects.

Consequently, the interest conflict arises among them, which can be solved through dividend payout policy. Therefore, Rozeff (1982) called dividend payment as a device to reduce agency costs. Many studies have argued on a point that institutional investors positively impact the agency problems by reducing agency costs and by influencing dividend policies (Han, Lee, & Suk, 1999). Han et al. (1999) empirically showed a positive relationship between dividend payout and institutional ownership. Carvalhal-da-Silva and Leal (2004) argued that agency problems between the managers and the shareholders can take place due to the fact that managers may not be maximizing the shareholder’s value. By observing Japanese firms, Stouraitis and Wu (2004) found that the dividend payout policy can be used to manage the overinvestment problems of the firm and observed that the conflicting interests between the managers and shareholders about the dividend policy vary according to the growth opportunities.

Empirical Reviews

Arshad, Waseem, and Abbas (2022) investigate the variables that significantly affect dividend payout ratio of dividend paying firms listed on KSE-100 index. This research uses a purposive sampling method where criteria is set to select a sample. Secondary data is

collected from non-financial companies using annual financial reports from Pakistan Stock Exchange through the official KSE data portal for examining panel data models using pooled OLS regression. The results showed profitability, firm's debt, and sales growth positively significantly and asset growth, retained earnings to total equity and liquidity negatively significantly affected dividend payout ratio. This research report adds to the existing literature on dividend policy by utilizing the life cycle measure by segregating it with financial performance measure that has not yet done in the Pakistan as a developing market. Results prefer companies to focus on high liquidity, growth in net assets and RETE (life cycle) and management to use profit in the proper way and utilize assets optimally to increase dividend payout. Investors consider ROA to expect high return on dividend. It is suggested that firms pay dividends when there is a chance of decreasing profits and growth rates in future in order to attract more investors and to illustrate better company's performance in the market for increasing growth opportunities and pay maximum dividends.

Khan, Zhao, and Iqbal (2022) examine how the dividend policy of the firms in two of the largest economies of East Asia is determined by the internal attributes of firms. Firm-level data from 1,773 Japanese and 1,035 Korean firms were evaluated using panel data techniques, and some interesting similarities and differences in the dividend policies of both countries were unearthed. For example, in both countries, larger firms pay higher dividends, whereas those firms with volatile earnings pay low dividends. It was also determined that Korean firms pay more dividends when their profitability surges. On the other hand, cash dividends in Japanese firms decline when there is an increase in their profitability level. Overall, the dividend policy of Korean firms resembles more to those in Anglo-Saxon countries, while the dividend policy of Japanese firms bears little resemblance to other established financial systems. This study is the first to compare and contrast the internal dynamics of dividend policy for both the Japanese Keiretsus and Korean Chaebols while evaluating a huge universe of firms from both countries. Transnational studies are important to draw parallels and differences.

Shafai and Shafai (2020) examined ownership structure and dividend policy among top listed firms in Malaysia over a period of 2007 to 2016. The study used a dynamic panel estimation approach. Finding from the study confirmed negative correlation between managerial ownership and dividend policy while concentrated ownership, foreign ownership, institutional ownership, government ownership behaved positive with dividend policy. However, the study focused on highly capitalized firm but ignore banking sector.

Pinto and Rastogi (2019) aims to determine whether a firm's dividends are influenced by the sector to which it belongs. The study also examines the explanatory factors for dividends across individual sectors in India. This longitudinal study uses balanced data consisting of companies listed on the National Stock Exchange (NSE) of India for 12 years—from 2006 to 2017. Pooled ordinary least squares (POLSs) and fixed effects panel models are used in our estimation. The study finds that size, profitability, and interest coverage ratios have a significant positive relation to dividend policy. Furthermore, business risk and debt reveal a significantly negative relation with dividends. The findings on profitability support the free cash flow hypothesis for India. However, the study also found that Indian companies prefer to follow a stable dividend policy. As a result of this, even firms with higher growth opportunities and lower cash flows continue to pay dividends. They also find evidence that dividend policies vary significantly across industrial sectors in India.

