A Test of Agency Theory of Divided Relevance on the Firm Value of Listed Nigerian Deposit Money Bank

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Abstract

The main objective of this study is the agency theory of dividend relevance on the firm value of listed Nigerian deposit money banks (DMBs) for ten years, 2011–2020. The study used an ex-post facto panel research design. The data for the study was collected from the published financial statements of sampled banks. The study's dependent variable is market capitalization, a proxy of firm value, while the independent variables are dividend payout and agency cost, respectively. The data estimation was conducted using the panel data technique. The findings showed that the dividend payout and agency cost effects on firm value are positive and negative but statistically significant and insignificant. In contrast, the joint effects of dividend payout and agency cost on a firm's value are statistically insignificant. This result implies that dividend payout has a unique effect (direct effect) on firm value but does not moderate the effect of agency cost on firm value in Nigerian DMBs. This can be attributed to the unique nature of banks, which may be due to the intense supervision by the regulatory authorities.

Keywords: Agency cost, market capitalization, firm value, direct effect, dividend payout

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Introduction

Since the "dividend irrelevance proposition" by Miller and Modigliani (1961) holds that dividend policy has little bearing on shareholders' wealth, several studies have examined why companies disburse a sizeable portion of their earnings as dividends. The "dividend problem" is used in the finance literature to describe this (Black, 1976). Dividends' role in resolving agency issues between managers and outside investors is one possible explanation.

Easterbrook (1984) hypothesizes that the oversight function of dividends reduces agency disputes between managers and shareholders. Jensen (1986) posited that agency problem stems from managers' incentives to consume private perks. Managers achieve these by expanding their empires through investing free cash flows in projects with negative net present value or spending cash on perquisites.

The dividend payout of firms limits managers' access to free cash flow and exposes the businesses to market participants' scrutiny and monitoring while raising external capital; it improves information transmission and reduces agency conflicts. The enhancement in information distribution and the decrease in agency costs lower the cost of funds and investments at a more favourable cost of capital, thus increasing firm value (Ghosh & Sun, 2014).

Maximizing shareholders' value is necessary to increase a firm's value (Lonkani, 2018). According to Hermuningsih (2013) and Lonkani (2018), firm value is often seen as one of the main factors influencing an investor's perception of a company because it represents a good sign of its performance. A firm's corporate value is an economic metric that reflects its market value, and the share price movements in the secondary market influence its value.

When the share price rises, its corporate value rises. When the share price falls, its corporate value falls; all other factors are kept constant.

Purwanto and Agustin (2017) explained that firm value is a common way to measure its performance and how investors think about it.

According to agency theory, problems will arise when firms have excess free cash flow and management engages in managerial overcompensation and/or overinvestment (Fairchild, 2010). Jensen (1986) postulated that the manager's motivation to invest free cash flows in negative net present value projects or spending funds on perquisites, causes the agency problem. However, dividend payments help mitigate the agency problem by limiting the managers' access to free cash flow (Fairchild, 2010; Kadioglu *et al.*, 2017). Paying regular dividends to shareholders minimizes managers' free cash flows and acts as a good tool for controlling managers' behaviour and maintaining a disciplined policy without directly involving stockholders.

Notwithstanding the importance of agency costs in modern business (Muneer *et al.*, 2013), theoretical agency dividend models remain sketchy (Ehikioya, 2015). Studies like Ehikioya (2015) and Kajola *et al.* (2015) concentrated on the factors and trends influencing dividend payments inside and outside Nigeria. Other studies have focused on dividend payout ratios and monitoring systems as agency cost drivers for payouts (Brunarski et al., 2004; Sukkaew, 2015; Alajekwu *et al.*, 2020). Al-Taleb (2012) looked at the free cash flow components of agency costs, whereas McKnight and Weir (2009) and Miller (2011) concentrated on the debt component of agency costs while ignoring managerial effectiveness. Several studies conducted in Nigeria, including Odesa and Ekezie (2015), Olufawoye *et al.* (2017), and Omokhudu and Toluwa (2018), examined the effect of agency cost elements on dividend policy. There is also a paucity of work on banks (due to their unique regulatory nature), particularly on the effect of agency cost and dividend payout on the value of listed Nigerian deposit money banks. This study

made an effort to minimize or overcome these inconsistent findings.

