

Product Market Competition and Dividend Payouts of Listed Non-Financial Firms in Nigeria

Olufemi Obembe¹, Joy Imafidon² & Abiodun Adegboye¹

¹ Department of Economics, Faculty of Social Sciences, Obafemi Awolowo University, Ile-Ife, Nigeria

² Department of Management and Accounting, Obafemi Awolowo University, Ile-Ife, Nigeria

Correspondence: Olufemi Obembe, Department of Economics, Obafemi Awolowo University, Ile-Ife, Nigeria.
Tel: 1-234-803-691-6208. Email: f_obembe@yahoo.com

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Abstract

This study sought to examine the impact of product market competition on the dividend payout of non-financial firms listed on the Nigerian Stock Exchange. Data were collected on 76 non-financial firms for 11 years covering 1997–2007 and were analyzed using pooled OLS regression method with robust standard errors. Product market competition was measured by the reciprocal of market power. Our results showed that market power had a positive and significant impact on dividend payment suggesting that product market competition impact negatively on dividend payout of firms in Nigeria. Other factors that significantly and positively influenced dividend payment include profitability and size of firms while firms classified in the manufacturing sub-sector of the exchange paid significantly higher dividends than firms in the commercials and services' sub-sectors. Finally firms that were financially constrained were found to pay significantly lower dividends compared with firms without financial constraints suggesting that Cash flow had a significant impact on dividend payout of firms in Nigeria.

Keywords: non-financial firms, Nigerian Stock Exchange, OLS regression method

1. Introduction/Background

The issue of determinants of dividend payments by firms has been one of the most researched topics in financial economics, this is because despite the many theoretical and empirical insights provided by several authors, factors determining dividend payments still remains a puzzling one as there has not been any unanimous agreement among researchers on specific factors that determine dividend payments. The search for the factors influencing dividend payments is underscored by the assertion that the shareholders' wealth is affected by dividend payout ratio. Hence, there is a need to determine the optimal dividend payout ratio that maximizes shareholders' wealth. Miller and Modigliani (1961) were however the first to dismiss the argument that dividend payout ratio has a correlation with firm value. They argued that dividend payment was purely a financial decision in which firms considered dividend payment after projects with positive Net Present Value (NPV) have been given due consideration for financing while funds remaining thereafter were paid as dividends. According to Miller and Modigliani (1961), the value of the firm is solely determined by the earning power of the firm's asset, or its investment policy, while the allocation of funds between dividend payout and retention does not influence shareholders' wealth in any way.

Several researchers reacted to this assertion by pointing out that dividend payments indeed could affect shareholders' wealth. They argued that under conditions of uncertainty which was assumed away by Miller and Modigliani, certain factors could cause dividend payments to affect the value of the firm (Lintner, 1956; Gordon, 1959, 1962). For instance, payment of dividends was believed to resolve some uncertainties as regards profitability of firms. The incentive that enables shareholders to wait for share appreciation at future distant time is the dividends that are paid in the current period. Thus, shareholders were believed to be willing to offer higher prices to purchase shares of firms that are paying dividends rather than the non-paying ones. Moreover, dividend payout is believed to act as a financial signaling device to shareholders (Bhattacharya, 1979). This argument was based on the fact that existing accounting information was inadequate at communicating the true nature of the profitability of a firm, hence, when a firm announces dividend payments over and above previous payouts, share prices were expected to react favourably to this occurrence.

In line with the above observations, several studies around the world have tried to provide explanations on determinants of dividend payout of firms. Lintner (1956) in his leading study of the developed markets argued that firms pursued a targeted policy with the help of current earnings and previous dividends. Miller and Scholes (1982) argued that dividend payments were motivated more by high taxes on dividends than capital gains and market imperfections, while Alli et al. (1993) lent their support to the financial signaling effect of dividend payments. Some studies have focused on many other factors such as earnings, leverage, cash, sales, return on earnings, returns on assets, ownership structure (see Myers, 2004; Eriotis, 2005; Kumar, 2006; Han et al., 1999; Rozeff, 1982. etc).

Research into the determinants of dividend payments in Nigeria has followed a similar tradition, with the pioneering study of Uzoaga and Alozieva (1974) that attributed dividend payments to fear and resentment as against the classical factors as modeled by Lintner (1956). In addition, Inanga (1975) and Soyode (1975) examined factors determining dividend payment which was also implemented along the line of Uzoaga and Alozieva (1974) where conventional and non-conventional factors including excess liquidity and the pricing policy of the capital issues commission were considered. However, Oyejide (1976) criticized these works on the grounds that they did not recognize the fundamental determinants of dividend payout as enunciated in the Lintner Model and consequently incorporated these factors thereby causing them to acknowledge that dividend payout was indeed influenced by the classical factors of dividend policy. Other studies from Nigeria has basically focused on the role of financial factors as it affects dividend payments, these studies include; Izedonmi and Eriki (1996) and Adelegan (2003) Musa (2005, 2009) Ihejirika and Nwakanma (2012) Olowe et al. (2011).