Olarewaju, Migiro, and Sibanda (2019) adopts the dynamic panel two-step system and differenced GMM in analyzing the data of 250 commercial banks from 30 countries in Sub-Saharan Africa (SSA) for the period 2006 to 2015 to examine the determinants of the dividend payout ratio of these banks. The empirical results reveal that past year dividend is the most significant determinant of current year dividend. Taxation and capital adequacy ratio, which are the legal and regulatory factors considered, are found to be insignificant. Their findings reveal earnings-after-tax and leverage as being significant determinants of payout ratio in SSA banks. Hence, Lintner's model holds in SSA banks as a region and it is, therefore, recommended that it must be strictly followed in setting the dividend process of commercial banks in SSA.

3.0 Methodology

In relation with extant literature, this study outlined two approaches for carrying out studies of this nature. The study observes that there is the firm-level approach where firm attributes and macroeconomic variables are used as determinants of dividend policy and the non-firm level data approach is where countries aggregate macroeconomic variables and industry aggregate firm data is used as determinants of dividend policy. However, this study will employ the firm-level approach. More than this, the study will employ the firm-level approach based on an expo-facto and non-experimental research design. Ex-post facto research design will be employed as information needed for the study is derived from existing sources that cannot be manipulated by the researcher. The study is longitudinal covering a period of ten (10) years. That is, from 2012 to 2021 employing non-finance listed firms on the floor of the Nigerian Exchange Group. The population of the study consists of all the listed non-finance firms with representation from the following sectors: Agriculture, Consumer goods, industrial goods, oil and gas, healthcare, services, natural resources, technology, and conglomerate. As of December 2021, we had 108 non-finance firms listed on the floor of the Nigerian Exchange Group (NGX). The sampling technique employed is purposive since firms will be included in the sample on certain selection criteria. These criteria were based on the firms that are listed on the Nigerian Stock Exchange market for 2012-2021; there was access to their annual financial reports within the period and they were not firms operating subsidiaries in Nigeria that are not listed in the Nigerian stock exchange. Newly listed firms and delisted firms are excluded from the study. Thus, only non-finance firms that had all relevant data due to continuous existence are included in the sample. The final sample size consists of 67 non-finance firms selected from the aforementioned sector and was arrived at based on the availability of data for ten years for all the research variables. This study adapted the model specified by Opeyemi, Olusegun, Olukayode, & Olusola (2017) which was modified for the purpose of establishing the relationship between the dependent variables and the linear combinations of several determining variables captured in the study. Hence, the econometric form of the model is expressed as:

$$DIVP_{it} = \beta_0 + \beta_1 DIVP_{it-1} + \beta_2 RETA_{it} + \beta_3 FSIZ_{it} + \beta_4 INFR_{it} + \mu_{it}$$

Where:

DIVP	=	Dividend Payout
$DIVP_{it-1}$	=	Lag of Dividend Payout
RETA	=	Return on Asset (proxy for profitability)
FSIZ	=	Firm Size
INFR	=	Inflation rate

β_0	=	Constant
β_1- β4	=	Slope Coefficient
μ	=	Stochastic disturbance
i	=	i^{th} firm
t	=	time period

Thus, our apriori expectations are stated as; X_1-X_4><0: which means that a rise in the determinant variables of profitability will lead to a rise in dividend policy of listed non-finance firms in Nigeria. The econometric techniques adopted in this study are the dynamic panel GMM regression. The rationale for its usage is based on the following justifications: the data that will be collected may have time and cross-sectional attributes as well as across the sampled firms (cross-section); panel data regression provides better results since it uses large observation and reduces the problem of degree of freedom (Muhammad, 2012); it avoids the problem of multicollinearity and help to capture the individual cross-sectional (or firm-specific) effects that the various pools may exhibit with respect to the dependent variable in the model. Hausman and Taylor (1981) also recommended panel data estimation method because it enables a cross-sectional time series analysis which usually makes provision for a broader set of data points, but also because of its ability to control heterogeneity and endogeneity issues. Hence panel data estimation allows for the control of individual-specific effects usually unobservable which may be correlated with other explanatory variables included in the specification of the relationship between dependent and explanatory variables.