The study is structured into five sections; the introduction is the first, and Section two reviews the empirical literature. Section three explains research methods and hypothesis development; section four presents estimation results and discusses findings. Conclusion and recommendation form the basis of section five.

Literature Review
Agency Cost and Firm Value

Jabbary, Hajiha and Labeshka (2013) investigated the effect of agency costs on the Tehran Stock Exchange based on seventy-three (73) listed non-financial firms from 2006 to 2010. The study used secondary data from the selected firms' annual reports. The independent variable, agency costs, was measured using the operating expense and asset turnover ratios. In contrast, the dependent variable, firm performance, was proxied as return on assets and return on capital, respectively. The data estimation was multiple regression. The findings showed that agency costs negatively and significantly affect firm performance.

Khidmat and Rehman (2014) studied the effects of agency costs on free cash flow on the performance of 123 Pakistani companies chosen from eight different industries listed on the Karachi Stock Exchange between 2003 and 2009. The agency cost was measured as total asset turnover and operating expense ratios as used in Wang (2010), while the previous year's

FCF_{t-1}, which accounted for the lagged period, was considered for the study. The study used the ordinary least squares (OLS) technique for data analysis, and the results revealed a positive and statistical relationship between free cash flows and agency costs. However, free cash flow on firm performance was both negative and significant. Further findings show that agency costs negatively significantly affect firm performance. In contrast, the total asset turnover (TATO) ratio positively influences a firm's performance.

Guizani (2017) examines how sharia-compliant firms use dividend policy to minimize the agency cost of free cash flow. The study used 1,242 data points from 207 firms between 2009 and 2014. The result showed that Sharia-compliant firms have excellent payout ratios and are more likely to pay dividends. He also found that sharia-compliant firms' dividends respond more significantly to free cash flow than non-compliant companies' dividends. Similar research by Omran and Pointon (2004) and Skinner and Soltes (2011) posited that Sharia-compliant firms are more likely to distribute free cash flow than non-compliant firms and minimize the misuse of the firm's cash flow, thus increasing shareholders' value.

Bhatti and Sajid (2017) used secondary data from non-financial listed companies on the Karachi Stock Exchange between 2008 and 2013 to examine the effect of the agency cost of free cash flow on firm performance. The study's dependent variable is the firm's performance, which is measured using Tobin's Q. Free cash flow and agency costs are the independent variables. The agency cost was measured using total asset turnover and operative cost ratios. A panel regression model was used to estimate the data. The results show that agency costs negatively and significantly affect the firm's performance, whereas free cash flow positively and significantly affects agency costs.

Hoang *et al.* (2019) studied the effect of agency costs on firm performance of 736 listed Vietnamese firms using a six-year data set with 4,416 observations. The dependent variables are returns on equity (ROE), measured as revenue after taxes to total equity, and returns on assets (ROA), measured as the ratio of income after taxes to total assets. The independent variable, agency costs, was measured using the ratio of net sales to total assets and operating costs to net sales. The data estimation techniques are the generalised system method of the moment model and instrumental variables approach. The results showed that agency costs negatively affect a firm's performance.

Nuhu *et al.* (2020) examined how agency costs affected the financial performance of listed consumer product corporations from 2007 to 2016. The independent variable, agency cost, was measured as interest expenses divided by sales. Tobin Q was measured using profit after tax divided by total assets as used in the studies of Jabbary *et al.* (2013) and Khidmat and Rehman (2014), while firm age, size, and liquidity are the control variables. The study adopted panel data regression for the data estimation, and the finding showed an inverse relationship between agency cost variables and financial performance.

Baykara and Baykara (2021) examine the relationship between agency costs and the firm performance of the SME firms traded on the Istanbul Stock Exchange between 2017 and 2020. The study used secondary data from 38 small and medium-sized companies eligible for the analysis and listed on the Borsa Istanbul Stock Exchange Market. The agency costs were measured using the asset utilisation ratio, the operating expenses ratio, and the ratio of free cash flows to total assets. Panel data analysis with three different regression models, which enables the control of heterogeneity effects, was adopted for the data estimation. Findings showed that operating expenses significantly affect firm performance. In contrast, other proxies (asset utilisation ratio and ratio of free cash flow to total assets) were invalid for measuring agency cost.