One major gap arising from the review of literature from Nigeria is the absence of recognition of the role played by product market competition in influencing dividend payments. Product market competition serves to reduce managerial opportunism and in this sense brings into alignment the interest of shareholders and managers. (see, for example, Hart, 1983; Scharfstein, 1988; Raith, 2003). It is argued that product market competition forces managers to disgorge cash in order to reduce the risk and cost associated with over-investment. In highly competitive markets, overinvestment in projects with negative present value depreciates the competitiveness of firms thereby making the firm vulnerable to untimely exit from the market. More so, the performance of firms in highly competitive markets can easily be benchmarked against performance of other firms in a similar industry thereby increasing the degree of exposure of abuses of discretionary power of managers to invest or distribute excess cash. Hence, managers of firms in competitive industry are expected to avoid overinvestment so as to avoid bankruptcy and loss of jobs. (Grullon & Michaely, 2008).

The study of the role of product market competition on dividend payments in Nigeria is motivated by the fact that the country's corporate governance environment has been found to be weak (Obembe et al., 2010; Adenikinju & Ayorinde, 2001; Ahamadu Sanda et al., 2005), hence the abuse of the discretionary power of managers to allocate funds to projects with negative NPV cannot be unexpected. Moreover, the deregulation of the Nigerian economy in 1986 has clearly provided a role for product market competition in influencing managerial decisions which has not been well documented.

Having presented the introduction, the remaining part of this paper is presented as follows. Section two focuses on the theoretical framework and literature review, section three presents the methodology, while section four presents the results and section five concludes with recommendations.

2. Theoretical Framework and Literature Review

2.1 Theoretical Framework

The link between product market competition and dividend payouts has been established in the literature. First, product market competition provides an incentive effect for managers to act efficiently in the management of firms. For instance, the ability of managers to disgorge cash to shareholders is anchored on some factors that includes; stricter investor's protection laws (LLSV, 2000), tighter regulatory control (Michaely & Roberts, 2012) or product market competition. Firms operating in highly competitive markets are expected to pay more cash dividends to their shareholders because they are more susceptible to market discipline when mismanagement of firm's resources are noticed. (see, for example, Schmidt, 1997; Aghion et al., 1999). In order to avoid liquidation, loss of bonuses associated with stock price performance and loss of managerial jobs, managers in more competitive markets are therefore assumed to pay more dividends thereby limiting over-investment in projects with poor valuation.

There are two implications emanating from the incentive view of product market competition and dividend payouts. The first is that a negative relationship is expected between concentration and dividend payout while the second implication is that, firms in highly competitive markets are supposed to pay more dividends than firms in

less competitive markets.

2.2 Empirical Literature

Most of the empirical works on the role of product market competition are concentrated in the developed capital markets, while studies from developing countries are quite limited. Hence, most of the studies reviewed here were initiated in the US and Japan.

Grullon and Michaely (2008) tested the product market competition hypothesis among 3,512 manufacturing firms in the US from 1972–2006. Herfindahl index was used to measure the level of competition and the results show that firms in more concentrated industries were found with significantly lower payout ratio than firms in less concentrated markets. The study also confirmed that the negative relationship found between concentration levels and payout ratios was much stronger in firms with high agency costs of free cash flow that are less likely to be candidates for predation.

Booth and Zhou (2009) however observed a downward trend in dividend payments among firms in the US and also noticed that the structure of firms within the previous two decades had become much more competitive thereby raising their curiosity as to whether the findings of Grullon and Michaely (2008) were in line with high rate of dividend omission among the firms. An unbalanced panel of 27,520 firm years covering 1972–2002 was assembled and was analyzed by observing the probability of paying dividends and the quantity of dividends paid. Market structure was measured by three indices of market power which include; Herfindahl index, level of import penetration and Lerner index. Their result showed that market power had a positive impact on dividend payment both in terms of probability of paying and the amount of dividend paid. The study concluded that firms with market power were able to pay dividend on account of the fact that they were faced with less business risk compared to firms operating in more competitive markets. The study affirmed that their finding which was based on risk-based analysis was more consistent with existing evidence both over time and across firms.

In a study of 2,008 Japanese firms where Wen He (2011) sought to examine whether product market competition reduces agency problems between controlling shareholders and minority shareholders, it was established that firms in more competitive industries pay more dividends, and were likely to increase dividends and also, less likely to omit dividends payments. Hence, the study confirmed that intense product market competition had a positive impact on dividend payouts. In this case, competition may have performed an effective disciplinary function.

Hoberg et al. (2010) also examined whether a firm that produce products that are not similar to its competitors and operates in markets that are more protected from its rivals pays a higher dividend in the US. The study found that firms with differentiated products that operate in locally concentrated markets are more likely to pay dividends and repurchase shares.

Conclusions from the above studies points to the fact that competition can impact dividend payout positively or negatively as established by studies emanating from the US. Since most of these studies are however concentrated in the developed markets with strong institutions, an understanding of how this plays out in the developing economy especially Nigeria would shed more light at understanding determinants of dividend payment.

