THE DIVIDEND RELEVANCE THEORY AND FIRM VALUE OF LISTED NIGERIAN DEPOSIT MONEY BANKS (DMBs)

[1]Bashiru Umoru* [2]Babatunde O. Oke [3] Obademi Olalekan Emmanuel, [4]Abass A. Shiro

Department of Finance, Faculty of Management Sciences,
University of Lagos, Akoka, Lagos.

Abstract

The main objective of every firm is to create corporate value. Studies have shown that shareholders benefit more from the firm as its value increases. The two opposing views on dividend policy and its effect on share price are the dividend relevance theory posited by Lintner (1956) and the dividend irrelevance theory put forth by Miller and Modigliani (1961). The puzzle of the relevance of dividend payment on a firm's value remains inconclusive and controversial, despite the substantial body of literature on dividend policy, thus requiring continuous improvement. It is on this premise of inconclusive results that spurred the current study. The study uses secondary data on listed Deposit Money Banks in Nigeria (DMBs), which spans a ten (10) year period from 2011 to 2020. The data was estimated using the panel regression analysis, and the findings showed that dividend payout significantly and positively influenced the firm value of listed banks in Nigeria. The study recommends that investors exhibit care in studying and understanding the dividend policy of firms to guide their investment decisions.

Keywords: Tobin Q, Dividend per share, Firm value, Dividend yield, Dividend payout.

1.0 Introduction

A successful dividend policy is crucial for a firm to maximize its shareholders' value. Financial analysts from all around the world have recently become interested in dividend policy (Rahman, 2015). There has been a lot of research and analysis on whether or not dividend policy helps achieve business objectives, but a clear answer has not been found. Miller and Modigliani's (1961) research suggests that in a perfect market, dividend policy does not affect the value of a firm. This finding has sparked a great deal of debate due to the caveat that our market is far from perfect. Share investments provide investors with income and are often relatively liquid as shareholders can easily profit from capital gains by quickly exchanging their shares ownership (Egolum & Onyeogubalu, 2021). The dividend puzzle has drawn the

interest of the general public, regulatory agencies, academic groups, and investors in showing keen interest in how dividend per share affects the firm's share price.

Additionally, it has been the focus of extensive theoretical and empirical investigation and a cause of dispute. One of the contentious issues surrounding dividend policy is the correlation between payout policy and firm value. The early literature on dividend policy gives two contrasting views on the relationship between cash payouts and firm value. According to one perspective, Miller and Modigliani (1961) imply that dividends are irrelevant to a firm's value and may even be value-destroying, which is a thesis that Black (1976) supports. The more carefully we analyze the dividend picture, the more it resembles a puzzle with pieces that don't quite fit together (Black, 1976). A different viewpoint sees dividends as a critical factor in determining firm value, as seen in the novel studies of Williams (1938), Lintner (1956), Walter (1956), and Gordon (1959). Similarly, Baker and Weigand (2015) stated that firms are hesitant to reduce dividends because doing so will negatively influence share price.

Firms often prioritize manipulating their share prices rather than focusing on achieving financial success. This is because the management of a company typically has more inside knowledge about the company's current and future status compared to outsiders. This is known as "asymmetric information". One way that investors can gauge a company's financial health is by looking at dividend payments. If a company increases its dividends, this is a positive sign that the management anticipates higher future cash flow, which could lead to a higher overall value for the firm.

The question of whether dividend payments affect a firm's value remains unresolved. It is like the curse of the undead (or perhaps, the trade deficit); it will not disappear. The puzzle is that despite being taxed twice as ordinary income under corporate and personal taxation, investors adore dividends and reward companies with higher share prices when they pay dividends. This practice is not economically rational, and this lack of rationality is the puzzle (Al-Najjar & Kilincarslan, 2018). According to some empiricists, dividends may be irrelevant (Miller & Modigliani, 1961; Lashgari & Ahmadi, 2014), but others feel they are relevant (Lintner, 1956; Gordon, 1959).