Dividend Payout and Firm Value

Ozuomba, Okaro and Okoye (2013) used a convenience sampling technique to investigate how seven consumer goods companies' dividend policy on the Nigerian Exchange Limited (NGX) influences their shareholders' value. The dividend policy variables used in the study are dividend per share (DPS) and dividend payout ratio (DPO). The study used secondary data from the audited financial reports of the selected firms for 12 years, from 2000 to 2011 and a panel data regression model for data analysis. Findings showed that the company's

dividend per share and dividend payout significantly and positively affect shareholders' value.

Luvembe *et al.* (2014) examined how dividend payouts affect the market value of the ten listed banks in Kenya as of 31st December 2010. The study used primary data from interviews with senior financial officials and secondary data from the Nairobi Securities Exchange from 2006 to 2010. The study used descriptive and inferential statistics for data analysis. The finding showed that in most years, market value, capital structure, corporate profitability, the dividend payout ratio, and capital market investments were all positively and significantly related.

Anton (2016) investigated the effects of a dividend policy on business value. The study sample comprises sixty-three non-financial companies that were listed on the Bucharest Stock Exchange between 2001 and 2011. The independent variable is the dividend payout ratio (DPR), which is determined by dividing the company's cash dividend per share by its earnings per share. Tobin Q, which is referred to as the ratio between the market value and the replacement value of a firm's assets, is the dependent variable. Using a fixed effects model to account for additional company-specific factors, we found that the dividend payout ratio positively affects firm value. Further results show that leverage and firm size positively affect firm value.

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Udobi and Iyiegbuniwe (2018) conducted a study to examine the applicability of the dividend irrelevance theory of Miller and Modigliani on shares listed on the Nigerian Exchange Limited (NGX) for a period of fifteen (15) years, from 2001 to 2015. The study used the mediation analysis to determine dividends' direct and indirect effects on the share price. The naive expectations of dividends and earnings were used to correct the abnormal use of current dividends and earnings. The results showed that the direct effect of the expected

dividend on share price is significant. In contrast, the indirect effect of earnings of the expected dividend on share price is insignificant.

Chinnaiah (2020) studied the relevance of the dividend payout of 39 non-financial firms listed on the National Stock Exchange Nifty-100 of the Indonesia Stock Exchange on firm value from 2010 to 2019. The result showed that the firms' characteristics, especially current-year profit, size, growth opportunities, and a price-earnings ratio, exhibited a positive and significant effect on the firm's value. In contrast, dividend payout has an insignificant effect on firm value.

Alajekwu *et al.* (2020) investigated how the dividend policy of 60 firms, consisting of 19 financial and 41 non-financial firms listed on the Nigerian Exchange Limited (NGX), affected shareholders' wealth (measured as the stock market price per share) over eleven years, from 2006 to 2016. Their results showed that dividend policy and its controlling variables influenced shareholders' value in Nigeria's financial and non-financial services sub-sectors. It also found that none of the dividend policy variables (dividend payout and dividend yield) in financial services firms significantly affected shareholders' wealth. In contrast, dividend payout in non-financial services firms significantly affected shareholders' wealth.

Agency cost, Dividend payout and Firm Value

Khan *et al.* (2013) examined how dividend policy moderate agency cost of free cash flow of 58 Pakistani non-financial firms in the Karachi 100 index from 2006 to 2010. The dividend payout ratio and dividend yield are measures of a firm's dividend policy. The data were analyzed using statistical methods, including correlation and the generalized least square regression. The results showed that limiting free cash flow under management control reduces the agency cost of free cash flow, increasing firm value. This outcome is in line with the free cash flow theory.

Ghosh and Sun (2014) examined the mitigating effect of dividend distribution on agency costs by restricting managers' access to free cash flow on the firm value of U.S. equity REITs (real estate companies). Findings showed that dividend payments significantly and positively influence externally financed growth. It also found that the relationship is significant among REITs with more growth opportunities and REITs that issue new equity and debt. It is consistent with the notion that dividends enhance growth by reducing agency costs and facilitating capital raising.