3. Data and Methodology

3.1 Sample Selection

Seventy six firms (76) are represented in this study. These firms were selected purely on the basis of data availability covering 11 years from 1996 to 2007. Extending the year of coverage beyond 2007 would lead to exit of some firms and inclusion of new firms whose database starts around 2006/2007. Hence, for the sake of convenience permitted by our data, we focused on 76 firms covering 11 years. Data collected include dividend payout ratio, product market competition, sales, assets, equity, profit margin, and return on investment (ROI). The data collected were from the annual reports of the companies submitted to the Nigerian Stock Exchange (NSE) while the African Financials website offers a useful alternative where data points were missing.

3.2 Measurement of Variables

3.2.1 Measuring Dividend Payout Ratio

Dividend payout refers to the proportion of total net earnings paid out to shareholders. Some studies have used dividend per share as a measure of payout, but the nature of our study is such that we are interested in cash dividend paid going by the theoretical postulation which assumed that agency problem could exercise an influence. Following the works of Rozeff (1982), Lloyd et al. (1985), Jensen et al. (1992), Dempsey and Laber

1992), Mollah et al. (2002), Manos (2002), Wen He (2011) Al-Kuwari (2009), our dividend payout is measured by cash dividend scaled by lagged value of net income (DIV/PAT), cash dividend scaled by lagged value of total sales (DIV/LTS) and cash dividends scaled by lagged value of total assets (DIV/LTA).

3.2.2 Product Market Competition

Most studies initiated especially from developed countries (Aggarwal & Samwick, 1999; Allayanis & Ihrig, 2001, Campello, 2006; Mackay & Phillips, 2005; Grullon & Michaely, 2012) have measured product market competition by using the Herfindal-Hirschman Index (HHI) computed by the Census of Manufacturers in the United States. This census calculates this index by summing up the squares of the individual market shares for the 50 largest shares in the industry and where the firms operating in the industry were not up to 50, the shares of all of them were added together. We would not be able to use this measure for Nigeria due to the fact that not all firms operating in a particular industry are quoted on the Nigerian Stock Exchange while information on those firms not listed on the exchange are not available, hence, using HHI in Nigeria may not be accurate. However, based on the number of firms operating in the exchange, we can calculate the market share using the market capitalization which gives some indication of the strength of each firm in the market.

$$\text{Market Share} = \frac{\text{Market Capitalization of firm}_i}{\text{Industry Capitalization}}$$

This formula leads us to formulate the hypothesis which states that the higher the market share the lower the dividend payout:

Furthermore, some other studies have used rents as an indication of product market competition. Rent is defined as the ratio of value added minus material costs to value added. This is given as follows

$$\text{RENT} = \frac{\text{Value added} - \text{Capital costs}}{\text{Value added}}$$

This measure is interpreted to mean an ex-post measure of market power in which firms operating in less competitive markets are expected to possess the ability to elevate prices above marginal cost thereby earning higher rents after covering their expenses. This measure was used by Januszewski et al. (1999), Nickel (1996), Nickel et al. (1997), Koke (2001). Value added was approximated as Sales minus material costs, while capital costs is defined as $r_t^k = \delta + r_t$, where δ is the depreciation rate fixed at 7% while r_t is the risk free rate of interest which was taken to be the treasury bills rate in Nigeria. We expect a negative relationship between this variable and dividend payout if competition exists in the market.

We have also incorporated another measure of competition based on the Lerner index which measures the extent of distance between price and marginal cost. This is given as:

$$\text{PCM} = \frac{\text{Price} - \text{Marginal Costs}}{\text{Price}}$$

This is approximated by price-cost margin defined as operating profit (before depreciation, special items, interest and taxes) over sales (Booth & Zhou, 2009). The numerator was defined as sales minus cost of goods sold minus selling, general and administrative expenses, (Gasper & Massa, 2006). In our data, most of the firms did not have a well defined distinction of the cost variables as identified in this formula, hence, we approximated the Lerner index as:

$$\text{Lerner Index} = \frac{\text{Sales} - \text{Cost of Goods Sold}}{\text{Sales}}$$

The higher the price cost margin, the higher the degree of monopoly power enjoyed by the firm in question. Thus using rents and PCM, we expect that firms with higher market power will pay lower dividends compared with firms having lower market power. Similarly, we expect a negative relationship between Lerner index and dividend payout. In cases where the numerator turned out to be negative, we reduce the value to zero.

Hence, using these three measures of competition, market share, rent and Lerner index, their reciprocal thus would indicate competition level in the industry. Our first hypothesis can thus be specified as:

Hypothesis 1: Competition has no significant impact on dividend payout of firms in Nigerian Stock Exchange.

3.3 Control Variables

A literature search suggests that the following factors are germane to dividend payout of firms. These include;

Profitability, Leverage, Growth opportunities, Total assets, Maturity, Life-cycle stage and cash flow.

3.3.1 Profitability

Several studies both in developed and developing countries have documented the positive impact of profitability on dividend payout. Linter (1956) and Baker et al. (1985) argued that dividend payout of firms were influenced by current earnings and the previous year dividends. Pruitt and Gitman (1991) also established that current and previous year's profit significantly influences dividend payment. Therefore, in this study, we are incorporating profitability which is measured by return on assets (ROA) in our model for analysis. Hence, our hypothesis specified in null form is as follows:

Hypothesis 2: Profitability has no significant impact on dividend payout of firms in Nigerian Stock Exchange.