Financial researchers typically fall into one of two categories when discussing dividend policy and its effect on a firm's value. Contrasting the irrelevance thesis, which maintains no relationship between dividends and a firm's value Toby (2014), scholars such as Murekefu and Ouma (2012), Anton (2016), and Isibor et al. (2017) showed that there is a correlation (relevance theory). There are two groups with different opinions about the relationship: one sees it as positive, as evidenced by Zakaria et al. (2012), Ozuomba and Ezeobasili (2017), Yudawisastra et al. (2018), and Chinnaiah (2020), while the other sees it as negative Lashgari and Ahmadi (2014), Ahmad et al. (2018), and Cristea and Cristea (2018).

Although dividend policy is crucial, it still poses a challenge due to inconsistent and conflicting outcomes from different studies. Therefore, this study aims to examine the effect of dividend payout on the value of deposit money banks in Nigeria. This research provides new insights into the relationship between dividend payout and firm value, contributing to the existing literature.

2.0 Review of Literature

The study by Lashgari and Ahmadi (2014) examined the effect of dividend policy on the share price volatility of 51 listed firms on the Tehran Stock Exchange for six years, from 2007 to 2012. The study utilized a multivariable regression model and panel to estimate the data. The findings showed that the dividend payout ratio significantly negatively affected stock price volatility. In contrast, the asset growth rate significantly positively affected stock price volatility. Further results showed that leverage, earning volatility, and firm size do not significantly affect stock price volatility.

Egbeonu et al. (2016) conducted an empirical study to examine how dividend policy affects firm value and shareholder wealth maximization. They randomly selected listed firms from Nigeria Exchange Limited (NGX). They analyzed five years of audited financial reports using various statistical tests such as unit root stationary, multiple OLS regression, granger causality, impulse response innovation, and variance decomposition. The results revealed that while dividend per share and share value has a significant and inverse relationship, earning per share positively and significantly affects firm share value.

Budagaga (2017), using the residual income approach of Ohlson's 1995 valuation model, studied the effect of dividend payments on the value of 44 listed firms on the Istanbul Stock Exchange (ISE) from 2007 to 2015. The findings show a significant positive relationship between dividend payments and the value of firms.

Lumapow and Tumiwa (2017) studied the effect of a firm's dividend policy, size, and productivity on its value. The study used a purposive selection technique to choose from the listed manufacturing firms on the Indonesia Stock Exchange between 2008 and 2014. The data estimations used is a panel data regression with a random effect model (REM) technique. The findings showed that while firm size and productivity had a positive and significant effect on firm value, dividend payout negatively and significantly influenced the firm's value.

Odum et al. (2019) examined the effect of the dividend payout ratio on the firm value of breweries and beverages companies listed on the Nigerian Exchange Limited (NGX) from 2007 to 2016. The study used regression analysis, and findings showed that profit after tax and leverage significantly affect firm value, while dividend payout ratio and cash holding have insignificant effects. No significant relationship exists between firm size and firm value.

Chinnaiah (2020) examines how the dividend payout policy influences the firm's value of 39 non-financial firms listed on the National Stock Exchange Nifty-100 of the Indonesia Stock Exchange from 2010 to 2019. The findings showed that variables such as current-year profit, firm size, growth prospects, and price-earnings ratio positively and significantly affected the firm's value. Interestingly, dividend payout had no significant effect on the firm's value.

Khan et al. (2011) studied dividend policy's effect on the stock prices of 55 KSE-100 firms from 2001-2010. They found a positive relationship between share price, dividend yield, earnings per share, return on equity, and profit after tax, while the retention ratio negatively affected stock prices.

Rahman *et al*. (2012) found that dividend policy variables positively and significantly impacted the firm value of 11 listed private commercial banks in Bangladesh from 2007-2010. The dependent variable was the firm's value, while independent variables included current earnings, dividend paid, retained earnings, dividend payout, retention ratio, dividend yield, and cash flows.

Ntui *et al*. (2015) studied the relationship between dividend policy and share price in 13 listed firms from 2007 to 2011. The study found that the P/E ratio positively correlates with share price, while dividend yield, payout ratio, earnings per share, and price-earnings ratio negatively affect the share price.

Hooi *et al*. (2015) studied the relationship between dividend policy and share price volatility in 319 Kuala Lumpur companies. They found that dividend yield and payout significantly affect share price volatility, while the firm size and share price were negatively related. Positive relationships were found between earning volatility and long-term debt-to-price volatility.