Fajriati *et al.* (2018) examined the problem of agency costs, dividend policy, and company value. The method adopted in this investigation is a literature review by comparing empirical evidence in prior studies. The findings showed that there were still differences in results among several researchers. The company's dividend policy affects its value because dividend payouts can attract investors to invest their capital, positively affecting share prices. Agency costs were found not directly affecting the value of the company.

Omokhudu and Toluwa (2018) examined the effect of the agency cost on dividend policy for listed non-financial firms on the Nigerian Exchange Limited (NGX). The study used secondary data consisting of 943 firm-years observations from 2010 to 2016. Three models consisting of dividend policy variables and control variables interacted multiplicatively to ascertain the conditional effect of the agency cost on dividend policy. Findings showed that dividend policy was significantly determined by agency cost.

Rahmawati *et al.* (2018) investigated how the reduction of agency conflict through causal effects of managerial ownership, leverage, and dividend policy. Secondary data of 33 listed manufacturing firms on Indonesia Stock Exchange from 2010 to 2015 was used for the study. The model estimation uses Granger bidirectional and simultaneity analysis, including managerial

ownership, leverage, and dividend policy variables. The results showed no two-way causal relationship between leverage and managerial ownership, managerial ownership and dividend policy, or leverage and dividend policy.

Research Methods

The study is on listed Nigerian Deposit Money Banks for ten (10) years, from 2011 to 2020.

This study's period, 2011 to 2020, was chosen because it is the most recent time to produce current results. The choice of the year 2011 as the commencement year of this study is informed by the fact that it was the year after which the Central Bank of Nigeria phased out the Universal Banking Model. As a replacement, it introduced the new commercial banking model with different categorizations, such as the regional banking model, the national banking model, international banking, and financial holding companies.

Population and Sample of Study

Population/Sample Filtering

Total Deposit Money Banks (DBMs) in Nigeria as at 31st December 2011	18
New DBMs opened during the period from 1st Jan. 2012 to Dec. 2020	5
Less 100% Foreign owned Banks	(3)
Less Banks with incomplete records	(6)
Less CBN managed banks	(2)
Total Banks sampled	**12**

Data and Data Collection Method

This study used secondary annual reports of twelve (12) listed deposit money banks on Nigeria Exchange Limited (NGX) as at December 31st, 2020. The data used for the study was mined from the sampled banks' annual reports, consisting mainly of stock prices, dividends paid, and free cash flow. Others are the total asset turnover ratio, operating expense ratio, firm size, firm financial leverage, firm value measurement variables, return on assets, return on equity, and dividend yield. These data were validated and considered adequate for this study. Furthermore, information

from the firms' annual reports used for this study has been subjected to external audits by highly-rated local and international firms. As a result, these reports are reliable and could be a good data source for this study.

Operationalization of Variables of Study

The study's key variables are divided into four categories. These include dependent, independent, joint, and control variables. This is shown in table 1 below, along with the relevant metrics and research measurements. The study variables align with the theoretical and empirical research choices.

Table 1: Operationalization of Study Variables

Variables	Measures	Authors
	Dependant Variable	
Market Capitalization **(Firm's value)**	Market capitalization (Mktcap.) is computed by multiplying the number of outstanding shares with the market price of the share of the firm or bank	Mwalukumbi (2011), Mba, Ezeh and Nwekwo (2018), Gitman, Juchau, and Flanagan (2019), Pavone (2019)
	Independent Variables	

Free Cash Flow (FCFA)	Free Cashflow to Asset in percentage is computed as Free Cashflow divided by Total Assets	Lehn and Poulsen (1989), Zakaria et al. (2013), Das (2018), Kargi and Zakariya (2021), Manoel and da Costa Moraes (2021)
Dividend to Total Assets (DITA)	Cash dividend to Asset in percentage is computed as cash dividend paid divided by total assets	Aivazian et al. (2003), Boţoc and Pirtea (2014), Omokhudu and Toluwa (2018), Pinto and Rastogi (2019), Yusuf (2019)
	Agency Costs	
Asset Turnover Ratio (ATAR)	Asset Turnover in numbers is computed as Revenue or sales divided by Total asset. *For Banks, it is computed as interest income divided by total assets*	Rahmiyatun and Nainggolan, (2016), Gladys and Omagwa (2017), Akinleye and Adesina (2019)
Operating Expenses to Sales Ratio (OES)	Operating cost to revenue in percentage is computed as operating expenses divided by revenue or sales. *For banks, it is computed as operating expenses divided by interest income*	Al-Qashi and Al-Aqlah (2015), Ball, Gerakos, Linnainmaa and Nikolaev (2016)
	Control Variables	
Firm Size (FSIZE)	Log of the total asset in thousands is computed as the natural logarithm of total assets	Bala and Kumai (2015), Asad and Cheema (2017), Bolarinwa and Obembe (2017), Odundo and Orwaru (2018)
Firm Financial Leverage (FFLEV)	Debt to Total Asset in percentage is computed as Total Liabilities divided by Total Assets	Khidmat and Rehman (2014), Odum and Odum (2017), Bose, Saha, Khan and Islam (2017), Kenn-Ndubuisi and Nweke (2019)), Igoni, Onwumere and Ogiri (2020)