3.3.2 Leverage

The ratio of debt to total equity, or asset has been found by several studies to influence dividend payments. It was argued that firms that are highly geared are very much careful in managing their internal cash flow so as to meet up with their financial obligations (Jensen et al., 1992; Agrawal & Jayaraman, 1994; Al-Malkawi, 2005). Rozeff (1982) Lloyd et al. (1985) and Collins et al. (1996) established a negative relationship between leverage and dividend payout of firms. Although a conflicting result was obtained by Dhillon (1986) in which case, leverage and dividend payouts had a negative relationship while in some other industries they recorded a positive relationship. Major findings suggest that highly geared firms will pay dividends at a lower rate. Our third hypothesis therefore is specified as follows:

Hypothesis 3: Leverage has no significant impact on dividend payout of firms in Nigerian Stock Exchange.

3.3.3 Growth Opportunities

Several explanations have been put forward to explain the relationship between growth opportunities and dividend payouts. One of such explanations maintained that a firm with high growth opportunities and large investment projects would tend to conserve cash to finance such opportunities rather than going to borrow from capital market with its high cost of financing. On the other hand, firms with lower growth opportunities with few investment projects disgorge cash so as to discourage managers from investing in projects with negative cash flows (Jensen, 1986; Lang & Litzenberger, 1989; Al-Malkawi, 2007). This suggests that a negative relationship is expected between growth opportunities and dividend payments to satisfy the first explanation while a positive relationship is expected for the second explanation.

Hypothesis 4: Growth opportunities have no significant impact on dividend payout of firms in Nigerian Stock Exchange.

3.3.4 Size of the Firms (Total Assets)

Large firms have been adjudged to distribute a significant proportion of their earnings as cash dividends (Eddy & Seifert, 1988; Jensen et al., 1992; Redding, 1997; Fama & French, 2000). Large firms are believed to be highly prone to agency costs and hence payment of dividend is seen as a way of reducing such costs. More over it is believed that asymmetric information exists between large firms and their shareholders thereby compounding the problem of monitoring. Hence, a large dividend payout is seen as a way of reducing such asymmetric information in the sense that when large dividends are paid out, the firms naturally will resort to external borrowing which makes them susceptible to creditor control (Sawicki, 2005).

Furthermore, a large firm was deemed to pay larger dividends on account of the fact that they enjoy easy access to the capital market as at when due at a lower cost. Hence, it is hypothesized that the bigger the size of the firm, the higher the cash dividend paid. Several studies have documented this hypothesis (Eddy & Seifert, 1988; Jensen et al., 1992; Redding, 1997; Holder et al., 1998; Fama & French, 2000; Manos, 2002; Mollah, 2002; Al-Malkawi, 2007), hence a positive relationship between size and dividend payments is expected. In our study, we measure size by total assets.

Hypothesis 5: Firm size measured by total asset has no significant impact on dividend payout of firms in Nigerian Stock Exchange.

3.3.5 Life Cycle

The life-cycle hypothesis enunciated by Fam and French (2001), Grullon et al. (2002) and DeAngelo et al. (2006) observed that dividend payments can be influenced by the tradeoff between the advantages and disadvantages of retained earnings. A firm in the early stage of profitability would have several investment opportunities with little opportunity to generate cash from within; hence, the firm would tend to retain as much cash as possible pending

the time it can pay dividends on a sustainable basis. Life-cycle theory hence suggests that firms at a later stage of their lives would have exhausted their positive investment outlets and thus pays any excess cash as dividends to the shareholders. It is expected that life-cycle stage will have a positive impact on dividend payouts. However, in a study conducted by Ihejirika and Nwakanma (2012), a negative and significant impact of life-cycle effect on dividend payout was recorded. This study however, adopts another variable to test the life-cycle effect which is age of the firm. The older the firm, the less investment opportunities is expected to have and hence, any excess cash can easily be paid to shareholders. Hence, a positive relationship is expected between age and dividend payout of firms in Nigeria.

Hypothesis 6: Life cycle effect has no significant impact on dividend payout of firms in Nigerian Stock Exchange.

3.3.6 Cash Flow

There are two perspectives through which cash flow can influence dividend payments as explained by Jensen (1986), Berle and Means (1932). First, from the shareholders perspectives, the existence of free cash flow in the business can be used by the management on projects with negative NPV, and hence shareholders would want as much as possible management to disgorge the cash as dividends, hence financial needs for investment is expected to be met by the capital market where external creditors can exercise control on the activities of the management.

On the other hand, when a firm is undergoing financial constraints, it is argued that such firms will tend to accumulate cash and retain much of the earnings from current profits. This is with a view to meeting the financial needs of the company from internal sources. Hence, financial constrained firms are expected to pay less dividends. In this study, we have measured cash flow by financial constraint in which case, firms with negative profit after tax were represented by a dummy variable 1, and zero otherwise (Nickel, 1996; Nickel et al., 1997). Hence, financial constraint is expected to have a negative impact on dividend payout of firms in Nigeria.