In their study, Ahmad et al. (2018) examined how dividend policies affect the volatility of stock prices for companies on the Amman Stock Exchange. They analyzed data from 228 companies listed on the exchange from 2010 to 2016, totalling 1,596 firm-year observations. The researchers used Pearson correlation, descriptive statistics, and panel GMM to test the relationship. The findings revealed that there is a significant negative correlation between stock price volatility and dividend policy variables, such as dividend yield and payout.

Aroh et al. (2021) conducted a study on dividend policy and its effect on the firm value of listed companies in Nigeria. They used panel data spanning ten years from 2010 to 2019. The study measured the firm value using market-to-book value, and dividend policy was measured using dividend yield, dividend per share, and dividend payout ratio. The researchers used robust least square regression analysis to test their hypotheses. The study found that dividend payout did not significantly affect the market-to-book value, while dividend per share had a positive influence. However, the study also found that dividend yield had a significant negative effect of 1% on the market-to-book value.

Ejem and Ogbonna (2019) studied the effect of dividend policy on the value of 24 Nigerian-listed firms from 2012 to 2017. The study used secondary data from annual reports and accounts, finding that only a few firms paid dividends. The correlation test showed that levered firms paid lower dividends. Earnings significantly impacted a firm's value, while dividends per share had an insignificant effect.

Egolum and Onyeogubalu (2021) investigated the impact of quantitative factors and dividend per share (DPS) on Nigerian Exchange Limited (NGX) consumer goods firms' share prices from 2009-2018. Data was collected using Judgmental sampling and secondary financial statements. The study found a positive correlation between DPS and share price.

A study conducted by Eryomin et al. (2021) analyzed how dividend payments affect a company's market value. The researchers utilized secondary data collected from 20 Russian companies and the five largest oil and gas sector companies listed on the Moscow Exchange from 2013 to 2019, spanning a period of seven years. To estimate the data, regression analysis was employed. The outcome indicated a direct correlation between dividend payments and an increase in value.

3.0 Methodology

The study employed the ex-post facto research design because the data required for the analysis already exists. As a result, the research design utilizes both cross-sectional and time series properties, resulting in a panel study. The study used data from twelve (12) Nigerian Deposit Money Banks for ten (10) years, from 2011 to 2020. The choice for the study period coincides with the Central Bank of Nigeria phasing out the Universal Banking Model and introducing the new commercial banking model with different categorizations. It is also the most current period to produce current data.

Model Specification

The model used dividend payout ratio, dividend per share and dividend yield as proxies for dividend policy decisions of the selected firms. This approach adapted the model used in Alajekwu et al. (2020). The model is modified for the dependent and independent variables and adapted for the current study because it establishes a relationship between the dependent and independent variables. Further modifications to the model include an improvement in the measurement of dividend payment and an extension of the study period to 2020 to suit the study objectives.

The general form of the model to be used for achieving objective one is stated as follows:

$$FV_{it} = f(DITA_{it}\ BSF_{it}, CVR_{it}) \quad ...3.1$$

The components of bank – specific factors (BSF) are shown in equation 3.2:

$$BSF_{it} = f(AQ_{it}\ LQ_{it}) \quad \ldots 3.2$$

Also, the categories of control variables are functionally represented in equation 3.3:

$$CVR_{it} = f(FSZ_{it}, FINLEV_{it},) \quad \ldots 3.3$$

In view of the above, combining equations 3.1 - 3.3 will yield explicit equation 3.4 as follows:

$$FV_{it} = \beta_0 + \beta_1 DPO_{it} + \beta_2 DPS_{it} + \beta_3 DY_{it} + \beta_4 AQ_{it} + \beta_5 LIQ_{it} + \beta_6 FSIZE_{it} + \beta_7 FINLEV_{it} + \mu_{it} \quad \ldots 3.4$$

where:

Symbols	Meaning	Apriori Expectation
FV	Firm Value (proxy TobinQ) Dependent variable	
DPO	Dividend payout ratio measured as dividend per share dividend by earnings per share	Positive
DPS	Dividend per share measured as total dividend by the number of outstanding ordinary shares issued.	Positive
DY	Dividend yield measured as annual dividend per share divided by market price per share	Positive
AQ	Asset Quality measured as loan to assets	Positive
LIQ	Liquidity measured as deposit to assets	Positive
SIZE	Firm size measured as the log of Total Assets	Positive
LEV	Financial leverage measured by total debt to total asset	Positive

The subscripts t represents the time period, i denotes the firms, μ represents the error term, β_o is the constant, $\beta_1 - \beta_3$ is the parameters estimate/coefficient of the independent variables, $\beta_4 - \beta 5$ is the parameters estimate/coefficient of the bank specific variables while $\beta_6 - \beta_7$ are the coefficients of the control variables.