Model Specification

To examine the agency theory of dividend relevance on firm value of listed Nigerian DMBs, the study adapted the models of Sukkaew (2015) and Chinnaiah (2020) and was modified to suit the objectives of the current study. The specified model for this study is presented in Eqn. 3.1:

$$FV_{it} = \psi_0 + \psi_1 ACOPEX_{it} + \psi_2 DITA_{it} + \psi_3 INACOPEX_{it}*DITA_{it} + \psi_4 FSIZE_{it} + \psi_5 FINLEV_{it} + \mu_{it}$$

where: FV represents Firm Value (proxy Market Capitalization) (Dependent Variable), ACOPEX represents inverse of operating expenses (proxy for agency cost) (Independent Variable), DITA represents Dividend to Total Asset (proxy for

dividend payout) (Independent Variable), $INACOPEX_{it}*DITA_{it}$ = Inverse of operating expense multiplied by dividend to the total asset of the ith bank at time "t", FSize represents Firm Size, FinLev represents Financial Leverage (Control Variables); μ represents the error term; i denotes the firm; and t represents the time period. ψ_1 - ψ_3 = The parameters estimate/coefficient of the independent variables while ψ_4 – ψ_5 are the coefficients of the control variables.

Analytical Variables of the Study

This study uses market capitalization (Mktcap) to proxy the firm value (dependent variable) of listed

Nigerian Deposit Money Banks. Agency cost measurement is proxied as the inverse of operating expense (ACOPEX). The operating expense is an efficiency ratio (a bank with a high-value expense ratio indicates a high level of agency costs). The inverse of operating expenses shows how much revenue is generated for every naira spent on operating expenses. If more revenue is generated with a lower operating cost, it means experiencing a modest or lower agency cost. This study also adopts a dividend-to-asset ratio in line with Aivazian et al. (2003), Boţoc and Pirtea (2014), and Yusuf (2019).The authors posited their choice of dividend-to-asset ratio as other proxies of dividend policy for the following reasons: Firstly, as earnings approach zero or negative, the dividend payout ratio becomes unstable and non-normal. On the other hand, dividend yield reflects pricing influences beyond the control of management. Lastly, dividends deflated by earnings or book value of equity are more susceptible to accounting errors than payouts deflated by total assets.

Estimation Technique

The panel data analysis is used to test the study hypothesis, which can control for any heteroskedasticity observed in the data. The ordinary least square (OLS), random effect (RE) and fixed effect (FE) is used in panel data analysis. According to Wooldridge (2002), they are econometric techniques incorporating cross-section and time dimensions to obtain reliable results. The Hausman test determines whether the Fixed Effect (FE) or Random Effect (RE) is more accurate for a given panel data. If the Hausman test is significant, then FE is more appropriate for the study; otherwise, the RE is selected (Saleh et al., 2007). A VIF test, correlation test, and descriptive statistics were also estimated to enhance the robustness of the study's results.

Apriori Expectation

The apriori expectation in the model is of the form; $\psi_1, \psi_2, \psi_3, \psi_4, \psi_5 > 0$. It implies that the value of listed Nigerian Deposit Money Banks should have a positive relationship with all the independent variables.