Hypothesis 7: Cash flow has no significant impact on dividend payout of firms in Nigerian Stock Exchange.

3.4 Model Specification

In line with the above review of relevant theories and literature, our model is specified as follows:

$$DPR_{it} = \beta_0 + \beta_1 COMP_{i,t} + \beta_2 Lev_{i,t} + \beta_3 Prof_{i,t} + \beta_4 Growth_{i,t} + \beta_5 Size_{i,t} + \beta_6 LCY_{i,t} + \beta_7 CFL_{i,t} + \beta_8 INDC_{i,t} + \varepsilon \quad (1)$$

DPR_{it} = Dividend Payout Ratio;

Lev_{it} = Leverage;

$Prof_{it}$ = Profitability;

$Growth_{it}$ = Growth Opportunities;

$Size_{it}$ = Log of total asset;

LCY_{it} = Life-Cycle Stage;

$COMP_{it}$ = Competition;

$INDC_{it}$ = Industrial Classification.

The Nigerian Stock Exchange classified the industries in the capital market into some broad sectors which include; Manufacturing, Commercials and Services. Hence, all the firms operating in the non-financial sector were broadly categorized into the three sub-sectors.

3.5 Measurement of Variables

3.5.1 Dividends Payment is Measured by Three Variables

$$1) \frac{\text{Cash dividend}_t}{\text{Total Assets}_{t-1}}$$

$$2) \frac{\text{Cash dividend}_t}{\text{Turnover}_{t-1}}$$

$$3) \frac{\text{Cash dividend}_t}{\text{Profit After Tax}_{t-1}}$$

$$1). \text{Leverage} = \frac{\text{Total Debt}_t}{\text{Total Asset}_t}$$

$$2). \text{Profitability} = \text{Return on Assets} = \frac{\text{PAT}}{\text{Total Assets}_t}$$

- 3). Growth Opportunities = $TBQ = \frac{\text{Market Value of Equity}}{\text{Book Value of Equity}}$;
- 4). Size = Logarithm of Total Assets;
- 5). Life Cycle Effect = Age of firms;
- 6). Cashflow = 1 for financial constraint and zero otherwise;
- 7). Competition = market share, Lerner Index and Rent, as measured above.

4. Results and Interpretation

4.1 Descriptive Statistics

The result of the descriptive statistics is presented in table 1. From the table, the mean of dividend payout in relation to total assets of the companies was 3.8 per cent, while it was 3.7 per cent of the total turnover. However, when related the dividend payout to profit after tax, the mean rose to 38.9 per cent. This result indicates that a greater proportion of the firm earnings were retained in the business when we relate this to the ratio of total assets and sales. The ratio of debt to total assets amounted to 80.9 per cent which indicates a high level of leverage.

Table 1. Summary statistics

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
Leverage	836	0.8089	1.2176	0.0000	29.5950
Market share	836	0.2300	0.2628	0.0010	2.3970
Lerner Index	836	0.2725	0.2277	0.0000	0.9800
Rent	836	0.5445	0.4766	0.0000	8.9660
Return on asset (ROA)	836	0.1046	0.0922	0.000	1.0146
Growth opportunities	836	2.2054	4.3391	0.0453	53.4902
Total asset	836	7158.6	13015.5	16.000	1490
Age	836	38.7763	13.1864	1.0000	80.000
dividend/assets	836	0.0383	0.0664	0.0000	0.7089
Dividend/PAT	836	0.3891	0.7682	0.0000	12.013
Dividend/Turnover	836	0.0373	0.0822	0.0000	1.2782
Life-cycle	836	1.1210	2.6284	0.0000	45.7294
Cash flow	836	0.5238	0.6454	0.0000	7.8850

Note. This table reports descriptive statistics for firms with 836 firm-year observations of listed non-financial firms in Nigeria. The variables Market share, Lerner Index and Rent have been used to measure product market competition, while dividend payout ratio has been measured with three variables dividend/asset, dividend/PAT and dividend/turnover.

The mean of the market share is 23.0 per cent while that of Lerner index is 27.3 per cent. However, looking at the standard deviation and the dispersion between minimum and maximum spread, firms in the market have a very great dispersion in terms of market share and in terms of Lerner index. The rent variable which indicates the extent to which the firms can earn rent is 54.5 per cent with a standard deviation of 47.8 per cent. The mean profitability of the firm measured by ROA is 10.5 per cent with a standard deviation of 9.2 percent.