Operationalization/ Measurement of Variables and Apriori Expectation

S/N	Variables	Notation and Sources	Apriori Sign
Dependent Variable			
1.	Dividend Payout	Cash dividend pay-out in percentage is computed as cash dividend paid divided by profit after tax	
Independent Variables			
2	Profitability	Return on asset in percentage is computed as profit after tax divided Total asset	+
3	Firm Size	Log of total asset in thousands is computed as the natural logarithm of Total asset.	+
4	Inflation Rate	Inflation rate is measured as percentage change in consumer price index (CPI)	+-

Source: ***Author's Compilation (2023)***

Empirical Results and Discussion

This study examines the effect of profitability on the dividend payout of listed non-financial firms in Nigeria from 2012 to 2021. The data for the study was derived from the annual report of the listed firms under study. Specifically, the explanatory variable of the study is profitability while firm size and inflation were employed as control variables. On the other hand, the dependent variable of dividend policy is proxied in terms of dividend payout. In this section of the study, the pre-regression analysis which includes descriptive statistic is critically examined. Furthermore, this section of the study also shows the association or level of relationship between the variables through the spearman rank correlation analysis. The multiple panel regression estimation technique is also discussed in this section.The study

examines the descriptive statistics for both the explanatory and dependent variables of interest. Basically, each variable is examined in terms of the mean, standard deviation, maximum and minimum. Table 1 displays the descriptive statistics for the study.

Table 1: Descriptive Statistics

VARIABLES	MEAN	STAN. DEV.	MIN.	MAX.	NO OBS
DIVP	154.24	2886.82	-1935.63	74636.63	670
RETA	2.32	15.91	-179.92	176.27	670
FSIZ	7.17	0.82	5.03	9.38	670
INFR	12.37	3.10	-8.06	16.95	670

Source: Author (2023)

Table 4.1 shows the descriptive statistics of this study. The table shows that the dependent variable of dividend policy when measured in terms of dividend payout (DIVP) has a mean of 154.24 with a standard deviation of 2886.82. The implication of our result with respect to the dependent variable of dividend policy is that on the average, the ratio of dividend paid to outstanding share was about 5% during the period under study. Specifically, the study opines that during the period under study the firms in our sample paid about N154 for every N1 profit made. In the case of the independent variable, the result from table 1 shows that the mean of profitability when measured in terms of return on asset (RETA) was 2.32 with a standard deviation of 15.91. This implies that on the average, every unit of asset of the firms under study could effectively generate economic benefit of N2.32. In the case of the control variables, the study finds that firm size (FSIZ) on the other hand, had a mean of 7.17 with a standard deviation of 0.82. Finally, for macroeconomic variable, the table shows that inflation rate (INFR) as the proxy for macroeconomic variable has a mean of 12.37. This implies that on the average, inflation rate was about 12% during the period under study.

Correlation Analysis

In this study, the Spearman rank correlation is employed since the data employed does not come from a normal distribution. The result obtained from the Spearman correlation is presented in table 2.

Table 4.2: Correlation analysis

VARIABLES	DIVP	RETA	FSIZ	INFR
DIVP	1.0000			
RETA	0.5102	1.0000		
FSIZ	0.2253	0.1493	1.0000	
INFR	-0.0935	-0.1057	0.0427	1.0000

Author's computation (2023)

In the case of the correlation between the independent variables and dependent variables of the study, the above results show that there exists a positive association between the independent variable of profitability as measured in terms of return on asset (0.5102) and the dependent variable of dividend policy when measured in terms of dividend payout during the period under study. Furthermore, table 2 shows that there is also a positive association

between the control variable of firm size (0.2253) and the dependent variable of dividend policy when measured in terms of dividend payout during the period under study. However, the study observed that inflation rate (-0.0935) as a proxy of macroeconomic variable appear to have a negative association with the dependent variable of dividend policy when measured in terms of dividend payout during the period under study.

Multivariate Regression Analyses

In this study, to examine the cause-effect relationships between the dependent variables and independent variables, the pool OLS regression is employed and then the study proceeds to validate the estimates of the OLS results. Specifically, to capture the dynamism of dividend policy, this study relied on the Arellano–Bond (Arellano and Bond 1991) dynamic panel estimator which is increasingly becoming popular. Particularly, the Arellano–Bond GMM dynamic estimators are generally designed for situations with "small T, large N" panels, meaning few time periods and many cross sections; left-hand-side variable that is dynamic, depending on its own past realizations; and independent variables that are not strictly exogenous, meaning they are correlated with past and possibly current realizations of the error. Our model satisfies all the conditions outlined by Arellano–Bond and hence, the GMM estimators are most suitable to evaluate the dynamism of dividend policy. The results obtained from the results are presented below.