Data Analysis and Interpretation

Descriptive Statistics

Table 2: Descriptive statistics

VARIABLES	MEAN	MEDIAN	MAX.	MIN.	STD. DEV.	OBS. (N)
MKTCAP. (N'm)	8.050	8.122	9.059	6.792	0.574	120
LEV	90.327	86.660	254.750	76.247	22.084	120
ACOPEX	0.019	0.018	0.047	0.007	0.006	120
DITA (N'm)	0.557	0.348	2.417	0	0.625	120
INACOPEX*DITA	192.054	82.279	3105.590	0	440.288	120
FSIZE (N'm)	9.180	9.186	9.939	8.195	0.403	120

Source: Authors' Computation, 2022

Table 2 shows the descriptive statistics for the variables. Market capitalization (MKTCAP), the dependent variable, ranges from a minimum of N6.792 million to a maximum of N9.059 million in value. The data is noticeably distributed from the mean value, as indicated by the mean and standard deviation of N8.050 million and N0.574 million, respectively. Leverage (LEV.) has a mean value of N90.327 million and a standard deviation of N22.084 million, indicating a significant dispersion, with the maximum and minimum values being N254.750 million and N76.247 million, respectively.

The standard deviation of free cash flow to total assets (FCFA) is N41.952 million, and the mean value of N1.132 million demonstrates significant dispersion of the majority of the observations from the mean, with the maximum and minimum values being N106.479 million and (N98.821 million), respectively. The operating expense ratio (ACOPEX) has a mean value of N0.019 million and a standard deviation of N0.006 million, indicating that sample data demonstrates significant clustering around the mean value, with maximum and minimum values of N0.047 million and N0.007 million, respectively. The standard deviation of the dividend payout is N0.625 million, and the mean value of N0.557 million demonstrates significant dispersion of the majority of the observations from the mean, with the maximum and minimum values being N2.417 million and N0.00, respectively.

The agency cost (ACOPEX) was transformed to the inverse of ACOPEX (INACOPEX) to avoid high multicollinearity before multiplying with the interaction (joint) variable, dividend, to the total asset (DITA). The sampled banks had a mean value of N0.010 and a standard deviation of N0.013. This again shows that sample data tend to cluster around the mean, with the maximum and minimum values being N0.058 and N0.00, respectively.

The mean value of firm size measured as the natural log of total assets was N9.180m, while the maximum was N9.939m and the minimum was N8.195m, respectively. The gaps between the maximum and minimum clearly show that the sampled banks are homogenous. Firm size is not a variable of interest, but its inclusion in the regression model may improve the robustness of the outcome.

Correlation Analysis

The relationship between the variables was estimated using the Pearson correlation coefficient (correlation matrix), depicted in Table 3.

Table 3: Correlation analysis

	MKTCAP	ACOPEX	DITA	FSIZ	LEV	INACOPEXDITA
MKTCAP	1					
ACOPEX	-0.141 0.123	1				
DITA	0.697** 0.000	0.014 0.881	1			
FSIZ	0.793** 0.000	-0.028 0.765	0.379** 0.000	1		
LEV	-0.403** 0.000	0.171 0.062	-0.209* 0.022	-0.352** 0.000	1	
INACOPEXDITA	0.004 0.967	-0.151 0.099	-0.231* 0.011	0.089 0.335	-0.054 0.556	1
N	120	120	120	120	120	120

**. Correlation is significant at the 0.01 level.

*. Correlation is significant at the 0.05 level.

Source: Authors' Computation, 2022

Table 3 shows the correlation matrix of the study's dependent and explanatory variables. Mktcap., the dependent variable, has a negative relationship with ACOPEX = -0.141 (p-value 0.123) and LEV = -0.403 (p-value 0.000) but a positive relationship with other explanatory variables (DITA = 0.697 (p-value 0.000); FSIZ = 0.793 (p-value 0.000); INACOPEXDITA = 0.0.0038). ACOPEX and LEV demonstrated a weak relationship, while INACOPEXDITA showed a very weak relationship with Marketcap. DITA and FSIZ demonstrated a highly correlated relationship with the dependent variable. A cursory analysis of the independent variables reveals that they are not strongly related, meaning that multicollinearity is minimized (Bland & Altman, 2011; Schober et al., 2018).