Table 2. Pooled OLS regression analysis to examine the effect of product market competition on dividend payout ratio of firms

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Diva	Divs	divp	Diva	divs	divp	Diva	divs	divp
Leverage	-0.0027 (0.0019)	-0.0043 (0.0030)	-0.0047 (0.0101)	-0.0028 (0.0019)	-0.0045 (0.0030)	-0.0060 (0.0101)	-0.0028 (0.0019)	-0.0047 (0.0032)	-0.0057 (0.0099)
Profitability	0.2208** (0.0489)	0.1057** (0.0362)	0.1759 (0.2819)	0.2205** (0.0485)	0.1043** (0.0340)	0.2161 (0.2700)	0.2247** (0.0486)	0.1197** (0.0336)	0.2117 (0.2648)
Growth Opportunities	0.0017 (0.0009)	0.0001 (0.0004)	0.0034 (0.0045)	0.0018 (0.0009)	0.0006 (0.0005)	0.0049 (0.0049)	0.0018 (0.0009)	0.0006 (0.0005)	0.0048 (0.0049)
Firm size (Log of Asset)	0.0051** (0.0014)	0.0016 (0.0016)	0.0419** (0.0108)	0.0060** (0.0014)	0.0048** (0.0016)	0.0524** (0.0132)	0.0059** (0.0014)	0.0042** (0.0016)	0.0523** (0.0130)

Life-Cycle (Age)	0.0003 (0.0001)	-0.0004 (0.0003)	0.0032 (0.0018)	0.0002 (0.0001)	-0.0005 (0.0003)	0.0026 (0.0018)	0.0002 (0.0001)	-0.0006 (0.0003)	0.0025 (0.0016)
Cash flow (constraint)	-0.0172** (0.0047)	-0.0233** (0.0054)	-0.1917 (0.0714)	-0.0186** (0.0046)	-0.0281** (0.0056)	-0.2021** (0.0733)	-0.0179** (0.0046)	-0.0256** (0.0055)	-0.2003** (0.0729)
Market Share	0.0149* (0.0076)	0.0526** (0.0126)	0.2024 (0.1126)						
Lerner Index				0.0132 (0.0088)	0.0482** (0.0132)	0.0266 (0.1127)			
Rent							-0.0005 (0.0035)	-0.0023 (0.0043)	0.0175 (0.0392)
Constant	-0.0357* (0.0143)	0.0271 (0.0169)	-0.0852 (0.1059)	-0.0417** (0.0153)	0.0055 (0.0173)	-0.1084 (0.1227)	-0.0364* (0.0148)	0.0247 (0.0176)	-0.1063 (0.1153)
N	832	832	832	832	832	832	832	832	832
R²	0.21	0.09	0.04	0.21	0.09	0.04	0.21	0.07	0.04

4.2 Econometric Results

The econometric results are presented in tables 2 and 3 in the appendix. Table 2 presents the results without accounting for the industrial classification of the firms, while table 3 accounted for the classification. The first three models in the above mentioned tables incorporated market share as a measure of competition to test the three alternative definitions of dividend payments while models 4 to 6 incorporates the Lerner index as an alternative definition of competition while the last three models—7 to 9 considered the role of rent. The three measures of competition are expected to carry a negative sign if competition has a positive impact on dividend payout of the firms.

Table 3. Pooled OLS regression analysis to examine the effect of product market competition on dividend payout ratio of firms

	(1) Diva	(2) Divs	(3) Divp	(4) Diva	(5) divs	(6) divp	(7) diva	(8) Divs	(9) Divp
Leverage	-0.0024 (0.0016)	-0.0040 (0.0027)	-0.0049 (0.0106)	-0.0026 (0.0017)	-0.0040 (0.0027)	-0.0047 (0.0102)	-0.0026 (0.0018)	-0.0044 (0.0031)	-0.0048 (0.0104)
Profitability	0.2157** (0.0476)	0.1001 (0.0351)	0.1794 (0.2931)	0.2173** (0.0483)	0.0973** (0.0354)	0.1770 (0.2882)	0.2201** (0.0482)	0.1065 (0.0370)	0.1768 (0.2845)
Growth Opportunities	0.0016 (0.0009)	0.0001 (0.0004)	0.0034 (0.0045)	0.0017 (0.0009)	0.0002 (0.0004)	0.0033 (0.0044)	0.0016 (0.0009)	0.0002 (0.0004)	0.0035 (0.0045)
Firm size (Log of Asset)	0.0056** (0.0015)	0.0021 (0.0017)	0.0416** (0.0116)	0.0059** (0.0016)	0.0034** (0.0017)	0.0417** (0.0127)	0.0047** (0.0015)	0.0021 (0.0015)	0.0425** (0.0117)
Life-Cycle (Age)	0.0003* (0.0001)	-0.0004 (0.0003)	0.0031 (0.0019)	0.0003* (0.0002)	-0.0003 (0.0003)	0.0031 (0.0020)	0.0002 (0.0001)	-0.0004 (0.0003)	0.0032 (0.0019)
Cash flow (constraint)	-0.0174** (0.0045)	-0.0234** (0.0053)	-0.1916** (0.0719)	-0.0173 (0.0046)	-0.0235** (0.0054)	-0.1917** (0.0713)	-0.0173** (0.0046)	-0.0232** (0.0055)	-0.1917** (0.0718)
Market Share	0.0166* (0.0077)	0.0544** (0.0125)	0.2012 (0.1189)	0.0135 (0.0076)	0.0492** (0.0124)	0.2028 (0.1078)	0.0183 (0.0082)	0.0492** (0.0113)	0.1979 (0.1310)
Manufacturing	0.0104* (0.0043)	0.0116* (0.0055)	-0.0071 (0.0650)						
Commercial				-0.0084 (0.0050)	-0.0200** (0.0046)	0.0026 (0.0685)			
Services							-0.0104* (0.0049)	0.0103 (0.0099)	0.0134 (0.1393)
Constant	-0.0470** (0.0162)	0.0146 (0.0182)	-0.0775 (0.1369)	-0.0401** (0.0155)	0.0166 (0.0167)	-0.0838 (0.1250)	-0.0311* (0.0149)	0.0225 (0.00169)	-0.0911 (0.1326)
N	832	832	832	832	832	832	832	832	832
R²	0.22	0.10	0.04	0.21	0.10	0.04	0.21	0.09	0.04