4.0 Results and Discussion

4.1 Descriptive Statistics

Table 1 shows the descriptive statistics for the variables. The value of a firm, represented by Tobin Q, ranged from N0.630 million to N2.550 million. The data showed significant variations from the mean value, which was N0.865 million with a standard deviation of N0.253 million. The dividend payout ratio (DIVP) had a mean value of N26.378 million and a standard deviation of N29.028 million, indicating significant dispersion with a maximum value of N156.927 million and a minimum value of N-77.325 million. The dividend yield (DYID) had a mean value of N5.533 million and a standard deviation of N4.530 million, showing significant clustering around the mean value. The maximum and minimum values were N19.047 million and N0.00 million, respectively. The standard deviation of the dividend per share (DIPS) was N0.754 million with a mean value of N0.568 million, demonstrating significant dispersion from the mean value. The maximum and minimum values were N2.959 million and N0.00, respectively. The standard deviation of assets quality (AQ) was N10.495 million with a mean value of N42.186 million, indicating significant dispersion from the mean value. The maximum and minimum values were N64.230 million and N5.720 million, respectively. The standard deviation of liquidity (LIQ) was N10.495 million with a mean value of N66.893 million, showing significant dispersion from the mean value. The maximum and minimum values were N64.230 million and N5.720 million, respectively. Firm size, measured as the natural log of total assets, had a mean value of N9.180 million with a maximum value of N9.940 million and a minimum value of N8.190 million. The standard deviation was N0.403 million, indicating clustering around the mean value. The inclusion of firm size and financial leverage as control variables may improve the study's outcome. The financial leverage had a standard deviation of N22.084 million with a mean value of N90.327 million, indicating significant clustering of the majority of observations from the mean value. The maximum and minimum values were N254.750 million and N76.247 million, respectively.

Table 1: Descriptive Statistics

VARIABLES	MEAN	MEDIAN	MAX.	MIN.	STD. DEV.	OBS (N)
FIRM VALUE (N'M) (TOBINQ)	0.865	0.800	2.550	0.630	0.253	120
DIVP	26.378	22.263	156.927	-77.325	29.028	120
DIYD	5.533	5.486	19.047	0	4.530	120
DIPS	0.568	0.217	2.959	0	0.754	120
AQ	42.186	42.930	64.230	5.720	10.495	120

LIQ	66.893	66.920	161.210	31.130	14.979	120
FSIZE (N'M)	9.180	9.190	9.940	8.190	0.403	120
FINLEV (N'M)	91.293	86.970	254.750	76.250	22.410	120

Source: Authors' Computation, 2023

4.2 Correlation Analysis

In Table 2 below, Pearson's coefficient of correlation was used to analyze the relationship between the study variables. The results showed that TobinQ, the dependent variable, had a negative relationship with DIVP = -0.0351, DIVD = -0.2369, DIPS = -0.0201, AQ = -0.2306, FSIZ = -0.4085 and LEV = -0.8829, but had a positive relationship with LIQ = 0.4634.

DIVP and DIPS have a very weak relationship with Tobin Q, DIVD and AQ showed a weak relationship with Tobin Q, and FSIZ had a moderate relationship with Tobin Q. In contrast, LEV had a highly correlated relationship with the dependent variable. Upon analysis, it was found that the independent variables were not significantly connected, indicating minimal multicollinearity (Bland & Altman, 2011; Schober et al., 2018).

Table 2 – Correlation Matrix

	TOBINQ	DIVP	DIVD	DIPS	AQ	LIQ	FSIZ	FINLEV
TOBINQ	1							
DIVP	-0.0351	1						
DIVD	-0.2369	0.5997	1					
DIPS	-0.0201	0.3946	0.5085	1				
AQ	-0.2306	0.1887	0.2083	-0.0343	1			
LIQ	0.4634	0.0452	-0.0137	-0.0796	-0.0835	1		
FSIZ	-0.4085	0.2769	0.5933	0.5239	-0.0641	-0.2929	1	
FINLEV	-0.8829	-0.1319	-0.1904	-0.1708	-0.3225	-0.3730	-0.3730	1
N	120	120	120	120	120	120	120	120

Source: Authors' Computation, 2023

Multicollinearity

The Variance Inflation Factor (VIF), as shown in table 4 below, is another post-estimation to test for multicollinearity.