Regression Results

The results of the Breusch-Pagan and Wooldridge tests show that the data are heteroscedastic. Therefore, pooled OLS regression may result in inaccurate conclusions and coefficient estimates. Table 4 displays the random effect multivariate regression analysis findings, with the dependent variable being firm value and the independent variables being agency cost and dividend payout variables. The model as a whole can significantly explain the dependent variable's variance. The R-square is 0.84, which means that the five independent variables explain 84% variation in the dependent variable, firm value.

Table 4: Direct and Joint Effect of Agency Cost and Dividend Policy on the value of listed Nigerian deposit money banks

MODEL				
Variables	**POOL**	**ROBUST REGRESSION**	**FEM**	**REM**
C	0.6001	0. 6180	2.4753	1.1487
p-value	0.317	0.332	0.014*	0.145
ACOPEX	-10.2728	-9.3338	-4.4137	-4. 9562
p-value	0.005**	0.015*	0.154	0.108
DITA	0.4340	0.4344	0.2170	0.3269
p-value	0.000***	0.000***	0.002**	0.000***
INACOPEX*DITA	0.0001	0. 0001	0.0000	0.0000
p-value	0.319	0.307	0.682	0.447
FSIZE	0.8225	0. 8199	0.6234 0.000***	0.7609
p-value	0.000***	0.000***		0.000***
LEV	-0.0021	-0.0020	-0.0021	-0.0020
p-value	0.057	0.084	0.029*	0.036*
F-Statistic/Wald Statistic	116.72	101.89	10.78	136.47
p-value	0.000***	0.000***	0.000***	0.000*
R^2	0.84	0.75	0.82	0.83
VIF Test	1.20			
Heteroscedasticity Test	4.69			
p-value	0.0303			
Hausman Test			Prob>chi2	= 3.09(0.5430)

Source: Authors' Computation, 2022

The OLS pooled regression results are in Table 4. The coefficient of determination (R^2) value of 0.84 indicates that the independent variables jointly account for 84% of the systematic variations in firm value in the pooled firms of interest. The OLS regression model is statistically significant at a 1% level, as evidenced by the F-statistic value of 116.72 and its p-value of 0.000. It suggests that the regression model is reliable and suitable for statistical inferences. The mean VIF value in the table above, at 1.20, is lower than the benchmark value of 10, indicating that the data have low multicollinearity. The OLS results also had problems with heteroscedasticity, as shown in the table above, because the probability value [4.69(0.0303)] was significant at 3%. The presence of heteroscedasticity demonstrates that the banks in our sample are not homogeneous. Therefore, a robust or panel regression will be required to account for the effect of each firm's heteroscedasticity on the results. The study adopted the panel regression techniques (both fixed and random effect models).

The finding of this study revealed that there is a significant relationship between all of the explanatory variables and the dependent variable (0.000<0.05), as shown by the F-statistic and wald-statistic values of 10.78(0.000) and 136.47(0.000) for fixed and random effect models, respectively. The explanatory variables (ACOPEX, DITA, and ACOPEX*DITA) in the fixed and random effect models jointly account for about 83% of changes in firm value, according to the coefficient of determination (R^2). In contrast to the Pooled OLS, which is employed when a different sample is chosen for each year, month, or period of the panel data, the fixed and random effect is selected since the data in this study are observed for the same sample repeatedly (Wooldridge, 2015).

Direct Effect of Dividend payout on Firm Value of listed Nigerian banks

Dividend Payout with a coefficient of 0.3147 *exhibits a* statistically significant (0.000<0.05) effect on firm value. Therefore, we reject the null hypothesis that dividend does not significantly influence the firm value of listed banks in Nigeria. The result implies that an increase in the dividend payout of listed banks in Nigeria increases the value of such firms. The finding is inconsistent with earlier study findings claiming that dividends to the total asset have no significant effect on the firm value (Odesa & Ekezie, 2015; Anike, 2017; Husain & Sunardi, 2020). Most notably, this finding is consistent with previous empirical findings, which suggest that the dividend-to-total asset ratio, as a measure of dividend policy, is a significant driver of firm value (Ozuomba et al., 2013; Udobi & Iyiegbuniwe, 2018; Osakwe et al., 2019; Chinnaiah, 2020).