Payout was measured by three variables which include the ratio of cash dividend to total asset (diva), ratio of cash dividend to sales (divs) and ratio of cash dividend to profit after tax (divp). The Pooled OLS regression was

run on 76 non-financial firms correcting for heteroschedasticity. The measures of competition were also used which include market share, Lerner index and rent. The first measure of competition was reported in columns 1 to 3, while the second measure was reported in columns 4 to 6. The last three columns contain report of rent. This table did not account for the industry classification.

Payout was measured by three variables which include the ratio of cash dividend to total asset (diva), ratio of cash dividend to sales (divs) and ratio of cash divided to profit after tax (divp). The Pooled OLS regression was run on 76 non-financial firms correcting for heteroschedasticity. The measures of competition were also used which include market share, Lerner index and rent. The first measure of competition was reported in columns 1 to 3, while the second measure was reported in columns 4 to 6. The last three columns contain report of rent. This accounts for industry classification.

Leverage is expected to have a negative relationship with dividend payout of firms and this is well established in all our specifications reported in tables 2 and 3. In all our specifications, leverage was found to exercise a negative impact on dividend payout of firms in Nigeria. However, none of our specification was statistically significant. Our result does not support findings by Rozeff (1982), Lloyd et al. (1985) and Collins et al. (1986). Furthermore, our study is in line with findings by Ihejirika and Nwakanma (2012) from Nigeria. Hence, we accept the null hypothesis as stated in hypothesis 2 that leverage has no significant impact on dividend payout of firms in Nigeria. This result may have been influenced by the fact that most of the firms quoted on the stock exchange are relatively bigger than the unquoted ones thus conferring on them financial economy advantages especially when raising funds from the capital market thus minimizing the effect of leverage on dividend payout.

Profitability plays a significant role in dividend payout of firms in Nigeria. Profitability measured by Returns on Assets (ROA) had a positive and statistically significant impact on dividend payout of firms in almost all the models except when payment was measured as the ratio of cash divided to sales. When the models accounted for industrial classification as reported in table 3, the results was unaffected, hence our result supports previous findings which affirmed that dividend-payout is a function of current earnings (Jensen, 1999; Fama & French, 2001; Adaoglu, 2000; Pandey, 2001; Wang et al., 2002; Al-Malkawi, 2005). This goes to further confirm findings of authors from Nigeria such as Olowe et al. (2011), Adelegan (2003), Musa (2009). This indicates that stability or smoothness of dividend payment is of less importance in the Nigerian non-financial sector. Hence, we reject the null hypothesis as specified in hypothesis 3 that profitability has no significant impact on dividend payout in Nigeria.

The effect of growth opportunities on dividend payout of firms was found to be positive but not significant in all our specifications both in tables 2 and 3. This result does not support the theoretical postulate which states that as long as firms have bright investment opportunities, cash would be retained in the business in order to finance such opportunities. Jensen (1986) however observed that mature firms with positive expected growth opportunities were in a position to pay more dividends, moreover, Yeung (2005) explained that payment of dividends by companies is a signal that the company is enjoying good governance regime which may influence the share price of the firms positively in the capital market (Fairchild, 2010). But much more than that, the ease of access to the capital market may have diminished the importance of growth opportunities on dividend payments in Nigeria. Our study however did not support findings from Musa (2009) in which investment was found with negative but insignificant impact on dividend payment in Nigeria. However, in that study, investment was measured by capital expenditure per share, while our own study made use of the Tobin's Q, this may have accounted for the different results. We hence reject the fourth hypothesis that growth opportunities do not have any significant effect on dividend payout of firms in Nigeria.

Furthermore, the size of measured by the logarithm of total assets was found to exercise a positive and significant impact on dividend payouts. It could be established that the bigger the firm, the more the payouts. Indeed, our study has also authenticated the role of size on dividend payments in Nigeria as enunciated by previous findings all around the world. These studies include, Eddy and Siefert (1988), Jensen et al. (1992), Holder et al. (1998) Fama and French (2000), Manos (2002), Mollah (2002), Travlos et al. (2002), Al-Malkawi (2009). However, findings from Nigeria except Ihejirika and Nwakanma (2012) did not provide support for firm size as a determinant of dividend payout as enunciated by Musa (2009) and Adelegan (2003). Several explanations were provided for the positive relationship between firm size and dividend payout and these include reduction of agency costs arising from the large size of the firm and coupled with the fact that ownership is widely dispersed (Jensen & Meckling, 1976; Lloyed et al., 1985). Moreover, the need for monitoring executives by external creditors has made size to exercise positive impact on dividend payment. Perhaps the most important reason for the role of size on payouts in the context of Nigeria may be that the size of the large firms gives them leverage over the smaller ones in obtaining finance at cheaper rates from the capital market thereby putting the

big firms at a vantage position in disgorging more cash dividends (Holder et al., 1998). Hence we reject our fifth hypothesis that size has no significant impact on dividend payout in Nigeria.