Table 3: Multicollinearity Result

Variable	VIF	1/VIF
Diyd	**2.58**	**0.388077**
Fsiz	**2.29**	**0.436223**
Finlev	**1.77**	**0.565688**
Divp	**1.66**	**0.603379**
Dips	**1.57**	**0.635632**
AQ	**1.50**	**0.667505**
LIQ	**1.34**	**0.743736**
Mean VIF	**1.82**	

Source: Authors' Computation, 2023

Table 3 above shows the degree of relationship between the independent variables. The variance inflation factor (VIF) value is also estimated to test the multicollinearity. Table 4 shows that none of the variables exceeded benchmark 10, with the highest VIF at 2.58 and the lowest at 1.34. The mean VIF is 1.82, which is also less than the benchmark. According to Wang (2010), Wooldridge (2015), and Ahmad et al. (2021), these values indicate that the model is free from the problem of multicollinearity.

Heteroskedasticity Test

In order to analyze the variance inequality of the residuals in our data sample, we utilized the Breusch-Pagan-Godfrey-Heteroskedasticity method. If the residual patterns appear spread out and scattered without a clear pattern, it may indicate a problem with heteroscedasticity in the data. A good regression model should not display signs of heteroscedasticity. Our results, which

showed an F-statistic of 0.26 and a p-value of 0.6085 in the OLS (pooled), suggest that the banks in our sample are similar and do not have a heteroskedasticity issue.

Hausman Test

According to the Hausman Test, reject the null hypothesis if the p-value is small (less than 0.05). This means that the alternative hypothesis that fixed effect is desirable is accepted, and the null hypothesis that random effect is desirable is rejected. The results reveal that Prob > chi2 is greater than 0.05 (Prob > chi2 = 0.5010). The results of the Hausman test have also confirmed that the random effect (RE) is more efficient than the fixed effect (FE).

Regression Results

Table 4 show the findings of the effect of dividend policy on the firm value of the listed Nigerian deposit money banks (DMBs).

Table 4: Regression Results

Independent Variables	Pooled (OLS)	Fixed Effect (preferred model)	Random Effect
Constant (C) p-value	0.5377 0.1250	0.6175 0.2180	0.5005 0.2370
Dividend Payout Ratio (DIVP) p-value	0.0012 0.0040**	0.0003 0.4080	0.0005 0.1710
Dividend Yield (DIYD) p-value	-0.0126 0.0000***	-0.0068 0.0330*	-0.0083 0.0050**
Dividend Per Share (DIPS) p-value	0.0854 0.0000***	0.0330 0.2510	0.0527 0.0260**
Asset Quality p-value	0.0019 0.0570	0.0037 0.0010**	0.0036 0.0000***
Liquidity p-value	-0.0006 0.408	0.0009 0.2360	0.0007 0.2890
Fsize p-value	-0.0714 0.0400	-0.0980 0.0600	-0.0842 0.0510*
FinLev p-value	0.0102 0.0000***	0.0103 0.0000***	0.0103 0.0000***
F-Statistic/Wald Statistic p-value	93.07 0.0000***	91.24 0.0000***	666.96 0.0000***
R^2	0.85	0.86	0.86
VIF	1.82		
Heteroscedasticity Test p-value	0.2600 0.6085		
Hausman Test		Prob>chi2	6.34 (0.5010)

Source: Authors' Computation, 2023

In this study, we used REM and FEM to explore the factors that affect a firm's value using dividend payment variables. Previous related research has acknowledged that pooled OLS regression estimates may be inconsistent and biased if there is unobserved heterogeneity across firms (Hsiao, 2007). This is because pooled OLS regressions may produce biased estimators and spurious results. We employed FEM and REM regressions since the data was a panel to account for possible unobserved heterogeneities at the firm level. The FEM and REM models factor in heterogeneity across firms by allowing variable intercepts. The Hausman statistical analysis test determines which of these two models to utilize. It compares the FEM and REM models (Cameron & Trivedi, 2010). The FEM model is favoured by the alternative hypothesis and tested against the null hypothesis, favouring the REM model. If the p-value is not significant, it is safe to use the REM model; otherwise, the FEM model should be used. The results of the Hausman test showed chi2(6) = 6.34 and a p-value of 0.5010, indicating that the REM model was selected over the FEM model. The model, as a whole, is significant in explaining the variation in the dependent variable. The R^2 is 0.86, which illustrates how variations in the independent variables—changes in dividend payment proxies—influence the dependent variable, firm value, by almost 86%.