Direct Effect of Agency cost on Firm Value of listed Nigerian deposit money banks

The agency cost effect as an independent variable on the firm value has a coefficient of -4.8128 and a p-value of 0.114, statistically insignificant on the firm value of listed banks in Nigeria. Hence, the null hypothesis that agency cost does not affect firm value is rejected. This implies that an increase in a bank's agency cost reduces the bank's value. The findings corroborated earlier study outcomes stating that agency costs have a negative and statistically significant effect on firm value (Bennedsen & Nielsen, 2010; Jabbary *et al*., 2013; Khidmat & Rehman, 2014; Bhatti & Sajid, 2017; Hoang et al., 2019; Nuhu, Dandago, Mohammad, Ado, & Abdulkarim, 2020). However, this result is inconsistent with the empirical results of (Adityamurti & Ghozali, 2017; Wardani & Susilowati, 2020), which show that agency cost improves the value of a firm.

The Joint Effects of Agency cost and Dividend Payout on Firm Value of listed Nigerian deposit money banks

The effect of ACOPEX*DITA on the firm value (MKTCAP.) with a coefficient of 0.0000 is insignificant (0.492>0.05). Therefore, we cannot

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reject the null hypothesis H_{04}: the joint effect of agency cost and dividend to total assets (ACOPEX*DITA) does not significantly influence the firm value of listed banks in Nigeria. This implies that the joint effect (interaction) of agency cost and dividend payout does not affect the value of banking firms in Nigeria. The fact that the interaction of the two variables is insignificant shows that dividend has their own unique (direct) effect on firm value.

Effects of Control Variables on Firm Value of listed Nigerian deposit money banks

The two control variables, **FSIZE** have coefficients and p-values of 0.6551 (p-value 0.000) and 0.7760 (p-value 0.000) while **LEV** have coefficients and p-values of -0.0021 (p-value 0.032) and -0.0019 (p-value 0.037), for the FEM and REM, respectively. They are not variables of interest to the study's objectives. The two control variables, **FSIZE** have coefficients and p-values of 0.6551 (p-value 0.000) and 0.7760 (p-value 0.000), while **LEV** has coefficients and p-values of -0.0021 (p-value 0.032) and -0.0019 (p-value 0.037), for the FEM and REM, respectively. They are not variables of interest to the study's objectives. Still, their inclusion in the model could influence the outcome as it improves a study's internal validity (assurance that no external factors influence the experiment of interest) by reducing the effects of confounding and other irrelevant variables. Thus, experimental manipulation is responsible only for the study findings (Mehta, 2015).

Conclusion

Conflicts between the principal and agent occur in businesses because of free cash flows, according to Jensen (1986). The same author claimed that free cash flows within firms could not lead to serious agency problems because any excess cash flows would be distributed to shareholders as dividends, invested in worthwhile projects with positive NPVs, or paid to payables (creditors). However, this is severed when a company has a high FCF but is not in a growth stage. Using the secondary data

extracted from the MachameRatios and the annual reports of listed Nigerian Deposit Money Banks, the study examines the agency theory of dividend relevance on the firm value.

There are three significant points drawn from the evidence presented in the study. First, the study finds a positive effect of dividend payout on firm value, suggesting its moderating effects on agency costs on firm value. Second, we also find that the negative effect of agency costs on a firm's value is minimized by increasing the firm's debt. This result corroborates the argument of Jensen (1986) that a firm's debt is a useful instrument to monitor agency costs. Third, the proxy variables of agency costs, suggested by the literature, are shown to have inconsistent effects on firm value. Thus, it is difficult to determine whether a direct link exists between agency costs and firm value. However, if agency costs are inversely related to firm value, as supported by Ang et al. (2000) and Singh and Davidson (2003), total asset turnover and operating expense ratio could serve as better measures for agency costs. The study also affirmed that the joint effects of agency costs and dividend payout do not affect the firm value of DMBs in Nigeria.

In line with the study's findings, we recommend that the management of deposit money banks implement control measures to help minimise administrative costs and stop frivolous and wasteful spending from increasing the banks' value. Finally, this study is the first one using current data of listed Nigerian Deposit Money Banks on the Nigerian Exchange Limited (NGX) to empirically examine the relationship between agency costs, dividend payout, and firm value.

Suggestions for Further Study

The study can be extended to non-financial firms to examine the agency theory of dividend relevance to the firm value. Due to less regulation of the non-financial firms, the role of dividend payout in

moderating the effect of agency cost on firm value

may be germane.

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