The life-cycle effect which was the main focus of Ihejirika and Nwakanma (2012) was tested in this study by using the age of the firm as against the Price-Earnings Ratio used by the previous study. Afza (2011) observed that in countries where market prices are vulnerable to political and macroeconomic fluctuations, the use of Price/Earnings ratio may produce a biased estimate. Our result show that life cycle effect impact negatively on dividend payout of firms as reported in table 2, however, when we accounted for industry classification as reported in table 3, a positive and significant impact on dividend payment was recorded especially when we measured payouts by the ratio of cash dividend to total assets. Our result is in line with theoretical expectation which observed that the older a firm becomes, the lower would be its investment opportunities and the higher would be its dividend payout ratio (DeAngelo et al., 2006). Hence, we reject the sixth hypothesis which stipulates that life-cycle effect does not have any significant impact on dividend payouts in Nigeria. Our results also did not support findings by Ihejirika and Nwakanma (2012) that reported a negative relationship between life-cycle and dividend payouts. However, our measurement of life-cycle was quite different from that adopted by them which may have caused the discrepancy.

Most studies have tried to verify the claim by Jensen (1986), and that of Berle and Jensen (1932) that cash flow has a positive relationship with dividend payments. In these kinds of studies, where firms have excess cash flow, it is assumed that if such cash were not paid as dividends, it could be frittered away on projects with negative NPV and hence, shareholders would expect the excess cash to be paid while they look to capital market for financing of their investment projects (Jensen, 1986; Holder et al., 1998; La Porta et al., 2000; Mollah et al., 2002). These hypotheses have also been confirmed by authors from Nigeria (Adelegan, 2003; Musa, 2005).

Our study takes a different look at the issue of cash flow by investigating whether financial constrained firms were able to pay dividends as enunciated by Jensen (1986), Berle and Means (1932). Financial constrained firms were those with negative profit after tax and thus represented by a dummy variable, one and zero otherwise. Our result showed that financial constraint limits the ability of firms to pay dividends. This is in line with theoretical expectation which stipulates that as firms go through financial constraints, they tend to conserve cash as much as possible to meet their investment needs which hence reduces the quantity of cash paid as dividends. This result necessarily indicates that cash flow has a positive impact on dividend payout of firms which also supports findings from previous studies.

Competition, our major concern in this study was operationalized with three variables, market share, Lerner index and Rent. Our results showed that market share as a measure of competition seems to perform much better than the other two variables. Market share was found to exert a positive impact on dividend payments in all its three specifications which was contrary to theoretical expectation and findings from Grullo and Michaely (2008) for the US firms. On the contrary, our result seems to document that market power has a positive impact on dividend payment which is rather in agreement with the findings of Booth and Zhou (2009) for the US in which firms in less competitive markets were found to pay more dividends than firms in more competitive markets. Our result showed that as market power increased by 1 per cent, dividend payout ratio increased by 1.5 per cent using cash dividend as a ratio of total assets as the dependent variable, while it increased marginally to 1.7 per cent when we accounted for industry classification in table 3.

Finally, industrial classification also played a significant role in explaining dividend payment. In table 3, our results show that firms in the manufacturing sub-sector of the stock exchange pay more dividends than firms in the other sectors and this was significant at 10 per cent level of significance, so likewise firms in the services sector.

5. Summary Recommendations and Conclusions

This study was initiated to examine the role of product market competition on dividend payout of non-financial firms in the Nigerian Stock Exchange. Competition, measured by three variables, market share, rent and Lerner index shows that dividend payment was positively influenced by the existence of monopoly power. These results suggest that the monopoly power possessed by the firms on account of their size in the industry could have enabled the firm to earn some abnormal profits which enhances their ability to pay dividends. The implication of this therefore is that competition had a negative impact on dividend payout of firms in Nigeria. Other factors that influenced dividend payment during the study period include the profitability of the firm which implies that firms do not necessarily pursue a stable dividend policy, but are much more influenced by their current earnings. The life cycle hypothesis was confirmed by this study for Nigeria, where a positive relationship between age and dividend payment was recorded, this result was contrary to what Ihejirika and Nwakanma (2012) had earlier

reported for Nigeria, although they used a different measure for life-cycle and also a different methodology for their work. Moreover, growth opportunity was found to exercise a positive impact on dividend payment.

Furthermore, cash flow measured by financial constraints was found to exercise a negative and significant impact on dividend payout of firms in Nigeria. Leverage was found to exercise a negative but not significant impact on dividends. This study has contributed to knowledge in the study of determinant of dividend payouts in Nigeria by establishing that product market competition impacts negatively on dividend payout. Also, this study coming from Nigeria is a contribution to the study of the role of competition on dividend payout from an institutional perspective since most of the previous works were domesticated in the developed countries.

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