Table 3: Multivariate Regression Results

	DIVP Model (Pool OLS)	DIVP Model (GMM Step I)	DIVP Model (GMM Step II)
CONS.	13.504 {0.822}	-3573.011 {0.667}	-2566.061 {0.000} ***
LDIPS/LDIVP	0.998 {0.000} ***	-0.082 {0.908}	-0.068 {0.000} ***
RETA	0.078 {0.852}	-5.316 {0.505}	-3.357 {0.000} ***
FSIZ	6.160 {0.460}	473.73 {0.682}	347.768 {0.000} ***
INFR	-2.447 {0.219}	44.869 {0.831}	30.617 {0.000} ***
F-Stat/W-Stat	29239.94 (0.0000)	3.34 (0.9111)	603.73 (0.0000)
R- Squared	0.9975		
VIF Test	1.12		
Hettero. Test	120.72 {0.0000}		

Note: (1) bracket {} are p-values; (2) **, *, implies statistical significance at 5% and 1% levels respectively**

The table above represents the results obtained from the multivariate regression for this study. The result indicates that the pool OLS regression had an R-squared value of 0.9975 when the dependent variable of dividend policy is proxied in terms of dividend payout. The result implies that the independent variables of the study could explain 99% of the systematic changes in the dependent variable of dividend policy when measured in terms of dividend

payout. However, the unexplained part of dividend policy has been captured in the error term. The result of the F-statistics 29239.94 of the pool OLS regression model for the sample non-financial firms in Nigeria with their associated p-value of 0.0000 indicates that the pool OLS regression models on the overall is statistically fit at 1% level of significance and can be employed for statistical inferences. However, to further validate the estimates of the pool OLS results, this study also test for the presence of multicollinearity and heteroscedasticity which could possibly cause spurious results. The results from the VIF test show a mean value of 1.12 when the dependent variable of dividend policy is measured in terms of dividend payout. Specifically, the result shows that the mean VIF is within the benchmark of 10 in line with the position of (Gujurati, 2004) indicating the absence of multicollinearity and further show that none of the variables should be dropped from the models respectively. In terms of the heteroscedasticity test, the result shows a chi2 value of 1528.87 with a p-value of 0.0000 for the dividend per share model and a chi2 value of 120.72 with a p-value of 0.0000 for the dividend payout model. The result shows a significant p-values across both models indicating that the assumption of homoscedasticity of the pool OLS regression results have been violated. Hence, the study re- specifies the model to control for this violation by employing the panel regression as recommended by (Greene, 2003).

In the case of GMM step one, the result as presented in table 4 shows an F-statistics value of 3.34 when the dependent variable of dividend policy is measured in terms of dividend payout. The probability value of 0.9111 for the dividend payout model indicates thaton the overall the GMM step one results is not fit for statistical inference. Furthermore, in the case of GMM step two, the result as presented in table 3 shows an F-statistics value of 603.73 when the dependent variable of dividend policy is measured in terms of dividend payout. The probability value of 0.0000 for the dividend payout models indicates that overall, the GMM step Two results for the model of dividend payout is fit for statistical inference. However, this study employs fixed-smoothing asymptotic to compare the one-step and two-step procedures. For the one-step procedure, the long run variance (LRV) estimator is used in computing the standard errors, leading to the popular heteroskedasticity and autocorrelation robust (HAR) standard errors (Newey & West (1987) and Andrews, 1991). On the other hand, for the two-step procedure, the LRV estimator not only appears in the standard error estimation but also plays the role of the optimal weighting matrix in the second step GMM criterion function. Under the fixed-smoothing asymptotic, the weighting matrix converges to a random matrix. As a result, the second step GMM estimator is not asymptotically normal but rather asymptotically mixed normal. The asymptotic mixed normality reflects the estimation uncertainty of the GMM weighting matrix and is expected to be closer to the finite sample distribution of the second step GMM estimator. Based on the foregoing, the power benefit of the two step GMM is justified and thus relied upon for hypotheses testing in this study.