The dividend payout ratio variable has a coefficient value of 0.0005 and a p-value of 0.1710, which is insignificant. This shows that the dividend payout ratio does not affect the firm's value. The results are consistent with Odum et al. (2019) and Chinnaiah (2020), who postulated that dividend payout ratios are not significant predictors in determining the firm's value. In contrast, while Lumapow and Tumiwa (2017) found dividend payout to negatively and significantly influence the firm's value, Alajekwu et al. (2020) showed that the dividend payout ratio significantly and positively affects the stock market volatility.

The dividend yield variable has a coefficient value of -0.0083 and a p-value of 0.0050, which is negatively and statistically significant at 1%. This shows that dividend yield has a negative and statistically significant effect on a firm's value. The findings of this study are inconsistent with previous empirical results, which suggest that the dividend yield has a positive and significant effect on a firm's value (Khan et al., 2011; Rahman et al., 2012). In contrast, the studies by Ntui et al. (2015), Hooi et al. (2015), Ahmad et al. (2018), and Aroh et al. (2021)

showed that dividend yield and dividend payout negatively and statistically significantly affect the share price (firm's value).

The dividend per share variable has a coefficient value of 0.0527 and a p-value of 0.0260. This indicates that dividend per share positively and significantly affects the firm's value, as regular cash dividend payments can boost investments and increase the firm's value. These findings differ from previous study by Ejem and Ogbonna (2019), which found a positive but insignificant effect of dividends per share on a firm's value. However, other studies by Egolum and Onyeogubalu (2021) and Eryomin et al. (2021) have shown a positive relationship between the independent variable (DPS) and share price.

The bank-specific factors, assets quality and liquidity, have coefficient values of 0.0036 and a p-value of 0.0000, 0.0007 and a p-value of 0.2890, respectively. While the former is positively and statistically significant at 1%, the latter showed a positive and insignificant effect on the firm's value. This result is consistent with the study by Ikpesu and Oke (2022), who found that asset quality measures significantly affect performance components regarding return on assets deposit money banks in Nigeria. On the other hand, Olagunju et al. (2021) found liquidity to negatively and significantly influence the value of earnings per share (EPS) and dividend yield (D/y), while the study of Waitherero et al. (2020) showed that liquidity significantly and positively affects the firm value.

In this study, two control variables, FSIZE and LEV, were analyzed. FSIZE had a coefficient and p-value of -0.0842 (0.0510), while LEV had a coefficient and p-value of 0.0510 (0.0000). Although these variables were not the main focus of the study, including them in the model helped improve the study's internal validity by reducing the effects of other irrelevant variables. The size of a company is a good indicator of its growth, and this growth can positively influence the firm's value as measured by its number of assets. Previous studies have shown a positive correlation between firm size and firm value. However, financial leverage can negatively affect a company's return on assets, as noted by Kipesha and Moshi (2014) and Nguyen and Nguyen (2020). On the other hand, financial leverage can positively affect Islamic banking performance, as measured by return on assets (Rahim et al., 2021).

5.0 Conclusions and Recommendations

This study empirically examined the effect of dividend payments on the value of firms for a sample of twelve (12) Nigerian-listed deposit money banks (DMBs). The study was carried out for ten years (2011-2020). The random-effects model results show that investors positively valued firms that paid higher dividends from 2011- 2020. Our findings suggest that managers can create value by increasing dividends to an optimal level, thus supporting the notion of the relevance proposition and are consistent with the dividend relevance theory. We also found that leverage and firm size positively and negatively affect firm value. Therefore, investors should exhibit care in studying and understanding the dividend policy of firms to guide their investment decisions. The findings from this study would be of immense use to managers, existing and potential investors, and academics.

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