The results obtained from the two step GMM regression model revealed that profitability as measured in terms of return on asset [coef. = -3.357 (0.000)] has a significant negative effect on dividend policy at 1% significant level when proxied in terms of dividend payout of listed non-finance firms in Nigeria during the period under study. Hence, the null hypothesis that profitability is not a significant determinant of dividend policy of listed non-finance firms in Nigeria is rejected. The result implies that dividend policy dynamically responds to the profitability of the listed non-finance firms under study in Nigeria as evident in the lag of dividend policy by dividend payout {-0.068 (0.000)}. Particularly, the study shows that an increase in the profitability of listed non-finance firms in Nigeria significantly reduces dividend payout during the period under study. Furthermore, the study notes that managers usually prefer to use retained earnings to finance projects instead of paying profit as

dividends, as no asymmetric information is involved. Hence, since discount prices are expected, managers are hesitant to issue risky debt and equity. Firms try to finance investment first with retained earnings, then with safe debt, and finally with equity, so as to minimize asymmetric information and other financing costs (Fama & French, 2002). Furthermore, the study opines that high profitability firms tend to have stable internal sources of funds. When these internal funds are declining, the firm will shift to external financing (Vanacker & Manigart, 2010). Since outside funds are costly to obtain for companies with less profitable assets, dividends are less attractive, hence, the finding of this study is justified. Specifically, the study disagrees with the position of prior studies that showed that a firm's profit is positively related to dividend payout (Fama & French, 2002; Han, Lee, & Suk, 1999; Jensen, Solberg, & Zorn, 1992; Lintner, 1956; Valipour et al., 2014). This result also contradicts the signaling theory of dividend policy that opine that profitable firms pay high dividends to convey shareholders of their good financial performance (Ho, 2003).

Conclusion and Recommendation

Despite voluminous research on dividends, corporate managers, and financial economists still face it is described as a dividend enigma with pieces that do not seem to fit. Following instability in business operations, the struggle for survival spurred the recognition of dividend policy by companies again to regain the lost investors' confidence through an eventual increase in stock value. This scenario ominously aroused research on dividend policy. Hence, this study examines the dynamic response of dividend policy to exogenous variables of listed non-financial firms in Nigeria from 2012 to 2021. Based on the findings of the study, it is concluded that an increase in the profitability significantly reduces dividend payout during the period under study. Generally, the study recommends that non-finance firms should raise funds for investment first with retained earnings, then with safe debt, and finally with equity, so as to minimize asymmetric information and other financing costs. Arising from the negative effect of profitability on dividend policy, the study recommends that high profitability firms should endeavor to have stable internal sources of funds since investors will be discouraged to invest in a firm that do not pay dividend. Specifically, there is an essential concern for investors to be more careful in addressing their investment problems. Hence, the study recommends that if investors prefer and expect dividends in the form of short-term liquidity or capital, while investing moderately, of course, they must be able to master information related to the company's dividend policy behavior, such as documented in this study.

REFERENCES

Aduda, J. O., & Kimathi, H. (2011). The applicability of the Constant dividend model for companies listed at the Nairobi Stock Exchange. *Journal of Financial Studies & Research*, *11*.

Agyemang Badu, E. (2013). Determinants of dividend payout policy of listed financial institutions in Ghana. *Corporate Governance and Organizational Behavior Review*, *2*(1), 18-30.

Al-Kaseasbeh, M. G. (2018). *A study of the impact of dividend policy on the stock performance of Blue-Chip Companies in Jordan* (Doctoral dissertation Aligarh Muslim University, Aligarh, India).

Allayannis, G., & Weston, J. P. (2001). The use of foreign currency derivatives and firm market value. *The review of financial studies*, *14*(1), 243-276.

Allen, F. L. (1997). *Only yesterday: An informal history of the 1920's* (Vol. 12). John Wiley & Sons.

Baker, H. K., Powell, G. E., & Veit, E. T. (2002). Revisiting the dividend puzzle: Do all of the pieces now fit?. *Review of Financial Economics*, *11*(4), 241-261.

Baker, H.K. and Weigand, R. (2015), "Corporate dividend policy revisited", *Managerial Finance*, 41 (2) 126-144.

Banerjee, S. (2017). Determinants of dividend policy of listed information technology companies in India. *SCMS Journal of Indian Management*, *14*(3), 54-62.

Banerjee, S. (2017). Determinants of dividend policy of listed information technology companies in India. *SCMS Journal of Indian Management*, *14*(3), 54-62.

Brigham, E. F., & Houston, J. F. (2011). *Study Guide for Brigham/Houston's Fundamentals of Financial Management, Concise Edition, 7th*. Cengage Learning.

Ceccagnoli, M. (2009). Appropriability, pre-emption, and firm performance. *Strategic Management Journal*, *30*(1), 81-98.

Chen, C. R., & Steiner, T. L. (1999). Managerial ownership and agency conflicts: A nonlinear simultaneous equation analysis of managerial ownership, risk taking, debt policy, and dividend policy. *Financial review*, *34*(1), 119-136.

Christopher M., & El Koury, R. (2014). Determinants of the dividend policy: an empirical study on the Lebanese listed banks. *International Journal of Economics and Finance*, *6*(4), 240-256.

Deeptee, P. R., & Roshan, B. (2009). Signalling power of dividend on firms' future profits a literature review. *International Interdisciplinary Journal*, *1*(1), 1-9.

Denis, D. J., &Osobov, I. (2008). Why do firms pay dividends? International evidence on the determinants of dividend policy. *Journal of Financial economics*, *89*(1), 62-82.

Epaphra, M., &Nyantori, S. (2018). Analysis of the determinants of dividend policy: Evidence from manufacturing companies in Tanzania. *Corporate Governance and Organizational Behavior Review*, *2*(1), 18-30.

Fama, E. and French, K. (2001), "Disappearing dividends: changing firm characteristics or lower propensity to pay?", *Journal of Financial Economics*, 60, (1) 3-43

Gauthier, J. P., & Kupka, I. (2001). *Deterministic observation theory and applications*. Cambridge university press.

Getachew, S. (2017). *Determinants of Dividend Policy: Evidence* (Master's project, Addis Ababa University Addis Ababa, Ethiopia).

Glen, J., Karmokolias, Y., Miller, R. and Shah, S. (1995) "Dividend Policy and Behavior in Emerging Markets" IFC Discussion Paper No. 26, www.ifc.org

Hamid, K., Khurram, M.U., & Ghaffar, W. (2017). Juxtaposition of micro and macro dynamic policy on stock price volatility in financial sector of Pakistan. Journal of Accounting, Finance and Auditing Studies, 3(1), 64-79.

Harada, K., & Nguyen, P. (2005). Dividend change context and signaling efficiency in Japan. *Pacific-Basin Finance Journal*, *13*(5), 504-522.

Hasan, M., Ahmad, M. I., Rafiq, M. Y., & Rehman, R. U. (2015). Dividend payout ratio and firm's profitability. Evidence from Pakistan. *Theoretical Economics Letters*, *5*(03), 441.

Iturriaga, F. J., & Sanz, J. A. (2001). Ownership structure, corporate value and firm investment: A simultaneous equations analysis of Spanish companies. *Journal of Management and Governance*, *5*, 179-204.

Jablonski, B., &Kuczowic, J. (2015). Microeconomic and macroeconomic determinants of the dividend policy in companies quoted at Warsaw Stock Exchange. *Economic and Law*, 14(4), 443-457.

Lee, S. H., & Makhija, M. (2009). Flexibility in internationalization: is it valuable during an economic crisis?.*Strategic Management Journal*, *30*(5), 537-555.

Lewellen, J. (2004). Predicting returns with financial ratios. *Journal of Financial Economics*, *74*(2), 209-235.

Lewellen, W. G., & Badrinath, S. G. (2007). On the measurement of Tobin's q. *Journal of financial economics*, *44*(1), 77-122.

Lintner, J. (1963). The cost of capital and optimal financing of corporate growth. *The Journal of finance*, *18*(2), 292-310.

Litzenberger, R. H., & Ramaswamy, K. (1979). The effect of personal taxes and dividends on capital asset prices: Theory and empirical evidence. *Journal of financial economics*, *7*(2), 163-195.

Litzenberger, R. H., & Ramaswamy, K. (1979). The effect of personal taxes and dividends on capital asset prices: Theory and empirical evidence. *Journal of financial economics*, *7*(2), 163-195.

Mohammed, F. (2011). Impact of corporate governance on banking sector performance in Nigeria. *International Journal of Economic Development Research and Investment*, *2*(2), 52-59.

Mohammed, H. K. (2016). The impact of total risk management on company's performance. *Procedia-Social and Behavioral Sciences*, *220*, 271-277.

Ng'ang'a, K. (2014). *The Relationship Between Dividends and Firm's Performance: A Case Study of Listed Firms in the Nairobi Securities Exchange for the Period 2006-2012* (Doctoral dissertation, United States International University-Africa).

Nimalathasan, B. (2009). Profitability of listed pharmaceutical companies in Bangladesh: An inter &intra comparison of Ambee & IBN Sina Companies. *Universitatii Bucuresti. Analele. Seria Stiinte Economicesi Administrative*, *3*, 139.

Nnadi, M., Wogboroma, N., & Kabel, B. (2013). Determinants of dividend policy: Evidence from listed firms in the African stock exchanges. *Panoeconomicus*, 60(6), 725–74

Okun O., &Ohidoa T. (2018). Agency cost and dividend policy in Nigerian Non-Financial Quoted Firms. *International Journal of Academic Research In Business and Social Sciences*, *8*(4), 325-350.

Olowe, R.A. (2017). *Financial Management: Concepts, Financial System and Business Finance*, 4th ed., Brierly Jones, Lagos.

Omokhudu, O.O.,& Toluwa, O. (2018). Agency cost and dividend policy in Nigerian non-financial quoted firms. *International Journal of Academic Research in Business and Social Sciences*, *8*(4), 323-345.

Omran, M., & Pointon, J. (2004). Dividend policy, trading characteristics and share prices: empirical evidence from Egyptian firms. *International Journal of Theoretical and Applied Finance*, *7*(02), 121-133.

Priya, P. V., &Mohanasundari, M. (2016). Dividend policy and its impact on firm value: A review of theories and empirical evidence. *Journal of Management Sciences and Technology*, 3(3), 59–69

Profilet, K.A., Bacon, F.W. (2013), Policy and stock price volatility in the U.S. equity capital market. *Journal of Business and Behavioral Sciences*, 25(2), 63-72.

Romus, M., Anita, R., Abidillah, M. R., & Zakaria, N. B. (2020). Selected firms' environmental variables: Macroeconomic variables, performance and dividend policy analysis. *International Conference on Environment and Technology*, 469, 012047, doi:10.1088/1755-1315/469/1/012047.

Ross, S. A. (1977). The determination of financial structure: the incentive-signalling approach. *The bell journal of economics*, 23-40.

Rozeff, M. S. (1982). Growth, beta and agency costs as determinants of dividend payout ratios. *Journal of financial Research*, *5*(3), 249-259.

Sajida G., Irfan U., Hina G., & Shahid R. (2020). The Factors Affecting Dividend Policy: Empirical Study from Pharmaceutical's Companies in Pakistan (PSX). *European Journal of Business and Management Research*, *5*(5).

Shahwan, T. M., & Habib, A. M. (2020). Does the efficiency of corporate governance and intellectual capital affect a firm's financial distress? Evidence from Egypt. *Journal of Intellectual Capital*. *5*(6), 41-41.

Shiro, A.A., Iyegbuniwe, W. & Ezike, J.E. (2018). An investigation of firms' characteristics on share prices of quoted firms in Nigeria. *Nigerian Journal of Management Studies*, 18(2), 132-142.

Short, H., Zhang, H., & Keasey, K. (2002). The link between dividend policy and institutional ownership. *Journal of corporate Finance*, *8*(2), 105-122.

Thafani, A. R., & Abdullah, M. (2014). Impact of dividend pay-out on corporate profitability: evident from Colombo stock exchange. *Advances in Economics and Business management*, *1*(1), 27-33.

Thomas, J. K. (2013). Credit shocks and aggregate fluctuations in an economy with production heterogeneity. *Journal of Political Economy*, *121*(6), 1055-1107.

Thomas, O.C. (2013). Dividend payout, corporate governance, and the enforcement of creditors rights in emerging markets. *The IUP Journal of Corporate Governance*, *7*(1), 7-34.

Tse, C. B. (2005). Use dividends to signal or not: an examination of the UK dividend pay out patterns. *Managerial Finance*, *31*(4), 12-33.

Udobi P.I., &Iyiegbuniwe W.I. (2018). A test of Miller and Modigliani dividend policy irrelevancy theory in Nigerian stock market. *American Finance and Banking Review*, 2(2), 1234-2576.

Uwuigbe, U., Jafaru, J., & Ajayi, A. (2012). Dividend policy and firm performance: A study of listed firms in Nigeria. *Accounting and management information systems*, *11*(3), 442-454.

Walter, J.E. (1963). Dividend Policy: Its Influence on the value of the enterprise. *The Journal of Finance*, 18(2), 280-291.

Zameer, H., Rasool, S., Iqbal, S., & Arshad, U. (2013). Determinants of dividend policy: A case of banking sector in Pakistan. *Middle East Journal of Scientific Research*, *18*(3), 410-424.

Zhou, P., & Ruland, W. (2006). Dividend pay-out and future earnings growth. *Financial Analysts Journal*, *62*(3), 58-69.